



**I.Mak**®  
REDÜKTÖR & VARYATÖR A.Ş.

## ***Helisel Dişli Redüktörler***

***Gearmotors / Motoréducteurs hélicoïdal***

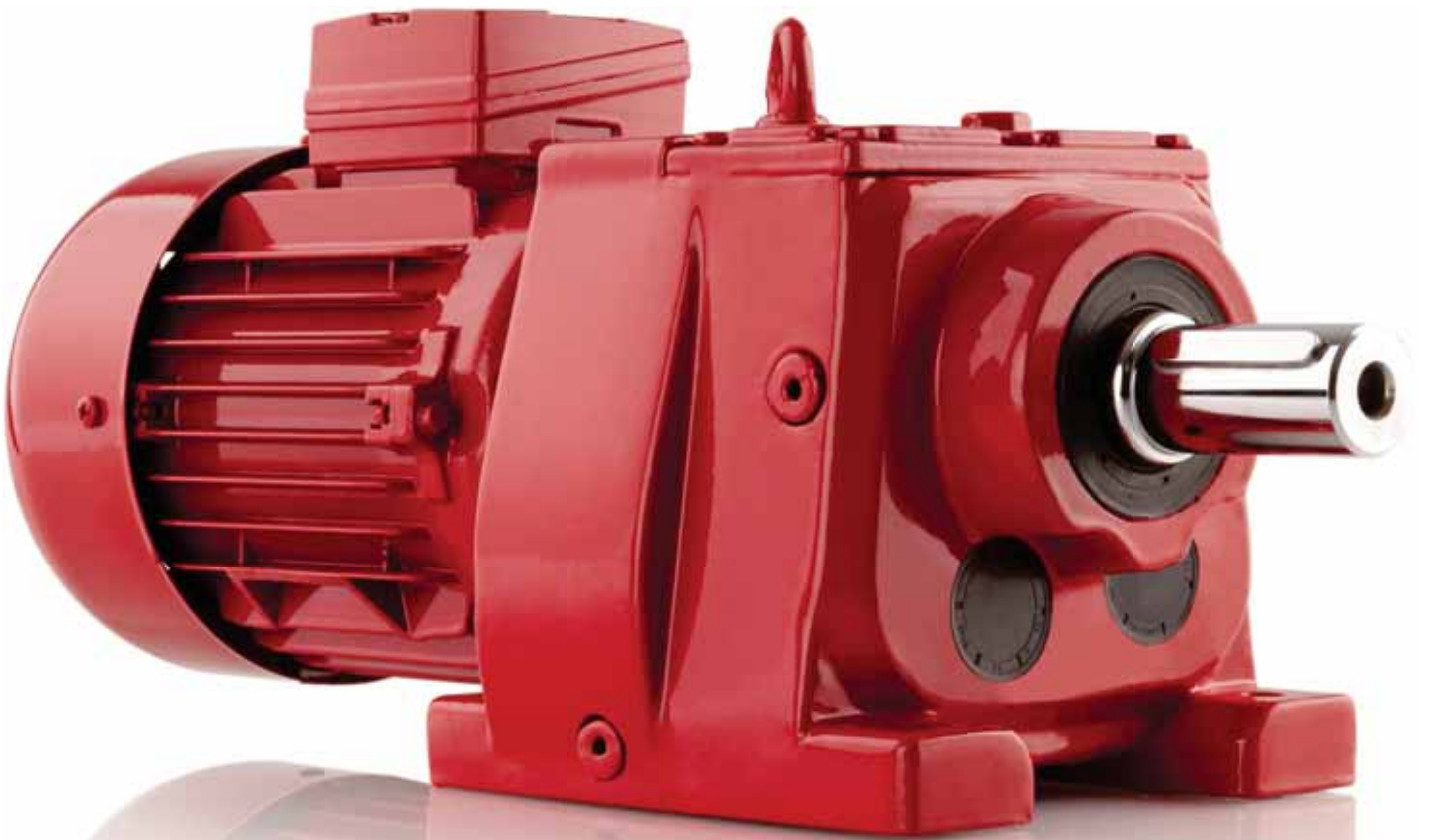
**R03**



SERIES  
İR

**2021**  
TR | EN | FR

Gearboxes and Drives / Moto Réducteurs



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## Genel Bilgiler

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General Information  
*Informations g n rales*

# İR

SERİSİ / SERIES / SÉRIES



- Monoblok döküm gövdeli
- 12 Farklı gövde büyüklüğü
- 85 – 18000 Nm moment aralığı
- 3 – 27000 Tahvil aralığı

- Cast iron monobloc housing
- 12 Size of housing
- Torque range from 85 to 18000 Nm
- Ratio range from 3 to 27000

- *Carter monobloc en fonte*
- *12 tailles de carter*
- *Couple allant de 85 à 18000 Nm*
- *Rapport de réduction compris entre 3 et 27000*

## İR serisi redüktörlerin genel özellikleri

Tamamı helisel dişlilerden oluşan İR serileri, devamlı yük altında ve ağır şartlarda çalışmaya elverişli olarak dizayn edilmiş redüktörlerimizdir. Dişli malzemesi, bu redüktörlere uygun yüksek dereceli çelikten 16MnCr5 veya fiziksel olarak eşdeğer malzemelerden yapılmış ve taşlanmıştır. Dişli sertliği 57 HRC değerindedir.

Yüksek kalite döküm teknolojisi ile elde edilen gövde yapısı GG22 pik malzemesinden tekil gövde (monoblok) olarak yapılmıştır. Helisel dişli redüktörler genellikle yüksek tork ve verim ihtiyacı olan uygulamalarda kullanılır. İR serisi redüktörler kolay montaj ve esnek kullanım olanağına sahiptir.

Helisel redüktörler, dişli kutusu çıkış şaftının motor şaftıyla aynı hizada bulunduğu koaksiyel ünitelerdir. Helisel dişlilerde, dişlerin her biri arasında kademeli temas izin verilen açılarda açılmıştır. Bu yenilik düzgün ve sessiz bir çalışma sağlar.

Bu redüktörlerimiz , daima dolu çıkış milli olarak üretilmektedir. Ayaklı, flanşlı ve ayaklı-flanşlı opsiyonları ile farklı konstruksiyonlar için farklı montaj şekilleri mevcuttur.

İR 43 ..... İR153 12 gövde büyüklüğü  
0,12 kW ' dan 160 kW ' a kadar motor bağlama opsiyonu  
85 Nm ' den 18000 Nm ' ye kadar çıkış torku opsiyonu

## Descriptions and specifications of the İR serie.

Designed to work under heavy loads and in hard conditions, the helical İR serie is perfectly adapted to a wide range of applications. The helical gears are made of 16MnCr5 steel and match the 57 HRC Standards, each gear is heat treated and controlled to make sure that it match the highest standards.

The robust monobloc housing is made of GG22 iron and is machined under state of art standards. With a 90-degree configuration the İRK Series is perfectly adapted to applications requiring a high resistance from the gear unit. This configuration also makes the mounting and maintenance easier with a large range of option and technical features.

The İR Series are designed with an output shaft on the same line as the electrical motors used to power them. Each gear is calculated, designed and ground to provide a noiseless working of the final gearbox. The İR Series gear units are available with output shaft, hollow shaft, double output shaft, extruder and various flange configurations.

12 sizes of housing  
Motor configuration from 0.12 kw to 160 kw  
Torque ranging from 85 to 18000 Nm

## Descriptions et spécifications de la série İR.

Conçus pour résister à des charges importantes et fonctionner dans des conditions difficiles, les réducteurs hélicoïdaux de la série İR sont parfaitement adaptés à tous types d'applications et configurations.

Les pignons hélicoïdaux sont fabriqués à partir d'acier 16McCr5 avec une dureté de 57 HRC.

Le carter (GG22) en monobloc offre une grande robustesse et résistance aux réducteurs de la série İR. La configuration de l'arbre de sortie permet aussi de renforcer les qualités techniques du réducteur tout en facilitant les opérations de montage et de maintenance.

Les réducteurs İR sont disponibles avec une large gamme d'options et configurations (Arbre de sortie, bride, extruder...) leur permettant de s'adapter à de nombreuses applications.

12 tailles de carter

Puissances moteur de 0.12 à 160 kw

Couple allant de 85 à 18000 Nm





**Helisel dişli redüktörler**

Helical Gearmotors / *Motoréducteur à*

Kod	Tip tanımlama	Input type designation	Spécifications des types
IRA...	Giriş milli - ayak montajlı - çıkış milli	Input shaft - foot mounted - output shaft	Arbre d'entrée - à pattes arbre de sortie
IRF...	Giriş milli flanş montajlı - çıkış milli	Input shaft - flange mounted - output shaft	Arbre d'entrée - bride de sortie arbre de sortie
IRAF...	Giriş milli - ayak ve flanş montajlı - çıkış milli	Input shaft - foot and flange mounted output shaft	Arbre d'entrée - à pattes et bride de sortie - arbre de sortie
IRAM...	Motorlu - ayak montajlı - çıkış milli	With motor - foot mounted - output shaft	Avec moteur - à pattes - arbre de sortie
IRFM...	Motorlu - flanş montajlı - çıkış milli	With motor - flange mounted - output shaft	Avec moteur - bride de sortie- arbre de sortie
IRAFM...	Motorlu - ayak ve flanş montajlı - çıkış milli	With motor - foot and flange mounted output shaft	Avec moteur - à pattes et bride de sortie- arbre de sortie
IRAP...	IEC giriş flanşlı - ayak montajlı - çıkış milli	IEC input flange - foot mounted - output shaft	Bride d'entrée IEC - à pattes arbre de sortie
IRFP...	IEC giriş flanşlı - flanş montajlı - çıkış milli	IEC input flange - flange mounted - output shaft	Bride d'entrée IEC - bride de sortie arbre de sortie
IRAPM...	IEC giriş flanşlı motorlu - ayak montajlı çıkış milli	IEC Flange with motor - foot mounted output shaft	Bride d'entrée IEC - à pattes arbre de sortie
IRFPM...	IEC giriş flanşlı motorlu - flanş montajlı çıkış milli	IEC Flange with motor - flange mounted output shaft	Bride d'entrée IEC - avec moteur bride de sortie - arbre de sortie
IRAFPM...	IEC giriş flanşlı motorlu - ayak ve flanş montajlı - çıkış milli	IEC Flange with motor - foot and flange mounted output shaft	Bride d'entrée IEC et moteur à pattes et bride de sortie-arbre de sortie

**Giriş Opsiyonları**

Input options / *Options d'entrée*



**İR\_**  
**Giriş milli**  
Solid input shaft  
*Avec arbre de sortie*



**İR\_M**  
**Motorlu**  
With motor  
*Avec moteur*



**İR\_P**  
**IEC pam flanşlı**  
IEC input flange  
*Avec bride PAM - IEC*



**İR\_PM**  
**IEC pam flanşlı motorlu**  
IEC input flange with motor  
*Avec bride PAM-IEC et moteur*

**Motor opsiyonları / Motor options / Options moteurs**

Kod	Opsiyon	Options	Options
BR	Fren	Brake	Frein
BRH	Manuel kollu fren	Brake with hand release	Frein avec ouverture manuel
BD	Çift fren	Double brake	Double frein
BDH	Manuel kollu çift fren	Double brake with hand release	Double frein avec ouverture manuel
E	Enkoder	Encoder	Encoder
EMK	Elektromanyetik kavrama	Electromagnetic clutches	Disque electromagnetique
CF	Harici fan	External fan	Ventilation externe
FG	Kanopi	Canopy	Canopé
U	Fansız motor (güdük)	Without fan	Sans ventilation
M	Monofaze motor	Mono phase motor	Moteur monophasé
BS	Mekanik kilit	Backstop	Roulement anti-retour

**Çıkış Opsiyonları**

Output Options / Options de sortie



**IRA...**  
**Ayaklı - Çıkış milli**  
Foot mounted - Output shaft  
à pattes - Arbre de sortie



**IRF...**  
**Çıkış milli - Çıkış flanşlı**  
Output shaft - Flange mounted  
Arbre de sortie - Bride de sortie



**IRAF...**  
**Çıkış milli - Ayaklı ve çıkış flanşlı**  
Output shaft - Foot mounted and output flange  
Arbre et bride de sortie - à pattes et bride de sortie

**Çıkış mili / Output shaft / Arbre de sortie**

Kod / Code	Varyasyon	Options	Options
111	Özel mil ölçüsü	Special shaft dimensions	Dimensions de l'arbre spécial
112	Özel mil malzemesi	Special shaft materials	Matériel de l'arbre spécial
113	Sertleştirilmiş mil	Hardened shaft	Axe durci
114	Diş çekilmiş mil	Shaft with screw	Axe à vis
115	Çoklu kama uygulaması	Shaft with multiple key	Arbre à multi clavette

**Giriş mili - pam mili / Input shaft / Arbre d'entrée**

Kod / Code	Varyasyon	Options	Options
131	Özel mil ölçüsü	Dimensions of the shaft	Dimensions de l'arbre ( Spécial )
132	Özel mil malzemesi	Material of special shaft	Matériaux de l'arbre ( Spécial )
133	Sertleştirilmiş mil	Hardened steel shaft	Arbre en acier trempé
134	Çoklu kama uygulaması	Hollow shaft with screw	Arbre creux a vis
135	Özel alın mili	Spécial input shaft	Arbre d'entrée spécial
136	Diş çekilmiş mil	Shaft with screw	Arbre de sortie avec vis

**Çıkış flanş / Output flange / Bride de sortie**

Kod / Code	Varyasyon	Options	Options
141	Özel flanş ölçüsü	Dimensions of special output flange	Dimensions de la bride de sortie (Spéciale)
142	Özel flanş malzemesi	Material of special output flange	Matériaux de la bride de sortie (Spéciale)
143	Opsiyonel flanş	Optional output flange	Bride de sortie optionnelle
144	Standart dışı flanş*	Special output flange	Bride d'entrée spéciale

\* İstenilen değişiklik ürünün standart flanş üzerinde yapılamayıp yeni bir flanş tasarlanması durumudur. / In the case your configuration require the production of a special flange / Dans le cas où la configuration de votre application requiert une bride d'entrée spéciale.

**Giriş flanş / Input flange / Bride d'entrée**

Kod / Code	Varyasyon	Options	Options
151	Özel flanş ölçüsü	Dimension of special input flange	Bride d'entrée ( Spéciale )
152	Özel flanş malzemesi	Material of special input flange	Matériaux de la bride d'entrée ( spéciale )
153	Standart dışı flanş*	Special input flange*	Bride d'entrée ( Spéciale )*
154	IEC B14 Flanş	IEC B14 Flange	Bride IEC B14
155	IEC B5 Flanş	IEC B5 Flange	Bride IEC B5
156	Kaplinli Pam Flanş	IEC PAM with integrated coupling	Bride IEC avec accouplement intégré

\* İstenilen değişiklik ürünün standart flanş üzerinde yapılamayıp yeni bir flanş tasarlanması durumudur. / In the case your configuration require the production of a special flange / Dans le cas où la configuration de votre application requiert une bride de sortie spéciale.

### Yağ / Oil / Huiles

Kod / Code	Varyasyon	Options	Options
211	Sentetik yağ VG 220 (SHC 630)	Synthetic oil VG 220 ( SHC 630 )	Huile synthétique VG 220 ( SHC 630 )
212	Gıda uyumlu yağ VG 220 (CIBUS 220)	Food compatible oil VG 220 ( CIBUS 220 )	Huile pour industrie agroalimentaire VG 220 (CIBUS 220)
213	-40°C Uyumlu yağ VG 220 (SHC 630)	Cold resistant oil -40°C VG 220 ( SHC 630 )	Huile base température -40°C VG220 ( SHC 630 )

### Keçe-tapa / Seal-cover / Joint- bouchon

Kod / Code	Varyasyon	Options	Options
221	Özel ölçü keçe	Dimensions of special seal	Dimensions du joint (Spécial)
222	Özel ölçü tapa	Dimensions of special cover	Dimensions du bouchon ( Spécial )
223	Özel marka keçe	Special brand of seal	Marque du joint ( Spécial )
224	Özel marka tapa	Special brand of cover	Marque du bouchon ( Spécial )
225	Viton keçe	Viton seal	Joint en viton
226	Özel tip keçe uygulaması	Special configuration of seal	Configuration spéciale du joint
227	Toz kapağı	Dust cover	Bouchon anti-poussière

### Rulman / Bearing / Roulement

Kod / Code	Varyasyon	Options	Options
231	Güçlendirilmiş çıkış rulmanı	Reinforced output bearing	Roulement renforcé ( Sortie )
232	Güçlendirilmiş giriş rulmanı	Reinforced input bearing	Roulement renforcée ( Entrée )
233	Özel marka rulman	Special brand of bearing	Marque du roulement ( Spécial )
234	Özel ölçü rulman	Special dimensions of bearing	Dimensions du roulement ( Spécial )
235	Mekanik kilit CW*	Backstop bearing ( CW )	Roulement anti-retour ( CW )
236	Mekanik kilit CCW*	Backstop bearing ( CCW )	Roulement anti-retour ( CCW )

### Gövde / Housing / Carter

Kod / Code	Varyasyon	Options	Options
241	Özel işlenmiş gövde	Special housing	Carter spéciale
242	Özel malzeme	Special housing materials	Carter avec matériaux spéciaux

### Boya / Paint / Peinture

Kod / Code	Varyasyon	Options	Options
251	Özel renk boya	Special paint color	Couleur spéciale
252	Özel tip boya	Special paint type	Type de peinture spéciale
253	Epoksi boya	Epoxy paint	Peinture epoxy
254	Akrilik boya (dış ortam)	Acrylic paint	Peinture acrylique (Environnement extérieur)
255	Su bazlı boya	Water based paint	Peinture à base d'eau
256	Antikorozyon boya	Anti-corrosion paint	Peinture anti-corrosion

### Dişli / Gears / Pignons

Kod / Code	Varyasyon	Options	Options
261*	Özel imalat dişli	Special gear	Pignons spéciaux
262	Katalog dışı tahvil	Gear ratio ( Catalogue )	Rapport de réduction des pignons (Catalogue)

\* 261 kodu, 262 yi kapsamaktadır. / 261 and 262 codes are equivalent / Les codes 261 et 262 sont équivalents

**Volta j - Frekans / Voltage and frequency / Voltage et frequency**

Kod / Code	Varyasyon	Options	Options
311	Özel volta j motor	Special voltage	Voltage spécial
312	Özel frekans motor	Special frequency	Fréquence spéciale

\*400 V 50 Hz dışı tüm sarımlar standart dışı kabul edilir. / 400 V 50 Hz are considered as standard / 400 V 50 Hz sont les normes standards

**Koruma sınıfı / IP Classification / Classification IP**

Kod / Code	Varyasyon	Options	Options
321	IP 54	IP 54	IP 54
322	IP 56	IP 56	IP 56
323	IP 65	IP 65	IP 65
324	IP 66	IP 66	IP 66

IP 55 Standart kabul edilir / IP 55 is our standard / IP 55 étant la classe standard

**İzolasyon sınıfı / Isolation class / Classe d'isolations**

Kod / Code	Varyasyon	Options	Options
331	B sınıfı	B - class	Classe - B
332	H sınıfı	H - class	Classe - H

\* F izolasyon sınıfı standart kabul edilir. / F class is accepted as a standard / La classe F étant la norme d'isolation standard

\* 0 C° ile 40 C° aralığı dışındaki ortam sıcaklıkları için fabrikaya danışınız / Adapted for outside environment with temperature in between 0 C° and 40 C° / Adapté aux environnements extérieurs avec une température comprises entre 0° C et 40° C

**Rulman / Bearing / Roulement**

Kod / Code	Varyasyon	Options	Options
341	Sıcak ortam rulmanı*	Bearing for hot environment	Roulement pour environnement a températures élevées
342	Soğuk ortam rulmanı*	Bearing for cold environment	Roulement pour environnement a températures négatives
343	İzole rulman	Isolated bearing	Roulement isolé
344	Gresörlük	Bearing with greasing nipples	Roulement avec graisseurs
345	Mekanik kilit CW	Backstop bearing ( CW )	Roulement anti-retour ( CW )
346	Mekanik kilit CCW	Backstop bearing ( CCW )	Roulement anti-retou ( CCW )

\* 0 C° ile 40 C° aralığı dışındaki ortam sıcaklıkları için fabrikaya danışınız / For outside environment with temperature out of 0C° and 40C° consult our technical team / Pour des environnements avec des température non comprises entre 0C° et 40C° consulté nos équipes techniques.

**Marka / Brand / Marque**

Kod / Code	Varyasyon	Options	Options
351	Gamak Motor	Gamak Motor	Gamak Moteur
352	Volt Elektrik Motor	Volt Motor	Volt Moteur
353	Aemot Motor	Aemot Motor	Aemot Moteur
354	Wat Motor	Wat Motor	Wat Moteur
356	Diğer	Diğer	Diğer

**Verim sınıfı / Efficiency classifications / Classes d'efficience énergétique**

Kod / Code	Varyasyon	Options	Options
361	IE1	IE1	IE1
362	IE3	IE3	IE3
363	IE4	IE4	IE4

\* IE 2 verim sınıfı standart kabul edilir. / IE 2 is the standard category / IE 2 étant la norme standard

**Fren markası / Brake's brand / Marque du frein**

Kod / Code	Varyasyon	Options	Options
411	EMF fren	EMF brake	Frein - EMF
412	Fatih fren	Fatih brake	Frein - Fatih
413	Diğer	Other	Autres

**Fren tipi / Type of brake / Type de frein**

Kod / Code	Varyasyon	Options	Options
421	220 V soğutmalı	220 V cooler	220 V - avec refroidissement
422	24 V soğutmalı	24 V cooler	24 V - avec refroidissement
423	220 V soğutmasız*	220 V without cooler	220 V - sans refroidissement
424	24 V soğutmasız*	24 V without cooler	24 V - sans refroidissement
425	Çift balatalı fren	Double disk brake	Frein avec double disque
426	Özel tip fren	Special brake type	Type de frein spécial
427	Özel voltaj fren	Special voltage for brake	Frein avec voltage spécial

\* Soğutmasız frenlerde motor fan muhafazası bulunmamaktadır / The brake without cooling are installed without fan or cover / Les freins sans refroidissement ne sont pas équipés de couvercle ou d'hélice.

**Enkoder / Encoder / Codeur**

Kod / Code	Varyasyon	Options	Options
431	HPL 100 Pulse rotary enkoder	HPL 100 Pulse rotary encoder	HPL 100 Codeur d'impulsions rotatif
432	HPL 360 Pulse rotary enkoder	HPL 360 Pulse rotary encoder	HPL 360 Codeur d'impulsions rotatif
433	HPL 500 Pulse rotary enkoder	HPL 500 Pulse rotary encoder	HPL 500 Codeur d'impulsions rotatif
434	HPL 1024 Pulse rotary enkoder	HPL 1024 Pulse rotary encoder	HPL 1024 Codeur d'impulsions rotatif
435	HPL 2048 Pulse rotary enkoder	HPL 2048 Pulse rotary encoder	HPL 2048 Codeur d'impulsions rotatif
436	HTL 1024 Pulse rotary enkoder	HTL 1024 Pulse rotary encoder	HTL 1024 Codeur d'impulsions rotatif
437	HTL 2048 Pulse rotary enkoder	HTL 2048 Pulse rotary encoder	HTL 2048 Codeur d'impulsions rotatif
438	TTL 1024 Pulse rotary enkoder	TTL 1024 Pulse rotary encoder	HTL 1024 Codeur d'impulsions rotatif
439	TTL 2048 Pulse rotary enkoder	TTL 2048 Pulse rotary encoder	TTL 2048 Codeur d'impulsions rotatif
440	Diğer	Others	Autres

\* Diğer encoder çeşitleri için fabrikaya danışınız / For different type of encoder contact our sales team / Pour des type de codeurs différents contactez notre équipe technique

**Termistör - Isıtıcı / Thermistor and heater / Thermistatet chauffage**

Kod / Code	Varyasyon	Options	Options
441	PTC X 1 termistör	PTC X 1 thermistor	PTC X 1 Thermistat
442	Bimetal termostat	Bimetallic switch	Interrupteur bilame
443	Basın sensörü	Pressure sensor	Senseur pression
444	110 V sargı ısıtıcı	110 V coil heat	Bobine chauffante 110 V
445	220 V sargı ısıtıcı	220 V coil heat	Bobine chauffante 220 V
446	PT 100	PT 100	PT 100

**Harici fan / External fan / Ventilateur externe**

Kod / Code	Varyasyon	Options	Options
451	24 VDC (EBM)	24 VDC (EBM)	24 VDC (EBM)
452	230 VAC (EBM)	230 VAC (EBM)	230 VAC (EBM)
453	380 VAC (EBM)	380 VAC (EBM)	380 VAC (EBM)
454	230 VAC	230 VAC	230 VAC
455	380 VAC	380 VAC	380 VAC

**Özel motorlar / Special motor / Moteur spécial**

Kod / Code	Varyasyon	Options	Options
461	Servo motor*	Servo motor	Servo moteur
462	DC motor*	DC motor	Moteur DC
463	Vektör motor	Vector motor	Moteur vecteur
464	Tork motoru	Tork motor	Moteur à couple élevé
465	Hidro motor*	Hydraulic motor	Moteur hydraulique
466	Pnömatik motor*	Compressed air motor	Moteur a air comprimé
467	Ex-proof motor	Explosion proof motor	Moteur anti-explosion
468	Senkron relüktans motor	Synchronous reluctance motors	Moteur à reluctance synchrone
469	Senkron motor*	Synchronous motors	Moteurs synchrones
470	Müşteri motoru	Customer's motor	Moteur en provenance du client

\* Motorlar firmamız tarafından tedarik edilmemektedir / Our factory is not providing such motors / Moteur non fournis par notre usine

Özel motor kodları motorların fabrikamız tarafından takıldığı durumlarda uygulanır / Motors installed in our factory / Moteur installés dans notre usine

**Servis Faktörü ( $S_f$ )****Servis Faktörü = İşletme Katsayısı = ( $S_f$ )**

Redüktörlerdeki bu değer, tahrik edeceği makinenin bütün teknik ve karakteristik özelliklerine dayanma süresine bağlıdır. Genel olarak makineler yüklenme bakımından üç tip karakteristik gösterirler.

1. HAFİF YÜK (U)
2. ORTA YÜK (M)
3. AĞIR YÜK (H)

Üç değişik yükleme biçiminde çalışan, üç ayrı makinede üretilen momentler birbirine eşitte olsalar, ağır çalışan makinede daha büyük işletme katsayılı Redüktör kullanılmaktadır.

Günlük çalışma saati ise, çalışan dişli ve transmisyon elemanlarının malzeme yorulmasına maruz kalması bakımından, çalışma saatinin fazla olması halinde zararlı yönde etki eder.

Star-Stop durumuna gelince, her makinenin ilk kalkış esnasında en yüksek yüke maruz kaldığı düşünülürse tehlikeli görülür. Müteakip çalışmalarda bu daha aşağıya düşer.

Kataloğumuzda işletme katsayılarının nasıl kullanıldığının anlaşılması için bir misal ile belirtelim.

Önce tablo-1'den makinenin çalışma sahasına göre karakteristiğini belirleyelim. Makinemiz elektrik motor tahrikli ZİNCİR KOVALI EKSKAVATÖR ise yükleme durumu AĞIR' dır. ( H ) Tablo 2'den makine 24 saat çalışacağına göre minimum işletme katsayısı  $S_f = 2$  bulunur.

**Service Factor ( $S_f$ )**

Value of the service factor of a gearbox depends on all technical and characteristic specifications of a driven machine. Generally machines have three types of loading characteristics:

1. UNIFORM LOAD (U)
2. MODERATE LOAD (M)
3. HEAVY LOAD (H)

Even if the torques required by three different machines operating at three different load specifications are equal.

Gearbox of the machine operating under heavy load conditions should have greater service factor.

Daily working period has effect on gearbox elements due to the materials fatigue of working parts.

It must be taken into account that all machines are subject to the greatest load at the first start, so that the number of starts has also effect on service factor.

This is an example how to use the service factor given in the catalogue.

Load specification of machine should be determined first, from table 1 in our example, the machine is CHAIN BUCKET EXCAVATOR driven by electric motor has HEAVY load specification and daily operation time is 24 hours. So that minimum service factor  $S_f = 2$  is taken from Table 2.

**Service facteur ( $S_f$ )**

La valeur du service facteur d'un motoréducteur dépend des caractéristique de l'application. Ont distingue trois type de charges différentes

1. Charges uniformes (U)
2. Charges modérées (M)
3. Charges élevées (H)

Les spécifications des charges restent les même lorsque trois machines différentes sont soumises à des charges distinctes.

Les réducteurs utilisés dans des applications soumises à de fortes charges doivent obligatoirement avoir des services facteurs élevés.

Le nombre d'heures d'utilisations journalières a une influence directe sur l'usure des pièces et composants du réducteur.

Le réducteur est soumis à une charge maximale lors du démarrage de l'application. Le nombre d'arrêt/rédémarrage est donc à prendre en compte lors de l'analyse du service facteur.

L'exemple çı-dessous explique le processus d'analyse et de calcul du service facteur.

L'application étudiée est un excavateur a godets (Tableau 1) , le réducteur est actionné par un moteur électrique. La charge est "élevée" et la durée de fonctionnement journalière est de 24h. En se basant sur le tableau 2, le service facteur minimum requis est  $S_f = 2$

Ekskavatörler		Excavators		Excavateur	
Zincir kovalı ekskavatörler	H	Chain-Bucket excavators	H	Excavateurs à gaudets	H
Paletli yürüyüşler	H	Travelling gears (Caterpillar)	H	Convoyeur à étage	H
Ray üzerinde yürüyüşler	M	Travelling gears ( Rails )	M	Convoyeur à rails	M
Manevra mekanizmaları	U	Manoevring winches	U	Grues à manœuvre	U
Emiş pompaları	M	Pumps	M	Pompes	M
Kovalı çarklar	H	Bucket wheels	H	Roue à gaudets	H
Dönüş mekanizmalar	M	Slewing gears	M	Pignons rotatif	M

İnşaat Makinaları		Building Machines		Machine de Construction	
İnşaat asansörleri	U	Hoists	U	Grues de construction	U
Betoniyerler	M	Concrete mixers	M	Malaxeur à béton	M
Yol inşaat makinaları	M	Road construction machines	M	Machine de construction(routes)	M

Kaldırma ve İletme Tesisleri		Conveyor		Convoyeurs	
Zincirli konveyör	M	Through chain conveyors	M	Convoyeurs à chaines	M
Mafsal bantlı konveyörler	M	Link conveyors	M	Convoyeur à bande souple	M
Lastik bantlı konveyörler (Dökme Yükler)	U	Belt conveyors (Bulk Goods)	U	Convoyeur à bande rigide	U
Lastik bantlı elevatörler	M	Ballast elevators	M	Elevateurs à bande	M
Lastik cepli elevatörler	M	Ballast pocket elevators	M	Elevateur à poche	M
Lastik bantlı konveyörler (Parça Yükler)	M	Belt conveyors (Piece Goods)	M	Convoyeur à bande	M
Askılı konveyörler	U	Chain conveyors	U	Convoyeur à chaines	U
Yük asansörleri	M	Goods lifts	M	Elévateur à chaines	M
Kovalı elevatörler (Toz Malzeme)	U	Bucket elevators (Flour Goods)	U	Elévateur à godets (graviers)	U
Helezon konveyör	M	Screw conveyors	M	Vis d'Archimède	M
Kovalı elevatörler (Parçalı Malzeme)	M	Bucket elevators (Piece Goods)	M	Elévateurs à godets (Roches)	M
Eğik asansörler	H	Inclined hoists	H	Grues inclinées	H
Çelik bantlı konveyörler	M	Steel belt conveyors	M	Convoyeur à bande (Acier)	M
Paletli konveyörler	M	Apron conveyors	M	Convoyeurs à palettes	M

Tahrik Makinası Torque Machine Machines couplées	Günlük Çalışma Müddeti (Saat) Daily Working Period (Hour) Utilisation journalière (Heure)	Makinanın Yükleme Karakteristiği Load Characteristics of Machines Caractéristique des charges		
		Hafif Yük U Uniform Load U Charge uniforme U	Orta Yük M Moderate Load M Charge modérée M	Ağır Yük H Heavy Load H Charge élevée H
<b>Elekt. Motorlu</b> / Elect. Motor / Moteurs élect. <b>Türbin</b> / Turbin / Turbine <b>Hidrolik</b> / Hydraulic / Hydraulique	0.....3	0.8	1	1.5
	3....10	1	1.25	1.75
	10...24	1.25	1.5	2
<b>Pistonlu Makinalar ( 4....6 Silindir</b> Piston Machines ( 4....6 Cylindir ) Machine à pistons ( 4.....6 Cylindres )	0.....3	1	1.25	2
	3....10	1.25	1.5	2
	10...24	1.5	1.75	2
<b>Pistonlu Makinalar ( 1....2 Silindir</b> Piston Machines ( 1....2 Cylindir ) Machine à pistons ( 1.....2 Cylindres )	0.....3	1.25	1.5	2
	3....10	1.5	1.75	2.25
	10...24	1.75	2	2.5



Kimya Endüstrisi		Chemical Industry		Industrie Chimique	
Soğutma tamburları	M	Cooling drums	M	Tambours de refroidissement	M
Karıştırıcılar	M	Mixers	M	Mixeurs	M
Çalkalayıcılar (Hafif Akışkanlar)	U	Agitators ( Liquids )	U	Agitateurs (Liquides)	U
Çalkalayıcılar (Ağır Akışkanlar)	M	Agitators ( Semi Liquids )	M	Agitateurs (Semi liquide)	M
Tambur kurutucuları	M	Drying drums	M	Tambours de séchage	M
Sanrifüjler	U	Centrifuges ( Lights )	U	Centrifugeuse (Légère)	U
Sanrifüjler	H	Centrifuges ( Heavy )	H	Centrifugeuse (Lourde)	H

Petrol Endüstrisi		Oil Industry		Pétrole et Hydrocarbures	
Boru hattı pompaları	M	Pipeline pumps	M	Pompes à oléoducs	M
Kuyu açma mekanizmaları	H	Rotary drilling equipment	H	Foreuse à cylindres	H

Ventilatör Ve Aspiratörler		Fans		Ventilations	
Pistonlu ventilatörler	M	Rotary piston blowers	M	Souffleurs rotatifs	M
Ventilatör ( Aksiyal ve Radyal )	U	Blowers ( Axial and Radial )	U	Souffleurs ( Axe et radial )	U
Santrifüj (türbinli) körük	H	Centrifugal	H	Centrifugeuse	H

Kauçuk Makinaları		Rubber Machines		Industrie du Caoutchouc	
Ekstruder ve kanderler	H	Extruders and calenders	H	Extrudeuse	H
Yoğurma makinaları	H	Pug mills	H	Malaxeur	H
Karıştırıcılar	M	Mixers	M	Mixeurs	M
Silindirme makinaları	H	Rolling mills	H	Presse	H

Ağaç İşleme Makinaları		Wood Working Machine		Industries Forestières	
Yontma tamburları	H	Backers	H	Presse à bois	H
Planya makinaları	M	Planing machines	M	Aplanisseuses	M
Ağaç işleme tezgahları	U	Wood working machines	U	Découpe de bois	U
Şerit testereleler	H	Band saws	H	Scie	H

Yıkama Makinaları		Washing Machines		Laveuses	
Yıkama makinaları	U	Washing machines	U	Machine de lavage	U
Tamburlu kurutucular	M	Tumblers	M	Tambours	M

Tahrik Makinası Torque Machine Machines couplées	Günlük Çalışma Müddeti (Saat) Daily Working Period (Hour) Utilisation journalière (Heure)	Makinanın Yükleme Karakteristiği Load Characteristics of Machines Caractéristique des charges		
		Hafif Yük U Uniform Load U Charge uniforme U	Orta Yük M Moderate Load M Charge modérée M	Ağır Yük H Heavy Load H Charge élevée H
<b>Elekt. Motorlu</b> / Elect. Motor / <i>Moteurs élect.</i> <b>Türbin</b> / Turbin / <i>Turbine</i> <b>Hidrolik</b> / Hydrolic / <i>Hydraulique</i>	0....3	0.8	1	1.5
	3....10	1	1.25	1.75
	10...24	1.25	1.5	2
<b>Pistonlu Makinalar ( 4....6 Silindir</b> Piston Machines ( 4....6 Cylindir ) <i>Machine à pistons ( 4....6 Cylindres )</i>	0....3	1	1.25	2
	3....10	1.25	1.5	2
	10...24	1.5	1.75	2
<b>Pistonlu Makinalar ( 1....2 Silindir</b> Piston Machines ( 1....2 Cylindir ) <i>Machine à pistons ( 1....2 Cylindres )</i>	0....3	1.25	1.5	2
	3....10	1.5	1.75	2.25
	10...24	1.75	2	2.5

Vinç Tesisleri		Cranes		Grues	
Bom kaldırma	H	Derricking jib bomm gear	H	Bras ouvrant	H
Vinç yürüyüşerleri	U	Travelling gears	U	Grues(Charriot )	U
Yük kaldırma	H	Hoist gears	H	Grues	H
Dönüş tertibatları	U	Slewing gears	U	Pignons rotatifs	U

Metal İşleme Makinaları		Metal Working Machines		Métallurgie et Acieries	
Planya makineleri	S	Planing machine	S	Aplaniseuses	S
Çekiç tokmak	S	Hammer	S	Marteau	S
Oyma makinesi	S	Engraving machine	S	Graveuses	S
Presler	H	Presses	H	Presses	H
Makaslar ( Giyotin )	M	Shears	M	Découpeuses	M
Sıcak basma presleri	H	Forging presses	H	Presse à forge	H
Takım tezgahları ( Ana Tahrir )	M	Machines tools ( Main Drives )	M	Machine outil ( Axe principal )	M
Takım tezgahları ( Yardımcı Tahrir )	U	Machines tools ( Auxiliarily Drives )	U	Machine outil ( axe secondaire )	U

Gıda Endüstri Makinaları		Food Industry Machines		Industrie Agroalimentaire	
Doldurma makinaları ( Şişe, Kavanoz vs.)	U	Filling machines ( Bottles, Contaniers.)	U	Embouteilleuse	U
Yoğurma makinaları	M	Kneading machines	M	Malaxeurs	M
Ambalaj makinaları	U	Packaging machines	U	Machine d'emballage	U
Şeker kamışı kırıcıları	M	Cane crushers	M	Presse à canne	M
Şeker kamışı kesicileri	M	Cane cutters	M	Découpeuse de canne	M
Şeker kamışı öğütücüleri	H	Cane millis	H	Broyeurs de cannes	H
Şeker pancarı kesicileri	M	Sugar beet cutters	M	Découpeuse de betteraves	M
Şeker pancarı yıkayıcıları	M	Suger beet washers	M	Laveuse à betteraves	M

Pompalar		Pumps		Pompes	
Pistonlu pompalar ( Q1 / 100 )	H	Piston pumps ( Q1 / 100 )	H	Pompes à piston ( Q1 / 100 )	H
Pistonlu pompalar ( Q1 / 100 : 1 / 20 )	M	Piston pumps ( Q1 / 100 : 1 / 20 )	M	Pompes à piston ( Q1 / 100 : 1 / 20 )	M
Türbin ( Hafif Akışkan )	U	Türbin ( Light - Liquids )	U	Turbine (Liquides légers)	U
Türbin ( Ağır Akışkan )	M	Türbin ( Semi - Liquids )	M	Turbine (Semi-liquide)	M

Tahrir Makinası Torque Machine Machines couplées	Günlük Çalışma Müddeti (Saat) Daily Working Period (Hour) Utilisation journalière (Heure)	Makinanın Yükleme Karakteristiği Load Characteristics of Machines Caractéristique des charges		
		Hafif Yük U Uniform Load U Charge uniforme U	Orta Yük M Moderate Load M Charge modérée M	Ağır Yük H Heavy Load H Charge élevée H
<b>Elekt. Motorlu</b> / Elect. Motor / Moteurs élect. <b>Türbin</b> / Turbin / Turbine <b>Hidrolik</b> / Hydrolic / Hydraulique	0....3	0.8	1	1.5
	3....10	1	1.25	1.75
	10...24	1.25	1.5	2
<b>Pistonlu Makinalar ( 4....6 Silindir</b> Piston Machines ( 4....6 Cylindir ) Machine à pistons ( 4....6 Cylindres )	0....3	1	1.25	2
	3....10	1.25	1.5	2
	10...24	1.5	1.75	2
<b>Pistonlu Makinalar ( 1....2 Silindir</b> Piston Machines ( 1....2 Cylindir ) Machine à pistons ( 1....2 Cylindres )	0....3	1.25	1.5	2
	3....10	1.5	1.75	2.25
	10...24	1.75	2	2.5

Kağıt Endüstri Makinaları		Paper Industry Machines		Indusrtie Papetière	
Düzleme silindirleri	H	Glazing Cylinders	H	Cylindres appliniseurs	H
Holender	M	Hollenders	M	Holenders	M
Kağıt hamur makineleri	H	Pulpers	H	Pulpeuses	H
Kalender	H	Calender	H	Calendrier	H
Taş presler	H	Stone Presses	H	Presse	H
Vakum presler	H	Vacum Presses	H	Presse à aspiration	H
Kuru silindirler	H	Drying Cylinders	H	Cylindres de séchage	H

Taş ve Kil Makinaları		Stone and Clay Working Machines		Roches et Argiles	
Kırıcılar	H	Breakers	H	Broyeurs	H
Döner fırınlar	M	Rotary ovens	M	Four rotatifs	M
Çekiçli değirmenler	H	Hammer mills	H	Broyeux à marteaux	H
Bilyalı değirmenler	H	Ball mills	H	Broyeurs à billes	H
Çarpmalı öğütücüler	H	Beater mills	H	Broyeux à percussions	H
Tuğla presleri	H	Brick presses	H	Presse à pavès	H

Tekstil Makinaları		Textile Machines		Industrie du Textile	
Sargı makinaları ( Q1 / 100 )	M	Batchers ( Q1 / 100 )	M	Machines d'emballages	M
Basma ve boyama mak.	M	Printing and dyeing machines	M	Presse et imprimante	M
Dokuma tezgahları	M	Looms	M	Tisseuse	M

Kompresörler		Compressors		Compresseurs	
Turbo kompresör	M	Turbo compressors	M	Turbocompresseurs	M

Silindirme ve Çekme Tesisleri		Metal Rolling Mills		Acieries	
Sac kesme makineleri	H	Sheet metal cutting machines	H	Découpeuses	H
Hız ayarlı silindirler	M	Roller adjustment drivers	M	Ajusteuse à presses	M
Çubuk kesme makinaları	H	Billet shears	H	Scies	H
Kabuk sıyırma makinaları	H	Descaling machines	H	Eplucheuse	H
Tel çekme tesisleri	M	Wire drawing machines	M	Enrouleuses	M
Soğuk çekme tesisleri	H	Cooling beds	H	Bande de refroidissements	H
Rulolu nakil ( Hafif )	M	Roller tables ( Lights )	M	Enrouleuses ( légères )	M
Rulolu nakil ( Ağır )	H	Roller tables ( Heavy )	H	Enrouleuses ( lourdes )	H
Silindir haddeleme	H	Manipulators	H	Cylindres	H

Tahrik Makinası Torque Machine Machines couplées	Günlük Çalışma Müddeti (Saat) Daily Working Period (Hour) Utilisation journalière (Heure)	Makinanın Yükleme Karakteristiği Load Characteristics of Machines Caractéristique des charges		
		Hafif Yük U Uniform Load U Charge uniforme U	Orta Yük M Moderate Load M Charge modérée M	Ağır Yük H Heavy Load H Charge élevée H
<b>Elekt. Motorlu</b> / Elect. Motor / <i>Moteurs élect.</i> <b>Türbin</b> / Turbin / <i>Turbine</i> <b>Hidrolik</b> / Hydrolic / <i>Hydraulique</i>	0.....3	0.8	1	1.5
	3....10	1	1.25	1.75
	10...24	1.25	1.5	2
<b>Pistonlu Makinalar ( 4....6 Silindir )</b> Piston Machines ( 4....6 Cylindir ) <i>Machine à pistons ( 4....6 Cylindres )</i>	0.....3	1	1.25	2
	3....10	1.25	1.5	2
	10...24	1.5	1.75	2
<b>Pistonlu Makinalar ( 1.....2 Silindir )</b> Piston Machines ( 1.....2 Cylindir ) <i>Machine à pistons ( 1.....2 Cylindres )</i>	0.....3	1.25	1.5	2
	3....10	1.5	1.75	2.25
	10...24	1.75	2	2.5

## Radyal Yüklerin Belirlenmesi

Meydana gelen radyal yükün hesaplanabilmesi için redüktörün çıkış veya giriş miline bağlanan iletme elemanının tipi dikkate alınmalıdır. Aşağıdaki tabloda bazı iletme elemanları faktörleri ( $f_i$ ) verilmiştir.

<u>İletme Elemanı</u>	<u>İletme Elemanı Faktörü (<math>f_i</math>)</u>	<u>Açıklama</u>
Dişli	1,15	< 17 diş
Zincir Dişli	1,40	< 13 diş
Zincir Dişli	1,25	< 20 diş
V-Kayış Kasnakları	1,75	Ön Gerilme Kuvveti
Düz Kayış Kasnakları	2,50	Ön Gerilme Kuvveti
Triger Kayış Kasnakları	1,50	Ön Gerilme Kuvveti

Mil üzerindeki radyal yük aşağıdaki formülle hesaplanır:

$$F_R = \frac{Md \cdot 2000}{d_0} \cdot f_i$$

$F_R[N]$  = Radyal Yük  
 $M_d[Nm]$  = Döndürme Momenti  
 $d_0[mm]$  = İletme elemanının Ortalama Çapı  
 $f_i$  = İletme Elemanı Faktörü

Bu değerler gözönüne alınarak hesaplanan sonuçlar doğrultusunda, kataloğumuzda yer alan redüktörlere ait radyal yükleri görerek seçim yapabilirsiniz. Bu tablolarda verilen radyal yükler rulman ömrüne göre belirlenmiş olup  $S_f = 1$  şartına ve yükün milin ortasını yüklediği durumlar için verilmiştir.

## Determining of Overhung Loads

Type of transmission component mounting output or input shaft has to be consideration to find occurred overhung loads. Some transmission component factor ( $f_i$ ) is given at the table below.

<u>Transmission Component</u>	<u>Transmission Component Factor (<math>f_i</math>)</u>	<u>Explanation</u>
Gear	1,15	< 17 teeth
Sprockets	1,40	< 13 teeth
Sprockets	1,25	< 20 teeth
V-Belt Pulleys	1,75	Pre-tension
Flat Belt Pulleys	2,50	Pre-tension
Trigger Belt Pulleys	1,50	Pre-tension

Overhung Loads on shaft is find by at the formula below:

$$F_R = \frac{Md \cdot 2000}{d_0} \cdot f_i$$

$F_R[N]$  = Overhung Load  
 $M_d[Nm]$  = Torque  
 $d_0[mm]$  = Mean Diameter of Transmission Component  
 $f_i$  = Transmission Component Factor

You can Choose, by seeing overhung loads belong to gearboxes in our catalog according to determined results by considering these values. The given overhung loads on the tables are determined according to working life, on  $S_f = 1$  and force which are applied to the midpoint of the shaft

## Calcul des charges radiales

Afin de déterminer les charges radiales en bouts d'arbres il conviens de prendre en compte les paramètre et coefficients suivants. Le coefficient correcteur ( $f_i$ ) est a appliquer en fonction du type de transmission

<u>Élément de transmission</u>	<u>Coefficient correcteur (<math>f_i</math>)</u>	<u>Remarques</u>
Pignons	1,15	< 17 dents
Roue a chaîne	1,40	< 13 dents
Roue a chaîne	1,25	< 20 dents
Poulies a gorges	1,75	En fonction de la précontrainte
Poulies plates	2,50	En fonction de la précontrainte
Poulies dentées	1,50	En fonction de la précontrainte

La charge radiale en bout d'arbre se calcule en utilisant la formule suivante:

$$F_R = \frac{Md \cdot 2000}{d_0} \cdot f_i$$

$F_R[N]$  = Charge appliquée en bout d'arbre(N)  
 $M_d[Nm]$  = Couple en Nm  
 $d_0[mm]$  = Diamètre de l'élément de transmission(mm)  
 $f_i$  = Coefficient correcteur pour charge radiale

Les résultats sont définis en fonction de la durée de vie et d'utilisation des réducteurs. Les résultats se basent sur les charges radiales appliquées au centre de l'arbre.

**Radyal Yük Hesabı, Çıkış Miline etkiyen Durum için**

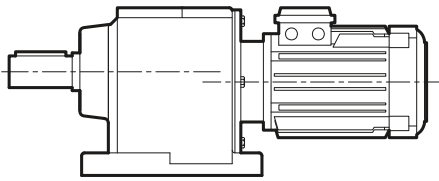
Calculation of Overhung Load for State Acting on Output Shaft

Calcul des charges radiales appliquées sur l'arbre de sortie

**Radyal Yük Hesabı için Sabit Değerler Tablosu**

Tables of Fixed Values for Calculation of Overhung Load

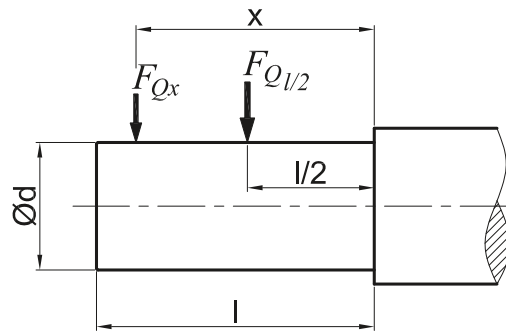
Tableau des valeurs préétablies pour le calcul des charges radiales



Monoblok İR Serisi

Monoblok İR Series / Monoblok İR Série

İR Serisi / İR Series / İR Série (Monoblok)				
Tip/ Type	k	c	d	l
İR 42 - 43	94.5	74.5	20	40
İR 52 - 53	111.1	86.1	25	50
İR 621 - 631	133	108	30	60
İR 62 - 63	143	108	35	70
İR 721-731	153.5	118.5	35	70
İR 72 - 73	169.5	129.5	40	80
İR 82 - 83	209.5	159.5	50	100
İR 92 - 93	242	182	60	120
İR 102 - 103	282	217	70	130
İR 122 - 123	315.25	231	90	170
İR 142 - 143	384	279	110	210
İR 152 - 153	417	312	120	210

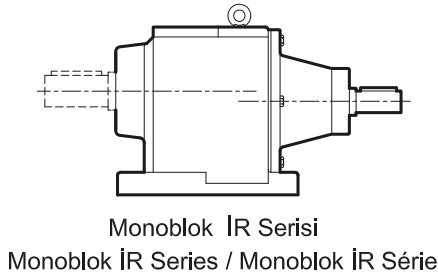


**Radyal yük, milin orta noktasında değil ise  $F_{Qx} = F_{Ql/2} \cdot \frac{k}{c+x}$  formülü ile hesaplanır.**

If overhung load is not applied at the midpoint of output shaft; it is calculated by  $F_{Qx} = F_{Ql/2} \cdot \frac{k}{c+x}$

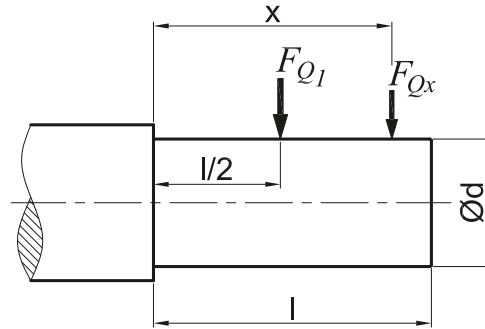
Dans le cas où les charges radiales ne sont pas appliquées au centre de l'arbre d'entrée, la formule à appliquer est  $F_{Qx} = F_{Ql/2} \cdot \frac{k}{c+x}$

**Radyal Yük Hesabı, Giriş Miline etkiyen Durum için**  
Calculation of Overhung Load for State Acting on Input Shaft  
Calcul des charges appliquées sur l'arbre d'entrée



Radyal Yük Hesabı için Sabit Değerler Tablosu  
Tables of Fixed Values for Calculation of Overhung Load  
Tableau des valeurs préétablies pour le calcul des charges radiales

İR Serisi / İR Series / İR Série (Monoblok)				
Tip/ Type	k	c	d	l
İR 42 - 43	83.5	63.5	19	40
İR 52 - 53	52.5	67.5	24	50
İR 621 - 631	110	77	24	50
İR 62 - 63	110	77	24	50
İR 721 - 731	119	89	28	60
İR 72 - 73	119	89	28	60
İR 82 - 83	123	88	34	70
İR 92 - 93	159.5	109.5	48	100
İR 102 - 103	187,5	132,5	55	110
İR 122 - 123	233	178	55	110
İR 142 - 143	233	178	55	110
İR 152 - 153	271,5	201,5	70	140



Radyal yük, milin orta noktasında değil ise  $F_{Qx} = F_{Q1} \cdot \frac{k}{c+x}$  formülü ile hesaplanır.

If overhung load is not applied at the midpoint of input shaft; it is calculated by  $F_{Qx} = F_{Q1/2} \cdot \frac{k}{c+x}$

Dans le cas où les charges radiales ne sont appliquées au centre de l'arbre d'entrée, la formule à appliquer est

$$F_{Qx} = F_{Q1/2} \cdot \frac{k}{c+x}$$

**1500 d/d Motorlar / Motors / Moteurs**

Kod	Güç (KW)	Hız (d/d)	Anma Akımı	Moment (Nm)	Verim		IE Sınıfı	Çalışma Sınıfı
					100%	75%		
Code	Power (KW)	Speed (r.p.m.)	Rated Current	Torque (Nm)	Efficiency		IE Class	Duty Type
					100%	75%		
Code	Puissance (kW)	Vitesse (r.p.m.)	Ampère	Couple (Nm)	Efficience		Classe IE	Classe d'utilisation
					100%	75%		
63M4a	0,12	1365	0,41	0,84	57,1	57,1	IE1	S1
63M4b	0,18	1340	0,60	1,28	59,7	59,7	IE1	S1
C63M4	0,25	1350	0,95	1,77	60,7	60,7	IE1	S1
71M4a	0,25	1380	0,81	1,73	61,9	61,8	IE1	S1
71M4b	0,37	1390	1,15	2,54	68,1	68,1	IE1	S1
C71M4	0,55	1385	1,50	3,75	68,6	68,6	IE1	S1
80M4a	0,55	1365	1,60	3,85	69,1	69,0	IE1	S1
80M4b	0,75	1410	2,10	5,08	79,6	79,6	IE2	S1
90S4	1,1	1420	2,60	7,39	82,0	82,0	IE2	S1
90L4	1,5	1430	3,50	10,02	83,0	83,0	IE2	S1
C90L4	2,2	1435	5,00	14,60	84,4	84,5	IE2	S1
100L4a	2,2	1435	5,00	14,60	84,5	84,6	IE2	S1
100L4b	3	1435	6,60	20,00	85,5	85,7	IE2	S1
C100L4	4	1455	8,20	26,30	86,5	86,6	IE2	S1
112M4	4	1455	8,20	26,30	86,7	86,8	IE2	S1
132S4	5,5	1465	11,20	35,90	87,9	88,8	IE2	S1
132M4	7,5	1465	15,40	48,90	89,0	89,1	IE2	S1
C132M4	11	1465	21,00	71,70	89,9	90,0	IE2	S1
160M4	11	1465	21,00	71,70	90,0	90,1	IE2	S1
160L4	15	1465	29,80	97,80	90,6	90,7	IE2	S1
180M4	18,5	1470	34,50	120,00	91,3	91,4	IE2	S1
180L4	22	1470	42,50	143,00	91,7	91,4	IE2	S1
200L4	30	1470	55,00	195,00	92,5	92,6	IE2	S1
225S4	37	1470	67,00	240,00	92,7	92,7	IE2	S1
225M4	45	1470	80,00	292,00	93,3	93,3	IE2	S1
250M4	55	1475	96,00	356,00	93,7	93,8	IE2	S1
280S4	75	1480	133,00	484,00	94,0	94,1	IE2	S1
280M4	90	1480	158,00	581,00	94,3	94,5	IE2	S1
315S4	110	1485	195,00	707,00	94,5	94,5	IE2	S1
315M4	132	1485	230,00	849,00	94,7	94,5	IE2	S1
315M4	160	1485	280,00	1029,00	94,9	94,9	IE2	S1
315L4	185	1485	323,00	1190,00	95,1	95,1	IE2	S1
315L4	200	1485	350,00	1286,00	95,1	95,1	IE2	S1

## 1000 d/d Motorlar / Motors / Moteurs

Kod	Güç (KW)	Hız (d/d)	Anma Akımı	Moment (Nm)	Verim		IE Sınıfı	Çalışma Sınıfı
					100%	75%		
Code	Power (KW)	Speed (r.p.m.)	Rated Current	Torque (Nm)	Efficiency		IE Class	Duty Type
					100%	75%		
Code	Puissance (kW)	Vitesse (r.p.m.)	Ampère	Couple (Nm)	Efficience		Classe IE	Classe d'utilisation
					100%	75%		
71M6a	0,18	915	0,61	1,88	63,0	62,9	IE1	S1
71M6b	0,25	915	0,83	2,61	63,8	63,7	IE1	S1
80M6a	0,37	910	1,10	3,88	72,9	72,8	IE1	S1
80M6b	0,55	890	1,50	5,90	70,4	70,3	IE1	S1
90S6	0,75	920	2,00	7,79	75,9	75,9	IE2	S1
90L6	1,1	930	2,90	11,30	78,1	78,1	IE2	S1
100L6	1,5	945	3,60	15,20	79,8	79,7	IE2	S1
112M6	2,2	950	5,40	22,00	81,8	81,7	IE2	S1
132S6	3	960	6,90	29,80	83,3	83,2	IE2	S1
132M6a	4	960	9,00	39,80	84,6	84,5	IE2	S1
132M6b	5,5	960	12,30	54,70	86,0	86,0	IE2	S1
160M6	7,5	960	15,00	74,60	87,2	87,2	IE2	S1
160L6	11	965	22,00	108,90	88,7	88,7	IE2	S1
180L6	15	965	29,00	148,00	89,7	89,7	IE2	S1
200L6a	18,5	975	38,00	182,00	90,4	90,4	IE2	S1

\* Motor teknik değerleri GAMAK marka motorlar içindir, kullanılan diğer markalar için değişiklik gösterebilir.



## Frenler

### 1) Pervanesiz frenler

Elektrik motorunun arkasındaki soğutma kapağı takılmayarak bunların yerine monte edilen frenlerdir. Kısa süreli çalışan motorlarda bu tip frenler kullanılır.

### 2) Pervaneli frenler

Elektrik motorunun motor mili ve fan kapağı uzatılarak monte edilen frenlerdir. Devamlı çalışan motorlarda bu tip frenler kullanılır.

### 3) Mikro anahtarlı frenler

Elektrik motorlarının demeraj akımının yüksek olması ve freni açmada gecikmesi dolayısıyla istenmeyen durumlar meydana gelir. Bunları önlemek için, frenin üzerine konulan bir mikro anahtar vasıtasıyla freni açtıktan hemen sonra motorun çalışması sağlanır. Bu tip frenler özellikle büyük güçteki redüktörlerin elektrik motorları için uygundur.

### Redüktörlerin ani veya gecikmeli frenlenmesi

Gecikmeli veya ani frenlenen redüktörler birçok sanayi makinalarında kullanılmaktadır. Bu sebepten frenler hem ani hem de gecikmeli fren yapacak şekilde dizayn edilmişlerdir. Frenlerin elektrik bağlantısında yapılacak bir değişiklikle ani veya gecikmeli frenleme sağlanır. Her frenli redüktör ile birlikte elektrik bağlantı şeması verilmektedir.

*Frenli redüktörleri teslim aldığınızda fren bağlantısının gecikmeli olarak yapıldığını unutmayınız.*

## Brakes

### 1) Brakes without cooling fan

Brake which is mounted on fan side of electric motor by cancelling cooling fan and fan cover of motor. This type of brake is used for a short period running motors.

### 2) Brakes with cooling fan

Brake which is mounted on fan side of electric motor by extending motor shaft and fan cover to use fan. This type of brake is necessary for continuously running motors

### 3) Brakes with micro switch

Because of high starting current of motors delayed disengagement of magnetic brakes undesirable conditions occur. To prevent this situation, starting of motor is provided after disengagement of brake by means of brake by means of a micro switch installed on the brake. This type of brake is especially suitable for high power geared motors.

### Non-delayed or delayed braking of geared motors

Delayed or non-delayed geared motors are used in many industrial machines. Therefore, brakes are designed to operate in both delayed and non-delayed conditions. This is supplied with each brake mounted geared motor.

*Please do not forget that the brakes are connected for delayed operations standard.*

## Freins

### 1) Freins sans hélices de refroidissements

Freins montés directement à l'emplacement de l'hélice de refroidissement. Dans cette configuration l'hélice et le couvercle extérieur sont retirés. Ce type de configuration est conseillé pour les applications et moteurs avec une durée de fonctionnement réduite.

### 2) Freins avec hélice de refroidissement

Le frein est monté directement à l'arrière de l'emplacement de l'hélice de refroidissement. Ce type de configuration nécessite une prolongation de l'arbre d'entraînement du moteur. Ce type de configuration est conseillé pour les applications nécessitant un usage continu du frein.

### 3) Frein à ouverture manuelle

La forte charge appliquée par le moteur sur certains freins entraîne une prolongation de la période de blocage. Afin d'éviter un arrêt prolongé certains freins sont équipés d'un clé d'ouverture manuelle, cette option permet un redémarrage immédiat du moteur. Ce type de freins est particulièrement adapté aux moteurs à forte puissance.

### Freins avec ou sans retardement d'arrêt.

Les motoréducteurs équipés de freins à retardement d'arrêt sont utilisés dans notre nombreuses applications et secteurs. Les freins sont conçus pour opérés avec ou sans l'option de retardement. Cette option est disponible pour l'ensemble de notre gamme de motoréducteurs. A noter que le freins doit être correctement connecté pour permettre un fonctionnement optimale de cette option.

### Fren alıştırma voltajları

Frenler 24V-DC veya 220V-AC ile çalışacak şekilde imal edilir. 220 voltluk frenlerin bağlantıları motor klemens kutusunda yapılmaktadır. 24V ile çalışan frenlerin bağlantısı için ayrıca 220/30V trafo ile doğrultucu gerekmektedir. İstenildiğinde bunlar firmamızca temin edilmektedir.

Frenli redüktörlerin elektrik motorlarına toprak hattı bağlantısı muhakkak yapılmalıdır.

### Fren siparişlerinde belirtilmesi gereken hususlar

- 1) Fren momenti
- 2) Fren tipi
- 3) Fren voltajı

24V ile çalışan fren siparişlerinde trafolu doğrultucu istenip istenmediğini lütfen belirtiniz.

### Fren bağlantı şemaları

### Operating voltage of brakes

Brakes are manufactured to operate at 24V-DC or 220V-AC. 220V brakes are connected to the motor terminal box directly, but 220/30V transformer with rectifier unit needed for 24V operating brakes. This unit will be supplied if required.

Geared brake motors must be earthed.

### Required ordering data for brakes

- 1) Brake torque
- 2) Brake type
- 3) Brake operating voltage.

Please inform as if you need 220/30V transformer with rectifier unit for 24V operating brakes

### Brake connection types

### Voltage et caractéristique des freins

Les freins sont adaptés à un voltage de 24V-DC ou 220V-AC. Les freins fonctionnant sous 220V sont directement connectés à la boîte de Klemens, Les freins fonctionnant sous 24V doivent impérativement être couplés à un transformateur, cette unité est disponible en option.

### Données Nécessaire à la Commande d'un Frein.

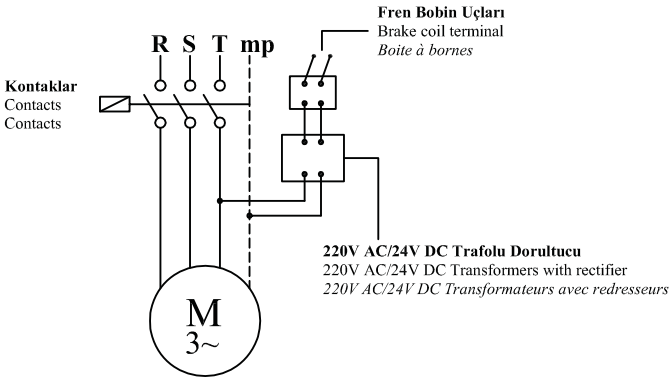
- 1) Couple des freins
- 2) Type de freins
- 3) Type de voltage

Veillez à nous informer si une unité de transformation 220/30V est nécessaire au branchement de votre frein ( 24 V )

### Type de connexion des freins

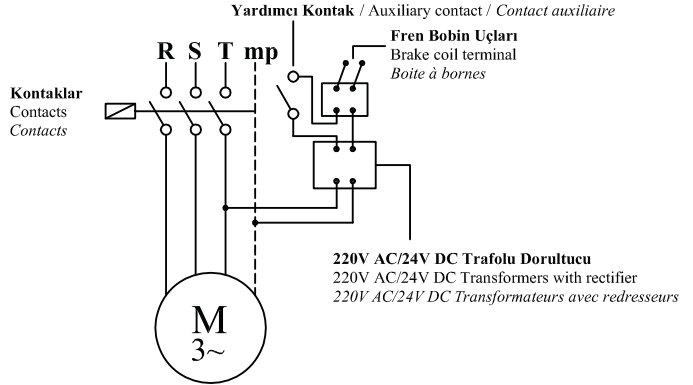
#### Gecikmeli Frenleme (24V)

Delayed Running Brake (24V)  
Frein à retardement (24 V)



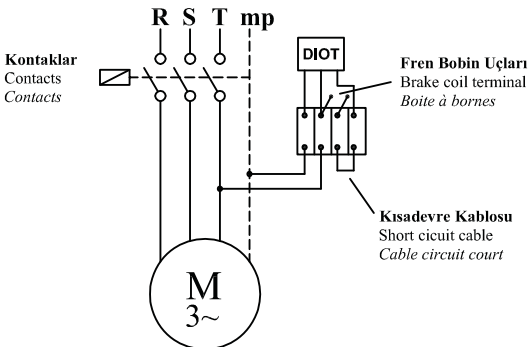
#### Ani Frenleme (24V)

Sudden Running Brake (24V)  
Frein à arrêt immédiat (24 V)



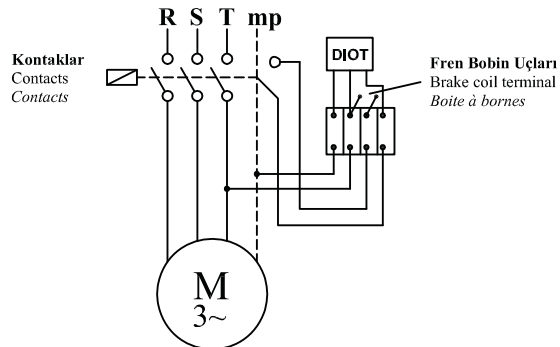
#### Gecikmeli Frenleme (220V)

Delayed Running Brake (220V)  
Frein à retardement (220 V)



#### Ani Frenleme (220V)

Sudden Running Brake (220V)  
Frein à arrêt immédiat (220 V)



Tablo 1 / Table 1 / Tableau 1

Motor büyüklüğü Motor size Dimensions du moteur	n1 d/d / r.p.m / r.p.m			
	750	1000	1500	3000
	Güç / Power / Puissance [kW]			
63			0,12 - 0,18	0,18 - 0,25
71	0,09 - 0,12	0,18 - 0,28	0,25 - 0,37	0,37 - 0,55
80	0,18 - 0,25	0,37 - 0,55	0,55 - 0,75	0,75 - 1,1
90 S	0,37	0,75	1,1	1,5
90 L	0,55	1,1	1,5	2,2
100	0,75 - 1,1	1,5	2,2 - 3	3
112	1,5	2,2	4	4
132 S	2,2	3	5,5	5,5 - 7,5
132 M	3	4 - 5,5	7,5	11
160 M	4-5,5	7,5	11	15
160 L	7,5	11	15	18,5
180 M			18,5	22
180 L	11	15	22	
200	15	18,5 - 22	30	30 - 37
225 S	18,5		37	
225 M	22	30	45	45
250	30	37	55	55
280 S	37	45	75	75
280 M	45	55	90	90

Tablo 2 / Table 2 / Tableau 2

Motor büyüklüğü Motor size Dimensions du moteur	Fren momenti [kgm] Braking torque [kgm] Puissance de freinage [kgm]																			
	Hafif frenleme Light braking Freins legers										Kuvvetli frenleme Strong braking Freins lourds									
	0,5	1	2,5	4	5	10	20	30	50	80	0,5	1	2,5	4	5	10	20	30	50	80
63																				
71																				
80																				
90 S																				
90 L																				
100																				
112																				
132 S																				
132 M																				
160 M																				
160 L																				
180 M																				
180 L																				
200																				
225 S																				
225 M																				
250																				
280 S																				
280 M																				

Bazı uygulamalarda redüktör kullanıcıları redüktör durduğunda sistemin ağırlıkla beraber geri kaymasını istemez.

Bu gibi durumlarda redüktörlerde kilitli rulman uygulaması yapılır. Buna göre aşağıda verilen tiplere göre dönüş yönü belirtilmelidir.

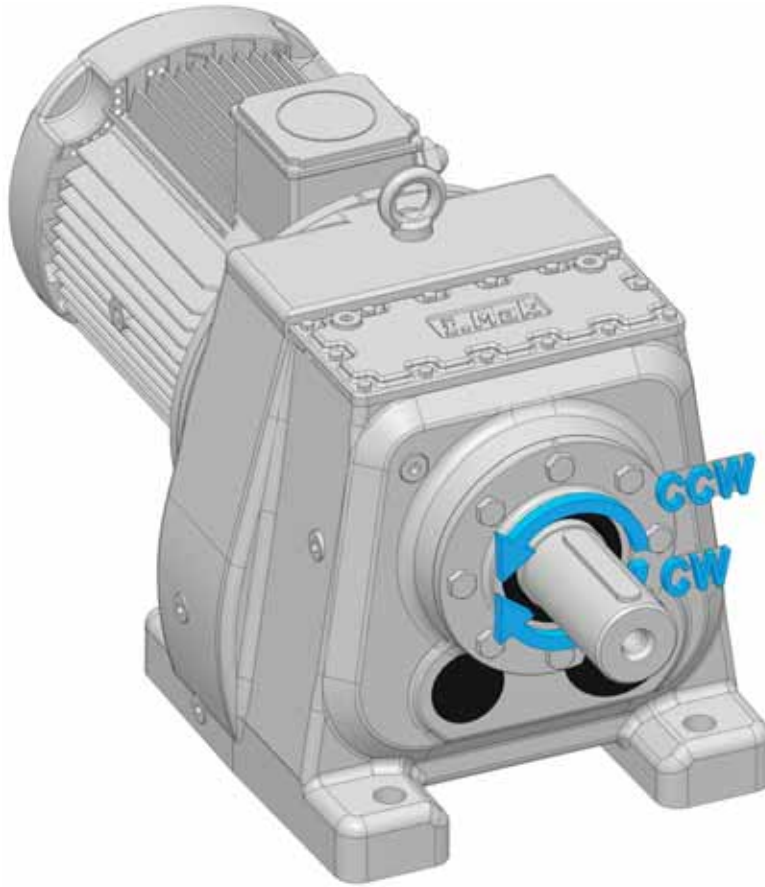
**Ccw : Saat Yönünün Tersi**  
**Cw : Saat Yönü**

In certain applications when the machinery stops, the operator would not like the gearbox to slip and lose its adjustment. Under these circumstances, the gearbox would be equipped with a locked ball bearing. Accordingly, the direction of rotation should be noted as shown below.

**Ccw : Counterclockwise**  
**Cw : Clockwise**

Afin de répondre aux besoins de précision et de sécurité de certaines applications, nos réducteurs sont disponibles avec une option anti-retour. Cette option se compose d'un roulement anti-retour qui permet au réducteur de rester dans la position d'arrêt jusqu'au redémarrage de l'application par l'opérateur.

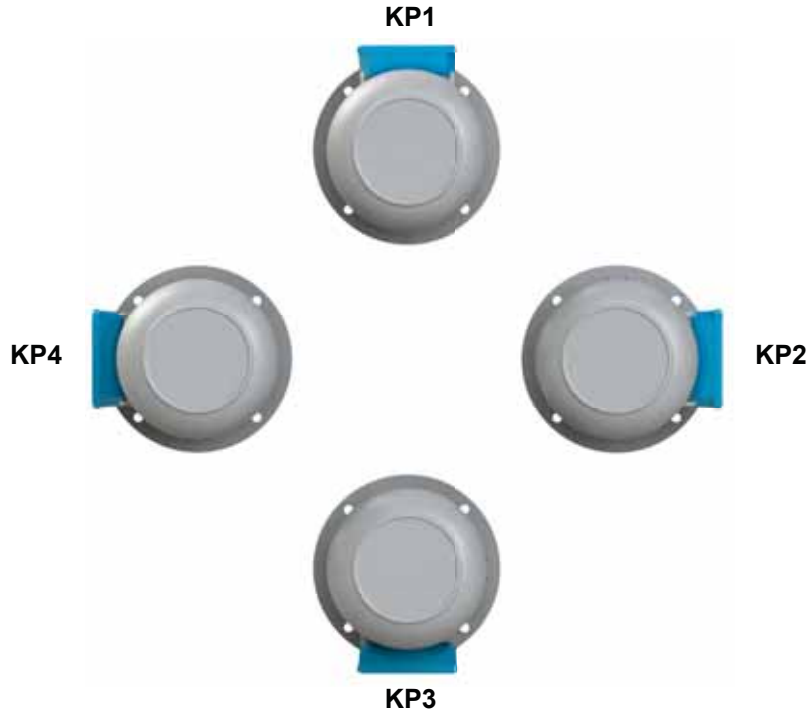
**Ccw : Sens anti-horaire**  
**Cw : Sens horaire**



Standart klemens pozisyonu "KP1" dir, aksi belirtilmediği sürece standart pozisyonda yapılır.

The standard mounting position is "KP1", if the mounting is not during the order, the mounting position is always "KP1"

La position de montage standard est "KP1", si aucune position de montage n'est précisée lors de la prise de commande, la position "KP1" sera attribuée par défaut



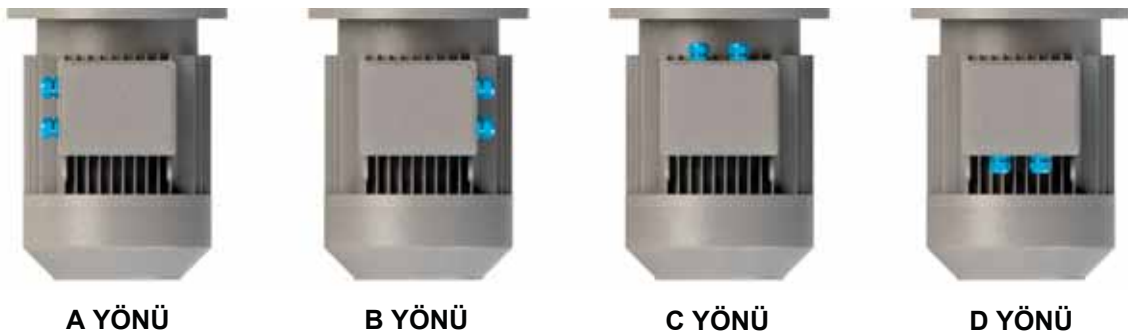
### Rakor yönleri

Cable entry / Entrée des câbles

Standart rakor yönü "A" dir, belirtilmediği sürece standart yönde yapılır.

The standard position of the cable entry is "A", if the position is not specified during the order, the mounting position will be accepted as "A"

La position standard de l'entrée des câbles est "A", si aucune position de montage n'est précisée lors de la prise de commande, la position "A" sera attribuée par défaut.



A YÖNÜ

B YÖNÜ

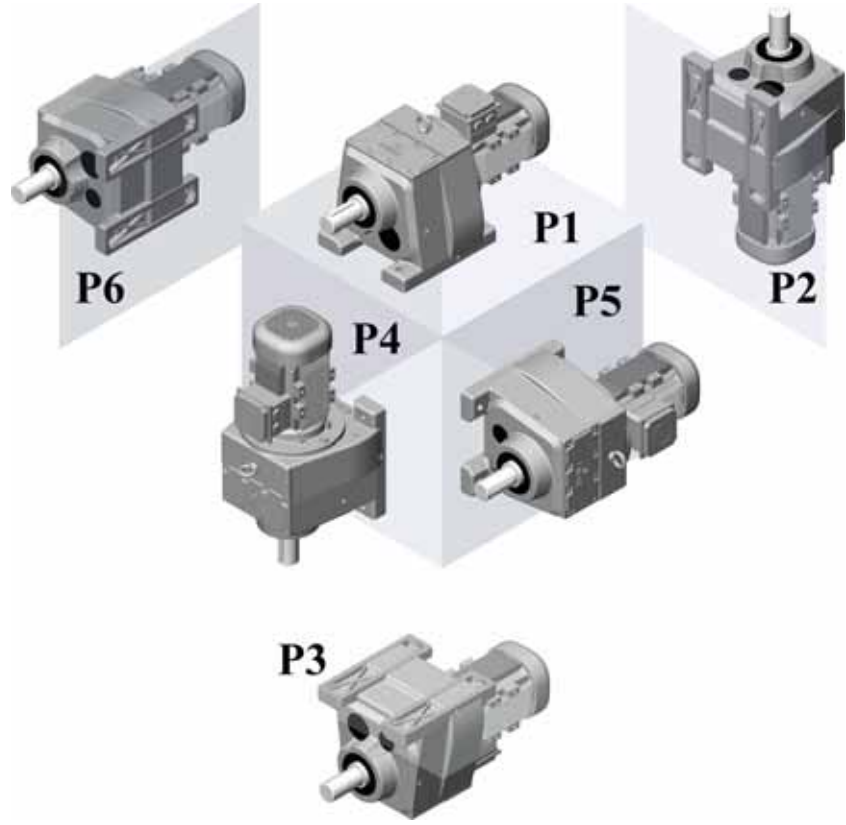
C YÖNÜ

D YÖNÜ

\*Belirtilen montaj pozisyonları görsel amaçlıdır. Montaj yüzeylerini bağlayıcı değildir.

\*The specified mounting positions are for visual purposes. Mounting surfaces are not binding.

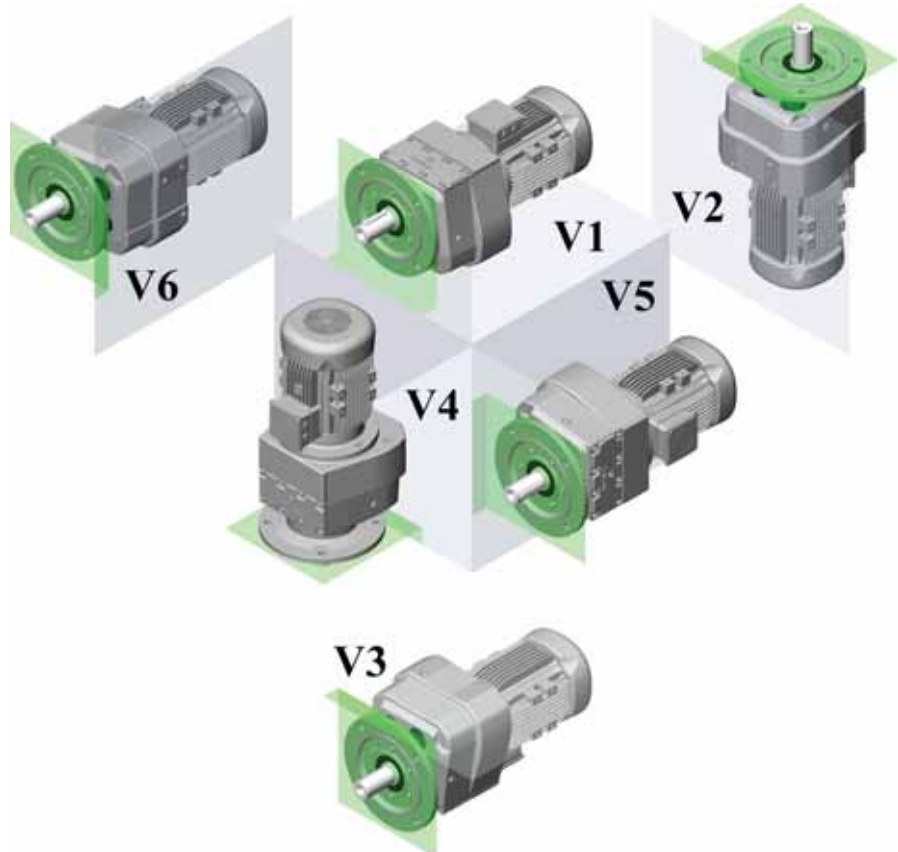
\*Die angegebene Einbaulage ist für heute.  
Die Montagefläche ist nicht bindend.



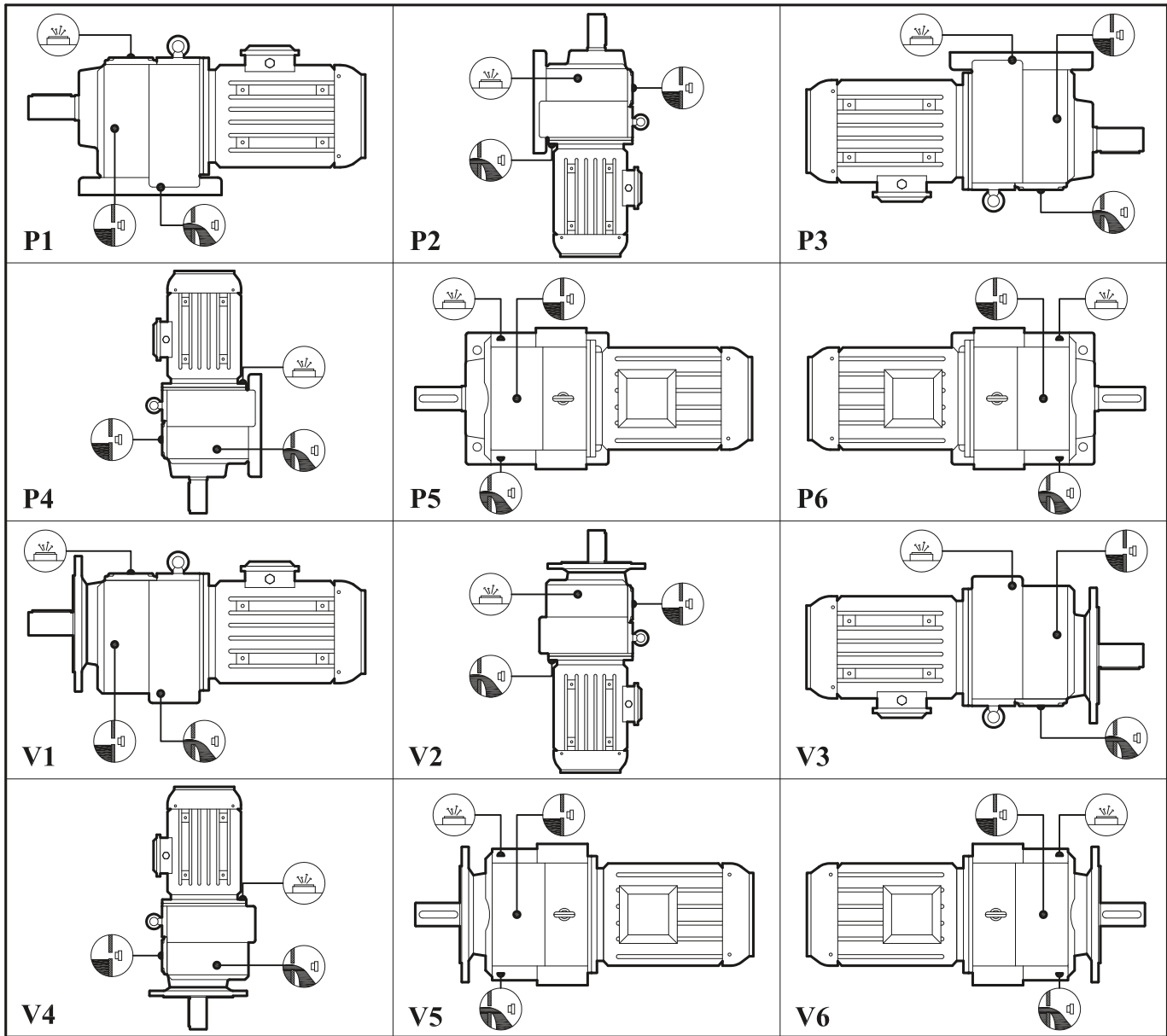
\*Belirtilen montaj pozisyonları görsel amaçlıdır. Montaj yüzeylerini bağlayıcı değildir.

\*The specified mounting positions are for visual purposes. Mounting surfaces are not binding.

\*Die angegebene Einbaulage ist für heute.  
Die Montagefläche ist nicht bindend.



Yağ Cinsi Lubrifiant Art des Lubrifiant	ISO Viskozite sinifi Viscosity class Catégorie de viscosite	DIN 51517-3	Kullanım sicaklığı Usage temperature Gebrauchs temperatur d'usage C°	Firma Firm Marque						
				Mobil	ARAL	bp	Shell	Castrol	KLÜBER LUBRICATION	BELGiN
Mineral Yağ Mineral Oil Huile Minéral	ISO VG 320	CLP	-10.....+90	Mobilgear 600XP320	Degol BG 320	Energol GR-XP 320	OmalaS2 GX 320	Alpha SP 320	Klüberoil GEM 1 N 320	Recompound FL 320
	ISO VG 220	CLP	-10.....+90	Mobilgear 600 XP 220	Degol BG 220	Energol GR-XP 220	OmalaS2 GX 220	Alpha SP 220	Klüberoil GEM 1 N 220	Recompound FL 220
	ISO VG 150	CLP	-10.....+90	Mobilgear 600 XP 150	Degol BG 150	Energol GR-XP 150	OmalaS2 GX 150	Alpha SP 150	Klüberoil GEM 1 N 150	Recompound FL 150
	ISO VG 100	CLP	-15.....+90	Mobilgear 600 XP 100	-	-	OmalaS2 GX 100	Alpha SP 100	Klüberoil GEM 1 N 100	Recompound FL 100
Sentetik Yağ Synthetic Oil Huile Synthétique	ISO VG 320	CLP HC	-30.....+110	Mobil SHC Gear 320	Degol GS 320	Energol SG-XP320	OmalaS4 GX V 320	Optigear Synthetic PD 320 ES	Klübersynth GEM 4N 320	Recompound Syn 320
	ISO VG 220	CLP HC	-35.....+110	Mobil SHC Gear 220	Degol GS 220	Energol SG-XP220	OmalaS4 GX V 220	Optigear Synthetic PD 220 ES	Klübersynth GEM 4N 220	Recompound Syn 220
	ISO VG 150	CLP HC	-40.....+110	Mobil SHC Gear 150	Degol GS 150	Energol SG-XP150	OmalaS4 GX V 150	Optigear Synthetic PD 150 ES	Klübersynth GEM 4N 150	Recompound Syn 150
	ISO VG 100	CLP HC	-45.....+110	Mobil SHC 627	-	-	-	Optigear Synthetic PD 100 ES	Klübersynth GEM 4N 100	Recompound Syn 100



Semboller :  
Symbols :  
Seymboles :



**Yağ Doldurma ve Havalandırma**  
Oil Filling and Vent Plug  
Valve d'aération



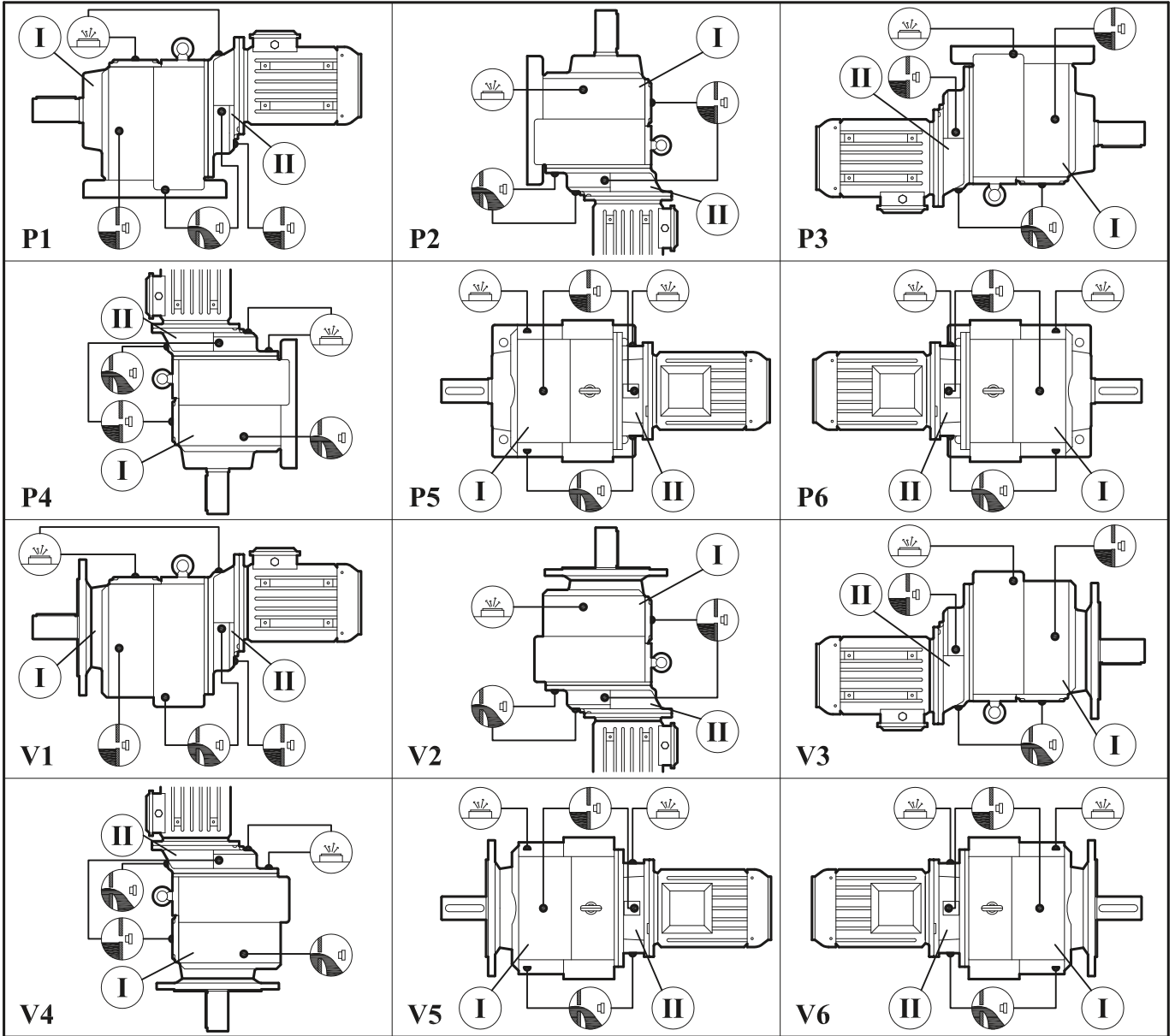
**Yağ Seviye Tespit**  
Oil Level  
Niveau d'huile



**Yağ Boşaltma**  
Oil Drain Plug  
Bouchon de drainage

TİP Type Type	Bağlantı pozisyonları için yağ miktarları ( litre ) / Oil quantities for mounting positions ( liter ) Quantités d'huiles en fonction de la position de montage ( litres )											
	P1	V1	P2	V2	P4	V4	P3	V3	P5	V5	P6	V6
İR... 42 / 43	0,4 / 0,35				0,7 / 0,65		0,5 / 0,45				0,5 / 0,45	
İR... 52 / 53	0,8 / 0,75				1,2 / 1,15		0,8 / 0,75				0,8 / 0,75	
İR... 621 / 631	1,25 / 1,1				1,8 / 1,65		1,25 / 1,1				1,25 / 1,1	
İR... 62 / 63	1,25 / 1,1				1,8 / 1,65		1,25 / 1,1				1,25 / 1,1	
İR... 721 / 731	2,2 / 2				2,7 / 2,5		2,2 / 2				2,2 / 2	
İR... 72 / 73	2,5 / 2,3				3 / 2,8		2,5 / 2,3				2,5 / 2,3	
İR... 82 / 83	5,5 / 5				7,5 / 7		5,5 / 5				5,5 / 5	
İR... 92 / 93	9 / 8				11 / 10		9 / 8				9 / 8	
İR... 102 / 103	14 / 13				17 / 16		14 / 13				14 / 13	
İR... 122 / 123	30 / 28				35 / 33		30 / 28				30 / 28	
İR... 142 / 143	38 / 30				53 / 45		45 / 39				38 / 36	
İR... 152 / 153	65 / 60				102 / 97		94 / 90				82 / 75	





Semboller :  
Seymbols :  
Seymboles :



**Yağ Doldurma ve Havalandırma**  
Oil Filling and Vent Plug  
Valve d'aération

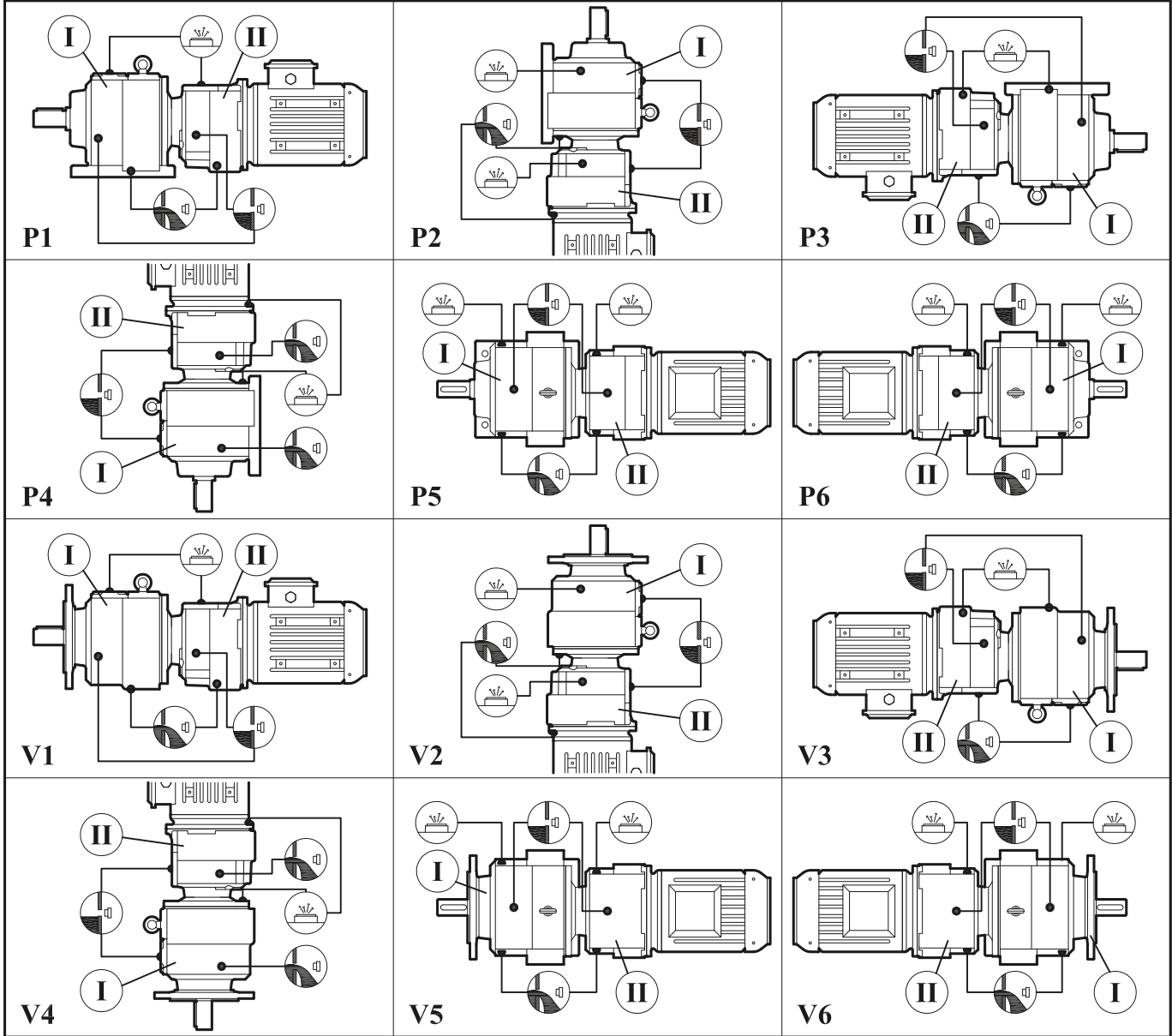


**Yağ Seviye Tespit**  
Oil Level  
Niveau d'huile



**Yağ Boşaltma**  
Oil Drain Plug  
Bouchon de drainage

TİP Type Type	Bağlantı pozisyonları için yağ miktarları ( litre ) / Oil quantities for mounting positions ( liter ) Quantités d'huiles en fonction de la position de montage ( litres )											
	P1	V1	P2	V2	P3	V3	P4	V4	P5	V5	P6	V6
	I / II		I / II		I / II		I / II		I / II		I / II	
İR... 64	1,1	0,1	1,65	0,3	1,1	0,25	1,65	0,2	1,1	0,2	1,65	0,3
İR... 741	2	0,2	2,5	0,35	2	0,4	2,5	0,35	2	0,35	2,5	0,35
İR... 74	2,3	0,2	2,8	0,35	2,3	0,4	2,8	0,35	2,3	0,35	2,8	0,35
İR... 84	5	0,3	7	0,75	5	0,75	7	0,5	5	0,5	7	0,75
İR... 94	8	0,6	10	1,2	8	1,3	10	1,1	8	1,1	10	1,2
İR... 104	13	0,7	16	1,35	13	1,8	16	1,5	13	1,5	16	1,35
İR... 124	30	1,85	35	4	30	4,5	35	4	30	4,5	35	4
İR... 144	30	1,85	45	4	39	4,5	45	4	30	4,5	36	2,75
İR... 154	65	4,35	102	6,5	94	7	102	6,5	65	4,35	82	5,25



Semboller :  
Seymbols :  
Seymboles :



**Yağ Doldurma ve Havalandırma**  
Oil Filling and Vent Plug  
Valve d'aération



**Yağ Seviye Tespit**  
Oil Level  
Niveau d'huile



**Yağ Boşaltma**  
Oil Drain Plug  
Bouchon de drainage

TİP Type Type	Bağlantı pozisyonları için yağ miktarları ( litre ) Oil quantities for mounting positions ( liter ) Quantités d'huiles en fonction da la position de montage ( lites )											
	P1	V1	P2	V2	P4	V4	P3	V3	P5	V5	P6	V6
	I / II		I / II		I / II		I / II		I / II		I / II	
İR... 52 İR 42	0,8 / 0,4		1,2 / 0,7		0,8 / 0,5		0,8 / 0,5		0,8 / 0,5		0,8 / 0,5	
İR... 52 İR 43	0,8 / 0,35		1,2 / 0,65		0,8 / 0,45		0,8 / 0,45		0,8 / 0,45		0,8 / 0,45	
İR... 53 İR 42	0,75 / 0,4		1,15 / 0,7		0,75 / 0,5		0,75 / 0,5		0,75 / 0,5		0,75 / 0,5	
İR... 53 İR 43	0,75 / 0,35		1,15 / 0,65		0,75 / 0,45		0,75 / 0,45		0,75 / 0,45		0,75 / 0,45	
İR... 621 İR 52	1,25 / 0,8		1,8 / 1,2		1,25 / 0,8		1,25 / 0,8		1,25 / 0,8		1,25 / 0,8	
İR... 621 İR 53	1,25 / 0,75		1,8 / 1,15		1,25 / 0,75		1,25 / 0,75		1,25 / 0,75		1,25 / 0,75	
İR... 631 İR 52	1,1 / 0,8		1,65 / 1,2		1,1 / 0,8		1,1 / 0,8		1,1 / 0,8		1,1 / 0,8	
İR... 631 İR 53	1,1 / 0,75		1,65 / 1,15		1,1 / 0,75		1,1 / 0,75		1,1 / 0,75		1,1 / 0,75	
İR... 62 İR 52	1,25 / 0,8		1,8 / 1,2		1,25 / 0,8		1,25 / 0,8		1,25 / 0,8		1,25 / 0,8	
İR... 62 İR 53	1,25 / 0,75		1,8 / 1,15		1,25 / 0,75		1,25 / 0,75		1,25 / 0,75		1,25 / 0,75	

TİP Type Type	Bağlantı pozisyonları için yağ miktarları ( litre )											
	Oil quantities for mounting positions ( liter )											
	Quantités d'huiles en fonction de la position de montage ( litres )											
	P1	V1	P2	V2	P4	V4	P3	V3	P5	V5	P6	V6
I / II		I / II				I / II		I / II				
İR.... 63 İR 52	1,1 / 0,8			1,65 / 1,2			1,1 / 0,8				1,1 / 0,8	
İR.... 63 İR 53	1,1 / 0,75			1,65 / 1,15			1,1 / 0,75				1,1 / 0,75	
İR.... 721 İR 52	2,2 / 0,8			2,7 / 1,2			2,2 / 0,8				2,2 / 0,8	
İR.... 721 İR 53	2,2 / 0,75			2,7 / 1,15			2,2 / 0,75				2,2 / 0,75	
İR.... 731 İR 52	2 / 0,8			2,5 / 1,2			2 / 0,8				2 / 0,8	
İR.... 731 İR 53	2 / 0,75			2,5 / 1,15			2 / 0,75				2 / 0,75	
İR.... 72 İR 52	2,5 / 0,8			3 / 1,2			2,5 / 0,8				2,5 / 0,8	
İR.... 72 İR 53	2,5 / 0,75			3 / 1,15			2,5 / 0,75				2,5 / 0,75	
İR.... 73 İR 52	2,3 / 0,8			2,8 / 1,2			2,3 / 0,8				2,3 / 0,8	
İR.... 73 İR 53	2,3 / 0,75			2,8 / 1,15			2,3 / 0,75				2,3 / 0,75	
İR.... 82 İR 62	5,5 / 1,25			7,5 / 1,8			5,5 / 1,25				5,5 / 1,25	
İR.... 82 İR 63	5,5 / 1,1			7,5 / 1,65			5,5 / 1,1				5,5 / 1,1	
İR.... 83 İR 62	5 / 1,25			7 / 1,8			5 / 1,25				5 / 1,25	
İR.... 83 İR 63	5 / 1,1			7 / 1,65			5 / 1,1				5 / 1,1	
İR.... 92 İR 62	9 / 1,25			11 / 1,8			9 / 1,25				9 / 1,25	
İR.... 92 İR 63	9 / 1,1			11 / 1,65			9 / 1,1				9 / 1,1	
İR.... 93 İR 62	8 / 1,25			10 / 1,8			8 / 1,25				8 / 1,25	
İR.... 93 İR 63	8 / 1,1			10 / 1,65			8 / 1,1				8 / 1,1	
İR.... 102 İR 72	14 / 2,5			17 / 3			14 / 2,5				14 / 2,5	
İR.... 102 İR 73	14 / 2,3			17 / 2,8			14 / 2,3				14 / 2,3	
İR.... 103 İR 72	13 / 2,5			16 / 3			13 / 2,5				13 / 2,5	
İR.... 103 İR 73	13 / 2,3			16 / 2,8			13 / 2,3				13 / 2,3	
İR.... 122 İR 72	30 / 2,5			35 / 3			30 / 2,5				30 / 2,5	
İR.... 122 İR 73	30 / 2,3			35 / 2,8			30 / 2,3				30 / 2,3	
İR.... 123 İR 72	28 / 2,5			33 / 3			28 / 2,5				28 / 2,5	
İR.... 123 İR 73	28 / 2,3			33 / 2,8			28 / 2,3				28 / 2,3	
İR.... 142 İR 72	38 / 2,5			53 / 3			45 / 2,5				38 / 2,5	
İR.... 142 İR 73	38 / 2,3			53 / 2,8			45 / 2,3				38 / 2,3	
İR.... 143 İR 72	30 / 2,5			45 / 3			39 / 2,5				36 / 2,5	
İR.... 143 İR 73	30 / 2,3			45 / 2,8			39 / 2,3				36 / 2,3	
İR.... 143 İR 82	30 / 5,5			45 / 7,5			39 / 5,5				36 / 5,5	
İR.... 152 İR 93	65 / 8			102 / 10			94 / 8				82 / 8	
İR.... 153 İR 92	60 / 9			97 / 11			90 / 9				75 / 9	
İR.... 153 İR 93	60 / 8			97 / 10			90 / 8				75 / 8	

## Redüktörlerin Kontrol ve Bakımları

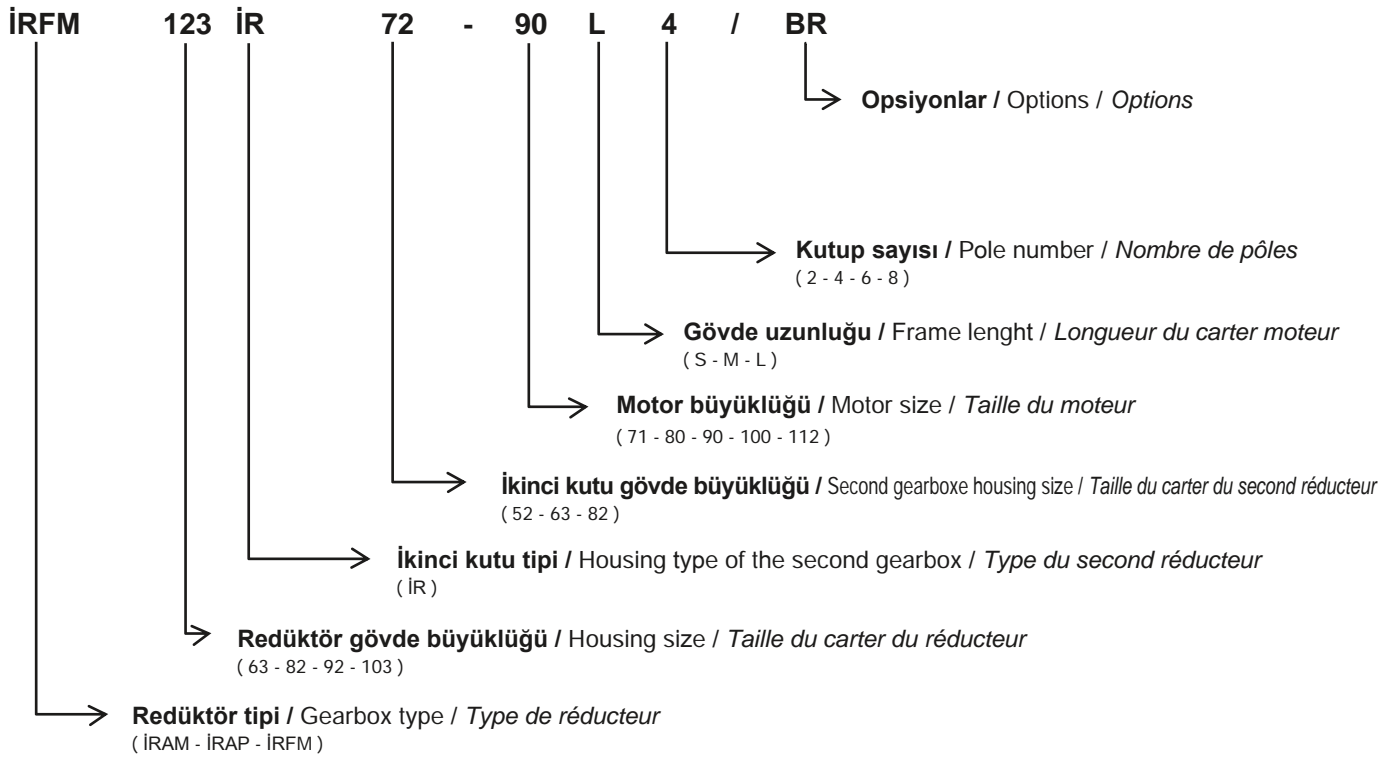
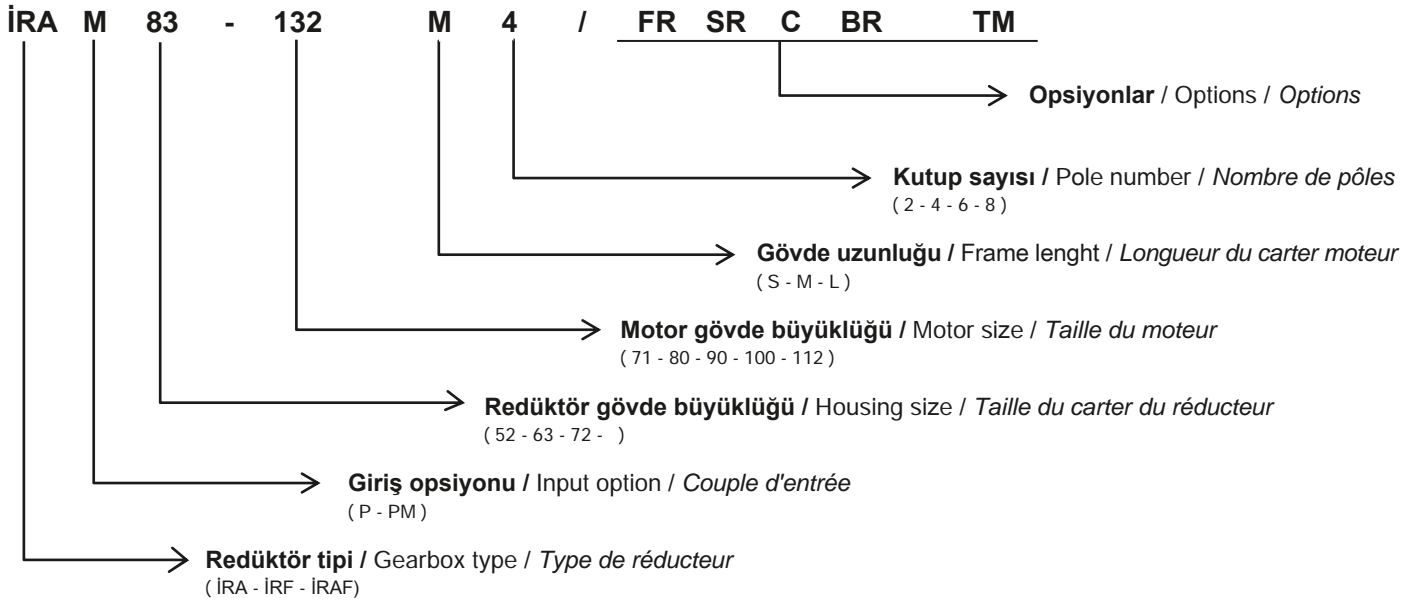
- Redüktörlerin yağ seviyesi ve miktarını kontrol ediniz. Yağın cinsini İ.MAK kataloğunda yer alan yağ çizelgelerini kullanarak seçiniz.
- Havalandırma tapasının faal olup olmadığına bakınız. Hava tahliye deliği çalışmaz ise redüktör gövdesinin içinde biriken hava, basınç oluşturarak keçelerden yağ sızmasına sebep olur. Böylece yağ azalarak çevre kirliliğine yol açar ve redüktörün verimli çalışmasını engellemiş olur.
- Redüktör bağlantı civatalarının gevşeyip gevşemediğini kontrol ediniz, gevşeyen civatalar var ise sıkılmak suretiyle tedbir alınız. Redüktör montajında meydana gelen eksen kaçıklığında zararlı sarsıntılara dikkat ediniz.
- Redüktörün ilk çalıştırmadan 500 saat sonra, sonraki her 6000 saatte periyodik olarak yağını değiştiriniz.
- Özel hususlar ve çalışma şartları hakkında mutlaka firmamıza danışınız.

## Control and maintenance gearboxes

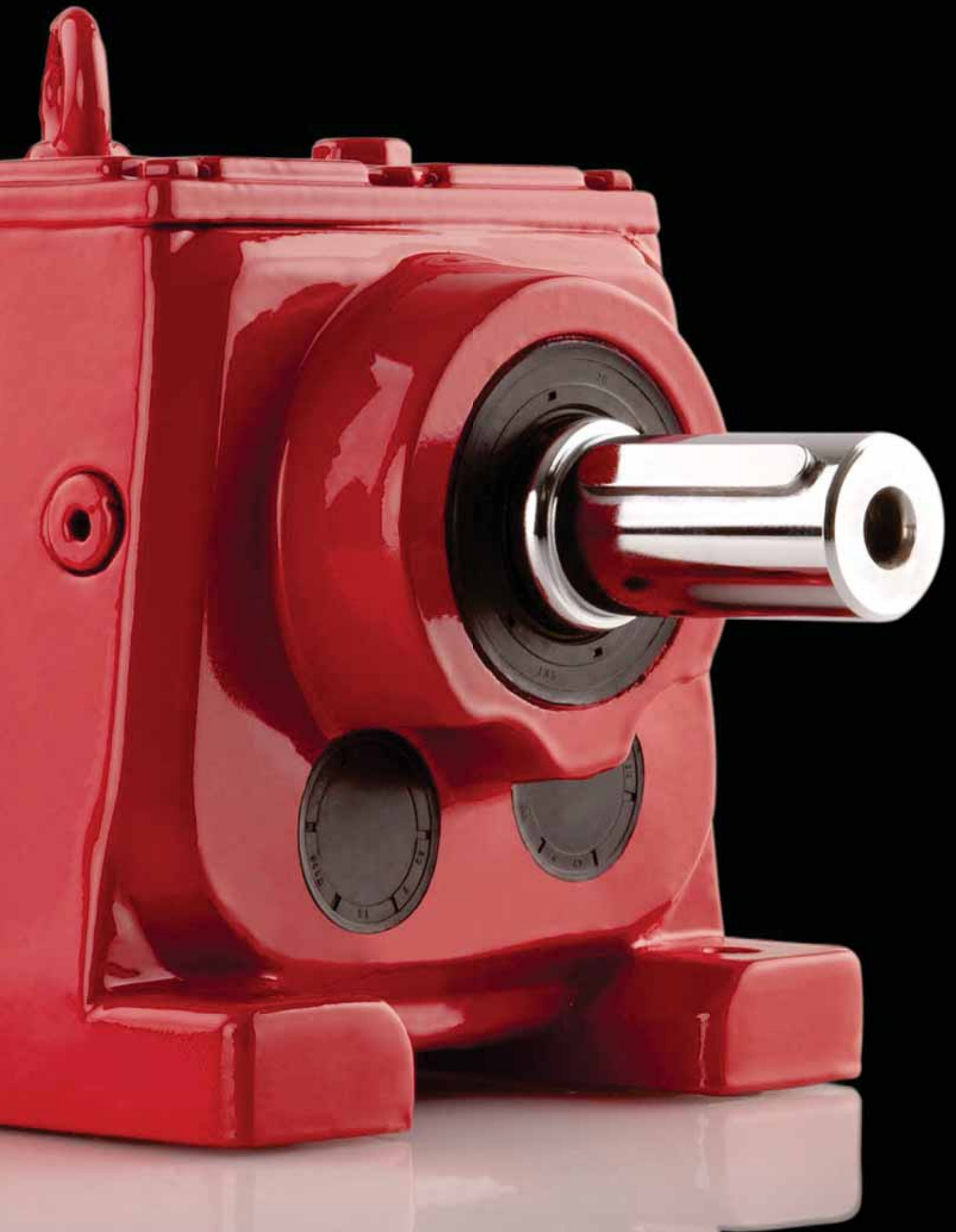
- Check the oil levels and quantity of your gearboxes. Choose the type and quantity of oil from the İ.MAK catalogue.
- Check if the ventilation stopper is active or not. If the air evacuation hole does not work properly, the accumulated air in the gearbox trunk might causes pressure and gas leakage from the mats.
- Before starting your geared motors, proceed to the checking of connection bolts and screw. Check if they have loosened or not during transport or installation. Take measures by firming loosened bolts. A wrong connexion might create vibration to the axis and conduct to damage of the geared motor.
- Change the oil after 500 hours of initial operation and periodically every 6000 hours of operating the geared motor.
- If you are facing any technical issue, please consult the user guide delivered with the geared motor. In case of special issue or emergency please directly contact your reseller or the closest I-MAK technical center.

## Contrôle et maintenance des réducteurs

- Vérifiez le niveau et la quantité d'huile de façons régulière. Consultez le catalogue I-MAK pour obtenir les niveaux d'huiles requis en fonction du modèle et de la position du réducteur.
- Vérifiez le fonctionnement de la valve d'aération. L'absence d'évacuation de l'air peut provoquer une augmentation de la pression dans le réducteur pouvant conduire à des fuites d'huiles.
- Contrôler les vis et boulons reliant le moteur au réducteur, en cas de mauvaise fermeture le moteur peut créer des vibrations de l'arbre entraînant l'endommagement du motoréducteur.
- La première vidange doit être effectuée après 500 heures d'utilisations du motoréducteur, les vidanges suivantes doivent être effectuées au bout de 6000 heures d'utilisations.
- En cas de problèmes techniques, consultez le manuel d'utilisation fournis à la livraison du motoréducteur. En cas de problèmes particulier ou d'urgence, veillez à contacter votre revendeur ou le centre technique I-MAK le plus proche.



		<b>YERLİ MALİ BELGESİ</b> Domestic goods certificate <i>Certificat de produit national</i>
		<b>TÜRK STANDARTLARI ENSTİTÜSÜ KRİTERE UYGUNLUK BELGESİ</b> Certificate of conformity to Turkish standards <i>Certificats de conformité aux standards Turcs</i>
		<b>MARKA YENİLEME BELGESİ</b> Certificate of trademark registration <i>Certificat d'enregistrement de marque</i>
		<b>ISO 9001:2008 YÖNETİM SİSTEMİ</b> ISO 9000:2008 Quality management system <i>ISO 9000:2008 : Systèmes de management de la qualité</i>
		<b>ISO10002:2004 MÜŞTERİ MEMNUNİYETİ YÖNETİM SİSTEMİ</b> ISO 10002:2004 Customer satisfaction management system <i>ISO 10002:2004 Management de la qualité - Satisfaction clients</i>
		<b>OHSAS 18001:2007 İŞ SAĞLIĞI VE GÜVENLİĞİ YÖNETİM SİSTEMİ</b> OHSAS 18001:2007 : Occupational health and safety management <i>OHSAS 18001:2007 : Management de la santé et de la sécurité au travail</i>
		<b>AT UYGUNLUK BEYANI</b> CE Declaration of conformity <i>Déclaration de conformité aux standards CE</i>
		<b>EC TYPE EXAMINATION CERTIFICATE</b> ATEX Certificate <i>Certificat ATEX</i>



## İR Serisi Redüktörler Güç ve Devir Tabloları

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İR Series Power Ratings and Output Speed

*İR Series puissances et vitesses de sorties*





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
0,12 0,16	0,28	5008	0,84	3744	26000	İRAM İRFM İRAFM	93 İR 63 / 63 M 4a	295 296 297	155 165 175	
	0,30	4673	0,90	3494	26000					
	0,31	4545	0,92	3398	26000					
	0,33	4241	0,99	3171	26000					
	0,34	4138	1,01	3094	26000					
	0,36	3861	1,09	2887	26000					
	0,37	3778	1,11	2824	26000					
	0,40	3525	1,19	2635	26000					
	0,41	3456	1,21	2584	26000					
	0,44	3168	1,32	2368	26000					
	0,47	2992	1,12	2271	26000					
		0,50	2792	1,20	2119	26000	İRAM İRFM İRAFM	92 İR 63 / 63 M 4a	295 296 297	150 160 170
		0,53	2636	1,27	2001	26000				
		0,57	2460	1,36	1867	26000				
		0,60	2343	1,43	1778	26000				
		0,64	2186	1,53	1659	26000				
		0,67	2096	1,59	1591	26000				
		0,72	1956	1,71	1485	26000				
		0,74	1886	1,77	1431	26000				
		0,80	1760	1,90	1336	26000				
		0,88	1592	2,10	1208	26000				
		0,99	1409	2,40	1069	26000				
		1,1	1315	2,50	998	26000	İRAM İRFM İRAFM	83 İR 63 / 63 M 4a	277 278 279	102 107 109
		1,2	1201	2,80	912	26000				
		1,3	1098	3,80	833	26000				
		0,48	2930	0,90	2190	18000				
		0,53	2659	0,99	1988	18000				
		0,63	2205	1,12	1648	18000				
		0,70	2013	1,22	1505	18000				
		0,76	1840	1,34	1376	18000				
		0,79	1779	1,43	1350	18000				
		0,89	1580	1,61	1199	18000				
		0,99	1418	1,69	1076	18000	İRAM İRFM İRAFM	82 İR 63 / 63 M 4a	277 278 279	95 100 102
		1,1	1278	1,88	970	18000				
		1,2	1157	2,00	878	18000				
		1,3	1050	2,20	797	18000				
		1,4	984	2,00	747	18000				
		1,6	887	2,40	673	18000				
		1,7	803	2,60	609	18000				
		2,1	663	3,00	503	18000				
		2,3	604	3,20	458	18000				
		1,0	1375	0,94	1044	12100				
	1,1	1223	1,05	928	12100	İRAM İRFM İRAFM	73 İR 52 / 63 M 4a	259 260 261	58 61 64	
	1,3	1095	1,18	831	12100					
	1,3	1079	1,19	819	12100					
	1,4	966	1,33	733	12100					
	1,6	894	1,44	679	12100					
	1,7	801	1,44	608	12100					
	1,8	789	1,44	599	12100					
	2,0	702	1,84	533	12100					
	2,0	697	1,85	529	12100					
	2,2	627	2,00	476	12100					
	2,5	563	2,30	427	12100					
	2,5	553	2,30	420	12100					
	2,6	535	2,30	406	12100					
	3,0	469	2,60	356	12100					
	3,3	419	2,90	318	12100					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			 kg
0,12 0,16	3,4	414	2,90	314	12100	İRAM İRFM İRAFM	73 İR 52 / 63 M 4a	259	58
	3,7	376	3,20	285	12100			260	61
	3,8	370	3,30	281	12100			261	64
	2,4	576	1,95	444	12100	İRAPM İRFPM İRAFPM	74 / 63 M 4a	256	48
	3,1	447	2,45	345	12100			257	51
	3,6	394	3,00	304	12100			258	54
	4,0	351	3,45	270	12100				
	4,5	314	3,58	242	12100	İRAM İRFM İRAFM	721 İR 53 / 63 M 4a	241	50
	1,5	921	0,78	699	10100			242	53
	1,7	824	0,87	625	10100			243	56
	1,9	742	0,97	563	10100				
	2,1	675	1,07	512	10100				
	2,3	604	1,56	458	10100				
	2,6	533	1,77	405	10100				
	2,9	491	1,88	373	10100				
	2,9	480	1,95	364	10100				
	3,3	423	2,20	321	10100				
	3,6	390	2,30	296	10100	İRAM İRFM İRAFM	731 İR 52 / 63 M 4a	241	55
	4,1	344	2,60	261	10100			242	58
	4,6	306	3,00	232	10100			243	61
	1,7	836	0,86	635	10100				
	1,9	749	0,96	568	10100				
	2,1	674	1,06	512	10100				
	2,3	600	1,56	455	10100				
	2,6	530	1,77	402	10100				
	3,0	468	2,00	355	10100				
	3,4	416	2,20	316	10100				
	3,8	372	2,50	282	10100	İRAPM İRFPM İRAFPM	741 / 63 M 4a	238	46
	4,2	333	2,80	253	10100			239	49
	4,7	300	2,90	228	10100			240	52
	2,3	622	1,25	479	18100				
	2,6	538	1,44	414	18100				
	3,0	465	1,66	358	18100				
	3,2	435	1,77	335	18100				
	3,6	384	2,00	296	18100	İRAM İRFM İRAFM	63 İR 52 / 63 M 4a	223	41
	4,1	338	2,30	261	18100			224	46
	4,7	301	2,60	232	18100			225	47
	1,8	777	0,84	590	7300				
	2,0	704	0,93	534	7300				
	2,3	622	1,04	472	7300				
2,5	566	1,15	430	7300					
2,9	475	1,37	361	7300					
3,1	449	1,45	341	7300					
3,5	397	1,64	301	7300					
3,7	379	1,72	288	7300	İRAM İRFM İRAFM	62 İR 52 / 63 M 4a	223	42	
4,3	323	2,00	245	7300			224	47	
4,9	286	2,20	217	7300			225	48	
5,1	273	2,40	207	7300					
5,8	242	2,60	184	7300					
6,5	215	3,00	163	7300					
6,1	231	2,30	178	7300					
6,9	203	2,60	156	7300					
7,6	184	2,70	142	7300					
8,6	162	3,00	125	7300					
9,5	148	3,30	114	7300					
10	134	3,60	103	7300					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types							
										İRAM İRFPM İRAFPM	64 / 63 M 4a		
												İRAM İRFPM İRAFPM	53 İR 42 / 63 M 4a
İRAM İRFPM İRAFPM	43 / 63 M 4a												
		İRAM İRFPM İRAFPM	42 / 63 M 4a										
				3,3	424	1,35	327	7300			220	28	
3,5	396			1,44	305	7300			221	33			
4,4	319	1,77	246	7300			222	34					
4,8	291	1,95	224	7300									
5,1	276	2,00	213	7300									
3,7	377	0,75	286	4250									
4,2	333	0,84	253	4250									
4,6	303	0,93	230	4250									
5,2	268	1,05	203	4250									
5,9	237	1,19	180	4250									
6,5	216	1,30	164	4250			187	22					
7,3	192	1,47	146	4250			188	24					
7,4	188	1,49	143	4250			189	25					
8,3	168	1,67	128	4250									
9,2	152	1,85	115	4250									
10	136	1,99	103	4250									
11	123	2,30	93	4250									
13	111	2,50	84	4250									
14	100	2,80	76	4250									
13	106	2,30	83	5350			184	15					
16	88,98	2,80	70	5150			185	17					
18	77,17	3,10	60	5150			186	18					
21	67,60	3,30	53	5150									
17	81,37	1,27	64	2270									
20	70,05	1,48	55	2270									
23	60,90	1,70	48	2270									
26	53,33	1,94	42	2270									
30	46,98	2,20	37	2270									
33	41,85	2,50	33	2270									
38	36,38	2,90	28	2120									
44	31,86	3,20	25	2120									
50	28,06	3,70	22	2000									
53	26,19	4,00	20	2000			175	11					
56	24,83	4,20	19	2000			176	12					
62	22,62	4,40	18	1940			177	13					
66	21,11	4,80	17	1940									
70	20,01	5,20	16	1940									
75	18,59	5,50	15	1940									
79	17,76	5,80	14	1900									
85	16,45	6,20	13	1900									
89	15,81	6,40	12	1850									
96	14,60	7,10	11	1850									
99	14,09	7,50	11	1850									
108	13,00	7,90	10	1750									
121	11,58	8,90	9	1700									
125	11,24	5,40	9	1650									
142	9,845	6,00	8	1600									
161	8,672	6,80	7	1500									
182	7,673	7,90	6	1450									
204	6,872	11,40	5	1450									
230	6,080	12,80	5	1450			175	10					
253	5,538	13,70	4	1360			176	11					
259	5,398	14,20	4	1300			177	12					
286	4,900	15,10	4	1250									
291	4,803	16,00	4	1200									
322	4,350	16,90	3	1100									
327	4,280	17,80	3	1100									
362	3,870	19,20	3	1100									
406	3,449	21,50	3	1080									

0,12  
0,16



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
<b>0,18</b> <b>0,25</b>	0,53	2636	0,85	3001	26000	İRAM İRFM İRAFM	92 İR 63 / 63 M 4b	295 296 297	150 160 170
	0,57	2460	0,91	2801	26000				
	0,60	2343	0,95	2667	26000				
	0,64	2186	1,02	2489	26000				
	0,67	2096	1,06	2386	26000				
	0,72	1956	1,14	2227	26000				
	0,74	1886	1,18	2147	26000				
	0,80	1760	1,27	2004	26000				
	0,88	1592	1,40	1812	26000				
	0,99	1409	1,60	1604	26000				
	1,1	1315	1,67	1497	26000				
	1,2	1201	1,87	1367	26000				
	1,3	1098	2,53	1250	26000				
	1,4	993	2,73	1131	26000				
	0,79	1779	0,95	2025	18100				
	0,89	1580	1,07	1799	18100				
	0,99	1418	1,13	1614	18100				
	1,1	1278	1,25	1455	18000				
	1,2	1157	1,33	1317	18000				
	1,3	1050	1,47	1195	18000				
	1,4	984	1,33	1120	18000				
	1,6	887	1,60	1010	18000				
	1,7	803	1,73	914	18000				
	2,1	663	2,00	755	18000				
	2,3	604	2,13	688	18000				
	1,3	700	1,25	1258	18100				
	1,4	635	1,37	1141	18100				
	1,6	579	1,50	1041	18100				
	1,7	530	1,64	953	18100				
	1,8	487	1,79	876	18100				
	2,1	428	2,00	770	18100				
	2,4	382	2,30	687	18100				
	2,6	343	2,50	617	18100				
	2,9	310	2,70	557	18100				
	1,3	1095	0,79	1247	12100				
	1,3	1079	0,79	1228	12100				
	1,4	966	0,89	1100	12100				
	1,6	894	0,96	1018	12100				
	1,7	801	0,96	912	12100				
	1,8	789	0,96	898	12100				
	2,0	702	1,23	799	12100				
	2,0	697	1,23	794	12100				
	2,2	627	1,33	714	12100				
	2,5	563	1,53	641	12100				
	2,5	553	1,53	630	12100				
2,6	535	1,53	609	12100					
3,0	469	1,73	534	12100					
3,3	419	1,93	477	12100					
3,4	414	1,93	471	12100					
3,7	376	2,13	428	12100					
3,8	370	2,20	421	12100					
4,2	332	2,40	378	12100					
5,1	276	2,60	314	12100					
5,2	270	2,67	307	12100					
5,6	250	2,87	285	12100					
5,7	244	2,93	278	12100					
						İRAM İRFM İRAFM	82 İR 63 / 63 M 4b	277 278 279	95 100 102
						İRAM İRFM İRAFM	84 / 71 M 6a	271 272 273	87 92 94
						İRAM İRFM İRAFM	73 İR 52 / 63 M 4b	259 260 261	58 61 64



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types									
										İRAM	İRFM	İRAFM			
													74 / 71 M 6a	253	50
İRAM	İRFM	İRAFM	74 / 63 M 4b	254	52										
						İRAM	İRFM	İRAFM	73 / 71 M 6a	247	43				
İRAM	İRFM	İRAFM	73 / 71 M 6a	248	46										
						İRAM	İRFM	İRAFM	73 / 71 M 6a	249	49				
İRAM	İRFM	İRAFM	721 İR 53 / 63 M 4b	241	51										
						İRAM	İRFM	İRAFM	721 İR 53 / 63 M 4b	242	54				
İRAM	İRFM	İRAFM	721 İR 53 / 63 M 4b	243	57										
						İRAM	İRFM	İRAFM	731 İR 52 / 63 M 4b	241	56				
İRAM	İRFM	İRAFM	731 İR 52 / 63 M 4b	242	59										
						İRAM	İRFM	İRAFM	731 İR 52 / 63 M 4b	243	62				
İRAM	İRFM	İRAFM	741 / 71 M 6a	235	47										
						İRAM	İRFM	İRAFM	741 / 71 M 6a	236	50				
İRAM	İRFM	İRAFM	741 / 71 M 6a	237	53										
						İRAPM	İRFPM	İRAFPM	741 / 63 M 4b	238	46				
İRAPM	İRFPM	İRAFPM	741 / 63 M 4b	239	49										
						İRAPM	İRFPM	İRAFPM	741 / 63 M 4b	240	52				
İRAM	İRFM	İRAFM	731 / 71 M 6a	229	41										
						İRAM	İRFM	İRAFM	731 / 71 M 6a	230	44				
İRAM	İRFM	İRAFM	731 / 71 M 6a	231	47										
						İRAM	İRFM	İRAFM	63 İR 52 / 63 M 4b	223	41				
İRAM	İRFM	İRAFM	63 İR 52 / 63 M 4b	224	46										
						İRAM	İRFM	İRAFM	63 İR 52 / 63 M 4b	225	47				
İRAM	İRFM	İRAFM	62 İR 52 / 63 M 4b	223	42										
						İRAM	İRFM	İRAFM	62 İR 52 / 63 M 4b	224	47				
İRAM	İRFM	İRAFM	62 İR 52 / 63 M 4b	225	48										
						0,18 0,25	1,6	576	0,83	1036	12100	İRAM İRFM İRAFM	74 / 71 M 6a	253	50
2,0	447	1,04	804	12100											
2,3	394	1,32	709	12100											
2,6	351	1,48	630	12100	İRAM İRFM İRAFM		74 / 63 M 4b	253	49						
2,4	576	1,30	666	12100											
3,1	447	1,63	517	12100											
3,6	394	2,00	456	12100	İRAM İRFM İRAFM		74 / 63 M 4b	254	52						
4,0	351	2,30	405	12100											
4,5	314	2,39	363	12100											
5,0	283	2,50	327	12100	İRAM İRFM İRAFM		73 / 71 M 6a	247	43						
5,8	154	3,10	282	12100											
2,3	604	1,04	688	10100						İRAM İRFM İRAFM	721 İR 53 / 63 M 4b	241	51		
2,6	533	1,18	607	10100											
2,9	491	1,25	559	10100											
2,9	480	1,30	546	10100	İRAM İRFM İRAFM		721 İR 53 / 63 M 4b	242	54						
3,3	423	1,47	482	10100											
3,6	390	1,53	444	10100											
4,1	344	1,73	392	10100	İRAM İRFM İRAFM		731 İR 52 / 63 M 4b	241	56						
4,6	306	2,00	348	10100											
2,3	600	1,04	683	10100											
2,6	530	1,18	603	10100	İRAM İRFM İRAFM		731 İR 52 / 63 M 4b	242	59						
3,0	468	1,33	533	10100											
3,4	416	1,47	474	10100											
3,8	372	1,67	424	10100	İRAM İRFM İRAFM		731 İR 52 / 63 M 4b	243	62						
4,2	333	1,87	379	10100											
4,7	300	1,93	342	10100											
2,1	435	0,76	783	12100	İRAM İRFM İRAFM		741 / 71 M 6a	235	47						
2,3	384	0,87	690	12100											
2,7	338	0,98	609	12100											
2,3	622	0,83	719	12100	İRAPM İRFPM İRAFPM		741 / 63 M 4b	238	46						
2,6	538	0,96	622	12100											
3,0	465	1,11	537	12100											
3,2	435	1,18	503	12100	İRAPM İRFPM İRAFPM		741 / 63 M 4b	239	49						
3,6	384	1,33	444	12100											
4,1	338	1,53	391	12100											
4,7	301	1,73	348	12100	İRAM İRFM İRAFM		731 / 71 M 6a	229	41						
5,8	240	2,20	277	12100											
7,4	188	2,67	218	12100											
5,9	152	1,88	278	10100	İRAM İRFM İRAFM		731 / 71 M 6a	230	44						
6,7	135	2,10	246	10100											
7,7	117	2,50	213	10100											
8,9	101	2,80	184	10100	İRAM İRFM İRAFM		63 İR 52 / 63 M 4b	223	41						
2,9	475	0,91	541	7300											
3,1	449	0,97	511	7300											
3,5	397	1,09	452	7300	İRAM İRFM İRAFM	63 İR 52 / 63 M 4b	224	46							
3,7	379	1,15	431	7300											
4,3	323	1,33	368	7300											
4,9	286	1,47	326	7300	İRAM İRFM İRAFM	63 İR 52 / 63 M 4b	225	47							
5,1	273	1,60	311	7300											
5,8	242	1,73	276	7300											
6,5	215	2,00	245	7300	İRAM İRFM İRAFM	62 İR 52 / 63 M 4b	223	42							
7,3	191	2,27	217	7300											
6,1	231	1,53	267	7300											
6,9	203	1,73	235	7300	İRAM İRFM İRAFM	62 İR 52 / 63 M 4b	224	47							
7,6	184	1,80	213	7300											



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg				
0,18 0,25	8,6	162	2,00	187	7300	İRAM	62 İR 52 / 63 M 4b	223	42				
	9,5	148	2,20	171	7300	İRFM		224	47				
	10	134	2,40	155	7300	İRAFPM		225	48				
	2,8	319	0,76	574	7300	İRAM	64 / 71 M 6a	217	30				
	3,1	291	0,84	524	7300	İRFM		218	35				
	3,3	424	0,90	490	7300	İRAFPM		219	36				
	3,5	396	0,96	458	7300	İRAPM İRFPM İRAFPM	64 / 63 M 4b	220 221 222	29 34 35				
	4,4	319	1,18	369	7300								
	4,8	291	1,30	337	7300								
	5,1	276	1,33	320	7300								
	5,9	235	1,60	272	7300								
	6,5	214	1,73	247	7300								
	7,7	182	2,07	210	7300								
	8,9	157	2,40	181	7300								
	7,0	128	1,80	234	7300					İRAPM İRFPM İRAFPM	63 / 71 M 6a	214 215 216	26 31 32
	7,5	119	1,90	218	7300								
	9,3	96,27	2,30	176	7300								
	10	87,81	2,60	160	7300	İRAM İRFM İRAFPM	63 / 71 M 6a	211 212 213	26 31 32				
	11	128	2,70	150	7300								
	12	119	2,90	140	7300	İRAPM İRFPM İRAFPM	63 / 63 M 4b	214 215 216	25 30 31				
	7,0	128	1,80	234	7300								
	7,5	119	1,90	218	7300								
	9,3	96,27	2,30	176	7300	İRAPM İRFPM İRAFPM	631 / 71 M 6a	196 197 198	30 35 36				
	10	87,81	2,60	160	7300								
	11	128	2,70	150	7300								
	12	119	2,90	140	7300	İRAM İRFM İRAFPM	631 / 71 M 6a	193 194 195	30 35 36				
	11	128	2,70	150	7300								
	12	119	2,90	140	7300								
	11	128	2,70	150	7300	İRAPM İRFPM İRAFPM	631 / 63 M 4b	196 197 198	29 34 35				
	12	119	2,90	140	7300								
	5,9	237	0,79	270	4250								
	6,5	216	0,87	246	4250	İRAM İRFM İRAFPM	53 İR 42 / 63 M 4b	187 188 189	23 25 26				
	7,3	192	0,98	219	4250								
	7,4	188	0,99	214	4250								
	8,3	168	1,11	191	4250								
	9,2	152	1,23	173	4250								
	10	136	1,33	155	4250								
	11	123	1,53	140	4250								
	13	111	1,67	126	4250								
	14	100	1,87	114	4250								
8,5	106	0,99	193	5000	İRAM İRFM İRAFPM					53 / 71 M 6a	181 182 183	16 18 19	
10	88,98	1,18	162	5000									
12	77,17	1,33	141	5000									
13	106	1,53	124	5000	İRAPM İRFPM İRAFPM	53 / 63 M 4b	184 185 186	15 17 18					
16	88,98	1,87	104	4900									
18	77,17	2,07	91	4900									
21	67,60	2,20	79	4750									
26	54,82	2,80	64	4750									
29	48,41	3,40	57	4750									
17	53,33	0,83	97	2270					İRAM İRFM İRAFPM	43 / 71 M 6a	175 176 177	13 14 14	
19	46,98	0,95	86	2270									



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
<b>0,18</b> 0,25	17	81,37	0,85	95	2250	İRAM İRFM İRAFM	43 / 63 M 4b	175 176 177	12 13 13
	20	70,05	0,99	82	2250				
	23	60,90	1,13	71	2220				
	26	53,33	1,29	63	2220				
	30	46,98	1,47	55	2220				
	33	41,85	1,67	49	2090				
	38	36,38	1,93	43	2090				
	44	31,86	2,13	37	2000				
	50	28,06	2,47	33	2000				
	53	26,19	2,67	31	1960				
	56	24,83	2,80	29	1900				
	62	22,62	2,93	27	1900				
	66	21,11	3,20	25	1900				
	70	20,01	3,47	23	1900				
	75	18,59	3,67	22	1900				
	79	17,76	3,87	21	1860				
	85	16,45	4,13	19	1860				
	89	15,81	4,27	19	1800				
	96	14,60	4,73	17	1800				
	99	14,09	5,00	17	1800				
108	13,00	5,27	15	1720					
121	11,58	5,93	14	1700					
125	11,24	3,60	13	1610					
142	9,845	4,00	12	1550					
161	8,672	4,53	10	1460					
182	7,673	5,27	9	1400					
204	6,872	7,60	8	1400					
230	6,080	8,53	7	1400					
253	5,538	9,13	7	1320					
259	5,398	9,47	6	1250					
286	4,900	10,07	6	1200					
291	4,803	10,67	6	1150					
322	4,350	11,27	5	1060					
327	4,280	11,87	5	1060					
362	3,870	12,80	5	1050					
406	3,449	14,33	4	1020					
<b>0,25</b> 0,34	0,14	10023	0,79	15611	60000	İRAM İRFM İRAFM	143 İR 73 / 71 M 4a	349 350 351	516 530 556
	0,16	8995	0,88	14010	60000				
	0,16	8569	0,93	13346	60000				
	0,18	7690	1,01	11977	60000				
	0,20	6932	1,15	10797	60000				
	0,22	6272	1,25	9769	60000				
	0,25	5692	1,39	8865	60000				
	0,27	5179	1,54	8066	60000				
	0,32	4310	1,82	6713	60000				
	0,37	3818	2,02	5947	60000				
	0,39	3602	2,16	5610	60000				
	0,40	3473	2,30	5409	60000				
	0,45	3091	2,52	4814	60000				
	0,48	2890	2,74	4501	60000				
	0,19	7333	0,85	11421	55000				
	0,21	6617	0,94	10306	55000				
	0,22	6286	0,96	9791	55000				
	0,25	5578	1,10	8688	55000				
0,28	4983	1,20	7761	55000					
İRAM İRFM İRAFM	123 İR 73 / 71 M 4a	331 332 333	341 343 371						



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
0,25 0,34	0,31	4476	1,34	6971	55000	İRAM İRFM İRAFM	123 İR 73 / 71 M 4a	331	341
	0,35	4039	1,49	6291	55000			332	343
	0,38	3659	1,63	5699	55000			333	371
	0,42	3324	1,82	5177	55000	İRAM İRFM İRAFM	122 İR 73 / 71 M 4a	331	312
	0,34	4059	1,43	6418	55000			332	314
	0,38	3671	1,58	5805	55000			333	342
	0,46	3066	1,87	4848	55000	İRAM İRFM İRAFM	103 İR 73 / 71 M 4a	313	256
	0,52	2698	2,09	4266	55000			314	259
	0,60	2333	2,52	3689	55000			315	281
	0,29	4790	0,82	7461	34000	İRAM İRFM İRAFM	102 İR 73 / 71 M 4a	313	216
	0,33	4230	0,90	6588	34000			314	219
	0,37	3760	0,94	5856	34000			315	241
	0,42	3359	0,96	5232	34000	İRAM İRFM İRAFM	92 İR 63 / 71 M 4a	295	151
	0,46	3014	1,05	4694	34000			296	161
	0,52	2713	1,15	4226	34000			297	171
	0,57	2448	1,35	3813	34000	İRAM İRFM İRAFM	93 İR 62 / 71 M 4a	295	157
	0,51	2733	0,96	4322	34000			296	167
	0,58	2413	1,06	3816	34000			297	177
	0,65	2145	1,17	3392	34000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	0,73	1916	1,31	3030	34000			278	101
	0,86	1635	1,59	2585	34000			279	103
	0,96	1460	1,74	2309	34000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	1,1	1311	1,90	2073	34000			278	101
	1,2	1180	2,40	1866	34000			279	103
	1,3	1103	2,60	1744	34000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	1,4	986	2,60	1559	34000			278	101
	1,6	884	2,60	1398	34000			279	103
	1,8	796	2,60	1259	34000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	1,9	718	2,60	1135	34000			278	101
	2,2	650	2,60	1028	34000			279	103
	2,4	575	2,60	909	34000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	0,74	1886	0,85	2982	26000			278	101
	0,80	1760	0,91	2783	26000			279	103
	0,88	1592	1,01	2517	26000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	0,99	1409	1,15	2228	26000			278	101
	1,1	1315	1,20	2079	26000			279	103
	1,2	1201	1,34	1899	26000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	1,3	1098	1,82	1736	26000			278	101
	1,4	993	1,97	1570	26000			279	103
	1,6	901	1,97	1425	26000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96
	1,7	821	1,97	1298	26000			278	101
	1,9	749	1,97	1184	26000			279	103
2,0	685	1,97	1083	26000	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96	
1,9	725	2,80	1146	26000			278	101	
2,2	648	3,10	1025	26000			279	103	
1,2	1162	0,88	1837	18100	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96	
1,3	1043	0,98	1649	18100			278	101	
1,5	940	1,09	1486	18100			279	103	
1,6	851	1,20	1346	18100	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96	
1,8	772	1,33	1221	18100			278	101	
1,9	724	1,32	1145	18100			279	103	
2,1	653	1,51	1033	18100	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96	
2,4	590	1,62	933	18100			278	101	
2,6	536	1,85	848	18100			279	103	
2,9	488	1,95	772	18100	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96	





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types									
									İRAM	İRFM	İRAFM	kg			
													82 İR 63 / 71 M 4a	277	96
3,2	444	2,00	702	18100	İRAM İRFM İRAFM	82 İR 63 / 71 M 4a	277	96							
3,4	406	2,20	642	18100											
3,6	394	2,40	623	18100											
3,9	359	2,50	568	18100											
4,4	315	3,10	498	18100											
4,9	286	3,30	452	18100											
5,4	261	3,50	413	18100	İRAM İRFM İRAFM	84 / 71 M 6b	271	88							
1,3	700	0,90	1748	18100											
1,4	635	0,99	1585	18100											
1,6	579	1,08	1445	18100											
1,7	530	1,18	1323	18100											
1,8	487	1,29	1216	18100											
2,0	700	1,39	1124	18100	İRAM İRFM İRAFM	84 / 71 M 4a	271	87							
2,2	635	1,54	1019	18100											
2,4	579	1,68	929	18100											
2,6	530	1,84	851	18100											
2,9	487	2,00	782	18100											
3,3	428	2,30	688	18100											
3,7	382	2,50	613	18100	İRAM İRFM İRAFM	73 İR 52 / 71 M 4a	259	59							
4,1	343	2,80	550	18100											
4,5	310	3,10	497	18100											
2,0	702	0,88	1110	12100											
2,0	697	0,89	1102	12100											
2,2	627	0,96	991	12100											
2,5	563	1,10	890	12100											
2,5	553	1,10	874	12100											
2,6	535	1,10	846	12100											
3,0	469	1,25	742	12100											
3,3	419	1,39	663	12100											
3,4	414	1,39	655	12100											
3,7	376	1,54	595	12100											
3,8	370	1,58	585	12100											
4,2	332	1,73	525	12100											
5,1	276	1,87	436	12100											
5,2	270	1,92	427	12100											
5,6	250	2,06	395	12100											
5,7	244	2,11	386	12100											
6,0	232	2,20	372	12100	İRAM İRFM İRAFM	72 İR 52 / 71 M 4a	259	57							
6,8	206	2,40	331	12100											
2,3	394	0,95	985	12100					İRAM İRFM İRAFM	74 / 71 M 6b	253	50			
2,6	351	1,07	876	12100											
2,4	576	0,94	925	12100	İRAM İRFM İRAFM	74 / 71 M 4a	253	50							
3,1	447	1,18	718	12100											
3,6	394	1,44	633	12100											
4,0	351	1,66	563	12100											
4,5	314	1,72	504	12100											
5,0	283	1,80	454	12100											
5,8	154	2,23	392	12100	İRAM İRFM İRAFM	73 / 71 M 6b	247	44							
6,7	134	2,59	339	12100											
8,7	103	3,24	261	12100											
0,25 0,34	9,1	154	3,40	252	12100	İRAM İRFM İRAFM	73 / 71 M 4a	247	43						
												248	46		
								249	49						



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg							
0,25 0,34	2,6	533	0,85	843	10100	İRAM İRFM İRAFM	721 İR 53 / 71 M 4a	241 242 243	52 55 58						
	2,9	491	0,90	776	10100										
	2,9	480	0,94	759	10100										
	3,3	423	1,06	669	10100										
	3,6	390	1,10	617	10100										
	4,1	344	1,25	544	10100										
	4,6	306	1,44	484	10100										
	5,1	274	1,49	433	10100										
	5,7	246	1,63	389	10100										
	6,3	221	1,87	349	10100										
	7,0	199	2,02	315	10100										
	7,8	180	2,23	285	10100										
	8,6	163	2,52	258	10100										
	9,5	148	2,74	234	10100										
	İRAM İRFM İRAFM	2,6	530	0,85	838					10100	İRAM İRFM İRAFM	731 İR 52 / 71 M 4a	241 242 243	57 60 63	
		3,0	468	0,96	740	10100									
		3,4	416	1,06	658	10100									
		3,8	372	1,20	588	10100									
		4,2	333	1,34	527	10100									
		4,7	300	1,39	474	10100									
		5,2	267	1,58	422	10100									
		5,9	238	1,73	376	10100									
		6,5	214	1,94	338	10100									
		7,0	201	2,09	318	10100									
		7,8	180	2,23	285	10100									
		8,6	162	2,59	256	10100									
		9,6	146	2,88	231	10100									
		3,0	465	0,80	746	18100									
		3,2	435	0,85	699	18100									
	İRAM İRFM İRAFM	3,6	384	0,96	616	18100	İRAM İRFM İRAFM	741 / 71 M 4a	235 236 237	47 50 53					
		4,1	338	1,10	543	18100									
		4,7	301	1,25	483	18100									
		5,8	240	1,58	385	18100									
		7,4	188	1,92	302	18100									
		8,3	169	2,23	271	18100									
		9,2	152	2,45	244	18100									
		İRAM İRFM İRAFM	5,9	152	1,35	386					10100	İRAM İRFM İRAFM	731 / 71 M 6b	229 230 231	41 44 47
			6,7	135	1,51	342					10100				
			7,7	117	1,80	296					10100				
	8,9		101	2,02	256	10100									
	9,2		152	2,11	248	10100									
	İRAM İRFM İRAFM	10	135	2,35	220	10100	İRAM İRFM İRAFM	731 / 71 M 4a	229 230 231	41 44 47					
		12	117	2,74	190	10100									
		14	101	3,17	164	10100									
	İRAM İRFM İRAFM	16	88,93	3,50	145	10100	İRAM İRFM İRAFM	63 İR 52 / 71 M 4a	223 224 225	42 47 48					
		4,3	323	0,96	511	7300									
		4,9	286	1,06	452	7300									
		5,1	273	1,15	432	7300									
5,8		242	1,25	383	7300										
6,5		215	1,44	340	7300										
7,3		191	1,63	302	7300										
8,2		170	1,84	269	7300										
9,3		151	2,00	239	7300										
10		136	2,30	215	7300										



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg			
0,25 0,34	6,1	231	1,10	371	7300	İRAM İRFM İRAFPM	62 İR 52 / 71 M 4a	223	43		
	6,9	203	1,25	326	7300			224	48		
	7,6	184	1,30	295	7300			225	49		
	8,6	162	1,44	260	7300						
	9,5	148	1,58	238	7300						
	10	134	1,73	215	7300	İRAM İRFM İRAFPM	64 / 71 M 4a	217	30		
	4,4	319	0,85	512	7300			218	35		
	4,8	291	0,94	467	7300			219	36		
	5,1	276	0,96	444	7300						
	5,9	235	1,15	378	7300						
	6,5	214	1,25	343	7300	İRAPM İRFPM İRAFPM	63 / 71 M 6b	214	27		
	7,7	182	1,49	292	7300			215	32		
	8,9	157	1,73	251	7300			216	33		
	7,0	128	1,30	324	7300			211	27		
	7,5	119	1,37	303	7300			212	32		
	9,3	96,27	1,66	244	7300	İRAM İRFM İRAFPM	63 / 71 M 6b	213	33		
	10	87,81	1,87	223	7300			214	26		
	11	128	1,94	209	7300			215	31		
	12	119	2,09	195	7300			216	32		
	15	96,27	2,59	157	7300			İRAM İRFM İRAFPM	63 / 71 M 4a	211	26
	16	87,81	2,81	143	7300	212	31				
	17	83,37	3,02	136	7300	213	32				
	20	70,96	3,82	116	7300	İRAPM İRFPM İRAFPM	631 / 71 M 6b			196	30
	7,0	128	1,30	324	7300					197	35
	7,5	119	1,37	303	7300			198	36		
	9,3	96,27	1,66	244	7300			193	30		
	10	87,81	1,87	223	7300			194	35		
	11	128	1,94	209	7300	İRAM İRFM İRAFPM	631 / 71 M 6b	195	36		
	12	119	2,09	195	7300			196	30		
	15	96,27	2,59	157	7300			197	35		
	16	87,81	2,81	143	7300			198	36		
	17	83,37	3,02	136	7300			İRAM İRFM İRAFPM	631 / 71 M 4a	193	30
	20	70,96	3,82	116	7300	194	35				
	8,3	168	0,80	266	4250	195	36				
	9,2	152	0,89	240	4250	İRAM İRFM İRAFPM	53 İR 42 / 71 M 4a			187	24
	10	136	0,96	215	4250					188	26
	11	123	1,10	194	4250			189	27		
	13	111	1,20	176	4250						
	14	100	1,34	158	4250						
	13	106	1,10	172	4550	İRAPM İRFPM İRAFPM	53 / 71 M 4a	184	16		
16	88,98	1,34	145	4550	185			18			
18	77,17	1,49	126	4500	186			19			
21	67,60	1,58	110	4400	İRAM İRFM İRAFPM			53 / 71 M 4a	181	16	
26	54,82	2,02	89	4400					182	18	
29	48,41	2,45	79	4300		183	19				
32	43,99	2,78	72	4150							
36	39,10	3,07	64	4150							
40	34,93	3,41	57	4150							



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
<b>0,25</b> 0,34	23	60,90	0,82	99	2130	İRAM İRFM İRAFM	43 / 71 M 4a	175 176 177	13 14 14
	26	53,33	0,93	87	2130				
	30	46,98	1,06	77	2130				
	38	36,38	1,39	59	2010				
	44	31,86	1,54	52	1920				
	50	28,06	1,78	46	1920				
	53	26,19	1,92	43	1880				
	56	24,83	2,02	40	1840				
	62	22,62	2,11	37	1830				
	66	21,11	2,30	34	1820				
	70	20,01	2,50	33	1810				
	75	18,59	2,64	30	1810				
	79	17,76	2,78	29	1780				
	85	16,45	2,98	27	1770				
	89	15,81	3,07	26	1720				
	96	14,60	3,41	24	1720				
	99	14,09	3,60	23	1720				
	108	13,00	3,79	21	1660				
	121	11,58	4,27	19	1630				
	125	11,24	2,59	19	1550				
142	9,845	2,88	16	1490					
161	8,672	3,26	14	1400					
182	7,673	3,79	13	1340					
204	6,872	5,47	11	1340					
230	6,080	6,14	10	1340					
253	5,538	6,58	9	1260					
259	5,398	6,82	9	1190					
286	4,900	7,25	8	1140					
291	4,803	7,68	8	1090					
322	4,350	8,11	7	1000					
327	4,280	8,54	7	1000					
362	3,870	9,22	6	950					
406	3,449	10,32	6	900					
<b>0,37</b> 0,5	0,22	6272	0,84	14458	60000	İRAM İRFM İRAFM	143 İR 73 / 71 M 4b	349 350 351	517 531 557
	0,25	5692	0,94	13121	60000				
	0,27	5179	1,04	11938	60000				
	0,32	4310	1,23	9935	60000				
	0,37	3818	1,36	8801	60000				
	0,39	3602	1,46	8303	60000				
	0,40	3473	1,56	8006	60000				
	0,45	3091	1,70	7125	60000				
	0,48	2890	1,85	6662	60000				
	0,58	2416	2,23	5569	60000				
	0,68	2073	2,57	4779	60000				
	0,28	4983	0,81	11486	55000				
	0,31	4476	0,91	10318	55000				
	0,35	4039	1,01	9310	55000				
	0,38	3659	1,10	8434	55000				
	0,42	3324	1,23	7662	55000				
	0,34	4059	0,96	9499	55000				
	0,38	3671	1,07	8591	55000				
	0,46	3066	1,26	7175	55000				
	0,52	2698	1,41	6314	55000				
0,60	2333	1,70	5460	55000					
0,68	2070	1,90	4844	55000					
0,76	1849	2,09	4327	55000					
0,84	1661	2,34	3887	55000					
İRAM İRFM İRAFM	123 İR 73 / 71 M 4b	331 332 333	342 344 372						
				İRAM İRFM İRAFM	122 İR 73 / 71 M 4b	331 332 333	313 315 343		



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
0,37 0,5	0,57	2448	0,91	5643	34000	İRAM İRFM İRAFM	103 İR 73 / 71 M 4b	313 314 315	257 260 282
	0,65	2145	0,79	5020	34000	İRAM İRFM İRAFM	102 İR 73 / 71 M 4b	313 314 315	217 220 242
	0,73	1916	0,89	4484	34000				
	0,86	1635	1,07	3826	34000				
	0,96	1460	1,18	3417	34000				
	1,1	1311	1,28	3068	34000				
	1,2	1180	1,62	2761	34000				
	1,3	1103	1,76	2581	34000				
	1,4	986	1,76	2307	34000				
	1,6	884	1,76	2069	34000				
	1,8	796	1,76	1863	34000				
	1,9	718	1,76	1680	34000				
	2,2	650	1,76	1521	34000				
	2,4	575	1,76	1346	34000				
	1,1	803	1,36	2966	34000	İRAM İRFM İRAFM	104 / 80 M 6a	307 308 309	242 245 267
	1,3	720	1,53	2659	34000				
	1,5	612	1,85	2261	34000				
	1,6	548	2,10	2027	34000				
	1,8	495	2,30	1828	34000				
	1,2	1201	0,91	2811	26000				
	1,3	1098	1,23	2570	26000	İRAM İRFM İRAFM	92 İR 63 / 71 M 4b	295 296 297	152 162 172
	1,4	993	1,33	2324	26000				
	1,6	901	1,33	2109	26000				
	1,7	821	1,33	1921	26000				
	1,9	749	1,33	1753	26000				
	2,0	685	1,33	1603	26000				
	1,9	725	1,89	1697	26000				
	2,2	648	2,09	1516	26000	İRAM İRFM İRAFM	93 İR 62 / 71 M 4b	295 296 297	158 168 178
	2,6	538	2,30	1259	26000				
	2,7	527	2,57	1233	26000				
	2,9	479	2,84	1121	26000				
	3,2	436	3,11	1020	26000				
	3,5	398	3,38	931	26000				
	3,8	364	3,72	852	26000				
	4,2	334	4,05	782	26000				
	1,9	478	1,67	1768	26000	İRAM İRFM İRAFM	94 / 80 M 6a	289 290 291	152 162 172
	2,1	431	1,85	1594	26000				
	2,4	380	2,10	1405	26000				
	2,7	338	2,35	1248	26000				
	3,1	293	2,50	1101	26000	İRAPM İRFPM İRAFPM	93 / 80 M 6a	286 287 288	133 143 153
	3,3	274	2,68	1027	26000				
	3,7	241	3,00	902	26000				
4,2	214	3,50	801	26000					
1,8	772	0,90	1807	18100	İRAM İRFM İRAFM	82 İR 63 / 71 M 4b	277 278 279	97 102 104	
1,9	724	0,89	1694	18100					
2,1	653	1,02	1528	18100					
2,4	590	1,09	1381	18100					
1,7	530	0,80	1958	18100	İRAM İRFM İRAFM	84 / 80 M 6a	271 272 273	90 95 97	
1,8	487	0,87	1800	18100					
2,6	530	1,24	1259	18100					
2,9	487	1,35	1157	18100	İRAM İRFM İRAFM	84 / 71 M 4b	271 272 273	88 93 95	
3,3	428	1,55	1018	18100					
3,7	382	1,69	907	18100					
4,1	343	1,89	815	18100					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
0,37 0,5	4,5	310	2,09	736	18100	İRAM İRFM İRAFM	84 / 71 M 4b	271	88
	5,1	275	2,36	654	18100			272	93
	5,1	273	2,30	649	18100			273	95
	5,8	243	2,50	577	18100	İRAM İRFM İRAFM	83 / 80 M 6a	265	80
	6,4	218	2,80	517	18100			266	85
	3,6	251	1,57	940	18100			267	87
	4,1	221	1,78	830	18100	İRAM İRFM İRAFM	74 / 71 M 4b	253	51
	4,3	209	2,00	783	18100			254	54
	4,8	187	2,10	701	18100			255	57
	5,3	168	2,30	632	18100	İRAM İRFM İRAFM	73 / 80 M 6a	247	46
	3,6	394	0,97	937	12100			248	49
	4,0	351	1,12	833	12100			249	52
	4,5	314	1,16	746	12100	İRAM İRFM İRAFM	73 / 71 M 4b	247	44
	5,0	283	1,22	672	12100			248	47
	5,8	154	1,51	580	12100			249	50
	6,7	134	1,75	501	12100	İRAM İRFM İRAFM	721 İR 53 / 71 M 4b	241	53
	8,7	103	2,19	386	12100			242	56
	9,9	91,36	2,77	343	12100			243	59
	9,1	154	2,30	373	12100	İRAM İRFM İRAFM	731 İR 52 / 71 M 4b	241	58
	10	134	2,64	322	12100			242	61
	14	103	3,40	248	12100			243	64
	4,1	344	0,84	805	10100	İRAM İRFM İRAFM	741 / 71 M 4b	235	48
	4,6	306	0,97	716	10100			236	51
	5,1	274	1,01	641	10100			237	54
	5,7	246	1,10	576	10100	İRAM İRFM İRAFM	731 / 80 M 6a	229	44
	3,8	372	0,81	871	10100			230	47
	4,2	333	0,91	779	10100			231	50
	4,7	300	0,94	702	10100	İRAM İRFM İRAFM	731 / 71 M 4b	229	42
	5,2	267	1,07	625	10100			230	45
	4,7	301	0,84	715	12100			231	48
	5,8	240	1,07	570	12100	İRAM İRFM İRAFM	64 / 71 M 4b	217	31
	7,4	188	1,30	448	12100			218	36
	8,3	169	1,51	401	12100			219	37
	9,2	152	1,65	361	12100	İRAM İRFM İRAFM	63 / 80 M 6a	214	29
	5,9	152	0,91	571	10100			215	34
	6,7	135	1,02	506	10100			216	35
	7,7	117	1,22	438	10100	İRAM İRFM İRAFM	63 / 80 M 6a	211	29
	8,9	101	1,36	378	10100			212	34
	9,2	152	1,43	367	10100			213	35
	10	135	1,59	325	10100	İRAM İRFM İRAFM	53 İR 42 / 71 M 4b	187	25
	12	117	1,85	281	10100			188	27
	14	101	2,14	243	10100			189	28
16	88,93	2,36	215	10100	İRAM İRFM İRAFM	64 / 71 M 4b	217	31	
5,9	235	0,78	559	7300			218	36	
6,5	214	0,84	508	7300			219	37	
7,7	182	1,01	433	7300	İRAM İRFM İRAFM	63 / 80 M 6a	214	29	
8,9	157	1,17	372	7300			215	34	
7,0	128	0,88	480	7170			216	35	
7,5	119	0,92	448	7170	İRAM İRFM İRAFM	63 / 80 M 6a	211	29	
9,3	96,27	1,12	361	7170			212	34	
10	87,81	1,26	329	7170			213	35	
13	111	0,81	260	4250	İRAM İRFM İRAFM	53 İR 42 / 71 M 4b	187	25	
14	100	0,91	234	4250			188	27	
							189	28	



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			 kg
0,37 0,5	11	128	1,31	309	7170	İRAPM İRFPM İRAFPM	63 / 71 M 4b	214	27
	12	119	1,41	288	7170			215	32
	15	96,27	1,75	232	7170			216	33
	16	87,81	1,90	212	7170	İRAM İRFM İRAFPM	63 / 71 M 4b	211	27
	17	83,37	2,04	201	7170			212	32
	20	70,96	2,58	171	7170			213	33
	23	61,03	2,77	147	7170				
	27	51,65	3,78	125	7170				
	7,0	128	0,88	480	7170	İRAPM İRFPM İRAFPM	631 / 80 M 6a	196	33
	7,5	119	0,92	448	7170			197	38
	9,3	96,27	1,12	361	7170			198	39
	10	87,81	1,26	329	7170	İRAM İRFM İRAFPM	631 / 80 M 6a	193	33
	11	128	1,31	309	7170			194	38
	12	119	1,41	288	7170			195	39
	15	96,27	1,75	232	7170	İRAPM İRFPM İRAFPM	631 / 71 M 4b	196	31
	16	87,81	1,90	212	7170			197	36
	17	83,37	2,04	201	7170			198	37
	20	70,96	2,58	171	7170				
	23	61,03	2,77	147	7170				
	27	51,65	3,78	125	7170				
	16	88,98	0,91	215	4250	İRAPM İRFPM İRAFPM	53 / 71 M 4b	184	17
	18	77,17	1,01	186	4250			185	19
	21	67,60	1,07	163	4200			186	20
	26	54,82	1,36	132	4050	İRAM İRFM İRAFPM	53 / 71 M 4b		
	29	48,41	1,65	117	4050				
	32	43,99	1,88	106	4050				
	36	39,10	2,08	94	4000			181	17
	40	34,93	2,30	84	4000			182	19
	45	31,34	2,50	76	4000			183	20
	50	28,21	2,81	68	4000				
	55	25,46	2,98	61	3850				
	61	23,03	3,24	56	3800				
	64	21,88	3,31	53	3800				
	81	17,18	3,50	42	3600	İRAM İRFM İRAFPM	52 / 71 M 4b	181	20
	93	15,05	4,30	37	3550			182	22
	105	13,29	4,80	33	3500			183	23
	119	11,81	5,40	29	3500				
	133	10,56	5,90	26	3500				
	38	36,38	0,94	88	1880	İRAM İRFM İRAFPM	43 / 71 M 4b		
	44	31,86	1,04	77	1850				
50	28,06	1,20	68	1820	175			14	
53	26,19	1,30	63	1800	176			15	
56	24,83	1,36	60	1760	177			15	
62	22,62	1,43	55	1740					
66	21,11	1,56	51	1700					
70	20,01	1,69	48	1650					
75	18,59	1,78	45	1600					
79	17,76	1,88	43	1600					
85	16,45	2,01	40	1550					
89	15,81	2,08	38	1500					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>0,37</b> 0,5	96	14,60	2,30	35	1500	İRAM İRFM İRAFM	43 / 71 M 4b	175	14
	99	14,09	2,43	34	1490				
	108	13,00	2,56	31	1450				
	121	11,58	2,89	28	1430	İRAM İRFM İRAFM	42 / 71 M 4b	175	13
	125	11,24	1,75	28	1400				
	142	9,845	1,95	24	1350				
	161	8,672	2,21	21	1300				
	182	7,673	2,56	19	1250				
	204	6,872	3,70	17	1200				
	230	6,080	4,15	15	1150				
	253	5,538	4,44	14	1100				
	259	5,398	4,61	13	1080				
	286	4,900	4,90	12	1030				
	291	4,803	5,19	12	970				
	322	4,350	5,48	11	950				
	327	4,280	5,77	10	900				
362	3,870	6,23	9	900					
406	3,449	6,97	8	850					
<b>0,55</b> 0,75	0,23	6078	0,80	20828	110000				
	0,29	4749	1,02	16274	110000				
	0,34	4079	1,19	13978	110000				
	0,47	2979	1,73	10362	110000	İRAPM İRFBM İRFBPM	153 İR 92 / 80 M 4a	376	1063
	0,54	2597	1,98	9033	110000				
	0,64	2175	2,40	7568	110000				
	0,72	1932	2,70	6721	110000	İRAPM İRFBM İRFBPM	152 İR 93 / 80 M 4a	376	993
	0,80	1754	2,90	6100	110000				
	0,43	3282	1,57	11416	110000				
	0,47	2975	1,73	10348	110000	İRAPM İRFBM İRFBPM	143 İR 73 / 80 M 4a	349	519
	0,52	2710	1,90	9427	110000				
	0,56	2479	2,10	8625	110000				
	0,72	1937	2,70	6739	110000	İRAPM İRFBM İRFBPM	143 İR 72 / 80 M 4a	350	533
	0,76	1847	2,60	6427	110000				
	0,83	1683	2,90	5855	110000				
	0,32	4310	0,83	14768	60000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	331	342
	0,37	3818	0,92	13083	60000				
	0,39	3602	0,98	12342	60000				
	0,40	3473	1,05	11900	60000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	332	344
	0,45	3091	1,15	10591	60000				
	0,48	2890	1,24	9903	60000				
	0,58	2416	1,50	8279	60000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	333	372
	0,68	2073	1,73	7103	60000				
	0,64	2184	1,68	7598	60000				
	0,71	1979	1,86	6884	60000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	331	342
	0,78	1795	2,00	6244	60000				
	1,0	1398	2,60	4863	60000				
	1,1	1247	2,90	4338	60000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	331	342
	0,49	2829	0,91	9841	55000				
	0,56	2517	1,05	8756	55000				
	0,62	2260	1,14	7862	55000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	331	342
	0,68	2044	1,27	7110	55000				
0,84	1657	1,68	5764	55000					
0,93	1511	1,86	5256	55000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	331	342	
1,0	1357	2,09	4721	55000					
1,1	1227	2,29	4268	55000					
1,4	1025	2,76	3566	55000	İRAM İRFM İRAFM	123 İR 72 / 80 M 4a	331	342	
1,0	1357	2,09	4721	55000					
1,1	1227	2,29	4268	55000					





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
0,55 0,75	0,52	2698	0,95	9386	55000	İRAM İRFM İRAFAM	122 İR 73 / 80 M 4a	331	315
	0,60	2333	1,15	8116	55000			332	317
	0,68	2070	1,28	7201	55000			333	345
	0,76	1849	1,41	6432	55000	İRAM İRFM İRAFAM	103 İR 72 / 80 M 4a	313	257
	0,84	1661	1,57	5778	55000			314	260
	0,91	1535	1,59	5340	55000			315	282
	1,2	1173	1,09	4081	34000	İRAM İRFM İRAFAM	102 İR 73 / 80 M 4a	313	219
	1,3	1046	1,20	3639	34000			314	222
	1,5	923	1,32	3211	34000			315	244
	0,96	1460	0,79	5079	34000	İRAM İRFM İRAFAM	104 / 80 M 6b	313	219
	1,1	1311	0,86	4561	34000			314	222
	1,2	1180	1,09	4105	34000			315	244
	1,3	1103	1,18	3837	34000	İRAM İRFM İRAFAM	104 / 80 M 4a	313	219
	1,4	986	1,18	3430	34000			314	222
	1,6	884	1,18	3075	34000			315	244
	1,1	803	0,91	4409	34000	İRAM İRFM İRAFAM	104 / 80 M 6b	307	243
	1,3	720	1,03	3953	34000			308	246
	1,5	612	1,24	3361	34000			309	268
	1,6	548	1,41	3013	34000	İRAM İRFM İRAFAM	104 / 80 M 4a	307	241
	1,8	495	1,55	2717	34000			308	244
	1,7	803	1,43	2834	34000			309	266
	1,9	720	1,60	2541	34000	İRAM İRFM İRAFAM	104 / 80 M 4a	307	241
	2,3	612	1,95	2160	34000			308	244
	2,6	548	2,20	1937	34000			309	266
	2,8	495	2,40	1746	34000	İRAM İRFM İRAFAM	94 / 80 M 6b	289	153
	3,1	447	2,70	1577	34000			290	163
	3,5	406	2,90	1433	34000			291	173
	1,9	478	1,12	2628	26000	İRAM İRFM İRAFAM	94 / 80 M 6b	289	153
	2,1	431	1,24	2369	26000			290	163
	2,4	380	1,41	2088	26000			291	173
	2,7	338	1,58	1856	26000	İRAM İRFM İRAFAM	94 / 80 M 4a	289	151
	2,9	478	1,75	1689	26000			290	161
	3,2	431	1,94	1523	26000			291	171
	3,7	380	2,20	1342	26000	İRAM İRFM İRAFAM	94 / 80 M 4a	289	151
	4,1	338	2,50	1193	26000			290	161
	4,6	302	2,70	1067	26000			291	171
	5,2	269	3,10	950	26000	İRAM İRFM İRAFAM	93 / 80 M 6b	286	135
	5,9	237	3,50	838	26000			287	145
	3,1	293	1,68	1637	24700			288	155
	3,3	274	1,80	1527	24700	İRAPM İRFPM İRAFPM	93 / 80 M 6b	286	133
	3,7	241	2,02	1341	24700			287	143
	4,2	214	2,35	1191	24700			288	153
4,8	293	2,66	1052	25000	İRAPM İRFPM İRAFPM	93 / 80 M 4a	286	133	
5,1	274	2,85	981	25000			287	143	
5,8	241	3,20	862	25000			288	153	
6,6	214	3,65	766	25000	İRAM İRFM İRAFAM	84 / 80 M 4a	271	90	
2,6	530	0,84	1871	18100			272	95	
2,9	487	0,91	1720	18100			273	97	
3,3	428	1,05	1513	18100	İRAM İRFM İRAFAM	84 / 80 M 4a	271	90	
3,7	382	1,14	1349	18100			272	95	
4,1	343	1,27	1211	18100			273	97	
4,5	310	1,41	1094	18100	İRAM İRFM İRAFAM	84 / 80 M 4a	271	90	
5,1	275	1,59	972	18100			272	95	
5,1	273	1,55	964	18100			273	97	
5,8	243	1,68	857	18100	İRAM İRFM İRAFAM	84 / 80 M 4a	271	90	
6,4	218	1,88	769	18100			272	95	
7,1	196	2,09	693	18100			273	97	
8,0	174	2,35	616	18100	İRAM İRFM İRAFAM	84 / 80 M 4a	271	90	
8,3	168	2,55	595	18100			272	95	



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
0,55 0,75	3,6	251	1,06	1397	17350	İRAM İRFM İRAFM	83 / 80 M 6b	265	82
	4,1	221	1,20	1233	17350			266	87
	4,3	209	1,35	1163	17350			267	89
	4,8	187	1,41	1041	17300	İRAM İRFM İRAFM	83 / 80 M 4a	265 266 267	80 85 87
	5,3	168	1,55	939	17300				
	5,6	251	1,65	898	17350				
	6,3	221	1,86	793	17350				
	6,7	209	2,10	748	17350				
	7,5	187	2,20	669	17350				
	8,3	168	2,40	604	17350				
	9,2	153	2,60	547	17100				
	10	139	2,90	499	17100				
	11	127	3,20	457	17100				
	12	117	3,50	420	17100				
	14	103	3,90	369	17100				
	6,0	232	1,00	819	11500	İRAM İRFM İRAFM	72 İR 52 / 80 M 4a	259	60
	6,8	206	1,09	728	11500			260 261	63 66
	5,0	283	0,82	999	12100	İRAM İRFM İRAFM	74 / 80 M 4a	253	52
	5,8	154	1,01	861	11500			254	55
	6,7	134	1,18	745	11500			255	58
	8,7	103	1,47	574	11500	İRAM İRFM İRAFM	73 / 80 M 6b	247	48
	9,9	91,36	1,87	510	11500			248	51
	9,1	154	1,55	554	11500			249	54
	10	134	1,77	479	11500	İRAM İRFM İRAFM	73 / 80 M 4a	247 248 249	46 49 52
	14	103	2,29	369	11500				
	15	91,36	2,89	328	11500				
	17	81,25	3,30	291	11500				
	19	72,76	3,50	261	11500				
	21	65,52	3,60	235	11500				
	24	59,42	3,90	213	11500				
	6,3	221	0,85	769	9500	İRAM İRFM İRAFM	721 İR 53 / 80 M 4a	241	54
	7,0	199	0,92	692	9500			242 243	57 60
	7,4	188	0,87	665	12100			İRAM İRFM İRAFM	741 / 80 M 4a
	8,3	169	1,01	596	12100	236	53		
	9,2	152	1,11	536	12100	237	56		
	7,7	117	0,82	651	9500	İRAM İRFM İRAFM	731 / 80 M 6b	229	45
	8,9	101	0,92	562	9500			230	48
	9,2	152	0,96	545	9500			231	51
	10	135	1,07	484	9500	İRAM İRFM İRAFM	731 / 80 M 4a	229 230 231	43 46 49
	12	117	1,24	418	9500				
14	101	1,44	362	9500					
16	88,93	1,59	319	9500					
18	78,43	1,82	281	9350					
20	69,75	2,05	250	9350					
22	62,46	2,32	224	9300					
25	55,54	2,62	199	9250					
28	49,74	2,89	178	9250					
31	44,79	3,23	161	9200					
8,9	157	0,79	553	7300	İRAM İRFM İRAFM				
						218	37		
						219	38		



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types				kg		
											İRAM	
											İRFM	
											İRAFM	
0,55 0,75	10	87,81	0,85	490	7090	İRAM İRFM İRAFM	63 / 80 M 6b	211 212 213	31 36 37			
	11	128	0,88	459	7090	İRAM İRFM İRAFM	63 / 80 M 4a	211 212 213	29 34 35			
	12	119	0,95	428	7090							
	15	96,27	1,18	345	7090							
	16	87,81	1,28	315	7090							
	17	83,37	1,37	299	7090							
	20	70,96	1,73	254	7090							
	23	61,03	1,87	219	7090							
	27	51,65	2,55	185	7090							
	30	46,79	2,77	168	7090							
	33	42,55	3,10	153	7090							
	39	35,74	3,70	128	7090							
	10	87,81	0,85	490	7090	İRAM İRFM İRAFM	631 / 80 M 6b	193 194 195	34 39 40			
	11	128	0,88	459	7090	İRAM İRFM İRAFM	631 / 80 M 4a	193 194 195	32 37 38			
	12	119	0,95	428	7090							
	15	96,27	1,18	345	7090							
	16	87,81	1,28	315	7090							
	17	83,37	1,37	299	7090							
	20	70,96	1,73	254	7090							
	23	61,03	1,87	219	7090							
	27	51,65	2,55	185	7090							
	30	46,79	2,77	168	7090							
	33	42,55	3,10	153	7090							
	39	35,74	3,70	128	7090							
	26	54,82	0,92	197	4150	İRAM İRFM İRAFM	53 / 80 M 4a	181 182 183	19 21 22			
	29	48,41	1,11	174	4000							
	32	43,99	1,27	158	3950							
	36	39,10	1,40	140	3950							
	40	34,93	1,55	125	3900							
	45	31,34	1,68	112	3900							
	50	28,21	1,89	101	3900							
	55	25,46	2,01	91	3800							
	61	23,03	2,18	83	3700							
	64	21,88	2,23	78	3700							
	81	17,18	2,35	63	3450	İRAM İRFM İRAFM	52 / 80 M 4a	181 182 183	22 24 25			
	93	15,05	2,89	55	3450							
	105	13,29	3,23	48	3400							
	119	11,81	3,63	43	3350							
	133	10,56	3,97	38	3350							
	148	9,470	4,41	34	3350							
	50	28,06	0,81	101	1620	İRAM İRFM İRAFM	43 / 80 M 4a	175 176 177	15 16 17			
	53	26,19	0,87	94	1600							
56	24,83	0,92	89	1560								
62	22,62	0,96	81	1540								
66	21,11	1,05	76	1500								
70	20,01	1,13	72	1450								
75	18,59	1,20	67	1400								
79	17,76	1,27	64	1400								
85	16,45	1,35	59	1350								
89	15,81	1,40	57	1300								
96	14,60	1,55	52	1300								
99	14,09	1,64	51	1290								
108	13,00	1,72	47	1250								
121	11,58	1,94	42	1230								



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg				
0,55 0,75	125	11,24	1,18	41	1360	İRAM İRFM İRAFPM	42 / 80 M 4a	175 176 177	14 15 16				
	142	9,845	1,31	36	1310								
	161	8,672	1,48	32	1270								
	182	7,673	1,72	28	1220								
	204	6,872	2,49	25	1160								
	230	6,080	2,79	22	1110								
	253	5,538	2,99	20	1060								
	259	5,398	3,10	20	1050								
	286	4,900	3,29	18	1020								
	291	4,803	3,49	17	940								
	322	4,350	3,69	16	910								
	327	4,280	3,88	16	880								
	362	3,870	4,19	14	860								
406	3,449	4,69	13	810									
0,75 1,1	0,34	4079	0,87	19061	110000	İRAPM İRFPM İRAFPM	153 İR 93 / 80 M 4b	376 377 378	1071 1121 1141				
	0,47	2979	1,27	14130	110000	İRAPM İRFPM İRAFPM	153 İR 92 / 80 M 4b	376 377 378	1066 1116 1136				
	0,54	2597	1,45	12317	110000								
	0,64	2175	1,76	10319	110000								
	0,72	1932	1,98	9165	110000								
	0,80	1754	2,10	8318	110000								
	0,88	1589	2,30	7540	110000								
	1,0	1381	2,70	6552	110000								
	0,43	3282	1,15	15568	110000	İRAPM İRFPM İRAFPM	152 İR 93 / 80 M 4b	376 377 378	996 1046 1046				
	0,47	2975	1,27	14111	110000								
	0,52	2710	1,39	12855	110000								
	0,56	2479	1,54	11762	110000								
	0,72	1937	1,98	9190	110000								
	0,76	1847	1,91	8764	110000								
	0,83	1683	2,10	7984	110000								
	0,91	1540	2,30	7305	110000								
	0,99	1414	2,50	6708	110000								
	1,2	1203	2,90	5707	110000								
	0,45	3091	0,84	14443	60000					İRAM İRFM İRAFPM	143 İR 73 / 80 M 4b	349 350 351	522 536 562
	0,48	2890	0,91	13504	60000								
	0,58	2416	1,10	11289	60000								
	0,68	2073	1,27	9686	60000								
	0,64	2184	1,23	10360	60000								
	0,71	1979	1,36	9388	60000								
	0,78	1795	1,47	8515	60000								
	1,0	1398	1,91	6632	60000	İRAM İRFM İRAFPM	143 İR 72 / 80 M 4b	349 350 351	520 534 560				
	1,1	1247	2,13	5915	60000								
	1,3	1120	2,35	5313	60000								
	1,4	983	2,71	4663	60000								
	1,6	877	3,00	4160	60000								
	0,62	2260	0,83	10721	55000					İRAM İRFM İRAFPM	123 İR 72 / 80 M 4b	331 332 333	345 347 375
	0,68	2044	0,93	9696	55000								
	0,84	1657	1,23	7860	55000								
	0,93	1511	1,37	7168	55000								
	1,0	1357	1,53	6437	55000								
	1,1	1227	1,68	5821	55000								
	1,4	1025	2,02	4862	55000								
	1,6	902	2,27	4279	55000								
	1,8	800	2,57	3795	55000								
	2,0	715	2,90	3392	55000								



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
0,75 1,1	0,68	2070	0,94	9819	55000	İRAM İRFM İRAFM	122 İR 73 / 80 M 4b	331 332 333	318 320 348
	0,76	1849	1,03	8771	55000				
	0,84	1661	1,15	7879	55000				
	0,91	1535	1,17	7282	55000				
	1,0	1362	1,17	6461	55000				
	1,1	1265	1,53	6001	55000				
	1,3	1050	1,90	4981	55000				
	1,5	935	1,90	4435	55000				
	1,7	833	1,90	3952	55000				
	1,9	748	1,90	3548	55000				
	2,0	706	1,90	3349	55000				
	2,2	634	1,90	3008	55000				
	2,4	572	1,90	2713	55000				
	2,7	518	1,90	2457	55000				
	3,0	471	1,90	2234	55000				
	3,3	429	1,90	2035	55000				
	3,6	391	1,90	1855	55000				
	3,9	358	1,90	1698	55000				
	4,3	328	1,90	1556	55000				
	4,7	300	1,90	1423	55000				
	1,0	883	1,22	6616	55000				
	1,1	799	1,35	5983	55000				
	1,4	647	1,80	4850	55000				
	1,5	591	1,98	4425	55000	İRAM İRFM İRAFM	103 İR 72 / 80 M 4b	313 314 315	260 263 285
	1,2	1173	0,80	5564	33450				
	1,3	1046	0,88	4962	33450				
	1,5	923	0,97	4378	33450	İRAM İRFM İRAFM	102 İR 73 / 80 M 4b	313 314 315	222 225 247
	1,7	821	1,07	3895	33450				
	1,2	1180	0,80	5598	33450				
	1,3	1103	0,87	5232	33450	İRAM İRFM İRAFM	104 / 90 S 6a	307 308 309	246 249 271
	1,4	986	0,87	4677	33450				
	1,6	884	0,87	4193	33450				
	1,5	612	0,91	4583	34000	İRAM İRFM İRAFM	104 / 80 M 4b	307 308 309	244 247 269
	1,6	548	1,04	4109	34000				
	1,8	495	1,13	3705	34000				
	1,7	803	1,05	3865	34000	İRAM İRFM İRAFM	93 İR 62 / 80 M 4b	295 296 297	163 173 183
	1,9	720	1,17	3465	34000				
	2,3	612	1,43	2946	34000				
	2,6	548	1,61	2641	34000	İRAM İRFM İRAFM	94 / 90 S 6a	289 290 291	156 166 176
	2,8	495	1,76	2382	34000				
	3,1	447	1,98	2151	34000				
	3,5	406	2,13	1954	34000	İRAM İRFM İRAFM	94 / 80 M 4b	289 290 291	154 164 174
3,8	371	2,35	1785	34000					
4,1	340	2,57	1637	34000					
4,6	306	2,90	1476	34000	İRAM İRFM İRAFM	94 / 80 M 4b	289 290 291	154 164 174	
2,2	648	1,03	3074	24700					
2,6	538	1,13	2552	24700					
2,7	527	1,27	2500	24700	İRAM İRFM İRAFM	94 / 80 M 4b	289 290 291	154 164 174	
1,9	478	0,82	3584	26000					
2,1	431	0,91	3231	26000					
2,4	380	1,04	2847	26000	İRAM İRFM İRAFM	94 / 80 M 4b	289 290 291	154 164 174	
2,7	338	1,16	2531	26000					
2,9	478	1,28	2304	26000					
3,2	431	1,42	2077	26000	İRAM İRFM İRAFM	94 / 80 M 4b	289 290 291	154 164 174	
3,7	380	1,61	1830	26000					
4,1	338	1,83	1627	26000					
4,6	302	1,98	1456	26000	İRAM İRFM İRAFM	94 / 80 M 4b	289 290 291	154 164 174	



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			 kg						
0,75 1,1	5,2	269	2,27	1296	26000	İRAM İRFM İRAFM	94 / 80 M 4b	289	154						
	5,9	237	2,57	1142	26000			290	164						
	6,6	211	2,86	1015	26000			291	174						
	7,4	189	3,20	908	26000	İRAPM İRFPM İRAFPM	93 / 90 S 6a	286	137						
	3,1	293	1,23	2232	24700			287	147						
	3,3	274	1,32	2082	24700			288	157						
	3,7	241	1,48	1829	24700			İRAPM İRFPM İRAFPM	93 / 80 M 4b	286	136				
	4,2	214	1,73	1625	24700	287	146								
	4,8	293	1,95	1435	24700	288	156								
	5,1	274	2,09	1338	24700	İRAM İRFM İRAFM	84 / 80 M 4b			271	93				
	5,8	241	2,35	1176	24700			272	98						
	6,6	214	2,68	1044	24700			273	100						
	7,3	191	2,99	936	24500			İRAM İRFM İRAFM	83 / 90 S 6a	265	84				
	8,1	173	3,31	844	24500					266	89				
	3,3	428	0,77	2063	18100					267	91				
	3,7	382	0,83	1839	18100					İRAM İRFM İRAFM	83 / 80 M 4b	265	83		
	4,1	343	0,93	1651	18100							266	88		
	4,5	310	1,03	1491	18100							267	90		
	5,1	275	1,17	1325	18100							İRAM İRFM İRAFM	73 / 90 S 6a	235	53
	5,1	273	1,13	1315	18100									236	56
	5,8	243	1,23	1169	18100									237	59
	6,4	218	1,38	1049	18100	247	50								
	7,1	196	1,53	945	18100	İRAM İRFM İRAFM	73 / 80 M 4b							248	53
	8,0	174	1,73	840	18100									249	56
	8,3	168	1,87	811	18100			İRAM İRFM İRAFM	73 / 80 M 4b					247	49
	4,1	221	0,88	1682	16900									248	52
	4,3	209	0,99	1586	16900									249	55
	4,8	187	1,04	1420	16900					İRAM İRFM İRAFM	73 / 80 M 4b			247	49
	5,3	168	1,13	1280	16700									248	52
	5,6	251	1,21	1225	17100									249	55
	6,3	221	1,36	1081	17050							İRAM İRFM İRAFM	73 / 80 M 4b	247	49
	6,7	209	1,54	1020	17000									248	52
	7,5	187	1,61	913	17000									249	55
	8,3	168	1,76	823	17000									İRAM İRFM İRAFM	73 / 80 M 4b
	9,2	153	1,91	746	16900	248	52								
	10	139	2,13	681	16900	249	55								
	11	127	2,35	623	16900	İRAM İRFM İRAFM	73 / 80 M 4b	247	49						
	12	117	2,57	573	16900			248	52						
	14	103	2,86	504	16800			249	55						
	15	91,85	3,23	449	16800			İRAM İRFM İRAFM	73 / 80 M 4b	247	49				
9,2	152	0,82	732	11200	248					52					
6,7	134	0,86	1016	11200	249					55					
8,7	103	1,08	783	11200	İRAM İRFM İRAFM					73 / 80 M 4b	247	49			
9,9	91,36	1,37	695	11200							248	52			
9,1	154	1,13	755	11200							249	55			
10	134	1,30	653	11200							İRAM İRFM İRAFM	73 / 80 M 4b	247	49	
14	103	1,68	504	11200									248	52	
15	91,36	2,12	447	11200									249	55	
17	81,25	2,42	397	11200		İRAM İRFM İRAFM	73 / 80 M 4b						247	49	
19	72,76	2,57	356	11200									248	52	
21	65,52	2,64	320	11200									249	55	
24	59,42	2,86	291	11200				İRAM İRFM İRAFM	73 / 80 M 4b				247	49	
27	52,47	3,30	257	11200									248	52	
30	46,36	3,70	227	11200									249	55	



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
0,75 1,1	12	117	0,91	570	9350	İRAM İRFM İRAFM	731 / 80 M 4b	229 230 231	46 49 52
	14	101	1,06	493	9350				
	16	88,93	1,17	435	9350				
	18	78,43	1,33	383	9200				
	20	69,75	1,50	341	9200				
	22	62,46	1,70	305	9150				
	25	55,54	1,92	272	9100				
	28	49,74	2,12	243	9100				
	31	44,79	2,37	219	9050				
	35	39,89	3,23	195	9050				
	40	35,22	3,52	172	9000				
	44	31,62	3,40	157	9000	İRAM İRFM İRAFM	721 / 80 M 4b	229 230 231	44 47 50
	50	28,06	3,80	139	9000	İRAM İRFM İRAFM	63 / 80 M 4b	211 212 213	32 37 38
	15	96,27	0,86	471	7000				
	16	87,81	0,94	429	7000				
	17	83,37	1,01	408	7000				
	20	70,96	1,27	347	7000				
	23	61,03	1,37	298	7000				
	27	51,65	1,87	253	7000				
	30	46,79	2,03	229	7000				
	33	42,55	2,27	208	7000				
	39	35,74	2,71	175	7000				
	47	29,85	3,23	146	7000				
	56	25,16	3,81	123	7000				
	15	96,27	0,86	471	7000	İRAM İRFM İRAFM	631 / 80 M 4b	211 212 213	35 40 41
	16	87,81	0,94	429	7000				
	17	83,37	1,01	408	7000				
	20	70,96	1,27	347	7000				
	23	61,03	1,37	298	7000				
	27	51,65	1,87	253	7000				
	30	46,79	2,03	229	7000				
	33	42,55	2,27	208	7000				
	39	35,74	2,71	175	7000				
	47	29,85	3,23	146	7000				
	56	25,16	3,81	123	7000				
	32	43,99	0,93	215	3800	İRAM İRFM İRAFM	53 / 80 M 4b	181 182 183	22 24 25
	36	39,10	1,02	191	3750				
	40	34,93	1,14	171	3600				
	45	31,34	1,23	153	3550				
	50	28,21	1,38	138	3550				
	55	25,46	1,47	124	3500				
	61	23,03	1,60	113	3500				
64	21,88	1,63	107	3400					
71	19,70	1,82	96	3350					
79	17,78	2,03	87	3300					
87	16,08	2,27	79	3300					
81	17,18	1,73	85	3300	İRAM İRFM İRAFM	52 / 80 M 4b	181 182 183	25 27 28	
93	15,05	2,12	75	3200					
105	13,29	2,37	66	3150					
119	11,81	2,66	59	3150					
133	10,56	2,91	52	3100					
148	9,470	3,23	47	3100					
158	8,888	3,38	44	3050					
176	7,974	3,52	40	3050					
195	7,178	3,67	36	3000					
216	6,479	3,81	32	3000					
241	5,821	3,97	29	3000					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>0,75</b> 1,1	66	21,11	0,77	103	1470	İRAM İRFM İRAFM	43 / 80 M 4b	175	18
	70	20,01	0,83	98	1420				
	75	18,59	0,88	91	1390				
	79	17,76	0,93	87	1370				
	85	16,45	0,99	80	1320				
	89	15,81	1,02	77	1290				
	96	14,60	1,14	71	1270				
	99	14,09	1,20	69	1260				
	108	13,00	1,26	64	1230				
	121	11,58	1,42	57	1200				
	125	11,24	0,86	56	1320	İRAM İRFM İRAFM	42 / 80 M 4b	175	17
	142	9,845	0,96	49	1270				
	161	8,672	1,09	43	1230				
	182	7,673	1,26	38	1180				
	204	6,872	1,82	34	1120				
	230	6,080	2,05	30	1070				
	253	5,538	2,19	27	1030				
	259	5,398	2,27	27	1020				
	286	4,900	2,42	24	990				
	291	4,803	2,56	24	910				
322	4,350	2,70	22	880					
327	4,280	2,85	21	850					
362	3,870	3,07	19	830					
406	3,449	3,44	17	800					
<b>1,1</b> 1,5	0,47	2979	0,87	20724	110000	İRAPM İRFPM İRAFPM	153 İR 92 / 90 S 4a	376	1068
	0,54	2597	0,99	18065	110000				
	0,64	2175	1,20	15135	110000				
	0,72	1932	1,35	13441	110000				
	0,80	1754	1,45	12200	110000				
	0,88	1589	1,60	11058	110000				
	1,0	1381	1,85	9609	110000				
	1,2	1217	2,10	8464	110000				
	1,4	1035	2,50	7202	110000				
	0,47	2975	0,86	20696	110000				
	0,52	2710	0,95	18854	110000				
	0,56	2479	1,05	17250	110000				
	0,72	1937	1,35	13479	110000				
	0,76	1847	1,30	12853	110000				
	0,83	1683	1,45	11710	110000				
	0,91	1540	1,55	10713	110000				
	0,99	1414	1,70	9838	110000				
	1,2	1203	2,00	8371	110000				
	0,68	2073	0,86	14206	60000	İRAM İRFM İRAFM	143 İR 73 / 90 S 4a	349	524
	0,64	2184	0,84	15195	60000				
	0,71	1979	0,93	13769	60000				
	0,78	1795	1,00	12489	60000	İRAM İRFM İRAFM	143 İR 72 / 90 S 4a	349	522
	1,0	1398	1,30	9726	60000				
	1,1	1247	1,45	8676	60000				
	1,3	1120	1,60	7792	60000				
	1,4	983	1,85	6839	60000				
	1,6	546	2,23	5994	60000				
	1,8	488	2,50	5357	60000				
2,1	438	2,80	4812	60000	İRAPM İRFPM İRAFPM	144 / 90 L 6b	346	546	
2,3	384	3,10	4222	60000					





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
1,1 1,5	0,84	1657	0,84	11528	55000	İRAM İRFM İRAFPM	123 İR 72 / 90 S 4a	331 332 333	347 349 377
	0,93	1511	0,93	10513	55000				
	1,0	1357	1,04	9441	55000				
	1,1	1227	1,14	8537	55000	İRAM İRFM İRAFPM	122 İR 73 / 90 S 4a	331 332 333	320 322 350
	1,4	1025	1,38	7131	55000				
	1,6	902	1,55	6276	55000				
	0,91	1535	0,80	10680	55000	İRAM İRFM İRAFPM	124 / 90 L 6b	328 329 330	371 373 401
	1,0	1362	0,80	9476	55000				
	1,1	1265	1,04	8801	55000				
	1,3	1050	1,29	7305	55000	İRAM İRFM İRAFPM	124 / 90 S 4a	328 329 330	369 371 399
	1,5	935	1,29	6505	55000				
	1,0	883	0,83	9704	55000				
	1,1	799	0,92	8775	55000	İRAM İRFM İRAFPM	104 / 90 L 6b	307 308 309	248 251 273
	1,4	647	1,23	7113	55000				
	1,5	591	1,35	6490	55000				
	1,6	883	1,30	6238	55000	İRAM İRFM İRAFPM	104 / 90 S 4a	307 308 309	246 249 271
	1,8	799	1,44	5641	55000				
	2,2	647	1,91	4573	55000				
	2,4	591	2,10	4172	55000	İRAM İRFM İRAFPM	94 / 90 L 6b	289 290 291	158 168 178
	2,6	530	2,30	3745	55000				
	2,9	479	2,60	3387	55000				
	3,5	400	3,10	2829	55000	İRAM İRFM İRAFPM	94 / 90 S 4a	289 290 291	156 166 176
	4,0	352	3,50	2489	55000				
	2,8	495	1,20	3493	34000				
	1,9	720	0,80	5082	34000				
	2,3	612	0,98	4321	34000				
	2,6	548	1,10	3874	34000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158
	2,8	495	1,20	3493	34000				
	3,1	447	1,35	3155	34000				
	3,5	406	1,45	2866	34000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158
	3,8	371	1,60	2618	34000				
	4,1	340	1,75	2401	34000				
	4,6	306	1,98	2165	34000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158
	5,0	281	2,12	1986	34000				
	2,7	338	0,79	3711	26000				
	2,9	478	0,88	3379	26000				
	3,2	431	0,97	3046	26000				
	3,7	380	1,10	2685	26000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	139 149 159
	4,1	338	1,25	2386	26000				
	4,6	302	1,35	2135	26000				
	5,2	269	1,55	1901	26000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158
	5,9	237	1,75	1675	26000				
6,6	211	1,95	1489	26000					
7,4	189	2,18	1332	26000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158	
8,2	170	2,46	1199	26000					
9,1	153	2,66	1084	26000					
3,1	293	0,84	3274	23500	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158	
3,3	274	0,90	3053	23500					
3,7	241	1,01	2683	23000					
4,2	214	1,18	2383	23000	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158	
4,8	293	1,33	2104	23500					
5,1	274	1,43	1963	23500					
5,8	241	1,60	1725	23500	İRAM İRFM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158	
6,6	214	1,83	1532	23000					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
1,1 1,5	7,3	191	2,04	1372	23000	İRAPM İRFPM İRAFPM	93 / 90 S 4a	286 287 288	138 148 158
	8,1	173	2,26	1239	23000				
	8,9	157	2,49	1125	23000				
	11	131	2,97	941	22900				
	12	121	3,20	865	22900				
	13	110	3,54	789	22900				
	5,1	273	0,77	1929	18100	İRAM İRFM İRAFM	84 / 90 S 4a	271 272 273	95 100 102
	5,8	243	0,84	1714	18100				
	6,4	218	0,94	1538	18100				
	7,1	196	1,04	1387	18100				
	8,0	174	1,18	1233	18100				
	8,3	168	1,28	1190	18100				
	6,3	221	0,93	1586	16900	İRAM İRFM İRAFM	83 / 90 S 4a	265 266 267	85 90 92
	6,7	209	1,05	1496	16900				
	7,5	187	1,10	1339	16900				
	8,3	168	1,20	1207	16750				
	9,2	153	1,30	1095	16750				
	10	139	1,45	998	16750				
	11	127	1,60	914	16750				
	12	117	1,75	840	16600				
	14	103	1,95	739	16600				
	15	91,85	2,20	659	16600				
	17	82,47	2,50	591	16500				
	19	74,47	2,80	534	16500				
	21	66,18	3,10	475	16500				
	24	59,39	3,48	426	16500				
	26	53,54	3,75	384	16400				
	29	47,59	4,30	341	16400				
	10	134	0,89	958	10500				
	14	103	1,14	739	10500				
	15	91,36	1,45	655	10500				
	17	81,25	1,65	583	10500				
	19	72,76	1,75	522	10500				
	21	65,52	1,80	470	10500				
	24	59,42	1,95	426	10500				
	27	52,47	2,25	376	10500				
	30	46,36	2,52	332	10500				
	16	88,93	0,80	638	9250	İRAM İRFM İRAFM	731 / 90 S 4a	229 230 231	48 51 54
	18	78,43	0,91	562	9100				
	20	69,75	1,02	500	9100				
	22	62,46	1,16	448	9050				
	25	55,54	1,31	398	9000				
	28	49,74	1,45	357	9000				
	31	44,79	1,61	321	8950				
	35	39,89	2,20	286	8950				
40	35,22	2,40	253	8900					
45	31,31	2,60	225	8900					
50	27,97	2,86	201	8800					
56	25,10	3,21	180	8800					
62	22,59	3,48	162	8700					
44	31,62	2,32	230	8900	İRAM İRFM İRAFM	721 / C80 M 4	229 230 231	43 46 49	
50	28,06	2,59	204	8800					
58	24,25	3,00	177	8800					İRAM İRFM İRAFM



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
1,1 1,5	20	70,96	0,87	509	6500	İRAM İRFM İRAFM	63 / 90 S 4a	211 212 213	34 39 40
	23	61,03	0,93	438	6500				
	27	51,65	1,27	370	6500				
	30	46,79	1,39	336	6500				
	33	42,55	1,55	305	6500				
	39	35,74	1,85	256	6500				
	47	29,85	2,20	214	6500				
	56	25,16	2,60	180	6500				
	65	21,50	3,05	154	6500				
	68	20,53	3,20	147	6500				
	77	18,18	3,61	130	6500				
	84	16,67	3,41	121	6300	İRAM İRFM İRAFM	62 / 90 S 4a	211 212 213	35 40 41
	93	15,13	3,75	110	6300				
	104	13,48	4,16	98	6300				
	115	12,21	4,36	89	6300				
	20	70,96	0,87	509	6500				
	23	61,03	0,93	438	6500				
	27	51,65	1,27	370	6500				
	30	46,79	1,39	336	6500				
	33	42,55	1,55	305	6500				
	39	35,74	1,85	256	6500				
	47	29,85	2,20	214	6500				
	56	25,16	2,60	180	6500				
	65	21,50	3,05	154	6500				
	68	20,53	3,20	147	6500				
	77	18,18	3,61	130	6500				
	77	18,18	3,61	130	6500	İRAM İRFM İRAFM	621 / 90 S 4a	193 194 195	32 37 38
	84	16,67	3,41	121	6300				
	93	15,13	3,75	110	6300				
	104	13,48	4,16	98	6300	İRAM İRFM İRAFM	53 / 90 S 4a	181 182 183	24 26 27
	45	31,34	0,84	225	3400				
	50	28,21	0,94	202	3300				
	55	25,46	1,00	183	3300				
	61	23,03	1,09	165	3250				
	64	21,88	1,11	157	3250				
	71	19,70	1,24	141	3200				
	79	17,78	1,39	127	3100				
	87	16,08	1,55	115	3050				
81	17,18	1,18	125	3050	İRAM İRFM İRAFM				
93	15,05	1,45	110	3050					
105	13,29	1,61	97	3000		İRAM İRFM İRAFM	52 / 90 S 4a	181 182 183	27 29 30
119	11,81	1,82	86	3000					
133	10,56	1,98	77	3000					
148	9,470	2,20	69	2900					
158	8,888	2,30	65	2800					
176	7,974	2,40	58	2650					
195	7,178	2,50	52	2600					
216	6,479	2,60	47	2600					
241	5,821	2,70	42	2550					
266	5,254	2,80	38	2500					
278	5,032	2,90	37	2500					
310	4,515	3,20	33	2450					
344	4,064	3,40	30	2400					
382	3,668	3,60	27	2400					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
1,1 1,5	96	14,60	0,77	105	1200	İRAM İRFM İRAFPM	43 / 90 S 4a	175	20	
	99	14,09	0,82	101	1180			176	21	
	108	13,00	0,86	93	1150			177	22	
		121	11,58	0,97	83	1100	İRAM İRFM İRAFPM	42 / 90 S 4a	175 176 177	19 20 21
		182	7,673	0,86	56	1050				
		204	6,872	1,24	50	1030				
		230	6,080	1,40	44	1000				
		253	5,538	1,49	40	1000				
		259	5,398	1,55	39	960				
		286	4,900	1,65	36	930				
		291	4,803	1,75	35	890				
		322	4,350	1,84	32	860				
		327	4,280	1,94	31	830				
		362	3,870	2,09	28	800				
	406	3,449	2,35	25	770					
1,5 2,2	0,64	2175	0,88	20639	110000	İRAPM İRFPM İRAFPM	153 İR 92 / 90 L 4a	376 377 378	1071 1121 1141	
	0,72	1932	0,99	18329	110000					
	0,80	1754	1,06	16636	110000					
	0,88	1589	1,17	15079	110000					
	1,0	1381	1,36	13103	110000					
	1,2	1217	1,54	11542	110000					
	1,4	1035	1,80	9821	110000					
	1,8	792	2,20	7519	110000					
	0,72	1937	0,99	18380	110000	İRAPM İRFPM İRAFPM	152 İR 93 / 90 L 4a	376 377 378	1001 1051 1051	
	0,76	1847	0,95	17527	110000					
	0,83	1683	1,06	15968	110000					
	0,91	1540	1,14	14609	110000					
	0,99	1414	1,25	13415	110000					
	1,2	1203	1,47	11415	110000					
	1,4	1033	1,72	9804	110000					
	1,0	1398	0,95	13263	60000	İRAM İRFM İRAFPM	143 İR 72 / 90 L 4a	349 350 351	525 539 565	
	1,1	1247	1,06	11831	60000					
	1,3	1120	1,17	10626	60000					
	1,4	983	1,36	9326	60000					
	1,6	877	1,50	8320	60000					
	1,8	787	1,65	7467	60000					
	1,9	750	1,75	7116	60000					
	2,1	673	1,95	6385	60000					
	2,3	607	2,20	5759	60000					
	2,6	549	2,42	5209	60000					
	2,8	498	2,64	4725	60000					
	3,1	453	2,90	4298	60000					
	2,6	537	2,49	5095	60000	İRAM İRFM İRAFPM	143 İR 82 / 90 L 4a	355 356 357	556 570 596	
	2,9	487	2,71	4620	60000					
	3,2	437	3,01	4146	60000					
	3,5	398	3,30	3776	60000					
	1,6	546	1,64	8174	60000	İRAM İRFM İRAFPM	144 / 100 L 6a	343 344 345	551 565 591	
	1,8	488	1,83	7305	60000					
	2,1	438	2,05	6562	60000					
2,3	384	2,27	5758	60000						
2,6	546	2,60	5255	60000	İRAPM İRFPM İRAFPM	144 / 90 L 4a	346 347 348	547 561 587		
2,9	488	2,90	4696	60000						
1,1	1227	0,84	11641	55000					İRAM İRFM İRAFPM	123 İR 72 / 90 L 4a
1,4	1025	1,01	9725	55000						
1,6	902	1,14	8558	55000						



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types															
						İRAM İRFM İRAFPM	122 İR 73 / 90 L 4a														
										İRAM İRFM İRAFPM	124 / 100 L 6a										
												İRAPM İRFPM İRAFPM	124 / 90 L 4a								
İRAM İRFM İRAFPM	104 / 90 L 4a																				
		İRAM İRFM İRAFPM	103 / 100 L 6a																		
				İRAM İRFM İRAFPM	94 / 90 L 4a																
						İRAPM İRFPM İRAFPM	93 / 90 L 4a														
								İRAM İRFM İRAFPM	84 / 90 L 4a												
										1,5 2,2	1,3			1050	0,95	9962	55000	İRAM İRFM İRAFPM	122 İR 73 / 90 L 4a	331	323
											1,5			935	0,95	8871	55000			332	325
1,4	647	0,90	9700					55000	333		353										
1,5	591	0,99	8850					55000	İRAM İRFM İRAFPM		124 / 100 L 6a			325	376						
1,6	883	0,95	8506					55000						326	378						
1,8	799	1,06	7692					55000	İRAPM İRFPM İRAFPM		124 / 90 L 4a			328	372						
2,2	647	1,40	6236					55000													
2,4	591	1,54	5689					55000													
2,6	530	1,69	5107					55000													
2,9	479	1,91	4618	55000																	
3,5	400	2,27	3857	55000																	
4,0	352	2,57	3394	55000																	
4,5	313	2,86	3012	55000																	
5,0	279	3,23	2691	55000																	
5,6	251	3,60	2417	55000																	
2,6	548	0,81	5283	34000	İRAM İRFM İRAFPM	104 / 90 L 4a	307	249													
2,8	495	0,88	4763	34000																	
3,1	447	0,99	4302	34000																	
3,5	406	1,06	3909	34000																	
3,8	371	1,17	3570	34000																	
4,1	340	1,28	3275	34000																	
4,6	306	1,45	2952	34000																	
5,0	281	1,55	2708	34000																	
3,5	256	1,09	3895	31000	İRAM İRFM İRAFPM	103 / 100 L 6a	301	229													
4,0	225	1,19	3424	31000																	
4,3	208	1,31	3159	31000																	
4,9	185	1,47	2808	31000																	
5,4	165	1,64	2517	31000																	
6,4	141	2,00	2140	31000																	
7,1	126	2,20	1919	31000	İRAM İRFM İRAFPM	94 / 90 L 4a	289	159													
3,7	380	0,81	3661	26000																	
4,1	338	0,92	3254	26000																	
4,6	302	0,99	2911	26000																	
5,2	269	1,14	2592	26000																	
5,9	237	1,28	2284	26000																	
6,6	211	1,43	2030	26000																	
7,4	189	1,60	1817	26000																	
8,2	170	1,80	1635	26000																	
9,1	153	1,95	1478	26000																	
4,8	293	0,98	2870	23100					İRAPM İRFPM İRAFPM		93 / 90 L 4a	286	141								
5,1	274	1,05	2677	23100																	
5,8	241	1,17	2352	23100																	
6,6	214	1,34	2089	22800																	
7,3	191	1,50	1871	22800																	
8,1	173	1,66	1689	22800																	
8,9	157	1,83	1534	22800																	
11	131	2,18	1283	22700																	
12	121	2,35	1180	22700																	
13	110	2,60	1076	22700																	
14	96,96	2,93	948	22700																	
16	86,17	3,30	843	22700	İRAM İRFM İRAFPM	84 / 90 L 4a	271	98													
7,1	196	0,77	1891	18100																	
8,0	174	0,86	1681	18100																	
8,3	168	0,94	1622	18100			273	105													



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
1,5 2,2	8,3	168	0,88	1646	16700	İRAM İRFM İRAFMM	83 / 90 L 4a	265 266 267	88 93 95
	9,2	153	0,95	1493	16700				
	10	139	1,06	1361	16700				
	11	127	1,17	1246	16500				
	12	117	1,28	1145	16500				
	14	103	1,43	1007	16300				
	15	91,85	1,61	898	16300				
	17	82,47	1,83	806	16300				
	19	74,47	2,05	728	16300				
	21	66,18	2,27	647	16250				
	24	59,39	2,55	581	16250				
	26	53,54	2,75	524	16250				
	29	47,59	3,15	465	16200				
	30	45,93	3,20	449	16200				
	34	41,22	3,60	403	16200				
	38	37,16	3,96	363	16200				
	15	91,36	1,06	893	10000				
	17	81,25	1,21	795	10000				
	19	72,76	1,28	711	10000				
	21	65,52	1,32	641	10000				
	24	59,42	1,43	581	10000				
	27	52,47	1,65	513	10000				
	30	46,36	1,85	453	10000				
	34	41,67	2,05	407	10000				
	37	37,38	2,27	366	10000				
	45	31,16	2,57	305	10000				
	50	27,84	2,86	272	10000				
	56	24,98	3,08	244	10000				
	62	22,48	3,59	220	10000				
	22	62,46	0,85	611	8950				
	25	55,54	0,96	543	8900				
	28	49,74	1,06	486	8900				
	31	44,79	1,18	438	8850				
	35	39,89	1,61	390	8850				
	40	35,22	1,76	344	8800				
	45	31,31	1,91	306	8800				
	50	27,97	2,10	274	8700				
	56	25,10	2,35	245	8700				
	62	22,59	2,55	221	8600				
	58	24,25	2,20	241	8700				
	65	21,39	2,50	212	8600				
	27	51,65	0,93	505	5400				
30	46,79	1,02	458	5400					
33	42,55	1,14	416	5400					
39	35,74	1,36	349	5400					
47	29,85	1,61	292	5400					
56	25,16	1,91	246	5400					
65	21,50	2,24	210	5400					
68	20,53	2,35	201	5400					
77	18,18	2,65	178	5400					
90	15,59	3,00	152	5400					
101	13,81	3,35	135	5400					
27	51,65	0,93	505	5400					
30	46,79	1,02	458	5400					
33	42,55	1,14	416	5400					
39	35,74	1,36	349	5400					
27	51,65	0,93	505	5400					
30	46,79	1,02	458	5400					
33	42,55	1,14	416	5400					
39	35,74	1,36	349	5400					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
1,5 2,2	47	29,85	1,61	292	5400	İRAM İRFM İRAFM	631 / 90 L 4a	193 194 195	40 45 46
	56	25,16	1,91	246	5400				
	65	21,50	2,24	210	5400				
	68	20,53	2,35	201	5400				
	77	18,18	2,65	178	5400				
	90	15,59	3,00	152	5400				
	101	13,81	3,35	135	5400	İRAM İRFM İRAFM	621 / 90 L 4a	193 194 195	35 40 41
	84	16,67	2,50	166	5200				
	93	15,13	2,75	150	5200				
	104	13,48	3,05	134	5200				
	115	12,21	3,20	121	5200				
	126	11,10	3,50	110	5200				
	139	10,07	3,82	100	5200				
	150	9,358	3,60	93	5200				
	165	8,510	3,81	84	5200				
	182	7,673	3,96	76	5200				
	84	16,67	2,50	166	5200				
	93	15,13	2,75	150	5200				
	104	13,48	3,05	134	5200	İRAM İRFM İRAFM	62 / 90 L 4a	211 212 213	38 43 44
	115	12,21	3,20	121	5200				
	126	11,10	3,50	110	5200				
	139	10,07	3,82	100	5200				
	150	9,358	3,60	93	5200				
	165	8,510	3,81	84	5200				
	182	7,673	3,96	76	5200				
	64	21,88	0,82	214	2950	İRAM İRFM İRAFM	53 / 90 L 4a	181 182 183	27 29 30
	71	19,70	0,91	193	2900				
	79	17,78	1,02	174	2900				
	87	16,08	1,14	157	2800	İRAM İRFM İRAFM	52 / 90 L 4a	181 182 183	30 32 33
	105	13,29	1,18	132	2750				
	119	11,81	1,33	117	2700				
	133	10,56	1,46	105	2650				
	148	9,470	1,62	94	2600				
	158	8,888	1,69	88	2550				
	176	7,974	1,76	79	2550				
	195	7,178	1,84	71	2550				
	216	6,479	1,91	64	2500				
	241	5,821	1,98	58	2400				
	266	5,254	2,05	52	2350				
	278	5,032	2,13	50	2350				
	310	4,515	2,34	45	2250				
	344	4,064	2,49	40	2200				
382	3,668	2,64	36	2150					
422	3,317	2,86	33	2150					
458	3,059	2,86	30	2150					
482	2,906	3,01	29	2150					
544	2,572	3,23	26	2150					
296	9,470	3,15	47	2350	İRAM İRFM İRAFM	52 / 90 S 2a	181 182 183	26 28 29	
315	8,888	3,08	44	2350					
351	7,974	3,08	40	2200					
390	7,178	3,23	36	2200					
432	6,479	3,45	32	2150					
481	5,821	3,45	29	2100					
533	5,254	3,67	26	2000					
556	5,032	3,96	25	1900					
620	4,515	4,40	22	1750					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg					
1,5 2,2	204	6,872	0,91	68	1000	İRAM İRFM İRAFM	42 / 90 L 4a	175 176 177	22 23 24				
	230	6,080	1,02	60	970								
	253	5,538	1,10	55	970								
	259	5,398	1,14	54	930								
	286	4,900	1,21	49	900								
	291	4,803	1,28	48	860								
	322	4,350	1,35	43	830								
	327	4,280	1,42	42	800								
	362	3,870	1,54	38	770								
	406	3,449	1,72	34	750								
2,2 3	0,88	1589	0,80	22116	110000	İRAM İRFM İRAFM	153 İR 92 / 100 L 4a	373 374 375	1073 1123 1143				
	1,0	1381	0,93	19218	110000								
	1,2	1217	1,05	16928	110000								
	2,2 3	1,4	1035	1,22	14404	110000	İRAM İRFM İRAFM	152 İR 93 / 100 L 4a	373 374 375	1003 1053 1053			
		1,8	792	1,64	11027	110000							
		0,99	1414	0,85	19676	110000							
		2,2 3	1,2	1203	1,00	16742	110000	İRAM İRFM İRAFM	154 / 100 L 4a	367 368 369	1023 1073 1093		
			1,4	1033	1,18	14380	110000						
			1,8	784	1,64	11077	110000						
			2,2 3	2,0	695	1,84	9823	110000	İRAM İRFM İRAFM	143 İR 72 / 100 L 4a	349 350 351	527 541 567	
				2,3	612	2,10	8650	110000					
				2,6	549	2,30	7752	110000					
				2,2 3	2,8	495	2,60	6999	110000	İRAM İRFM İRAFM	144 / 112 M 6a	343 344 345	558 572 598
					3,2	432	3,00	6101	110000				
					3,9	362	3,50	5112	110000				
					2,2 3	4,4	321	3,90	4539	110000	İRAM İRFM İRAFM	144 / 100 L 4a	343 344 345
		1,3				1120	0,80	15585	60000				
		1,4				983	0,93	13678	60000				
		2,2 3				1,6	877	1,02	12203	60000	İRAM İRFM İRAFM	123 İR 72 / 100 L 4a	331 332 333
			1,8			787	1,13	10951	60000				
			1,9			750	1,19	10436	60000				
			2,2 3			2,1	673	1,33	9365	60000	İRAM İRFM İRAFM	103 İR 72 / 100 L 4a	313 314 315
	2,3			607		1,50	8446	60000					
	1,6			546		1,12	11988	60000					
	2,2 3			1,8		488	1,25	10714	60000	İRAM İRFM İRAFM	124 / 100 L 4a	325 326 327	374 376 404
				2,1	438	1,40	9625	60000					
				2,3	384	1,55	8445	60000					
				2,2 3	2,6	546	1,77	7707	60000	İRAM İRFM İRAFM	124 / 100 L 4a	325 326 327	374 376 404
		2,9			488	1,98	6887	60000					
		3,2			438	2,18	6187	60000					
		2,2 3			3,6	384	2,45	5429	60000	İRAM İRFM İRAFM	124 / 100 L 4a	325 326 327	374 376 404
			4,1		345	2,80	4868	60000					
4,6			308		3,10	4344	60000						
2,2 3			1,8		800	0,88	11132	55000	İRAM İRFM İRAFM	123 İR 72 / 100 L 4a	331 332 333	352 354 382	
	2,0		715		0,99	9949	55000						
	3,3		428		0,82	5956	30700						
	2,2 3		2,2		647	0,96	9146	55000	İRAM İRFM İRAFM	124 / 100 L 4a	325 326 327	374 376 404	
			2,4	591	1,05	8344	55000						
			2,6	530	1,15	7491	55000						
			2,2 3	2,9	479	1,30	6773	55000	İRAM İRFM İRAFM	124 / 100 L 4a	325 326 327	374 376 404	
		3,5		400	1,55	5657	55000						
		4,0		352	1,75	4978	55000						
		2,2 3		4,5	313	1,95	4417	55000	İRAM İRFM İRAFM	124 / 100 L 4a	325 326 327	374 376 404	





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
2,2 3	5,0	279	2,20	3946	55000	İRAM İRFM İRAFM	124 / 100 L 4a	325	374
	5,6	251	2,46	3545	55000			326	376
	6,2	226	2,73	3199	55000			327	404
	6,5	215	2,80	3039	55000	İRAM İRFM İRAFM	104 / 100 L 4a	307	251
	3,8	371	0,80	5236	34000			308	254
	4,1	340	0,88	4803	34000			309	276
	4,6	306	0,99	4329	34000	İRAM İRFM İRAFM	103 / 112 M 6a	301	237
	5,0	281	1,06	3971	34000			302	240
	3,5	256	0,74	5712	30700			303	262
	4,0	225	0,81	5022	30700	İRAM İRFM İRAFM	103 / 100 L 4a	301 302 303	228 231 253
	4,3	208	0,89	4633	30700				
	4,9	185	1,00	4118	30700				
	5,4	165	1,12	3692	30700	İRAM İRFM İRAFM	94 / 100 L 4a	289 290 291	161 171 181
	6,4	141	1,36	3139	30700				
	7,1	126	1,50	2814	30700				
	5,5	256	1,17	3672	30700	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
	6,2	225	1,27	3229	30700				
	6,7	208	1,38	2979	30700				
	7,6	185	1,56	2647	30700	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97
	8,5	165	1,74	2373	30700				
	10,0	141	2,10	2018	30550				
	11	126	2,30	1809	30550	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97
	12	113	2,60	1623	30550				
	14	104	2,80	1485	30550				
	15	94,54	3,10	1356	30550	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97
	16	86,72	3,30	1244	30550				
	18	77,32	3,70	1109	30400				
	5,9	237	0,88	3351	26000	İRAM İRFM İRAFM	94 / 100 L 4a	289 290 291	161 171 181
	6,6	211	0,98	2978	26000				
	7,4	189	1,09	2664	26000				
	8,2	170	1,23	2397	26000	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
	9,1	153	1,33	2167	26000				
	5,8	241	0,80	3449	22500				
	6,6	214	0,91	3064	22500	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
	7,3	191	1,02	2745	22500				
	8,1	173	1,13	2477	22500				
	8,9	157	1,24	2249	22500	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
	11	131	1,49	1881	22500				
	12	121	1,60	1731	22500				
	13	110	1,77	1578	22500	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
	14	96,96	2,00	1391	22500				
	16	86,17	2,25	1236	22400				
	18	77,10	2,50	1106	22400	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
	20	68,66	2,66	985	22400				
	23	60,50	3,00	868	22400				
	26	53,77	3,55	771	22250	İRAM İRFM İRAFM	93 / 100 L 4a	283 284 285	143 153 163
29	48,11	3,95	690	22250					
32	43,29	4,50	621	22250					
11	127	0,80	1828	16100	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97	
12	117	0,88	1680	16100					
14	103	0,98	1478	16100					
15	91,85	1,10	1317	16100	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97	
17	82,47	1,25	1183	16050					
19	74,47	1,40	1068	16050					
21	66,18	1,55	949	16050	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97	
24	59,39	1,74	852	16000					
26	53,54	1,88	768	16000					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
2,2 3	29	47,59	2,15	683	16000	İRAM İRFM İRAFM	83 / 100 L 4a	265 266 267	90 95 97
	30	45,93	2,18	659	15900				
	34	41,22	2,45	591	15900				
	38	37,16	2,70	533	15850				
	42	33,03	3,20	474	15800				
	47	30,08	3,48	431	15750				
	52	27,12	3,75	389	15500				
	57	24,54	4,23	352	15300				
	63	22,27	4,64	319	15100				
	17	81,25	0,83	1165	9700				
	19	72,76	0,88	1044	9700	İRAM İRFM İRAFM	73 / 100 L 4a	247 248 249	56 59 62
	21	65,52	0,90	940	9700				
	24	59,42	0,98	852	9700				
	27	52,47	1,13	753	9700				
	30	46,36	1,26	665	9700				
	34	41,67	1,40	598	9700				
	37	37,38	1,55	536	9700				
	45	31,16	1,75	447	9700				
	50	27,84	1,95	399	9700				
	56	24,98	2,10	358	9700				
	62	22,48	2,45	322	9700				
	69	20,29	2,75	291	9700				
	76	18,35	2,93	263	9700				
	84	16,62	3,20	238	9700				
	93	15,07	3,90	216	9700				
	104	13,53	3,72	197	9350	İRAM İRFM İRAFM	72 / 100 L 4a	247 248 249	54 57 60
	31	44,79	0,81	642	8650	İRAM İRFM İRAFM	731 / 100 L 4a	229 230 231	53 56 59
	35	39,89	1,10	572	8650				
	40	35,22	1,20	505	8600				
	45	31,31	1,30	449	8600				
	50	27,97	1,43	401	8500				
	56	25,10	1,60	360	8500	İRAM İRFM İRAFM	721 / C90 L 4	229 230 231	50 53 56
	62	22,59	1,74	324	8400				
	58	24,25	1,50	353	8500				
	65	21,39	1,70	311	8400	İRAM İRFM İRAFM	721 / 100 L 4a	229 230 231	51 54 57
	74	19,02	1,88	277	8350				
	82	17,03	2,10	248	8300				
	91	15,40	2,30	224	8300				
	102	13,73	2,40	200	8200				
	115	12,13	2,80	177	8200				
	125	11,17	2,86	163	8200				
	142	9,866	3,27	144	8100				
39	35,74	0,93	513	4550	İRAM İRFM İRAFM	63 / 100 L 4a	211 212 213	39 44 45	
47	29,85	1,10	428	4550					
56	25,16	1,30	361	4550					
65	21,50	1,53	308	4550					
68	20,53	1,60	294	4550					
77	18,18	1,81	261	4550					
90	15,59	2,05	224	4550					
101	13,81	2,28	198	4550					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg					
2,2 3	104	13,48	2,08	196	4150	İRAM İRFM İRAFM	62 / 100 L 4a	211 212 213	40 45 46				
	115	12,21	2,18	178	4150								
	126	11,10	2,39	162	4150								
	139	10,07	2,60	147	4150								
	150	9,358	2,45	136	4150								
	165	8,510	2,60	124	4150								
	182	7,673	2,70	112	4150								
	197	7,108	2,90	103	4150								
	216	6,480	3,00	94	4150								
	234	5,992	3,20	87	4150								
	245	5,723	5,32	83	4150								
	39	35,74	0,93	513	4550	İRAM İRFM İRAFM	631 / 100 L 4a	193 194 195	42 47 48				
	47	29,85	1,10	428	4550								
	56	25,16	1,30	361	4550								
	65	21,50	1,53	308	4550								
	68	20,53	1,60	294	4550								
	77	18,18	1,81	261	4550								
	90	15,59	2,05	224	4550								
	101	13,81	2,28	198	4550								
	104	13,48	2,08	196	4150					İRAM İRFM İRAFM	621 / 100 L 4a	193 194 195	37 42 43
	115	12,21	2,18	178	4150								
	126	11,10	2,39	162	4150								
	139	10,07	2,60	147	4150								
	150	9,358	2,45	136	4150								
	165	8,510	2,60	124	4150								
	182	7,673	2,70	112	4150								
	197	7,108	2,90	103	4150								
	216	6,480	3,00	94	4150								
	234	5,992	3,20	87	4150								
	245	5,723	5,32	83	4150								
	105	13,29	0,81	194	2350	İRAM İRFM İRAFM	52 / C90 L 4	181 182 183	30 32 33				
	119	11,81	0,91	172	2250								
	133	10,56	0,99	154	2150					İRAM İRFM İRAFM	52 / 100 L 4a	181 182 183	32 34 35
	148	9,470	1,10	138	2100								
	158	8,888	1,15	129	2100								
	176	7,974	1,20	116	2100								
	195	7,178	1,25	105	2100								
	216	6,479	1,30	94	2050								
	241	5,821	1,35	85	2050								
	266	5,254	1,40	76	2050								
	278	5,032	1,45	73	2050								
	310	4,515	1,60	66	2050								
	344	4,064	1,70	59	2000								
	382	3,668	1,80	53	2000								
	422	3,317	1,95	48	2000								
458	3,059	1,95	45	2000									
482	2,906	2,05	42	2000									
544	2,572	2,20	37	2000									
265	10,56	1,95	77	2050	İRAM İRFM İRAFM	52 / 90 L 2a	181 182 183	28 30 31					
296	9,470	2,15	69	2050									
315	8,888	2,10	65	2000									
351	7,974	2,10	58	1950									
390	7,178	2,20	52	1900									
432	6,479	2,35	47	1850									
481	5,821	2,35	42	1850									
533	5,254	2,50	38	1800									



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
2,2 3	556	5,032	2,70	37	1800	İRAM İRFM İRAFMM	52 / 90 L 2a	181	28		
	620	4,515	3,00	33	1700			182	30		
	689	4,064	3,14	30	1600			183	31		
	763	3,668	3,34	27	1550						
	844	3,317	3,55	24	1500						
3 4	5,1	275	0,85	5218	30000	İRAM İRFM İRAFMM	103 İR 72 / 100 L 4b	313	273		
	5,6	248	1,00	4706	30000			314	276		
	5,9	239	1,00	4535	30000			315	298		
	6,6	211	1,10	4004	30000	İRAM İRFM İRAFMM	102 İR 72 / 100 L 4b	313	233		
	7,4	188	1,23	3567	30000			314	236		
	8,3	168	1,35	3188	30000			315	258		
	1,8	784	1,20	15105	110000	İRAM İRFM İRAFMM	154 / 100 L 4b	367	1029		
	2,0	695	1,35	13395	110000					368	1079
	2,3	612	1,55	11795	110000					369	1099
	2,6	549	1,70	10572	110000						
	2,8	495	1,91	9544	110000						
	3,2	432	2,20	8320	110000						
	3,9	362	2,60	6970	110000						
	4,4	321	2,90	6190	110000						
	4,8	292	3,20	5618	110000						
	5,3	264	3,60	5093	110000						
	6,1	230	4,10	4425	110000						
	1,6	546	0,82	16348	60000					İRAM İRFM İRAFMM	144 / 132 S 6b
	1,8	488	0,92	14610	60000	344	590				
	2,1	438	1,03	13125	60000	345	616				
	2,3	384	1,14	11516	60000						
	2,6	546	1,30	10509	60000						
	2,9	488	1,45	9392	60000						
	3,2	438	1,60	8437	60000	İRAM İRFM İRAFMM	144 / 100 L 4b	343	556		
	3,6	384	1,80	7403	60000			344	570		
	4,1	345	2,06	6638	60000			345	596		
	4,6	308	2,28	5924	60000						
	5,1	276	2,50	5317	60000						
	5,3	263	2,64	5065	60000						
	5,9	236	2,90	4545	60000	İRAM İRFM İRAFMM	124 / 100 L 4b	325	381		
	2,4	591	0,77	11378	50000					326	383
	2,6	530	0,84	10214	50000					327	411
	2,9	479	0,95	9237	50000						
	3,5	400	1,14	7715	50000						
	4,0	352	1,28	6789	50000						
	4,5	313	1,43	6024	50000						
	5,0	279	1,61	5381	50000						
	5,6	251	1,80	4834	50000						
	6,2	226	2,00	4362	50000						
	6,5	215	2,05	4144	50000						
	4,8	186	1,45	5662	50000					İRAM İRFM İRAFMM	123 / 132 S 6b
	5,4	167	1,62	5083	50000	320	341				
6,0	151	1,79	4596	50000	321	369					
7,3	122	2,40	3726	50000							
8,1	112	2,50	3400	50000							
9,0	100	2,80	3052	48000							
9,9	90,71	3,00	2760	48000							
12	75,77	3,70	2305	48000							
5,0	281	0,78	5415	34000	İRAM İRFM İRAFMM	104 / 100 L 4b	307	258			
							308	261			
							309	283			



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types												
									İRAM	İRFM	İRAFM	301	234					
														İRAM	İRFM	İRAFM	289	168
3 4	5,5	256	0,86	5007	30000	103 / 100 L 4b	301	234										
	6,2	225	0,93	4403	30000													
	6,7	208	1,01	4062	30000													
	7,6	185	1,14	3610	29700													
	8,5	165	1,28	3237	29700													
	10,0	141	1,54	2752	29700													
	11	126	1,69	2467	29700													
	12	113	1,91	2214	29700													
	14	104	2,05	2024	29700													
	15	94,54	2,27	1849	29450													
	16	86,72	2,42	1696	29450													
	18	77,32	2,71	1512	29450													
	21	68,28	3,08	1335	29450													
	23	60,69	3,45	1187	29300													
	7,4	189	0,80	3633	26000	94 / 100 L 4b	289	168										
	8,2	170	0,90	3269	26000													
	9,1	153	0,98	2956	26000													
	8,9	157	0,91	3067	22000													
	11	131	1,09	2565	22000	93 / 100 L 4b	283	149										
	12	121	1,17	2360	22000													
	13	110	1,30	2152	22000													
	14	96,96	1,47	1896	22000													
	16	86,17	1,65	1685	21750													
	18	77,10	1,83	1508	21750													
	20	68,66	1,95	1343	21750													
	23	60,50	2,20	1183	21750													
	26	53,77	2,60	1052	21750													
	29	48,11	2,90	941	21750													
	32	43,29	3,30	847	21500													
	36	39,14	3,59	765	21500													
	39	35,52	3,96	695	21500													
	43	32,34	4,40	633	21500													
	17	82,47	0,92	1613	15900	83 / 100 L 4b	265	96										
	19	74,47	1,03	1456	15800													
	21	66,18	1,14	1294	15700													
	24	59,39	1,28	1161	15700													
	26	53,54	1,38	1047	15700													
	29	47,59	1,58	931	15700													
	30	45,93	1,60	898	15500													
	34	41,22	1,80	806	15500													
	38	37,16	1,98	727	15500													
	42	33,03	2,35	646	15400													
	47	30,08	2,55	588	15400													
52	27,12	2,75	530	15300														
57	24,54	3,10	480	15100														
63	22,27	3,40	436	14900														
69	20,26	3,67	396	14500														
76	18,47	3,96	361	14250														
83	16,86	4,18	330	14150														
91	15,41	4,25	301	14100														
94	14,90	4,40	296	14050	82 / 100 L 4b	265	89											
106	13,24	4,80	263	14000														
118	11,88	5,00	236	14000														
27	52,47	0,83	1026	9500	73 / 100 L 4b	247	62											
30	46,36	0,93	907	9500														
34	41,67	1,03	815	9500														
37	37,38	1,14	731	9500														



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types							
<b>3 4</b>	45	31,16	1,28	609	9500	İRAM İRFM İRAFM	73 / 100 L 4b	247 248 249	62 65 68				
	50	27,84	1,43	544	9500								
	56	24,98	1,54	488	9500								
	62	22,48	1,80	440	9500								
	69	20,29	2,02	397	9500								
	76	18,35	2,15	359	9500								
	84	16,62	2,35	325	9500								
	93	15,07	2,86	295	9500								
	104	13,53	2,73	269	8800	İRAM İRFM İRAFM	72 / 100 L 4b	247 248 249	60 63 66				
	116	12,02	2,88	239	8800								
	130	10,74	3,20	213	8800								
	150	9,337	3,40	185	8800								
	168	8,333	3,63	165	8800	İRAM İRFM İRAFM	731 / 100 L 4b	229 230 231	60 63 66				
	35	39,89	0,81	780	8450								
	40	35,22	0,88	689	8400								
	45	31,31	0,95	612	8400								
	50	27,97	1,05	547	8300								
	56	25,10	1,18	491	8300								
	62	22,59	1,28	442	8200								
	65	21,39	1,25	425	8200								
	74	19,02	1,38	378	8150								
	82	17,03	1,54	338	8100					İRAM İRFM İRAFM	721 / 100 L 4b	229 230 231	58 61 64
	91	15,40	1,69	306	8100								
	102	13,73	1,76	273	8000								
	115	12,13	2,05	241	8000								
	125	11,17	2,10	222	8000								
	142	9,866	2,40	196	7900								
	160	8,769	2,50	174	7900								
	179	7,834	2,55	156	7900								
	199	7,029	2,86	140	7800								
	221	6,327	3,15	126	7800	İRAM İRFM İRAFM	63 / 100 L 4b	211 212 213	45 50 51				
	47	29,85	0,81	584	4300								
	56	25,16	0,95	492	4300								
	65	21,50	1,12	420	4300								
	68	20,53	1,17	402	4300								
	77	18,18	1,32	356	4300								
	90	15,59	1,50	305	4300								
	101	13,81	1,68	270	4300								
	104	13,48	1,53	268	3750					İRAM İRFM İRAFM	62 / 100 L 4b	211 212 213	46 51 52
	115	12,21	1,60	242	3750								
	126	11,10	1,75	220	3750								
	139	10,07	1,91	200	3750								
	150	9,358	1,80	186	3750								
	165	8,510	1,91	169	3750								
	182	7,673	1,98	152	3750								
	197	7,108	2,13	141	3750								
	216	6,480	2,20	129	3750								
	234	5,992	2,35	119	3750								
	245	5,723	3,90	114	3750								
	263	5,325	3,90	106	3750								
277	5,060	4,20	100	3750									
311	4,499	4,50	89	3750									
350	3,998	4,77	79	3750									
377	3,711	3,37	74	3750									
426	3,287	3,45	65	3750									
480	2,917	3,52	58	3750									
540	2,592	3,52	51	3750									
573	2,444	3,52	49	3750									



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types												
									3	4	İRAM	İRFM	İRAFM	193	49			
																631 / 100 L 4b	194	54
47	29,85	0,81	584	4300	İRAM İRFM İRAFM	631 / 100 L 4b	193	49										
56	25,16	0,95	492	4300														
65	21,50	1,12	420	4300														
68	20,53	1,17	402	4300	İRAM İRFM İRAFM	631 / 100 L 4b	194	54										
77	18,18	1,32	356	4300														
90	15,59	1,50	305	4300														
101	13,81	1,68	270	4300	İRAM İRFM İRAFM	631 / 100 L 4b	195	55										
104	13,48	1,53	268	3750														
115	12,21	1,60	242	3750														
126	11,10	1,75	220	3750	İRAM İRFM İRAFM	621 / 100 L 4b	193	44										
139	10,07	1,91	200	3750														
150	9,358	1,80	186	3750														
165	8,510	1,91	169	3750	İRAM İRFM İRAFM	621 / 100 L 4b	194	49										
182	7,673	1,98	152	3750														
197	7,108	2,13	141	3750														
216	6,480	2,20	129	3750	İRAM İRFM İRAFM	621 / 100 L 4b	195	50										
234	5,992	2,35	119	3750														
245	5,723	3,90	114	3750														
263	5,325	3,90	106	3750	İRAM İRFM İRAFM	621 / 100 L 4b	193	44										
277	5,060	4,20	100	3750														
311	4,499	4,50	89	3750														
350	3,998	4,77	79	3750	İRAM İRFM İRAFM	621 / 100 L 4b	194	49										
377	3,711	3,37	74	3750														
426	3,287	3,45	65	3750														
480	2,917	3,52	58	3750	İRAM İRFM İRAFM	621 / 100 L 4b	195	50										
540	2,592	3,52	51	3750														
573	2,444	3,52	49	3750														
158	8,888	0,84	176	1950	İRAM İRFM İRAFM	52 / 100 L 4b	181	38										
176	7,974	0,88	158	1900														
195	7,178	0,92	143	1850														
216	6,479	0,95	129	1850	İRAM İRFM İRAFM	52 / 100 L 4b	182	40										
241	5,821	0,99	116	1850														
266	5,254	1,03	104	1800														
278	5,032	1,06	100	1800	İRAM İRFM İRAFM	52 / 100 L 4b	183	41										
310	4,515	1,17	90	1750														
344	4,064	1,25	81	1750														
382	3,668	1,32	73	1750	İRAM İRFM İRAFM	52 / 100 L 4b	181	38										
422	3,317	1,43	66	1750														
458	3,059	1,43	61	1750														
482	2,906	1,50	58	1750	İRAM İRFM İRAFM	52 / 100 L 4b	182	40										
544	2,572	1,62	51	1750														
265	10,56	1,43	105	1750														
296	9,470	1,58	94	1700	İRAM İRFM İRAFM	52 / 100 L 2a	183	41										
315	8,888	1,54	88	1700														
351	7,974	1,54	79	1650														
390	7,178	1,61	71	1600	İRAM İRFM İRAFM	52 / 100 L 2a	181	34										
432	6,479	1,72	64	1600														
481	5,821	1,72	58	1550														
533	5,254	1,83	52	1550	İRAM İRFM İRAFM	52 / 100 L 2a	182	36										
556	5,032	1,98	50	1500														
620	4,515	2,20	45	1500														
689	4,064	2,30	40	1400	İRAM İRFM İRAFM	52 / 100 L 2a	183	37										
763	3,668	2,45	36	1400														
844	3,317	2,60	33	1350														



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
4 5,5	1,8	784	0,90	20140	110000	İRAM İRFM İRAFM	154 / 112 M 4b	367 368 369	1035 1085 1105
	2,0	695	1,01	17860	110000				
	2,3	612	1,16	15726	110000				
	2,6	549	1,28	14095	110000				
	2,8	495	1,43	12725	110000				
	3,2	432	1,05	11093	110000				
	3,9	362	1,93	9294	110000				
	4,4	321	2,20	8254	110000				
	4,8	292	2,40	7491	110000				
	5,3	264	2,70	6790	110000				
	6,1	230	3,10	5900	110000				
	2,1	438	0,77	17500	60000	İRAM İRFM İRAFM	144 / 132 M 6a	343 344 345	581 595 621
	2,3	384	0,85	15355	60000				
	2,6	546	0,98	14012	60000				
	2,9	488	1,09	12523	60000	İRAM İRFM İRAFM	144 / 112 M 4b	343 344 345	562 576 602
	3,2	438	1,20	11250	60000				
	3,6	384	1,35	9871	60000				
	4,1	345	1,54	8850	60000				
	4,6	308	1,71	7899	60000				
	5,1	276	1,87	7089	60000				
	5,3	263	1,98	6753	60000				
	5,9	236	2,18	6061	60000				
	6,6	213	2,40	5464	60000				
	7,3	192	2,48	4943	60000				
	8,0	175	2,93	4486	60000	İRAM İRFM İRAFM	143 / 132 M 6a	337 338 339	519 533 559
	5,6	161	2,00	6550	60000				
	6,1	146	2,20	5937	60000				
	6,8	133	2,50	5386	60000	İRAM İRFM İRAFM	123 İR 72 / 112 M 4b	331 332 333	364 366 394
	8,7	103	3,10	4131	60000				
	3,2	436	0,88	11031	50000				
	3,6	388	0,96	9816	50000	İRAM İRFM İRAFM	124 / 112 M 4b	325 326 327	387 389 417
	3,5	400	0,85	10286	47750				
	4,0	352	0,96	9052	47750				
	4,5	313	1,07	8032	47750				
	5,0	279	1,21	7175	47750				
	5,6	251	1,35	6445	46900				
	6,2	226	1,50	5816	46900				
	6,5	215	1,54	5526	46900				
	4,8	186	1,09	7550	47750				
	5,4	167	1,22	6777	47750				
	6,0	151	1,34	6129	47750	İRAM İRFM İRAFM	123 / 132 M 6a	319 320 321	344 346 374
	7,3	122	1,80	4968	47750				
8,1	112	1,88	4533	46900					
9,0	100	2,10	4069	46900					
9,9	90,71	2,25	3680	46900					
12	75,77	2,78	3073	46750					
7,6	185	0,86	4813	29100	İRAM İRFM İRAFM	103 / 112 M 4b	301 302 303	240 243 265	
8,5	165	0,96	4315	29100					
10,0	141	1,16	3669	29100					
11	126	1,27	3290	29100					
12	113	1,43	2952	29000					
14	104	1,54	2699	29000					
15	94,54	1,71	2465	29000					
16	86,72	1,82	2261	29000					
18	77,32	2,04	2016	29000					





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
4 5,5	21	68,28	2,31	1781	29000	İRAM İRFM İRAFM	103 / 112 M 4b	301	240
	23	60,69	2,59	1583	28800			302	243
	26	54,22	3,00	1414	28800			303	265
	29	48,65	3,30	1269	28800	İRAM İRFM İRAFM	93 / 112 M 4b	283 284 285	155 165 175
	32	43,79	3,68	1142	28800				
	11	131	0,82	3421	21200				
	12	121	0,88	3147	21200				
	13	110	0,97	2869	21200				
	14	96,96	1,10	2528	21200				
	16	86,17	1,24	2247	21200				
	18	77,10	1,38	2011	21000				
	20	68,66	1,46	1790	21000				
	23	60,50	1,65	1578	21000				
	26	53,77	1,95	1402	20900				
	29	48,11	2,18	1255	20900				
	32	43,29	2,48	1129	20900				
	36	39,14	2,70	1021	20800				
	39	35,52	2,97	926	20800				
	43	32,34	3,30	843	20700				
	47	29,53	3,60	770	20700				
	60	23,38	4,30	619	18000	İRAM İRFM İRAFM	92 / 112 M 4b	283	150
	68	20,60	4,50	545	18000	284		160	
	76	18,31	4,90	485	18000	285		170	
	21	66,18	0,85	1726	15400	İRAM İRFM İRAFM	83 / 112 M 4b	265 266 267	102 107 109
	24	59,39	0,96	1549	15400				
	26	53,54	1,03	1396	15400				
	29	47,59	1,18	1241	15150				
	30	45,93	1,20	1198	15150				
	34	41,22	1,35	1075	15150				
	38	37,16	1,49	969	15150				
	42	33,03	1,76	861	15000				
	47	30,08	1,91	784	15000				
	52	27,12	2,06	707	14950				
	57	24,54	2,33	640	14700				
	63	22,27	2,55	581	14350				
	69	20,26	2,75	528	14250				
	76	18,47	2,97	482	14150				
	83	16,86	3,14	440	13600				
	91	15,41	3,19	402	13600				
	94	14,90	3,30	388	13300	İRAM İRFM İRAFM	82 / 112 M 4b	265	95
	106	13,24	3,60	345	13100	266		100	
	118	11,88	3,75	310	13000	267		102	
	131	10,71	4,20	279	13000	İRAM İRFM İRAFM	73 / 112 M 4b	247 248 249	68 71 74
	144	9,689	4,65	253	13000				
	37	37,38	0,85	975	9300				
45	31,16	0,96	813	9300					
50	27,84	1,07	726	9300					
56	24,98	1,16	651	9300					
62	22,48	1,35	586	9300					
69	20,29	1,51	529	9300					
76	18,35	1,61	479	9300					
84	16,62	1,76	433	9300					
93	15,07	2,15	393	9300					
104	13,53	2,04	358	8350	İRAM İRFM İRAFM	72 / 112 M 4b	247	66	
116	12,02	2,16	318	8350	248		69		
130	10,74	2,40	284	8350	249		72		
150	9,337	2,55	247	8350					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
4 5,5	168	8,333	2,72	221	8350	İRAM İRFM İRAFM	72 / 112 M 4b	247	66
	187	7,476	2,93	198	8350			248	69
	208	6,730	3,08	178	8350			249	72
	74	19,02	1,03	504	8000	İRAM İRFM İRAFM	721 / 112 M 4b	229 230 231	64 67 70
	82	17,03	1,16	451	7950				
	91	15,40	1,27	408	7950				
	102	13,73	1,32	364	7850				
	115	12,13	1,54	321	7850				
	125	11,17	1,58	296	7850				
	142	9,866	1,80	261	7750				
	160	8,769	1,88	232	7750				
	179	7,834	1,91	207	7750				
	199	7,029	2,15	186	7750				
	221	6,327	2,37	167	7650				
	245	5,710	2,59	151	7650				
	271	5,164	2,86	137	7600				
	299	4,677	3,00	124	7550				
	330	4,240	3,08	112	7550				
	368	3,809	3,08	101	7450				
	407	3,438	3,08	91	7450				
	450	3,109	3,08	82	7450				
	497	2,816	3,08	75	7400				
	548	2,553	3,08	68	7400				
	65	21,50	0,84	561	3600	İRAM İRFM İRAFM	63 / 112 M 4b	211 212 213	51 56 57
	68	20,53	0,88	535	3600				
	77	18,18	0,99	474	3600				
	90	15,59	1,13	407	3600	İRAM İRFM İRAFM	62 / 112 M 4b	211 212 213	52 57 58
	101	13,81	1,26	360	3600				
	104	13,48	1,14	357	3400				
	115	12,21	1,20	323	3400				
	126	11,10	1,31	294	3400				
	139	10,07	1,43	267	3400				
	150	9,358	1,35	248	3400				
	165	8,510	1,43	225	3400				
	182	7,673	1,49	203	3400				
	197	7,108	1,60	188	3400				
	216	6,480	1,65	172	3400				
	234	5,992	1,76	159	3400				
	245	5,723	2,93	152	3400				
	263	5,325	2,93	141	3400				
	277	5,060	3,15	134	3400				
	311	4,499	3,38	119	3400				
350	3,998	3,58	106	3400					
377	3,711	2,53	98	3400					
426	3,287	2,59	87	3400					
480	2,917	2,64	77	3400					
540	2,592	2,64	69	3400					
573	2,444	2,64	65	3400					
65	21,50	0,84	561	3600	İRAM İRFM İRAFM	631 / 112 M 4b	193 194 195	55 60 61	
68	20,53	0,88	535	3600					
77	18,18	0,99	474	3600					
90	15,59	1,13	407	3600					
101	13,81	1,26	360	3600					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
4 5,5	104	13,48	1,14	357	3400	İRAM İRFM İRAFM	621 / 112 M 4b	193 194 195	50 55 56
	115	12,21	1,20	323	3400				
	126	11,10	1,31	294	3400				
	139	10,07	1,43	267	3400				
	150	9,358	1,35	248	3400				
	165	8,510	1,43	225	3400				
	182	7,673	1,49	203	3400				
	197	7,108	1,60	188	3400				
	216	6,480	1,65	172	3400				
	234	5,992	1,76	159	3400				
	245	5,723	2,93	152	3400				
	263	5,325	2,93	141	3400				
	277	5,060	3,15	134	3400				
	311	4,499	3,38	119	3400				
	350	3,998	3,58	106	3400				
	377	3,711	2,53	98	3400				
	426	3,287	2,59	87	3400				
	480	2,917	2,64	77	3400				
540	2,592	2,64	69	3400					
573	2,444	2,64	65	3400					
5,5 7,5	2,3	612	0,85	21624	110000	İRAM İRFM İRAFM	154 / 132 S 4c	367 368 369	1046 1096 1116
	2,6	549	0,93	19381	110000				
	2,8	495	1,04	17497	110000				
	3,2	432	1,20	15253	110000				
	3,9	362	1,40	12779	110000				
	4,4	321	1,58	11349	110000				
	4,8	292	1,75	10301	110000				
	5,3	264	1,96	9337	110000				
	6,1	230	2,20	8113	110000				
	İRAM İRFM İRAFM	2,9	488	0,79	17219	60000	144 / 132 S 4c	343 344 345	573 587 613
		3,2	438	0,87	15468	60000			
		3,6	384	0,98	13572	60000			
		4,1	345	1,12	12169	60000			
		4,6	308	1,24	10861	60000			
		5,1	276	1,36	9747	60000			
		5,3	263	1,44	9286	60000			
		5,9	236	1,58	8333	60000			
		6,6	213	1,75	7512	60000			
		7,3	192	1,80	6797	60000			
		8,0	175	2,13	6169	60000			
	İRAM İRFM İRAFM	5,6	161	1,45	9007	60000	143 / 132 M 6b	337 338 339	532 546 572
		6,1	146	1,60	8164	60000			
		6,8	133	1,82	7406	60000			
		8,7	103	2,25	5767	60000			
		9,8	92,24	2,55	5144	60000			
		11	82,86	2,91	4622	60000			
		12	72,71	3,27	4055	60000			
	İRAM İRFM İRAFM	4,5	313	0,78	11044	45210	124 / 132 S 4c	325 326 327	398 400 428
		5,0	279	0,88	9866	45210			
		5,6	251	0,98	8862	44490			
6,2		226	1,09	7997	44200				
6,5		215	1,12	7598	44100				
6,0		151	0,98	8427	45210				
7,3		122	1,31	6831	45210				
İRAM İRFM İRAFM						123 / 132 M 6b	319	357	
							320	359	
							321	387	



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
						İRAM İRFM İRAFM			
5,5 7,5	6,7	209	1,10	7500	45210	İRAM İRFM İRAFM	123 / C112 M 4	319 320 321	326 328 356
	7,5	186	1,23	6673	45210	İRAM İRFM İRAFM	123 / 132 S 4c	319 320 321	336 338 366
	8,4	167	1,37	5991	45210				
	9,3	151	1,52	5417	44490				
	11	122	1,94	4391	44200				
	13	112	2,00	4007	44100				
	14	100	2,30	3597	43800				
	15	90,71	2,50	3252	43700				
	18	75,77	3,00	2717	43570				
	21	66,67	3,40	2391	43180				
	24	59,16	3,80	2121	43180				
	26	52,85	4,30	1895	43180	İRAM İRFM İRAFM	103 / 132 S 4c	301 302 303	251 254 276
	11	126	0,92	4523	28500				
	12	113	1,04	4058	28500				
	14	104	1,12	3711	28500				
	15	94,54	1,24	3390	28500				
	16	86,72	1,32	3109	28300				
	18	77,32	1,48	2772	28300				
	21	68,28	1,68	2448	28300				
	23	60,69	1,88	2176	28300				
	26	54,22	2,18	1944	28000				
	29	48,65	2,40	1744	28000	İRAM İRFM İRAFM	93 / 132 S 4c	283 284 285	166 176 186
	32	43,79	2,67	1570	27900				
	35	39,53	2,91	1417	27900				
	39	35,87	3,27	1286	27900				
	44	31,68	3,64	1136	27750				
	14	96,96	0,80	3477	20000				
	16	86,17	0,90	3090	20000				
	18	77,10	1,00	2765	20000				
	20	68,66	1,06	2462	20000				
	23	60,50	1,20	2169	20000				
	26	53,77	1,42	1928	20000				
	29	48,11	1,58	1725	20000				
	32	43,29	1,80	1552	20000				
	36	39,14	1,96	1403	19800				
	39	35,52	2,16	1274	19800				
	43	32,34	2,40	1160	19800				
	47	29,53	2,62	1059	19800				
	52	27,01	2,84	969	19600				
	57	24,76	3,11	888	19601				
70	20,09	3,80	720	19602					
83	16,85	4,50	604	19603	İRAM İRFM İRAFM	92 / 132 S 4c	283 284 285	161 171 181	
60	23,38	3,13	851	17800					
68	20,60	3,27	750	17600					
76	18,31	3,56	667	17450					
85	16,38	3,90	596	17250					
95	14,74	4,20	537	17100	İRAM İRFM İRAFM	83 / 132 S 4c	265 266 267	113 118 120	
105	13,33	4,60	485	17000					
29	47,59	0,86	1706	14800					
30	45,93	0,87	1647	14800					
34	41,22	0,98	1478	14700					
38	37,16	1,08	1332	14600					
42	33,03	1,28	1184	14500					
47	30,08	1,39	1079	14450					
52	27,12	1,50	972	14250					
57	24,54	1,69	880	14100					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
5,5 7,5	63	22,27	1,85	798	14000	İRAM İRFM İRAFM	83 / 132 S 4c	265 266 267	113 118 120
	69	20,26	2,00	726	13750				
	76	18,47	2,16	662	13350				
	83	16,86	2,28	605	13050	İRAM İRFM İRAFM	82 / 132 S 4c	265 266 267	106 111 113
	91	15,41	2,32	553	12800				
	94	14,90	2,40	542	12800				
	106	13,24	2,62	482	12200				
	118	11,88	2,73	432	12000				
	131	10,71	3,05	390	11900				
	144	9,689	3,38	353	11650				
	159	8,793	3,64	320	11250				
	170	8,244	3,78	300	11100				
	188	7,432	4,07	271	10900				
	208	6,724	4,15	245	10800				
	229	6,103	4,44	222	10700				
	252	5,552	4,58	202	10600				
	277	5,061	4,73	184	10500				
	62	22,48	0,98	806	8500				
	69	20,29	1,10	728	8500				
	76	18,35	1,17	658	8500				
	84	16,62	1,28	596	8500				
	93	15,07	1,56	540	8500				
	104	13,53	1,49	492	7870	İRAM İRFM İRAFM	72 / 132 S 4c	247 248 249	77 80 83
	116	12,02	1,57	438	7870				
	130	10,74	1,75	391	7870				
	150	9,337	1,85	340	7870				
	168	8,333	1,98	303	7870				
	187	7,476	2,13	272	7870				
	208	6,730	2,24	245	7870				
	230	6,074	2,62	221	7870				
	255	5,494	2,70	200	7870				
	280	4,995	2,71	182	7870				
	311	4,497	2,84	164	7870				
	345	4,059	3,00	148	7870				
	381	3,670	3,12	134	7870				
	421	3,324	3,27	121	7870				
	464	3,014	3,41	110	7870				
	512	2,733	3,64	99	7870	İRAM İRFM İRAFM	72 / 132 S 2a	247 248 249	73 76 79
	545	2,571	3,64	94	7870				
	461	6,074	4,90	111	7870				
	510	5,494	5,10	100	7870				
	561	4,995	5,10	91	7870				
623	4,497	5,20	82	7870	İRAM İRFM İRAFM	721 / C112 M 4	229 230 231	65 68 71	
690	4,059	5,50	74	7870					
91	15,40	0,92	561	7800					
102	13,73	0,96	500	7800	İRAM İRFM İRAFM	721 / 132 S 4c	229 230 231	75 78 81	
125	11,17	1,15	407	7800					
115	12,13	1,12	441	7600					
142	9,866	1,31	359	7550					
160	8,769	1,36	319	7500					
179	7,834	1,39	285	7450					
199	7,029	1,56	256	7400					
221	6,327	1,72	230	7400					
245	5,710	1,88	208	7350					
271	5,164	2,08	188	7350					
299	4,677	2,18	170	7300					
330	4,240	2,24	154	7280					
368	3,809	2,24	139	7250					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types							
5,5 7,5	407	3,438	2,24	125	7100	İRAM İRFM İRAFM	721 / 132 S 4c	229	75				
	450	3,109	2,24	113	7100			230	78				
	497	2,816	2,24	103	7100			231	81				
	548	2,553	2,24	93	7100	İRAM İRFM İRAFM	63 / 132 S 4c	211	62				
	101	13,81	0,91	495	3300			212	67				
	115	12,21	0,87	444	3000			213	68				
	126	11,10	0,95	404	3000	İRAM İRFM İRAFM	62 / C112 M 4	211	53				
	139	10,07	1,04	367	3000			212	58				
	150	9,358	0,98	341	3000			213	59				
	165	8,510	1,04	310	3000	İRAM İRFM İRAFM	62 / 132 S 4c	211 212 213	63 68 69				
	182	7,673	1,08	279	3000								
	197	7,108	1,16	259	3000								
	216	6,480	1,20	236	3000								
	234	5,992	1,28	218	3000								
	245	5,723	2,13	208	3000								
	263	5,325	2,13	194	3000								
	277	5,060	2,29	184	3000								
	311	4,499	2,45	164	3000								
	350	3,998	2,60	146	3000								
	377	3,711	1,84	135	3000								
	426	3,287	1,88	120	3000								
	480	2,917	1,92	106	3000								
	540	2,592	1,92	94	3000								
	573	2,444	1,92	89	3000								
	394	7,108	2,30	129	3000					İRAM İRFM İRAFM	62 / 132 S 2a	211 212 213	59 64 65
	432	6,480	2,30	118	3000								
	467	5,992	2,30	109	3000								
	489	5,723	4,20	104	3000								
	526	5,325	4,20	97	3000								
	553	5,060	4,50	92	3000								
	622	4,499	4,80	82	3000								
	700	3,998	5,20	73	3000								
	755	3,711	3,80	68	3000								
	852	3,287	3,90	60	3000								
	101	13,81	0,91	495	3300	İRAM İRFM İRAFM	631 / 132 S 4c	193	66				
	115	12,21	0,87	444	3000			194	71				
	126	11,10	0,95	404	3000			195	72				
	139	10,07	1,04	367	3000	İRAM İRFM İRAFM	621 / C112 M 4	193	51				
	150	9,358	0,98	341	3000			194	56				
	165	8,510	1,04	310	3000			195	57				
	182	7,673	1,08	279	3000	İRAM İRFM İRAFM	621 / 132 S 4c	193 194 195	61 66 67				
	197	7,108	1,16	259	3000								
	216	6,480	1,20	236	3000								
	234	5,992	1,28	218	3000								
	245	5,723	2,13	208	3000								
	263	5,325	2,13	194	3000								
	277	5,060	2,29	184	3000								
	311	4,499	2,45	164	3000								
	350	3,998	2,60	146	3000								
	377	3,711	1,84	135	3000								
426	3,287	1,88	120	3000									
480	2,917	1,92	106	3000									
540	2,592	1,92	94	3000									
573	2,444	1,92	89	3000									



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg							
5,5 7,5	394	7,108	2,30	129	3000	İRAM İRFM İRAFIM	621 / 132 S 2a	193 194 195	57 62 63						
	432	6,480	2,30	118	3000										
	467	5,992	2,30	109	3000										
	489	5,723	4,20	104	3000										
	526	5,325	4,20	97	3000										
	553	5,060	4,50	92	3000										
	622	4,499	4,80	82	3000										
	700	3,998	5,20	73	3000										
	755	3,711	3,80	68	3000										
	852	3,287	3,90	60	3000										
7,5 11	3,2	432	0,88	20800	110000	İRAM İRFM İRAFIM	154 / 132 M 4b	367 368 369	1053 1103 1123						
	3,9	362	1,03	17426	110000										
	4,4	321	1,16	15476	110000										
	4,8	292	1,28	14046	110000										
	5,3	264	1,44	12732	110000										
	6,1	230	1,64	11063	110000										
	4,1	222	1,10	16868	110000										
	4,5	202	1,20	15335	110000										
	5,0	179	1,36	13599	110000										
	5,7	157	1,55	11974	110000										
	İRAM İRFM İRAFIM	6,4	141	1,72	10733	110000	İRAM İRFM İRAFIM	153 / 160 M 6b	361 362 363	1000 1050 1070					
		7,1	127	1,91	9689	110000									
		8,1	111	2,20	8446	110000									
		9,7	93,05	2,60	7077	110000									
		11	82,63	2,90	6285	110000									
		12	75,00	3,20	5704	110000									
		13	67,98	3,50	5170	110000									
		İRAM İRFM İRAFIM	4,1	345	0,82	16594					60000	İRAM İRFM İRAFIM	144 / 132 M 4b	343 344 345	580 594 620
			4,6	308	0,91	14811					60000				
			5,1	276	1,00	13292					60000				
	5,3		263	1,06	12662	60000									
	5,9		236	1,16	11364	60000									
	6,6		213	1,28	10244	60000									
	7,3		192	1,32	9269	60000									
	8,0		175	1,56	8412	60000									
	5,6		161	1,07	12282	60000									
	İRAM İRFM İRAFIM		6,1	146	1,17	11132	60000	İRAM İRFM İRAFIM	143 / 160 M 6b	337 338 339	545 559 585				
		6,8	133	1,33	10099	60000									
		8,7	103	1,65	7864	60000									
		9,8	92,24	1,87	7015	60000									
		11	82,86	2,13	6302	60000									
		12	72,71	2,40	5530	60000									
		İRAPM İRFPM İRAFPM	8,7	161	1,70	7896	60000					İRAPM İRFPM İRAFPM	143 / 132 M 4b	340 341 342	518 532 558
			9,6	146	1,88	7156	60000								
			11	133	2,00	6492	60000								
			14	103	2,40	5055	60000								
	15		92,24	2,70	4510	60000									
	17		82,86	3,30	4051	60000									
	İRAM İRFM İRAFIM		6,2	226	0,80	10905	45200	İRAM İRFM İRAFIM	124 / 132 M 4b	325 326 327	405 407 435				
			6,5	215	0,82	10360	45200								
7,5			186	0,90	9100	45210									
8,4			167	1,00	8169	45210									
İRAM İRFM İRAFIM		9,3	151	1,11	7387	44490	İRAM İRFM İRAFIM					123 / 132 M 4b	319 320 321	343 345 373	
		11	122	1,42	5988	44200									
		13	112	1,47	5464	44100									
		14	100	1,69	4905	43800									



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg					
<b>7,5 11</b>	15	90,71	1,83	4435	43300	İRAM İRFM İRAFMM	123 / 132 M 4b	319 320 321	343 345 373				
	18	75,77	2,20	3704	43180								
	21	66,67	2,49	3260	43180								
	24	59,16	2,79	2893	43180								
	26	52,85	3,15	2584	43180								
	29	47,47	3,45	2321	42900								
	33	42,84	3,80	2095	42720								
	34	40,70	4,00	1990	42720								
	16	86,72	0,97	4240	27000	İRAM İRFM İRAFMM	103 / 132 M 4b	301 302 303	258 261 283				
	18	77,32	1,09	3780	27000								
	21	68,28	1,23	3339	27000								
	23	60,69	1,38	2967	26500								
	26	54,22	1,60	2651	26500								
	29	48,65	1,76	2379	26100								
	32	43,79	1,96	2141	26000								
	35	39,53	2,13	1932	25800								
	39	35,87	2,40	1754	28500								
	44	31,68	2,67	1549	25500								
	50	28,16	3,08	1377	25000								
	56	25,16	3,37	1230	24500								
	62	22,57	3,81	1103	24200								
	20	68,66	0,78	3357	19200					İRAM İRFM İRAFMM	93 / 132 M 4b	283 284 285	173 183 193
	23	60,50	0,88	2958	19200								
	26	53,77	1,04	2629	19100								
	29	48,11	1,16	2352	19000								
	32	43,29	1,32	2117	19000								
	36	39,14	1,44	1914	19000								
	39	35,52	1,58	1737	19000								
	43	32,34	1,76	1581	18900								
	47	29,53	1,92	1444	18900								
	52	27,01	2,08	1321	18800								
	57	24,76	2,28	1211	18801								
	70	20,09	2,79	982	18802								
	83	16,85	3,30	824	18803								
	99	14,21	3,96	695	18804								
	60	23,38	2,29	1161	17000	İRAM İRFM İRAFMM	92 / 132 M 4b	283 284 285	168 178 188				
	68	20,60	2,40	1023	17000								
	76	18,31	2,61	909	17000								
	85	16,38	2,86	813	16800								
	95	14,74	3,08	732	16800								
	105	13,33	3,37	662	16700								
	127	11,01	4,10	547	16550								
139	10,05	4,40	499	16500									
152	9,200	4,50	457	16500	İRAM İRFM İRAFMM	83 / 132 M 4b	265 266 267	120 125 127					
38	37,16	0,79	1817	14300									
42	33,03	0,94	1615	14150									
47	30,08	1,02	1471	14050									
52	27,12	1,10	1326	13800									
57	24,54	1,24	1200	13500									
63	22,27	1,36	1089	13350									
69	20,26	1,47	991	13150									
76	18,47	1,58	903	12950									
83	16,86	1,67	824	12500									
91	15,41	1,70	753	12050									
94	14,90	1,76	739	12050					İRAM İRFM İRAFMM	82 / 132 M 4b	265 266 267		
106	13,24	1,92	657	11800									
118	11,88	2,00	590	11450									
131	10,71	2,24	532	11100									





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types				
									kg	
7,5 11	144	9,689	2,48	481	10850	İRAM İRFM İRAFM	82 / 132 M 4b	265 266 267	113 118 120	
	159	8,793	2,67	436	10650					
	170	8,244	2,77	409	10500					
	188	7,432	2,99	369	10400					
	208	6,724	3,04	334	10200					
	229	6,103	3,25	303	10100					
	252	5,552	3,36	276	10000					
	277	5,061	3,47	251	9900					
	303	4,620	3,57	229	9800					
	332	4,222	3,67	210	9650					
	346	4,052	3,74	201	9600					
	379	3,694	3,96	183	9500					
	415	3,372	4,18	167	9500					
	454	3,082	4,40	153	9500					
	478	2,926	4,40	145	9500					
	524	2,674	4,47	133	9500					
	590	2,373	4,62	118	9500					
	69	20,29	0,81	992	7600	İRAM İRFM İRAFM	73 / 132 M 4b	247 248 249	86 89 92	
	76	18,35	0,86	897	7600					
	84	16,62	0,94	813	7600					
	93	15,07	1,14	737	7600					
	104	13,53	1,09	671	7500	İRAM İRFM İRAFM	72 / 132 M 4b	247 248 249	84 87 90	
	116	12,02	1,15	597	7500					
	130	10,74	1,28	533	7500					
	150	9,337	1,36	463	7500					
	168	8,333	1,45	414	7500					
	187	7,476	1,56	371	7500					
	208	6,730	1,64	334	7500					
	230	6,074	1,92	301	7500					
	255	5,494	1,98	273	7500					
	280	4,995	1,99	248	7500					
	311	4,497	2,08	223	7500					
	345	4,059	2,20	201	7500					
	381	3,670	2,29	182	7500					
	421	3,324	2,40	165	7500					
	464	3,014	2,50	150	7500					
	512	2,733	2,67	136	7500					
	545	2,571	2,67	128	7500					
	461	6,074	3,59	151	7870	İRAM İRFM İRAFM	72 / 132 S 2c	247 248 249	80 83 86	
	510	5,494	3,74	136	7870					
	561	4,995	3,74	124	7870					
	623	4,497	3,81	112	7870					
	690	4,059	4,03	101	7870	İRAM İRFM İRAFM	721 / 132 M 4b	229 230 231	82 85 88	
	115	12,13	0,82	602	7400					
	142	9,866	0,96	490	7400					
160	8,769	1,00	435	7370						
179	7,834	1,02	389	7350						
199	7,029	1,14	349	7300						
221	6,327	1,26	314	7300						
245	5,710	1,38	283	7250						
271	5,164	1,53	256	7250						
299	4,677	1,60	232	7200						
330	4,240	1,64	210	7170						
368	3,809	1,64	189	7150						
407	3,438	1,64	171	7000						
450	3,109	1,64	154	7000						
497	2,816	1,64	140	7000						
548	2,553	1,64	127	7000						



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			 kg	
11 15	4,8	292	0,87	20601	110000	İRAM İRFM İRAFM	154 / 160 M 4b	367	1090	
	5,3	264	0,98	18673	110000			368	1140	
	6,1	230	1,12	16226	110000			369	1160	
	4,5	202	0,82	22491	110000	İRAM İRFM İRAFM	153 / 160 L 6b	361	1027	
	5,0	179	0,93	19946	110000			362	1077	
	5,7	157	1,06	17563	110000			363	1097	
	6,4	141	1,17	15741	110000					
	7,1	127	1,30	14211	110000	İRAM İRFM İRAFM	153 / 160 M 4b			
	6,3	222	1,17	15904	110000					
	6,9	202	1,28	14459	110000					
	7,8	179	1,44	12822	110000					
	8,9	157	1,64	11290	110000				361	1010
	9,9	141	1,82	10119	110000				362	1060
	11	127	2,00	9136	110000				363	1080
	13	111	2,30	7964	110000	İRAM İRFM İRAFM	144 / 160 M 4b			
	15	93,05	2,70	6672	110000					
	17	82,63	3,10	5925	110000					
	5,9	236	0,79	16667	60000	İRAM İRFM İRAFM	144 / 160 M 4b	343	617	
	6,6	213	0,87	15025	60000			344	631	
	7,3	192	0,90	13595	60000			345	657	
	8,0	175	1,06	12338	60000	İRAM İRFM İRAFM	143 / 160 L 6b			
	6,1	146	0,80	16327	60000					
	6,8	133	0,91	14811	60000				337	572
	8,7	103	1,13	11534	60000				338	586
	9,8	92,24	1,27	10289	60000	İRAM İRFM İRAFM	143 / 160 M 4b			
	11	82,86	1,45	9243	60000				339	612
	12	72,71	1,64	8110	60000					
	8,7	161	1,16	11580	60000	İRAM İRFM İRAFM	143 / 160 M 4b			
	9,6	146	1,28	10496	60000					
	11	133	1,36	9522	60000				337	555
	14	103	1,64	7415	60000				338	569
	15	92,24	1,84	6614	60000	İRAM İRFM İRAFM	143 / 160 M 4b			
	17	82,86	2,25	5942	60000				339	595
	19	72,71	2,52	5214	60000					
	22	64,89	2,90	4653	60000	İRAM İRFM	123 / C132 M 4			
	11	122	0,97	8783	47200				319	351
	13	112	1,00	8013	45700	İRAM İRFM İRAFM	123 / 160 M 4b	320	353	
	14	100	1,15	7193	44800					
	15	90,71	1,25	6505	44300					
	18	75,77	1,50	5433	43870					
21	66,67	1,70	4781	43180						
24	59,16	1,90	4242	43180						
26	52,85	2,15	3790	43180				319	380	
29	47,47	2,35	3404	43000				320	382	
33	42,84	2,59	3072	43000				321	410	
34	40,70	2,73	2919	43000						
39	36,11	3,00	2590	42880						
43	32,26	3,41	2313	42700						
48	28,98	3,75	2078	42700						
23	60,69	0,94	4352	25000	İRAM İRFM İRAFM	103 / 160 M 4b				
26	54,22	1,09	3888	25000				301	295	
29	48,65	1,20	3489	24800				302	298	
32	43,79	1,34	3140	24800				303	320	
35	39,53	1,45	2834	24500						



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types												
									11	15	İRAM	İRFM	İRAFM	301	295			
																103 / 160 M 4b	302	298
39	35,87	1,64	2572	24500														
44	31,68	1,82	2272	24200														
50	28,16	2,10	2019	24000														
56	25,16	2,30	1804	23800														
62	22,57	2,60	1618	23500														
69	20,32	2,86	1457	23100														
76	18,37	3,20	1317	22800														
84	16,58	3,55	1189	22500														
93	15,02	3,95	1077	22000														
79	17,69	3,20	1288	22000														
29	48,11	0,79	3450	17800														
32	43,29	0,90	3105	17800														
36	39,14	0,98	2807	17600														
39	35,52	1,08	2547	17500														
43	32,34	1,20	2319	17450														
47	29,53	1,31	2117	17250														
52	27,01	1,42	1937	17150														
57	24,76	1,55	1776	17151														
70	20,09	1,90	1441	17152														
83	16,85	2,25	1208	17153														
99	14,21	2,70	1019	17154														
60	23,38	1,56	1702	15400														
68	20,60	1,64	1500	15150														
76	18,31	1,78	1333	15000														
85	16,38	1,95	1193	14800														
95	14,74	2,10	1073	14600														
105	13,33	2,30	970	14400														
127	11,01	2,80	802	14150														
139	10,05	3,00	732	14000														
152	9,200	3,07	670	13650														
168	8,317	3,20	605	13400														
185	7,548	3,55	550	13000														
204	6,872	3,89	500	12850														
223	6,274	4,30	457	12700														
63	22,27	0,93	1597	12150														
69	20,26	1,00	1453	12000														
76	18,47	1,08	1324	11900														
83	16,86	1,14	1209	11650														
91	15,41	1,16	1105	11350														
94	14,90	1,20	1084	11200														
106	13,24	1,31	964	10950														
118	11,88	1,36	865	10750														
131	10,71	1,53	780	10500														
144	9,689	1,69	705	10350														
159	8,793	1,82	640	10050														
170	8,244	1,89	600	9800														
188	7,432	2,04	541	9700														
208	6,724	2,07	490	9600														
229	6,103	2,22	444	9500														



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
11 15	252	5,552	2,29	404	9400	İRAM İRFM İRAFM	82 / 160 M 4b	265 266 267	150 155 157
	277	5,061	2,36	368	9300				
	303	4,620	2,44	336	9250				
	332	4,222	2,50	307	9150				
	346	4,052	2,55	295	9050				
	379	3,694	2,70	269	8950				
	415	3,372	2,85	245	8800				
	454	3,082	3,00	224	8700				
	478	2,926	3,00	213	8700				
	524	2,674	3,05	195	8700				
	590	2,373	3,15	173	8700				
	168	8,333	0,99	607	5580	İRAM İRFM İRAFM	72 / C132 M 4	247 248 249	92 95 98
	187	7,476	1,06	544	5580				
	208	6,730	1,12	490	5580				
	230	6,074	1,31	442	5580				
	280	4,995	1,36	364	5580				
	311	4,497	1,42	327	5580				
	345	4,059	1,50	296	5580	İRAM İRFM İRAFM	72 / 160 M 4b	247 248 249	121 124 127
	255	5,494	1,35	400	5580				
	381	3,670	1,56	267	5580				
421	3,324	1,64	242	5580					
464	3,014	1,70	219	5580					
512	2,733	1,82	199	5580					
545	2,571	1,82	187	5580					
15 20	6,1	230	0,82	22126	110000	İRAM İRFM İRAFM	154 / 160 L 4a	367 368 369	1110 1160 1180
	5,7	157	0,78	23949	110000	İRAM İRFM İRAFM	153 / 180 L 6a	361 362 363	1090 1140 1160
	6,4	141	0,86	21465	110000				
	7,1	127	0,96	19379	110000	İRAM İRFM İRAFM	153 / 160 L 4a	361 362 363	1030 1080 1100
	6,3	222	0,86	21688	110000				
	6,9	202	0,94	19716	110000				
	7,8	179	1,06	17485	110000				
	8,9	157	1,20	15396	110000				
	9,9	141	1,33	13799	110000				
	11	127	1,47	12458	110000				
	13	111	1,69	10860	110000				
	15	93,05	1,98	9098	110000	İRAM İRFM İRAFM	143 / 180 L 6a	337 338 339	635 649 675
	17	82,63	2,27	8080	110000				
	19	75,00	2,50	7334	110000				
	21	67,98	2,80	6648	110000				
	9,8	92,24	0,93	14030	60000				
	11	82,86	1,07	12604	60000				
	12	72,71	1,20	11059	60000	İRAM İRFM İRAFM	143 / 160 L 4a	337 338 339	575 589 615
	8,7	161	0,85	15791	60000				
	9,6	146	0,94	14313	60000				
	11	133	1,00	12984	60000				
	14	103	1,20	10111	60000				
	15	92,24	1,35	9020	60000				
	17	82,86	1,65	8103	60000				
19	72,71	1,85	7110	60000					
22	64,89	2,13	6346	60000					
24	58,24	2,28	5695	60000					
25	55,48	2,50	5425	60000					
28	49,79	2,79	4869	60000					
31	44,88	3,10	4389	60000					
34	40,61	3,30	3971	60000					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg				
15 20	15	90,71	0,92	8870	45200	İRAM İRFM İRAFM	123 / 160 L 4a	319 320 321	400 402 430			
	18	75,77	1,10	7409	45000							
	21	66,67	1,25	6520	44800							
	24	59,16	1,39	5785	44400							
	26	52,85	1,58	5168	44250							
	29	47,47	1,72	4642	44000							
	33	42,84	1,90	4189	43780							
	34	40,70	2,00	3980	43540							
	39	36,11	2,20	3531	43500							
	43	32,26	2,50	3155	43400							
	48	28,98	2,75	2834	42700							
	54	26,15	3,08	2557	41800							
	59	23,69	3,37	2316	41000							
	65	21,52	3,67	2105	40000							
	53	26,28	3,00	2609	41800	İRAM İRFM İRAFM	122 / 160 L 4a	319 320 321	371 373 401			
	59	23,77	3,30	2359	41700							
	71	19,85	4,00	1971	41600							
	80	17,47	4,50	1734	41500	İRAM İRFM İRAFM	103 / 160 L 4a	301 302 303	315 318 340			
	26	54,22	0,80	5302	23000							
	29	48,65	0,88	4757	22500							
	32	43,79	0,98	4282	22000							
	35	39,53	1,07	3865	21500							
	39	35,87	1,20	3508	21300							
	44	31,68	1,33	3098	21300							
	50	28,16	1,54	2753	21000							
	56	25,16	1,69	2460	20800							
	62	22,57	1,91	2207	20500							
	69	20,32	2,10	1987	20000							
	76	18,37	2,35	1796	20000							
	84	16,58	2,60	1621	20000							
	93	15,02	2,90	1469	20000							
	79	17,69	2,35	1756	20000							
	90	15,62	2,80	1551	19500	İRAM İRFM İRAFM	102 / 160 L 4a	301 302 303	275 278 300			
	101	13,89	3,01	1379	19500							
	113	12,41	3,37	1232	19000							
	132	10,59	4,10	1051	19000							
	148	9,457	4,50	939	18000	İRAM İRFM İRAFM	93 / 160 L 4a	283 284 285	230 240 250			
	70	20,09	1,39	1965	14000							
	83	16,85	1,65	1648	14000							
	99	14,21	1,98	1390	14000	İRAM İRFM İRAFM	92 / 160 L 4a	283 284 285	225 235 245			
	68	20,60	1,20	2045	14000							
	76	18,31	1,31	1818	13900							
85	16,38	1,43	1627	13800								
95	14,74	1,54	1464	13750								
105	13,33	1,69	1323	13600								
127	11,01	2,05	1093	13500								
139	10,05	2,20	998	13500								
152	9,200	2,25	913	13300								
168	8,317	2,35	826	13200								
185	7,548	2,60	749	13050								
204	6,872	2,85	682	12900								
223	6,274	3,15	623	12800								
244	5,740	3,30	570	12600								
266	5,261	3,37	522	12500								
316	4,437	3,59	440	12400								
83	16,86	0,84	1649	10350	İRAM İRFM İRAFM					83 / 160 L 4a	265 266 267	177 182 184
91	15,41	0,85	1507	10100								



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg			
<b>15</b> <b>20</b>	106	13,24	0,96	1314	9900	İRAM İRFM İRAFM	82 / 160 L 4a	265 266 267	170 175 177		
	118	11,88	1,00	1179	9700						
	131	10,71	1,12	1063	9650						
	144	9,689	1,24	962	9600						
	159	8,793	1,33	873	9500						
	170	8,244	1,39	818	9300						
	188	7,432	1,49	738	9200						
	208	6,724	1,52	668	9050						
	229	6,103	1,63	606	8950						
	252	5,552	1,68	551	8850						
	277	5,061	1,73	502	8800						
	303	4,620	1,79	459	8700						
	332	4,222	1,83	419	8600						
	346	4,052	1,87	402	8500						
	379	3,694	1,98	367	8350						
	415	3,372	2,09	335	8300						
	454	3,082	2,20	306	8250						
	478	2,926	2,20	290	8250						
524	2,674	2,24	265	8250							
590	2,373	2,31	236	8250							
<b>18,5</b> <b>25</b>	7,8	179	0,86	21565	110000	İRAM İRFM İRAFM	153 / 180 M 4b	361 362 363	1070 1120 1140		
	8,9	157	0,98	18988	110000						
	9,9	141	1,08	17019	110000						
	11	127	1,19	15365	110000						
	13	111	1,37	13394	110000						
	15	93,05	1,61	11221	110000						
	17	82,63	1,84	9966	110000						
	19	75,00	2,00	9045	110000						
	21	67,98	2,20	8199	110000						
	24	59,07	2,50	7124	110000						
	<b>18,5</b> <b>25</b>	11	133	0,81	16013	60000	İRAM İRFM İRAFM	143 / 180 M 4b	337 338 339	615 629 655	
		14	103	0,97	12470	60000					
		15	92,24	1,09	11124	60000					
		17	82,86	1,34	9993	60000					
		19	72,71	1,50	8768	60000					
		22	64,89	1,72	7826	60000					
		24	58,24	1,84	7023	60000					
		25	55,48	2,02	6691	60000					
		28	49,79	2,26	6005	60000					
		31	44,88	2,51	5413	60000					
		<b>18,5</b> <b>25</b>	34	40,61	2,68	4898	60000	İRAM İRFM İRAFM	123 / 180 M 4b	319 320 321	440 442 470
			38	36,86	3,00	4445	60000				
			42	33,53	3,32	4044	60000				
			18	75,77	0,89	9138	44380				
			21	66,67	1,01	8041	44350				
			24	59,16	1,13	7135	44300				
			26	52,85	1,28	6374	44250				
			29	47,47	1,40	5725	44150				
			33	42,84	1,54	5167	44100				
			34	40,70	1,62	4909	43540				
			39	36,11	1,78	4355	43500				
			43	32,26	2,03	3891	43400				
			48	28,98	2,23	3495	42800				
			54	26,15	2,50	3154	42300				
			59	23,69	2,74	2857	41500				
			65	21,52	2,97	2596	41500				
71			19,60	3,33	2364	41500					
78			17,89	3,65	2158	41500					





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types				kg								
											İRAM İRFM İRAFM	122 / C160 L 4	319 320 321	416 418 446				
															İRAM İRFM İRAFM	122 / 180 M 4b	319 320 321	411 413 441
18,5 25	53	26,28	2,43	3218	40000	İRAM İRFM İRAFM	122 / C160 L 4	319 320 321	416 418 446									
	59	23,77	2,68	2910	40000	İRAM İRFM İRAFM	122 / 180 M 4b	319 320 321	411 413 441									
	71	19,85	3,24	2430	41700													
	80	17,47	3,65	2139	41600	İRAM İRFM İRAFM	122 / 180 M 4b	319 320 321	411 413 441									
	90	15,50	4,14	1898	41500													
	101	13,85	4,62	1695	41370	İRAM İRFM İRAFM	103 / 180 M 4b	301 302 303	355 358 380									
	35	39,53	0,86	4767	21000													
	39	35,87	0,97	4326	20450													
	44	31,68	1,08	3820	20100													
	50	28,16	1,25	3396	19800													
	56	25,16	1,37	3034	19600													
	62	22,57	1,55	2722	19000													
	69	20,32	1,70	2450	19000													
	76	18,37	1,91	2215	18900													
	84	16,58	2,11	2000	18900													
	93	15,02	2,35	1811	18700													
	79	17,69	1,91	2166	18500					İRAM İRFM İRAFM	102 / 180 M 4b	301 302 303	315 318 340					
	90	15,62	2,27	1913	18500													
	101	13,89	2,44	1700	18250													
	113	12,41	2,74	1519	18100													
	132	10,59	3,32	1296	18000													
	148	9,457	3,65	1158	17900													
	165	8,485	4,05	1039	17700	İRAM İRFM İRAFM	92 / 180 M 4b	283 284 285	265 275 285									
	183	7,638	4,10	935	17700													
	196	7,144	4,20	875	17500													
	85	16,38	1,16	2006	12900													
	95	14,74	1,25	1805	12750													
	105	13,33	1,37	1632	12650													
	127	11,01	1,66	1348	12450													
	139	10,05	1,78	1231	12350													
	152	9,200	1,82	1126	12200													
	168	8,317	1,91	1018	12100													
	185	7,548	2,11	924	12050													
	204	6,872	2,31	841	12000													
	223	6,274	2,56	768	11850													
	244	5,740	2,68	703	11800													
	266	5,261	2,74	644	11750													
	316	4,437	2,91	543	11750													
	343	4,080	2,97	500	11600													
	373	3,753	3,45	460	11500													
	391	3,580	3,45	438	11850													
	464	3,019	3,45	370	11850													
504	2,776	3,57	340	11850														
548	2,554	3,57	313	11850														
571	2,450	3,57	300	11850														
131	10,71	0,91	1311	9400	İRAM İRFM İRAFM	82 / 180 M 4b	265 266 267	210 215 217										
144	9,689	1,01	1186	9300														
159	8,793	1,08	1077	9250														
170	8,244	1,12	1009	9050														
188	7,432	1,21	910	8950														
208	6,724	1,23	823	8850														
229	6,103	1,32	747	8750														
252	5,552	1,36	680	8650														
277	5,061	1,41	620	8550														
303	4,620	1,45	566	8400														



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg								
18,5 25	332	4,222	1,49	517	8250	İRAM İRFM İRAFM	82 / 180 M 4b	265 266 267	210 215 217							
	346	4,052	1,52	496	8150											
	379	3,694	1,61	452	8050											
	415	3,372	1,69	413	8000											
	454	3,082	1,78	377	8000											
	478	2,926	1,78	358	8000											
	524	2,674	1,81	327	8000											
22 30	8,9	157	0,82	22580	110000	İRAM İRFM İRAFM	153 / 180 L 4b	361 362 363	1085 1135 1155							
	9,9	141	0,91	20239	110000											
	11	127	1,00	18272	110000											
	13	111	1,15	15928	110000											
	15	93,05	1,35	13344	110000											
	17	82,63	1,55	11851	110000											
	19	75,00	1,70	10756	110000											
	21	67,98	1,90	9750	110000											
	24	59,07	2,10	8472	110000											
	27	52,03	2,40	7463	110000											
	32	44,27	2,90	6350	110000											
	22 30	15	92,24	0,92	13229	60000	İRAM İRFM İRAFM	143 / 180 L 4b	337 338 339	630 644 670						
		17	82,86	1,13	11884	60000										
		19	72,71	1,26	10427	60000										
		22	64,89	1,45	9307	60000										
		24	58,24	1,55	8352	60000										
		25	55,48	1,70	7957	60000										
		28	49,79	1,90	7141	60000										
		31	44,88	2,11	6437	60000										
		34	40,61	2,25	5824	60000										
		38	36,86	2,52	5286	60000										
		42	33,53	2,80	4809	60000										
		50	27,90	3,34	4002	60000										
		22 30	24	59,16	0,95	8485	44000	İRAM İRFM İRAFM	123 / 180 L 4b	319 320 321	455 457 485					
			26	52,85	1,08	7580	44000									
			29	47,47	1,18	6809	44000									
			33	42,84	1,30	6144	43900									
			34	40,70	1,36	5837	43700									
			39	36,11	1,50	5179	43600									
			43	32,26	1,70	4627	43400									
			48	28,98	1,88	4156	43000									
			54	26,15	2,10	3751	42500									
			59	23,69	2,30	3397	42000									
			65	21,52	2,50	3087	41500									
			71	19,60	2,80	2812	41500									
			78	17,89	3,07	2566	41500									
			22 30	71	19,85	2,73	2890	41000	İRAM İRFM İRAFM	122 / 180 L 4b	319 320 321	426 428 456				
				80	17,47	3,07	2543	41000								
				90	15,50	3,48	2257	41000								
				101	13,85	3,89	2016	41000								
				113	12,44	4,36	1811	40140								
				122	11,50	4,62	1674	40140								
44				31,68	0,91	4543	20000									
22 30				50	28,16	1,05	4038	19500					İRAM İRFM İRAFM	103 / 180 L 4b	301 302 303	370 373 395
				56	25,16	1,15	3608	19500								
				62	22,57	1,30	3237	19100								
				69	20,32	1,43	2914	19000								
				76	18,37	1,60	2634	18700								
				84	16,58	1,77	2378	18500								
				93	15,02	1,98	2154	18000								





P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg					
22 30	79	17,69	1,60	2576	17600	İRAM İRFM İRAFM	102 / 180 L 4b	301 302 303	330 333 355				
	90	15,62	1,91	2275	17200								
	101	13,89	2,05	2022	17000								
	113	12,41	2,30	1806	16700								
	132	10,59	2,80	1541	16500								
	148	9,457	3,07	1377	16300								
	165	8,485	3,41	1235	16000								
	183	7,638	3,45	1112	16000								
	196	7,144	3,53	1040	16000								
	219	6,382	3,70	929	15700								
	244	5,726	3,78	834	15700								
	272	5,154	3,87	750	15700								
	301	4,652	4,04	677	15500								
	333	4,207	4,20	613	15500								
	376	3,723	3,89	542	15500								
	417	3,360	4,01	489	15000								
	461	3,039	4,01	442	15000								
	509	2,752	4,09	401	15000								
	561	2,495	4,09	363	15000								
	619	2,263	4,09	329	15000								
	105	13,33	1,15	1941	12100					İRAM İRFM İRAFM	92 / 180 L 4b	283 284 285	280 290 300
	127	11,01	1,40	1604	11800								
	139	10,05	1,50	1464	11700								
	152	9,200	1,53	1340	11500								
	168	8,317	1,60	1211	11100								
	185	7,548	1,77	1099	10900								
	204	6,872	1,94	1001	10900								
	223	6,274	2,15	914	10800								
	244	5,740	2,25	836	10700								
	266	5,261	2,30	766	10600								
	316	4,437	2,45	646	10600								
	343	4,080	2,50	594	10500								
	373	3,753	2,90	546	10500								
391	3,580	2,90	521	10500									
464	3,019	2,90	440	10500									
504	2,776	3,00	404	10500									
548	2,554	3,00	372	10500									
571	2,450	3,00	357	10500									
208	6,724	1,04	979	8750	İRAM İRFM İRAFM	82 / 180 L 4b	265 266 267	225 230 232					
229	6,103	1,11	889	8600									
252	5,552	1,15	808	8450									
277	5,061	1,18	737	8350									
303	4,620	1,22	673	8250									
332	4,222	1,25	615	8050									
346	4,052	1,28	590	7900									
379	3,694	1,35	538	7800									
415	3,372	1,43	491	7700									
454	3,082	1,50	449	7600									
478	2,926	1,50	426	7600									
524	2,674	1,53	389	7600									
590	2,373	1,58	346	7600									
30 40	13	111	0,84	21720	110000	İRAM İRFM İRAFM	153 / 200 L 4c	361 362 363	1100 1150 1170				
	15	93,05	0,99	18197	110000								
	17	82,63	1,14	16160	110000								
	19	75,00	1,25	14668	110000								
	21	67,98	1,39	13295	110000								
	24	59,07	1,57	11553	110000								



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
30 40	27	52,03	1,80	10176	110000	İRAM İRFM İRAFM	153 / 200 L 4c	361 362 363	1100 1150 1170
	32	44,27	2,10	8659	110000				
	36	38,46	2,30	7522	110000				
	40	35,19	2,50	6882	110000				
	51	27,50	3,10	5377	110000				
	59	23,62	3,70	4619	110000				
	17	82,86	0,83	16205	60000	İRAM İRFM İRAFM	143 / 200 L 4c	337 338 339	645 659 685
	19	72,71	0,93	14219	60000				
	22	64,89	1,06	12691	60000				
	24	58,24	1,14	11389	60000				
	25	55,48	1,25	10850	60000				
	28	49,79	1,39	9737	60000				
	31	44,88	1,55	8778	60000				
	34	40,61	1,65	7942	60000				
	38	36,86	1,85	7208	60000				
	42	33,53	2,05	6558	60000				
	50	27,90	2,45	5457	60000				
	60	23,32	2,90	4561	60000				
	70	20,02	3,27	3856	60000				
	70	20,02	2,79	3976	60000				
	77	18,16	3,08	3606	60000				
	86	16,20	3,50	3217	60000				
	96	14,56	3,90	2890	60000				
	29	47,47	0,86	9285	44250				
	33	42,84	0,95	8378	44250				
	34	40,70	1,00	7960	44000				
	39	36,11	1,10	7063	44000	İRAM İRFM İRAFM	123 / 200 L 4c	319 320 321	470 472 500
	43	32,26	1,25	6310	43990				
	48	28,98	1,38	5668	43970				
	54	26,15	1,54	5114	43000				
	59	23,69	1,69	4632	42000				
	65	21,52	1,83	4209	42000				
	71	19,60	2,05	3834	41500				
	78	17,89	2,25	3500	41500				
	80	17,47	2,25	3468	42000				
	90	15,50	2,55	3078	42000				
	101	13,85	2,85	2749	41800				
	113	12,44	3,20	2470	40500				
	122	11,50	3,39	2282	40500				
	137	10,20	3,82	2025	40210				
	154	9,112	4,26	1809	39100				
	171	8,185	4,26	1625	38900				
181	7,724	4,40	1534	38440					
202	6,938	4,40	1378	38000					
224	6,261	4,40	1243	37800					
247	5,671	4,40	1126	37400					
272	5,153	4,30	1023	37400					
298	4,694	4,30	932	37400					
327	4,284	4,30	851	37400					
357	3,917	4,30	778	37400					
391	3,585	4,30	712	37400					
426	3,284	4,30	652	37400	İRAM İRFM İRAFM	103 / 200 L 4c	301 302 303	385 388 410	
62	22,57	0,95	4414	15900					
69	20,32	1,05	3973	15900					
76	18,37	1,18	3592	15900					
84	16,58	1,30	3243	15900					
93	15,02	1,45	2937	15900					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg				
<b>30</b> 40	90	15,62	1,40	3102	15700	<b>İRAM</b> <b>İRFM</b> <b>İRAFM</b> <b>102 / 200 L 4c</b>	301	345				
	101	13,89	1,50	2757	15700							
	113	12,41	1,69	2463	15500							
	132	10,59	2,05	2102	15100							
	148	9,457	2,25	1878	15100							
	165	8,485	2,50	1685	14800							
	183	7,638	2,53	1517	14500							
	196	7,144	2,59	1418	14500							
	219	6,382	2,71	1267	14500							
	244	5,726	2,78	1137	14500							
	272	5,154	2,84	1023	14350							
	301	4,652	2,96	924	14100							
	333	4,207	3,08	835	14100							
	376	3,723	2,85	739	14100							
	417	3,360	2,94	667	14100							
	461	3,039	2,94	603	13850							
	509	2,752	3,00	546	13850							
	561	2,495	3,00	495	13850							
	619	2,263	3,00	449	13850							
	<b>37</b> 50	204	6,872	1,43	1364				10600	<b>İRAM</b> <b>İRFM</b> <b>İRAFM</b> <b>92 / 200 L 4c</b>	283	295
223		6,274	1,58	1246	10500							
244		5,740	1,65	1140	10500							
266		5,261	1,69	1045	10350							
316		4,437	1,80	881	10200							
343		4,080	1,83	810	10100							
373		3,753	2,13	745	10000							
391		3,580	2,13	711	10000							
464		3,019	2,13	599	10000							
504		2,776	2,20	551	10000							
548		2,554	2,20	507	10000							
571		2,450	2,20	486	10000							
<b>37</b> 50		15	93,05	0,80	22443	110000	<b>İRAM</b> <b>İRFM</b> <b>İRAFM</b> <b>153 / 225 S 4a</b>	361	1239			
		17	82,63	0,92	19931	110000						
	19	75,00	1,01	18090	110000							
	21	67,98	1,13	16398	110000							
	24	59,07	1,28	14248	110000							
	27	52,03	1,45	12551	110000							
	32	44,27	1,72	10679	110000							
	36	38,46	1,84	9277	110000							
	40	35,19	2,00	8488	110000							
	51	27,50	2,50	6632	110000							
	59	23,62	3,00	5697	110000							
	49	28,55	2,30	6991	110000							
	54	25,93	2,50	6349	110000							
	59	23,57	2,80	5772	110000							
	66	21,09	3,10	5163	110000							
	74	19,00	3,50	4653	110000							
	81	17,22	3,80	4217	110000							
	89	15,69	4,20	3842	110000							
<b>37</b> 50	22	64,89	0,86	15652	60000	<b>İRAM</b> <b>İRFM</b> <b>İRAFM</b> <b>152 / 225 S 4a</b>	361	1164				
	24	58,24	0,92	14047	60000							
	25	55,48	1,01	13382	60000							
	28	49,79	1,13	12009	60000							
	31	44,88	1,26	10826	60000							
	34	40,61	1,34	9796	60000							
	38	36,86	1,50	8890	60000							
<b>37</b> 50	24	58,24	0,92	14047	60000	<b>İRAM</b> <b>İRFM</b> <b>İRAFM</b> <b>143 / 225 S 4a</b>	337	784				
	25	55,48	1,01	13382	60000							
	28	49,79	1,13	12009	60000							
	31	44,88	1,26	10826	60000							
	34	40,61	1,34	9796	60000							
	38	36,86	1,50	8890	60000							



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			 kg
37 50	42	33,53	1,66	8088	60000	İRAM İRFM İRAFM	143 / 225 S 4a	337	784
	50	27,90	1,99	6731	60000			338	798
	60	23,32	2,35	5626	60000			339	824
	70	20,02	2,65	4828	60000	İRAM İRFM İRAFM	142 / 225 S 4a	337	734
	70	20,02	2,26	4903	60000			338	748
	77	18,16	2,50	4448	60000			339	774
	86	16,20	2,84	3968	60000				
	96	14,56	3,16	3564	60000				
	110	12,77	3,90	3128	60000	İRAM İRFM İRAFM	123 / 225 S 4a	319	609
	43	32,26	1,01	7782	44000			320	611
	48	28,98	1,11	6990	43970			321	639
	54	26,15	1,25	6308	42300				
	59	23,69	1,37	5713	41500				
	65	21,52	1,49	5191	41000				
	71	19,60	1,66	4729	41000				
	78	17,89	1,82	4316	41500	İRAM İRFM İRAFM	122 / 225 S 4a	319	580
	80	17,47	1,82	4278	41000			320	582
	90	15,50	2,07	3796	41000			321	610
	101	13,85	2,31	3391	40900				
	113	12,44	2,59	3046	40140				
	122	11,50	2,75	2815	40140				
	137	10,20	3,10	2498	40210				
	154	9,112	3,45	2231	39100				
	171	8,185	3,45	2004	38900				
	181	7,724	3,57	1891	38440				
	202	6,938	3,57	1699	38000				
	224	6,261	3,57	1533	37800				
	247	5,671	3,57	1389	37400				
	272	5,153	3,49	1262	37400				
	298	4,694	3,49	1149	37400				
	327	4,284	3,49	1049	37400				
	357	3,917	3,49	959	37400				
	391	3,585	3,49	878	37400				
	426	3,284	3,49	804	37400	İRAM İRFM İRAFM	102 / 225 S 4a	301	484
	90	15,62	1,14	3826	15000			302	487
	101	13,89	1,22	3401	14600			303	509
	113	12,41	1,37	3038	14600				
	132	10,59	1,66	2592	14350				
	148	9,457	1,82	2316	14350				
	165	8,485	2,03	2078	14100				
	183	7,638	2,05	1870	14100				
	196	7,144	2,10	1749	14100				
219	6,382	2,20	1563	14100					
244	5,726	2,25	1402	13800					
272	5,154	2,30	1262	13800					
301	4,652	2,40	1139	13800					
333	4,207	2,50	1030	13800					
376	3,723	2,31	912	13500					
417	3,360	2,38	823	13500					
461	3,039	2,38	744	13500					
509	2,752	2,43	674	13450					
561	2,495	2,43	611	13300					
619	2,263	2,43	554	13200					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
45	19	75,00	0,83	22002	110000	İRAM İRFM İRAFM	153 / 225 M 4c	361 362 363	1255 1305 1325
	21	67,98	0,93	19943	110000				
	24	59,07	1,05	17329	110000				
	27	52,03	1,20	15264	110000				
	32	44,27	1,41	12988	110000				
	36	38,46	1,51	11283	110000				
	40	35,19	1,66	10324	110000				
	51	27,50	2,10	8066	110000				
	59	23,62	2,50	6929	110000				
	49	28,55	1,89	8502	110000				
	54	25,93	2,06	7722	110000				
	59	23,57	2,30	7020	110000				
	66	21,09	2,55	6280	110000				
	74	19,00	2,88	5659	110000				
	81	17,22	3,12	5129	110000				
	89	15,69	3,45	4673	110000				
	98	14,35	3,80	4275	110000				
	25	55,48	0,83	16275	60000				
	28	49,79	0,93	14606	60000				
	31	44,88	1,03	13167	60000				
	34	40,61	1,10	11914	60000				
	38	36,86	1,23	10812	60000				
	42	33,53	1,37	9837	60000				
	50	27,90	1,63	8186	60000				
	60	23,32	1,93	6842	60000				
	70	20,02	2,18	5872	60000				
	70	20,02	1,86	5963	60000				
	77	18,16	2,05	5410	60000				
	86	16,20	2,33	4826	60000				
	96	14,56	2,60	4335	60000				
	110	12,77	3,21	3804	60000				
	123	11,40	3,62	3395	60000				
	54	26,15	1,03	7672	42500				
	59	23,69	1,12	6949	41500				
	65	21,52	1,22	6314	41500				
	71	19,60	1,37	5751	41500				
	78	17,89	1,50	5249	41500				
	53	26,28	1,00	7827	40200				
	59	23,77	1,10	7078	40200				
	71	19,85	1,33	5912	40200				
	80	17,47	1,50	5202	40200				
	90	15,50	1,70	4616	40140				
101	13,85	1,90	4124	40210					
113	12,44	2,13	3704	39100					
122	11,50	2,26	3423	38900					
137	10,20	2,55	3038	38440					
154	9,112	2,84	2714	38000					
171	8,185	2,84	2438	37800					
181	7,724	2,93	2300	36200					
202	6,938	2,93	2066	36200					
224	6,261	2,93	1865	36200					
247	5,671	2,93	1689	36200					
272	5,153	2,87	1535	36000					
298	4,694	2,87	1398	36000					
327	4,284	2,87	1276	36000					
60	54	26,15	1,03	7672	42500				
	59	23,69	1,12	6949	41500				
	65	21,52	1,22	6314	41500				
	71	19,60	1,37	5751	41500				
	78	17,89	1,50	5249	41500				
	53	26,28	1,00	7827	40200				
	59	23,77	1,10	7078	40200				
	71	19,85	1,33	5912	40200				
	80	17,47	1,50	5202	40200				
	90	15,50	1,70	4616	40140				
	101	13,85	1,90	4124	40210				
	113	12,44	2,13	3704	39100				
	122	11,50	2,26	3423	38900				
	137	10,20	2,55	3038	38440				
	154	9,112	2,84	2714	38000				
	171	8,185	2,84	2438	37800				
	181	7,724	2,93	2300	36200				
	202	6,938	2,93	2066	36200				
224	6,261	2,93	1865	36200					
247	5,671	2,93	1689	36200					
272	5,153	2,87	1535	36000					
298	4,694	2,87	1398	36000					
327	4,284	2,87	1276	36000					



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg						
45 60	101	13,89	1,00	4136	14000	İRAM İRFM İRAFM	102 / 225 M 4c	301 302 303	500 503 525						
	113	12,41	1,12	3695	14000										
	132	10,59	1,37	3152	14000										
	148	9,457	1,50	2817	14000										
	165	8,485	1,67	2527	13800										
	183	7,638	1,69	2275	13800										
	196	7,144	1,73	2128	13800										
	219	6,382	1,81	1901	13500										
	244	5,726	1,85	1705	13500										
	272	5,154	1,89	1535	13500										
	301	4,652	1,97	1385	13500										
	333	4,207	2,06	1253	13500										
	376	3,723	1,90	1109	13500										
	417	3,360	1,96	1001	13300										
	461	3,039	1,96	905	13300										
	509	2,752	2,00	820	13000										
	561	2,495	2,00	743	13000										
619	2,263	2,00	674	13000											
55 75	24	59,07	0,86	21180	110000	İRAM İRFM İRAFM	153 / 250 M 4c	361 362 363	1345 1395 1415						
	27	52,03	0,98	18656	110000										
	32	44,27	1,16	15874	110000										
	36	38,46	1,24	13791	110000										
	40	35,19	1,36	12618	110000										
	51	27,50	1,73	9859	110000										
		59	23,62	2,00	8468	110000	İRAM İRFM İRAFM	152 / 250 M 4c	361 362 363	1270 1320 1340					
		49	28,55	1,55	10391	110000									
		54	25,93	1,68	9438	110000									
		59	23,57	1,88	8580	110000									
		66	21,09	2,09	7675	110000									
		74	19,00	2,35	6916	110000									
		81	17,22	2,56	6269	110000									
		89	15,69	2,83	5711	110000									
		98	14,35	3,10	5225	110000									
		125	11,22	3,90	4083	110000									
		131	10,70	3,90	3893	110000									
			31	44,88	0,85	16093					60000	İRAM İRFM İRAFM	143 / 250 M 4c	337 338 339	890 904 930
			34	40,61	0,90	14561					60000				
			38	36,86	1,01	13215					60000				
	42		33,53	1,12	12022	60000									
	50		27,90	1,34	10005	60000									
	60		23,32	1,58	8362	60000									
			70	20,02	1,78	7176	60000	İRAM İRFM İRAFM	142 / 250 M 4c	337 338 339	840 854 880				
			70	20,02	1,52	7289	60000								
			77	18,16	1,68	6612	60000								
			86	16,20	1,91	5898	60000								
			96	14,56	2,13	5298	60000								
			110	12,77	2,62	4649	60000								
			123	11,40	2,96	4150	60000								
137			10,23	3,30	3724	60000									
152			9,222	3,44	3357	60000									
168			8,344	3,68	3037	60000									
185		7,573	3,76	2757	60000										
203		6,890	4,09	2508	60000										
244		5,733	4,50	2087	60000										



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	İ Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
<b>55</b> 75	80	17,47	1,23	6358	40500	İRAM İRFM İRAFM	122 / C225 M 4	319 320 321	626 628 656
	90	15,50	1,39	5642	40500				
	101	13,85	1,55	5040	40500				
	113	12,44	1,75	4528	40140				
	122	11,50	1,85	4184	40140				
	137	10,20	2,08	3713	40210				
	154	9,112	2,32	3317	39100				
	171	8,185	2,32	2979	38900				
	181	7,724	2,40	2812	38440				
	202	6,938	2,40	2525	38000	İRAM İRFM İRAFM	122 / 250 M 4c	319 320 321	686 688 716
	224	6,261	2,40	2279	35600				
	247	5,671	2,40	2064	35600				
	272	5,153	2,35	1876	35600				
	298	4,694	2,35	1709	35600				
	327	4,284	2,35	1559	35000				
	357	3,917	2,35	1426	35000				
	391	3,585	2,35	1305	35000				
	426	3,284	2,35	1195	35000				
<b>75</b> 100	32	44,27	0,85	21647	110000	İRAM İRFM İRAFM	153 / 280 S 4	361 362 363	1475 1525 1545
	36	38,46	0,90	18806	110000				
	40	35,19	1,00	17206	110000				
	51	27,50	1,27	13444	110000				
	59	23,62	1,50	11548	110000				
	74	19,00	1,73	9431	110000				
	81	17,22	1,87	8549	110000	İRAM İRFM İRAFM	152 / 280 S 4	361 362 363	1400 1450 1470
	89	15,69	2,07	7788	110000				
	98	14,35	2,30	7125	110000				
	125	11,22	2,90	5567	110000				
	131	10,70	2,80	5309	110000				
	144	9,744	3,10	4837	110000				
	157	8,915	3,40	4425	110000	İRAM İRFM İRAFM	143 / 280 S 4	337 338 339	1020 1034 1060
	171	8,186	3,70	4063	110000				
	50	27,90	0,98	13643	60000				
	60	23,32	1,16	11403	60000				
	70	20,02	1,31	9786	60000				
	96	14,56	1,56	7225	60000				
	110	12,77	1,92	6340	60000	İRAM İRFM İRAFM	142 / 280 S 4	337 338 339	970 984 1010
	123	11,40	2,17	5659	60000				
	137	10,23	2,42	5078	60000				
	152	9,222	2,52	4578	60000				
168	8,344	2,70	4142	60000					
185	7,573	2,76	3759	60000					
203	6,890	3,00	3420	60000	İRAM İRFM İRAFM	153 / 280 M 4	361 362 363	1540 1590 1610	
244	5,733	3,30	2846	60000					
292	4,792	3,96	2379	60000					
40	35,19	0,83	20647	110000					
51	27,50	1,06	16132	110000					
59	23,62	1,24	13857	110000					
<b>90</b> 120	74	19,00	1,44	11317	110000	İRAM İRFM İRAFM	152 / 280 M 4	361 362 363	1465 1515 1535
	81	17,22	1,45	10258	110000				
	89	15,69	1,72	9345	110000				
	98	14,35	1,89	8550	110000				
	125	11,22	2,40	6681	110000				
	131	10,70	2,40	6370	110000				



P <sub>1</sub> GÜÇ Power Puissance [kW] Hp	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m]	i Tahvil Ratio Rapport de réduction	S <sub>r</sub> Servis Faktörü Service Factor Service facteur	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
90 120	144	9,744	2,60	5804	110000	İRAM İRFM İRAFM	152 / 280 M 4	361	1465
	157	8,915	2,80	5310	110000			362	1515
	171	8,186	3,10	4876	110000			363	1535
	201	6,965	3,60	4149	110000	İRAM İRFM İRAFM	142 / 280 M 4	337	1035
	234	5,983	4,20	3564	110000				
	96	14,56	1,30	8670	60000				
	110	12,77	1,60	7608	60000				
	123	11,40	1,81	6790	60000				
	137	10,23	2,01	6093	60000				
	152	9,222	2,10	5493	60000				
	168	8,344	2,25	4970	60000				
	185	7,573	2,30	4511	60000				
	203	6,890	2,50	4104	60000				
	244	5,733	2,75	3415	60000				
292	4,792	3,30	2854	60000					
110 150	51	27,50	0,87	19717	110000	İRAM İRFM İRAFM	153 / 315 S 4	361	1709
	59	23,62	1,02	16936	110000			362	1759
	81	17,22	1,19	12538	110000			363	1779
	89	15,69	1,41	11422	110000	İRAM İRFM İRAFM	152 / 315 S 4	361	1634
	98	14,35	1,55	10450	110000				
	125	11,22	1,98	8165	110000				
	131	10,70	1,95	7786	110000				
	144	9,744	2,10	7094	110000				
	157	8,915	2,30	6490	110000				
	171	8,186	2,50	5960	110000				
	201	6,965	2,90	5071	110000				
234	5,983	3,40	4356	110000					
132 180	59	23,62	0,85	20324	110000	İRAM İRFM İRAFM	153 / 315 M 4a	361	1786
	125	11,22	1,65	9799	110000			362	1836
	131	10,70	1,62	9343	110000			363	1856
	144	9,744	1,76	8513	110000	İRAM İRFM İRAFM	152 / 315 M 4a	361	1711
	157	8,915	1,93	7788	110000				
	171	8,186	2,10	7151	110000				
	201	6,965	2,40	6085	110000				
234	5,983	2,80	5227	110000					
160 218	125	11,22	1,36	11877	110000	İRAM İRFM İRAFM	152 / 315 M 4b	361	1732
	131	10,70	1,34	11325	110000				
	144	9,744	1,45	10318	110000				
	157	8,915	1,60	9440	110000				
	171	8,186	1,73	8668	110000				
	201	6,965	2,00	7375	110000				
234	5,983	2,30	6336	110000					





Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types		 kg						
<b>85 Nm</b>	0,32	34	81,37	85	390	2100	İRA İRF İRAF	43	175 176 177	10 11 12					
	0,37	40	70,05	85	390	2100									
	0,43	46	60,90	85	390	2100									
	0,49	53	53,33	85	390	2100									
	0,56	60	46,98	85	390	2100									
	0,62	67	41,85	85	390	2100									
	0,72	77	36,38	85	390	2100									
	0,82	88	31,86	85	390	2100									
	0,93	100	28,06	85	390	2100									
	1,00	107	26,19	85	390	2100									
	1,1	113	24,83	85	390	2000									
	1,2	124	22,62	85	390	2000									
	1,2	133	21,11	85	390	2000									
	1,3	140	20,01	85	390	2000									
	1,4	151	18,59	85	390	2000									
	1,5	158	17,76	85	390	1850									
	1,6	170	16,45	85	390	1850									
	1,6	177	15,81	85	390	1850									
	1,8	192	14,60	85	390	1850									
	1,9	199	14,09	85	390	1800									
	2,0	215	13,00	85	390	1800									
	2,3	242	11,58	85	390	1800									
	2,3	249	11,24	85	390	800									
	2,6	284	9,845	85	390	800									
	3,0	323	8,672	85	390	800									
	3,3	365	7,673	85	390	750									
	3,7	407	6,872	85	390	750									
	4,2	461	6,080	85	390	750									
4,6	506	5,538	85	390	750										
4,8	519	5,398	85	390	750										
5,2	571	4,900	85	390	750										
5,3	583	4,803	85	390	750										
5,9	644	4,350	85	390	750										
6,0	654	4,280	85	390	750										
6,6	724	3,870	85	390	750										
7,4	812	3,449	85	390	750										
<b>150 Nm</b>	0,01	0,33	8598	150	390	4250	İRA İRF İRAF	53 İR 43	187 188 189	26 28 29					
	0,01	0,38	7402	150	390	4250									
	0,01	0,44	6435	150	390	4250									
	0,01	0,52	5419	150	390	4250									
	0,01	0,60	4699	150	390	4250									
	0,01	0,68	4117	150	390	4250									
	0,01	0,84	3338	150	390	4250									
	0,02	0,95	2948	150	390	4250									
	0,02	1,05	2679	150	390	4250									
	0,02	1,19	2346	150	390	4250									
	0,02	1,34	2085	150	390	4250									
	0,03	1,50	1863	150	390	4250									
	0,03	1,71	1641	150	390	4250									
	0,03	1,92	1462	150	390	4250									
	0,04	2,20	1271	150	390	4250									
	0,04	2,33	1204	150	390	4250									
	0,05	2,68	1046	150	390	4250									
	0,05	3,05	917	150	390	4250									
	0,06	3,46	809	150	390	4250									
												İRA İRF İRAF	52 İR 43	187 188 189	25 27 28



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$	$n_2$	$i$	$M_2$	$F_{Q1}$	$F_{Q10}$	Tip Type Types			
	GÜÇ Power Puissance  [kW]	Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	Tahvil Ratio Rapport de réduction	Çıkış Momenti Output Torque Couple de sortie [Nm]	Rad. Yük Over Loads Charges radiales [N]	Rad. Yük Over Loads Charges radiales [N]				
<b>150 Nm</b>	0,07	3,95	709	150	390	4250	İRA İRF İRAF	52 İR 43	187	25
	0,08	4,44	630	150	390	4250			188	27
	0,09	5,05	555	150	390	4250			189	28
	0,10	5,65	496	150	390	4250				
	0,04	2,36	1188	150	390	4250	İRA İRF İRAF	53 İR 42	187	25
	0,05	2,69	1040	150	390	4250				
	0,05	3,06	916	150	390	4250				
	0,05	3,19	878	150	390	4250				
	0,06	3,63	772	150	390	4250				
	0,07	4,19	669	150	390	4250				
	0,08	4,78	586	150	390	4250				
	0,09	5,39	519	150	390	4250				
	0,11	6,65	421	150	390	4250				
	0,13	7,43	377	150	390	4250				
	0,14	8,41	333	150	390	4250				
	0,16	9,52	294	150	390	4250				
	0,18	10	267	150	390	4250				
	0,20	12	238	150	390	4250				
	0,24	15	193	150	390	4250				
	0,28	17	169	150	390	4250				
	0,32	19	148	150	390	4250				
	0,36	21	131	150	390	4250				
	0,40	24	116	150	390	4250				
	0,44	26	106	150	475	4250				
	0,52	31	88,98	150	475	4250				
	0,60	36	77,17	150	475	4250				
	0,68	41	67,60	150	475	4250				
	0,84	51	54,82	150	475	4250				
	0,95	58	48,41	150	475	4250				
	1,0	64	43,99	150	475	4250				
	1,2	72	39,10	150	475	4250				
	1,3	80	34,93	150	475	4250				
	1,5	89	31,34	150	475	4250				
	1,6	99	28,21	150	475	4250				
	1,8	110	25,46	150	475	4250				
	2,0	122	23,03	150	475	4250				
	2,1	128	21,88	150	475	4250				
	2,3	142	19,70	150	475	4250				
	2,6	158	17,78	150	475	4250				
	2,9	174	16,08	150	475	4250				
2,6	163	17,18	150	475	3500					
3,0	186	15,05	150	475	3500					
3,4	211	13,29	150	475	3500					
3,8	237	11,81	150	475	3500					
4,3	265	10,56	150	475	3500					
4,8	296	9,470	150	475	3500					
5,1	315	8,888	150	475	3500					
5,7	351	7,974	150	475	3500					
6,3	390	7,178	150	475	3500					
7,0	432	6,479	150	475	3500					
7,8	481	5,821	150	475	3500					
8,6	533	5,254	150	475	3500					
9,0	556	5,032	150	475	3500					
10,0	620	4,515	150	475	3500					
11,2	689	4,064	150	475	3500					
						İRA İRF İRAF	52	181	16	
								182	18	
								183	19	



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
150 Nm	12,4	763	3,668	150	475	3500	İRA İRF İRAF	52			181 182 183 17 18
	13,7	844	3,317	150	475	3500					
	14,8	915	3,059	150	475	3500					
	15,6	964	2,906	150	475	3500					
	17,6	1089	2,572	150	475	3500					
410 Nm	0,98	22	128	410	590	7000	İRA İRF İRAF	631			193 194 195 29 34 35
	1,1	23	119	410	590	7000					
	1,3	29	96,27	410	590	7000					
	1,4	32	87,81	410	590	7000					
	1,5	34	83,37	410	590	7000					
	1,8	39	70,96	410	590	7000					
	2,1	46	61,03	410	590	7000					
	2,4	54	51,65	410	590	7000					
	2,7	60	46,79	410	590	7000					
	3,0	66	42,55	410	590	7000					
	3,5	78	35,74	410	590	7000					
	4,2	94	29,85	410	590	7000					
	5,0	111	25,16	410	590	7000					
	5,9	130	21,50	410	590	7000					
	6,1	136	20,53	410	590	7000					
	6,9	154	18,18	410	590	7000					
	8,1	180	15,59	410	590	7000					
	9,1	203	13,81	410	590	7000					
	7,4	168	16,67	410	590	7000					
	8,2	185	15,13	410	590	7000					
	9,2	208	13,48	410	590	7000					
	10,2	229	12,21	410	590	7000					
	11,2	252	11,10	410	590	7000					
	12,3	278	10,07	410	590	7000					
	13,2	299	9,358	410	590	7000					
	14,6	329	8,510	410	590	7000					
	16,1	365	7,673	410	590	7000					
	17,4	394	7,108	410	590	7000					
	19,1	432	6,480	410	590	7000					
	20,7	467	5,992	410	590	7000					
	21,6	489	5,723	410	590	7000					
	23,3	526	5,325	410	590	7000					
24,5	553	5,060	410	590	7000						
27,5	622	4,499	410	590	7000						
31,0	700	3,998	410	590	7000						
33,4	755	3,711	410	590	7000						
37,7	852	3,287	410	590	7000						
42,5	960	2,917	410	590	7000						
47,8	1080	2,592	410	590	7000						
50,7	1146	2,444	410	590	7000						
410 Nm	0,01	0,21	13520	410	475	7000	İRA İRF İRAF	63 İR 53			223 224 225 44 49 50
	0,01	0,22	12617	410	475	7000					
	0,01	0,25	11345	410	475	7000					
	0,01	0,26	10587	410	475	7000					
	0,01	0,28	9873	410	475	7000					
	0,01	0,30	9214	410	475	7000					
	0,02	0,37	7479	410	475	7000					
	0,02	0,43	6508	410	475	7000					
	0,02	0,45	6194	410	475	7000					
	0,02	0,47	5936	410	475	7000					
	0,02	0,48	5780	410	475	7000					
	0,02	0,50	5636	410	475	7000					



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
<b>410 Nm</b>	0,03	0,58	4814	410	475	7000	İRA İRF İRAF	63 İR 53	223	44
	0,03	0,60	4661	410	475	7000				
	0,03	0,61	4570	410	475	7000				
	0,03	0,66	4251	410	475	7000				
	0,03	0,69	4036	410	475	7000				
	0,03	0,72	3890	410	475	7000				
	0,04	0,81	3436	410	475	7000				
	0,04	0,95	2955	410	475	7000				
	0,05	1,04	2685	410	475	7000				
	0,05	1,12	2500	410	475	7000				
	0,06	1,27	2198	410	475	7000				
	0,06	1,36	2052	410	475	7000				
	0,07	1,56	1797	410	475	7000				
	0,08	1,65	1701	410	475	7000				
	0,08	1,69	1654	410	475	7000				
	0,08	1,76	1587	410	475	7000				
	0,09	1,86	1509	410	475	7000				
	0,09	1,96	1432	410	475	7000				
	0,10	2,19	1280	410	475	7000				
	0,11	2,30	1219	410	475	7000				
	0,11	2,40	1167	410	475	7000				
	0,12	2,53	1108	410	475	7000				
	0,12	2,67	1049	410	475	7000				
	0,14	2,97	943	410	475	7000				
	0,15	3,16	887	410	475	7000				
	0,16	3,45	811	410	475	7000				
	0,16	3,48	804	410	475	7000				
	0,18	3,83	731	410	475	7000				
	0,19	4,08	686	410	475	7000				
	0,21	4,50	622	410	475	7000				
	0,21	4,56	614	410	475	7000				
	0,23	4,95	566	410	475	7000				
	0,24	5,20	538	410	475	7000				
	0,27	5,89	475	410	475	7000				
	0,29	6,24	449	410	475	7000				
	0,30	6,60	424	410	475	7000				
	0,32	7,07	396	410	475	7000				
	0,40	8,77	319	410	475	7000				
	0,44	9,62	291	410	475	7000				
	0,46	10	276	410	475	7000				
	0,54	12	235	410	475	7000				
	0,60	13	214	410	475	7000				
0,70	15	182	410	475	7000					
0,82	18	157	410	475	7000					
0,96	21	132	410	475	7000					
0,98	22	128	410	590	7000					
1,1	23	119	410	590	7000					
1,3	29	96,27	410	590	7000					
1,4	32	87,81	410	590	7000					
1,5	34	83,37	410	590	7000					
1,8	39	70,96	410	590	7000					
2,1	46	61,03	410	590	7000					
2,4	54	51,65	410	590	7000					
2,7	60	46,79	410	590	7000					
3,0	66	42,55	410	590	7000					
3,5	78	35,74	410	590	7000					
4,2	94	29,85	410	590	7000					
							İRA İRF İRAF	64	217	32
							İRA İRF İRAF	63	211	29



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
410 Nm	5,0	111	25,16	410	590	7000	İRA İRF İRAF	63	211 212 213	29 34 35
	5,9	130	21,50	410	590	7000				
	6,1	136	20,53	410	590	7000				
	6,9	154	18,18	410	590	7000				
	8,1	180	15,59	410	590	7000				
	9,1	203	13,81	410	590	7000				
	7,4	168	16,67	410	590	4500				
	8,2	185	15,13	410	590	4500				
	9,2	208	13,48	410	590	4500				
	10,2	229	12,21	410	590	4500				
	11,2	252	11,10	410	590	4500				
	12,3	278	10,07	410	590	4500				
	13,2	299	9,358	410	590	4500				
	14,6	329	8,510	410	590	4500				
	16,1	365	7,673	410	590	4500				
	17,4	394	7,108	410	590	4500				
	19,1	432	6,480	410	590	4500				
	20,7	467	5,992	410	590	4500				
	21,6	489	5,723	410	590	4500				
	23,3	526	5,325	410	590	4500				
	24,5	553	5,060	410	590	4500				
	27,5	622	4,499	410	590	4500				
	31,0	700	3,998	410	590	4500				
	33,4	755	3,711	410	590	4500				
	37,7	852	3,287	410	590	4500				
	42,5	960	2,917	410	590	4500				
	47,8	1080	2,592	410	590	4500				
	50,7	1146	2,444	410	590	4500				
600 Nm	0,01	0,17	16071	600	475	10100	İRA İRF İRAF	731 İR 53	241 242 243	54 57 60
	0,01	0,20	14258	600	475	10100				
	0,02	0,23	12326	600	475	10100				
	0,02	0,27	10380	600	475	10100				
	0,02	0,31	9001	600	475	10100				
	0,02	0,36	7782	600	475	10100				
	0,03	0,41	6862	600	475	10100				
	0,03	0,47	6012	600	475	10100				
	0,04	0,53	5301	600	475	10100				
	0,04	0,65	4299	600	475	10100				
	0,05	0,74	3796	600	475	10100				
	0,06	0,81	3450	600	475	10100				
	0,06	0,91	3068	600	475	10100				
	0,07	1,02	2747	600	475	10100				
	0,08	1,15	2443	600	475	10100				
	0,07	1,07	2613	600	475	10100				
	0,08	1,21	2318	600	475	10100				
	0,09	1,40	2004	600	475	10100				
	0,10	1,50	1872	600	475	10100				
	0,12	1,71	1640	600	475	10100				
	0,13	1,94	1446	600	475	10100				
	0,15	2,18	1286	600	475	10100				
	0,16	2,39	1172	600	475	10100				
	0,18	2,71	1035	600	475	10100				
	0,21	3,04	921	600	475	10100				
	0,23	3,39	825	600	475	10100				
	0,26	3,77	743	600	475	10100				
	0,28	4,15	675	600	475	10100				
İRA İRF İRAF	721 İR 53	241 242 243	53 56 59							



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg	
600 Nm	0,45	6,71	417	600	475	10100	İRA İRF İRAF	721	İR 52	241	50
	0,51	7,67	365	600	475	10100					
	0,58	8,70	322	600	475	10100					
	0,65	9,76	287	600	475	10100					
	0,73	11	256	600	475	10100					
	0,83	12	226	600	475	10100					
	0,93	14	201	600	475	10100					
	1,0	16	180	600	475	10100					
	1,2	17	162	600	475	10100					
	1,3	19	145	600	475	10100					
	0,30	4,50	622	600	475	10100	İRA İRF İRAF	741		235	47
	0,35	5,21	538	600	475	10100					
	0,40	6,02	465	600	475	10100					
	0,43	6,43	435	600	475	10100					
	0,49	7,30	384	600	475	10100					
	0,55	8,27	338	600	475	10100					
	0,62	9,30	301	600	475	10100					
	0,78	12	240	600	475	10100					
	0,99	15	188	600	475	10100					
	1,1	17	169	600	475	10100					
	1,2	18	152	600	475	10100					
	1,2	18	152	600	1000	10100	İRA İRF İRAF	731		229	39
	1,4	21	135	600	1000	10100					
	1,6	24	117	600	1000	10100					
	1,8	28	101	600	1000	10100					
	2,1	31	88,93	600	1000	10100					
	2,3	36	78,43	600	1000	10100					
	2,6	40	69,75	600	1000	9700					
	2,9	45	62,46	600	1000	9700					
	3,3	50	55,54	600	1000	9700					
	3,7	56	49,74	600	1000	9700					
	4,1	63	44,79	600	1000	9700					
	4,6	70	39,89	600	1000	9500					
	5,2	79	35,22	600	1000	9500					
	5,9	89	31,31	600	1000	9500					
	6,6	100	27,97	600	1000	9250					
	7,3	112	25,10	600	1000	9250					
	8,1	124	22,59	600	1000	9250					
	5,7	89	31,62	600	1000	7500	İRA İRF İRAF	721		229	37
	6,5	100	28,06	600	1000	7500					
	7,5	115	24,25	600	1000	7500					
	8,5	131	21,39	600	1000	7500					
9,5	147	19,02	600	1000	7250						
10,6	164	17,03	600	1000	7250						
11,8	182	15,40	600	1000	7250						
13,2	204	13,73	600	1000	7250						
15,0	231	12,13	600	1000	7250						
16,2	251	11,17	600	1000	7250						
18,4	284	9,866	600	1000	7000						
20,7	319	8,769	600	1000	7000						
23,1	357	7,834	600	1000	7000						
25,8	398	7,029	600	1000	7000						
28,7	443	6,327	600	1000	7000						
31,8	490	5,710	600	1000	7000						
35,1	542	5,164	600	1000	7000						
38,8	599	4,677	600	1000	7000						



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
600 Nm	42,8	660	4,240	600	1000	7000	İRA İRF İRAF	721	229 230 231	37 40 43
	47,6	735	3,809	600	1000	7000				
	52,7	814	3,438	600	1000	7000				
	58,3	901	3,109	600	1000	7000				
	64,4	994	2,816	600	1000	7000				
	71,0	1097	2,553	600	1000	7000				
870 Nm	0,02	0,17	16321	870	475	12100	İRA İRF İRAF	73 İR 53	259 260 261	53 56 59
	0,02	0,20	14110	870	475	12100				
	0,02	0,20	13744	870	475	12100				
	0,02	0,23	11919	870	475	12100				
	0,03	0,26	10947	870	475	12100				
	0,03	0,27	10304	870	475	12100				
	0,03	0,29	9654	870	475	12100				
	0,03	0,33	8586	870	475	12100				
	0,04	0,36	7688	870	475	12100				
	0,04	0,43	6474	870	475	12100				
	0,05	0,49	5674	870	475	12100				
	0,05	0,53	5287	870	475	12100				
	0,06	0,63	4423	870	475	12100				
	0,07	0,70	3989	870	475	12100				
	0,08	0,80	3522	870	475	12100				
	0,09	0,89	3153	870	475	12100				
	0,10	0,99	2817	870	475	12100				
	0,11	1,11	2527	870	475	12100				
	0,13	1,33	2106	870	475	12100				
	0,14	1,39	2017	870	475	12100				
	0,15	1,49	1882	870	475	12100				
	0,16	1,64	1703	870	475	12100				
	0,18	1,84	1520	870	475	12100				
	0,20	1,99	1410	870	475	12100				
	0,22	2,21	1265	870	475	12100				
	0,23	2,36	1187	870	475	12100				
	0,28	2,85	981	870	475	12100				
	0,30	3,04	921	870	475	12100				
	0,32	3,24	865	870	475	12100				
	0,34	3,45	812	870	475	12100				
	0,36	3,64	769	870	475	12100				
	0,38	3,88	722	870	475	12100				
	0,42	4,32	648	870	475	12100				
	0,47	4,86	576	870	475	12100				
	0,61	6,26	447	870	475	12100				
	0,69	7,10	394	870	475	12100				
0,77	7,98	351	870	475	12100					
0,86	8,92	314	870	475	12100					
0,96	9,90	283	870	475	12100					
1,7	18	154	870	1200	12100					
2,0	21	134	870	1200	12100					
2,6	27	103	870	1200	12100					
2,9	31	91,36	870	1200	12100					
3,3	34	81,25	870	1200	12100					
3,7	38	72,76	870	1200	12100					
4,1	43	65,52	870	1200	12100					
4,5	47	59,42	870	1200	12100					
5,1	53	52,47	870	1200	12100					
5,8	60	46,36	870	1200	12100					
6,4	67	41,67	870	1200	12100					
7,1	75	37,38	870	1200	12100					
							İRA İRF İRAF	73	247 248 249	37 40 43
							İRA İRF İRAF	74	253 254 255	45 48 51
							İRA İRF İRAF	73	247 248 249	37 40 43



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg		
870 Nm	8,6	90	31,16	870	1200	12100	İRA İRF İRAF	73			247 248 249	37 40 43
	9,6	101	27,84	870	1200	12100						
	10,7	112	24,98	870	1200	12100						
	11,9	125	22,48	870	1200	12100						
	13,2	138	20,29	870	1200	12100						
	14,5	153	18,35	870	1200	12100						
	16,1	168	16,62	870	1200	12100						
	17,7	186	15,07	870	1200	12100						
	19,4	207	13,53	870	1200	9000						
	21,9	233	12,02	870	1200	9000						
	24,5	261	10,74	870	1200	9000						
	28,2	300	9,337	870	1200	9000						
	31,6	336	8,333	870	1200	9000						
	35,2	375	7,476	870	1200	9000						
	39,1	416	6,730	870	1200	9000						
	43,3	461	6,074	870	1200	9000						
	47,9	510	5,494	870	1200	9000						
	52,6	561	4,995	870	1200	9000						
	58,5	623	4,497	870	1200	9000						
	64,8	690	4,059	870	1200	9000						
71,6	763	3,670	870	1200	9000							
79,1	842	3,324	870	1200	9000							
87,2	929	3,014	870	1200	9000							
96,2	1025	2,733	870	1200	9000							
102	1089	2,571	870	1200	9000							
1500 Nm	0,03	0,15	18231	1500	590	17000	İRA İRF İRAF	83 İR 53			277 278 279	120 125 127
	0,03	0,18	15217	1500	590	17000						
	0,03	0,20	13984	1500	590	17000						
	0,04	0,23	12302	1500	590	17500						
	0,04	0,26	10968	1500	590	17500						
	0,05	0,31	8893	1500	590	17500						
	0,06	0,35	7902	1500	590	17500						
	0,07	0,39	7092	1500	590	17500						
	0,08	0,44	6393	1500	590	17500						
	0,09	0,51	5484	1500	590	17500						
	0,10	0,57	4922	1500	590	17500						
	0,11	0,63	4437	1500	590	17500						
	0,12	0,70	4015	1500	590	17500						
	0,13	0,78	3593	1500	590	17500						
	0,15	0,86	3239	1500	590	17500						
	0,16	0,96	2930	1500	590	17500						
	0,18	1,05	2659	1500	590	17500						
	0,20	1,16	2419	1500	590	17500						
	0,22	1,27	2205	1500	590	17500						
	0,24	1,39	2013	1500	590	17500						
	0,26	1,52	1840	1500	590	17500						
	0,27	1,57	1778	1500	590	17500						
	0,30	1,77	1580	1500	590	17500						
	0,33	1,97	1418	1500	590	17500						
	0,36	2,14	1308	1500	590	17500						
	0,37	2,19	1279	1500	590	17500						
	0,41	2,41	1162	1500	590	17500						
	0,41	2,42	1157	1500	590	17500						
	0,45	2,67	1050	1500	590	17500						
	0,45	2,68	1043	1500	590	17500						
	0,50	2,98	940	1500	590	17500						
	0,56	3,29	850	1500	590	17500						
0,61	3,63	772	1500	590	17500							
0,66	3,87	723	1500	590	17500							
							İRA İRF İRAF	82 İR 53			277 278 279	130 135 137





Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
<b>1500 Nm</b>	0,67	4,00	700	1500	590	17500	İRA İRF İRAF	84	271 272 273	106 111 113
	0,74	4,41	635	1500	590	17500				
	0,81	4,84	579	1500	590	17500				
	0,88	5,28	530	1500	590	17500				
	0,96	5,75	487	1500	590	17500				
	1,1	6,54	428	1500	590	17500				
	1,2	7,33	382	1500	590	17500				
	1,4	8,17	343	1500	590	17500				
	1,5	9,04	310	1500	590	17500				
	1,7	10	275	1500	590	17500				
	1,7	10	273	1500	590	17500				
	1,9	12	243	1500	590	17500				
	2,1	13	218	1500	590	17500				
	2,4	14	196	1500	590	17500				
	2,7	16	174	1500	590	17500				
	2,8	17	168	1500	590	17500				
	1,8	11	251	1500	1550	17500	İRA İRF İRAF	83	265 266 267	79 84 86
	2,1	13	221	1500	1550	17500				
	2,2	13	209	1500	1550	17500				
	2,5	15	187	1500	1550	17500				
	2,7	17	168	1500	1550	17500				
	3,0	18	153	1500	1550	17500				
	3,3	20	139	1500	1550	17500				
	3,6	22	127	1500	1550	17500				
	3,9	24	117	1500	1550	17500				
	4,5	27	103	1500	1550	17500				
	5,0	30	91,85	1500	1550	17500				
	5,6	34	82,47	1500	1550	17500				
	6,2	38	74,47	1500	1550	17500				
	7,0	42	66,18	1500	1550	17500				
	7,7	47	59,39	1500	1550	17500				
	8,6	52	53,54	1500	1550	17500				
	9,7	59	47,59	1500	1550	17500				
	10,0	61	45,93	1500	1550	17500				
	11,2	68	41,22	1500	1550	17500				
	12,4	75	37,16	1500	1550	17500				
	13,9	85	33,03	1500	1550	17500				
	15,3	93	30,08	1500	1550	17500				
	17,0	103	27,12	1500	1550	17500				
	18,8	114	24,54	1500	1550	17500				
	20,7	126	22,27	1500	1550	17500				
	22,7	138	20,26	1500	1550	17500				
24,9	152	18,47	1500	1550	17500					
27,3	166	16,86	1500	1550	17500					
29,9	182	15,41	1500	1550	17500					
30,4	188	14,90	1500	1550	13000	İRA İRF İRAF	82	265 266 267	89 94 96	
34,2	212	13,24	1500	1550	13000					
38,2	236	11,88	1500	1550	13000					
42,3	261	10,71	1500	1550	13000					
46,8	289	9,689	1500	1550	13000					
51,6	318	8,793	1500	1550	13000					
55,0	340	8,244	1500	1550	13000					
61,0	377	7,432	1500	1550	13000					
67,4	416	6,724	1500	1550	13000					
74,3	459	6,103	1500	1550	13000					
81,6	504	5,552	1500	1550	13000					
89,6	553	5,061	1500	1550	13000					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			
										kg
1500 Nm	98,1	606	4,620	1500	1550	13000	İRA İRF İRAF	82	265 266 267	89 94 96
	107	663	4,222	1500	1550	13000				
	112	691	4,052	1500	1550	13000				
	123	758	3,694	1500	1550	13000				
	134	830	3,372	1500	1550	13000				
	147	909	3,082	1500	1550	13000				
	155	957	2,926	1500	1550	13000				
	170	1047	2,674	1500	1550	13000				
	191	1180	2,373	1500	1550	13000				
2800 Nm	0,04	0,12	22852	2800	590	25000	İRA İRF İRAF	93 İR 63	295 296 297	154 164 174
	0,04	0,14	20623	2800	590	25000				
	0,05	0,15	18725	2800	590	25000				
	0,05	0,15	18426	2800	590	25000				
	0,05	0,16	17911	2800	590	25000				
	0,05	0,17	16707	2800	590	25000				
	0,05	0,17	16629	2800	590	25000				
	0,06	0,18	15663	2800	590	25000				
	0,06	0,18	15160	2800	590	25000				
	0,06	0,19	15098	2800	590	25000				
	0,06	0,19	14679	2800	590	25000				
	0,06	0,19	14410	2800	590	25000				
	0,07	0,21	13583	2800	590	25000				
	0,07	0,21	13137	2800	590	25000				
	0,07	0,21	13037	2800	590	25000				
	0,07	0,23	12258	2800	590	25000				
	0,08	0,24	11681	2800	590	25000				
	0,08	0,24	11577	2800	590	25000				
	0,08	0,25	11130	2800	590	25000				
	0,09	0,27	10542	2800	590	25000				
	0,09	0,27	10288	2800	590	25000				
	0,09	0,29	9565	2800	590	25000				
	0,10	0,30	9309	2800	590	25000				
	0,10	0,30	9206	2800	590	25000				
	0,10	0,33	8565	2800	590	25000				
	0,11	0,34	8198	2800	590	25000				
	0,11	0,35	8006	2800	590	25000				
	0,12	0,36	7808	2800	590	25000				
	0,12	0,38	7366	2800	590	25000				
	0,12	0,39	7224	2800	590	25000				
	0,13	0,41	6881	2800	590	25000				
	0,13	0,42	6715	2800	590	25000				
	0,14	0,44	6420	2800	590	25000				
	0,15	0,46	6115	2800	590	25000				
	0,15	0,47	5918	2800	590	25000				
	0,16	0,49	5745	2800	590	25000				
	0,16	0,51	5472	2800	590	25000				
	0,17	0,53	5259	2800	590	25000				
	0,17	0,54	5169	2800	590	25000				
	0,18	0,57	4872	2800	590	25000				
	0,19	0,59	4706	2800	590	25000				
	0,19	0,60	4673	2800	590	25000				
0,21	0,65	4294	2800	590	25000					
0,21	0,66	4241	2800	590	25000					
0,21	0,67	4190	2800	590	25000					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types		kg		
<b>2800 Nm</b>	0,22	0,71	3954	2800	590	25000	İRA İRF İRAF	93 İR 62	295 296 297	149 159 169	
	0,24	0,76	3688	2800	590	25000					
	0,25	0,78	3582	2800	590	25000					
	0,27	0,84	3341	2800	590	25000					
	0,27	0,86	3241	2800	590	25000					
	0,30	0,95	2936	2800	590	25000					
	0,31	0,97	2878	2800	590	25000					
	0,34	1,07	2607	2800	590	25000					
	0,38	1,20	2336	2800	590	25000					
	0,42	1,33	2108	2800	590	25000					
	0,46	1,46	1914	2800	590	25000					
	0,55	1,75	1601	2800	590	25000					
	0,60	1,90	1473	2800	590	25000					
	0,66	2,08	1343	2800	590	25000					
	0,75	2,37	1183	2800	590	25000					
	0,84	2,66	1052	2800	590	25000					
	0,94	2,98	941	2800	590	25000					
	1,1	3,34	838	2800	590	25000					
	1,2	3,79	739	2800	590	25000					
	1,3	4,27	656	2800	590	25000					
	1,5	4,77	587	2800	590	25000					
	1,7	5,30	528	2800	590	25000					
	1,8	5,85	478	2800	590	25000					
	2,0	6,49	431	2800	590	25000					
	2,3	7,37	380	2800	590	25000					
	2,6	8,29	338	2800	590	25000					
	2,9	9,26	302	2800	590	25000					
	3,2	10	269	2800	590	25000					
	3,7	12	237	2800	590	25000					
	4,1	13	211	2800	590	25000					
	4,6	15	189	2800	590	25000					
	5,1	16	170	2800	590	25000					
	5,7	18	153	2800	590	25000					
	2,9	9,54	293	2800	2500	25000					
	3,1	10	274	2800	2500	25000					
	3,6	12	241	2800	2500	25000					
	4,0	13	214	2800	2500	25000					
	4,5	15	191	2800	2500	25000					
	5,0	16	173	2800	2500	25000					
	5,5	18	157	2800	2500	25000					
	6,5	21	131	2800	2500	25000					
	7,1	23	121	2800	2500	25000					
7,8	25	110	2800	2500	25000						
8,9	29	96,96	2800	2500	25000						
10,0	32	86,17	2800	2500	25000						
11,1	36	77,10	2800	2500	25000						
12,5	41	68,66	2800	2500	25000						
14,2	46	60,50	2800	2500	25000						
16,0	52	53,77	2800	2500	25000						
17,9	58	48,11	2800	2500	25000						
19,8	65	43,29	2800	2500	25000						
21,9	72	39,14	2800	2500	25000						
24,2	79	35,52	2800	2500	25000						
26,6	87	32,34	2800	2500	25000						
29,1	95	29,53	2800	2500	25000						
31,8	104	27,01	2800	2500	25000						
								İRA İRF İRAF	94	289 290 291	149 159 169
								İRA İRF İRAF	93	283 284 285	133 143 153



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
<b>2800 Nm</b>	34,7	113	24,76	2800	2500	25000	İRA İRF İRAF	93			283	133
	42,8	139	20,09	2800	2500	25000					284	143
	51,0	166	16,85	2800	2500	25000					285	153
	60,5	197	14,21	2800	2500	25000						
	36,2	120	23,38	2800	2500	20000	İRA İRF İRAF	92				
	41,1	136	20,60	2800	2500	20000					283	163
	46,2	153	18,31	2800	2500	20000					284	173
	51,6	171	16,38	2800	2500	20000					285	183
	57,4	190	14,74	2800	2500	20000						
	63,5	210	13,33	2800	2500	20000						
	76,8	254	11,01	2800	2500	20000						
	84,2	278	10,05	2800	2500	20000						
	92,0	304	9,200	2800	2500	20000						
	102	337	8,317	2800	2500	20000						
	112	371	7,548	2800	2500	20000						
	123	407	6,872	2800	2500	20000						
	135	446	6,274	2800	2500	20000						
	147	488	5,740	2800	2500	20000						
	161	532	5,261	2800	2500	20000						
	191	631	4,437	2800	2500	20000						
	207	686	4,080	2800	2500	20000						
	225	746	3,753	2800	2500	20000						
	236	782	3,580	2800	2500	20000						
	280	927	3,019	2800	2500	20000						
305	1009	2,776	2800	2500	20000							
331	1096	2,554	2800	2500	20000							
345	1143	2,450	2800	2500	20000							
<b>4300 Nm</b>	0,06	0,13	22099	4300	1200	34000	İRA İRF İRAF	103 İR 73				
	0,07	0,15	18788	4300	1200	34000					313	253
	0,08	0,17	16845	4300	1200	34000					314	256
	0,09	0,18	15213	4300	1200	34000					315	278
	0,10	0,20	13823	4300	1200	34000						
	0,11	0,22	12625	4300	1200	34000						
	0,12	0,24	11581	4300	1200	34000						
	0,13	0,27	10325	4300	1200	34000						
	0,15	0,31	9118	4300	1200	34000						
	0,17	0,35	8104	4300	1200	34000						
	0,19	0,39	7241	4300	1200	34000						
	0,21	0,43	6496	4300	1200	34000						
	0,24	0,48	5848	4300	1200	34000						
	0,26	0,53	5278	4300	1200	34000						
	0,29	0,58	4790	4300	1200	34000						
	0,33	0,66	4230	4300	1200	34000						
	0,37	0,74	3760	4300	1200	34000						
	0,41	0,83	3359	4300	1200	34000						
	0,46	0,93	3014	4300	1200	34000						
	0,51	1,03	2713	4300	1200	34000						
	0,56	1,14	2448	4300	1200	34000						
	0,50	1,02	2733	4300	1200	34000	İRA İRF İRAF	102 İR 73				
	0,56	1,16	2413	4300	1200	34000					313	246
	0,63	1,31	2145	4300	1200	34000					314	249
0,71	1,46	1916	4300	1200	34000	315					271	
0,83	1,71	1635	4300	1200	34000							
0,93	1,92	1460	4300	1200	34000							
1,0	2,14	1311	4300	1200	34000							
1,2	2,37	1180	4300	1200	34000							



Servis Faktörü Service Factor Service facteur  $S_f=1$	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
<b>4300 Nm</b>	1,2	2,39	1173	4300	1200	34000	İRA İRF İRAF	103 İR 72	313	251
	1,3	2,68	1046	4300	1200	34000			314	254
	1,5	3,03	923	4300	1200	34000			315	276
	1,7	3,41	821	4300	1200	34000	İRA İRF İRAF	104	307 308 309	246 249 271
	1,7	3,49	803	4300	1200	34000				
	1,9	3,89	720	4300	1200	34000				
	2,2	4,58	612	4300	1200	34000				
	2,4	5,10	548	4300	1200	34000				
	2,7	5,66	495	4300	1200	34000				
	3,0	6,27	447	4300	1200	34000				
	3,3	6,90	406	4300	1200	34000				
	3,6	7,56	371	4300	1200	34000				
	3,9	8,24	340	4300	1200	34000				
	4,4	9,14	306	4300	1200	34000				
	4,8	9,96	281	4300	1200	34000				
	5,2	11	256	4300	3750	30000	İRA İRF İRAF	103	301 302 303	207 210 232
	5,9	12	225	4300	3750	30000				
	6,4	13	208	4300	3750	30000				
	7,1	15	185	4300	3750	30000				
	8,0	17	165	4300	3750	30000				
	9,4	20	141	4300	3750	30000				
	10,5	22	126	4300	3750	30000				
	11,7	25	113	4300	3750	30000				
	12,7	27	104	4300	3750	30000				
	14,0	30	94,54	4300	3750	30000				
	15,2	32	86,72	4300	3750	30000				
	17,1	36	77,32	4300	3750	30000				
	19,3	41	68,28	4300	3750	30000				
	21,7	46	60,69	4300	3750	30000				
	24,3	52	54,22	4300	3750	30000				
	27,1	58	48,65	4300	3750	30000				
	30,1	64	43,79	4300	3750	30000				
	33,4	71	39,53	4300	3750	30000				
	36,8	78	35,87	4300	3750	30000				
	41,6	88	31,68	4300	3750	30000				
	46,9	99	28,16	4300	3750	30000				
	52,4	111	25,16	4300	3750	30000				
	58,5	124	22,57	4300	3750	30000				
	64,9	138	20,32	4300	3750	30000				
	71,8	152	18,37	4300	3750	30000				
	79,6	169	16,58	4300	3750	30000				
	87,8	186	15,02	4300	3750	30000				
73,4	158	17,69	4300	3750	25000	İRA İRF İRAF	102	301 302 303	200 203 225	
83,2	179	15,62	4300	3750	25000					
93,6	202	13,89	4300	3750	25000					
105	226	12,41	4300	3750	25000					
123	265	10,59	4300	3750	25000					
137	296	9,457	4300	3750	25000					
153	330	8,485	4300	3750	25000					
170	367	7,638	4300	3750	25000					
182	392	7,144	4300	3750	25000					
204	439	6,382	4300	3750	25000					
227	489	5,726	4300	3750	25000					
252	543	5,154	4300	3750	21000					
279	602	4,652	4300	3750	21000					
309	666	4,207	4300	3750	21000					
349	752	3,723	4300	3750	21000					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg				
<b>4300 Nm</b>	387	833	3,360	4300	3750	21000	İRA İRF İRAF	102			301	200		
	428	921	3,039	4300	3750	21000					302	203		
	472	1017	2,752	4300	3750	19000					303	225		
	521	1122	2,495	4300	3750	19000								
	574	1237	2,263	4300	3750	19000								
<b>8000 Nm</b>	0,08	0,09	32309	8000	1200	52000	İRA İRF İRAF	123 İR 73			331	338		
	0,09	0,10	28749	8000	1200	52000							332	340
	0,10	0,11	25807	8000	1200	52000							333	368
	0,11	0,12	23337	8000	1200	52000								
	0,14	0,15	18918	8000	1200	52000								
	0,15	0,16	17260	8000	1200	52000								
	0,17	0,18	15494	8000	1200	52000								
	0,19	0,21	13395	8000	1200	52000								
	0,21	0,23	12113	8000	1200	52000								
	0,23	0,25	11190	8000	1200	52000								
	0,25	0,27	10209	8000	1200	52000								
	0,28	0,31	9165	8000	1200	52000								
	0,31	0,34	8288	8000	1200	52000								
	0,32	0,35	7928	8000	1200	52000								
	0,40	0,44	6426	8000	1200	52000								
	0,44	0,48	5863	8000	1200	52000								
	0,49	0,53	5263	8000	1200	52000								
	0,54	0,59	4759	8000	1200	52000								
	0,62	0,69	4059	8000	1200	52000	İRA İRF İRAF	122 İR 73			331	309		
	0,69	0,76	3671	8000	1200	52000							332	311
	0,72	0,80	3509	8000	1200	52000							333	339
	0,80	0,88	3173	8000	1200	52000								
	0,89	0,99	2829	8000	1200	52000								
	1,0	1,11	2517	8000	1200	52000								
	1,1	1,24	2260	8000	1200	52000	İRA İRF İRAF	123 İR 72			331	336		
	1,2	1,37	2043	8000	1200	52000							332	338
	1,5	1,69	1657	8000	1200	52000							333	366
	1,7	1,85	1511	8000	1200	52000								
	1,9	2,06	1357	8000	1200	52000								
	2,1	2,28	1227	8000	1200	52000								
	2,5	2,73	1025	8000	1200	52000								
	2,8	3,10	902	8000	1200	52000								
	2,8	3,17	883	8000	1200	52000								
	3,1	3,51	799	8000	1200	52000								
	3,8	4,32	647	8000	1200	52000	İRA İRF İRAF	124			325	389		
	4,2	4,74	591	8000	1200	52000							326	391
	4,7	5,28	530	8000	1200	52000							327	419
	5,2	5,84	479	8000	1200	52000								
	6,2	6,99	400	8000	1200	52000								
	7,1	7,95	352	8000	1200	52000								
	8,0	8,95	313	8000	1200	52000								
	8,9	10	279	8000	1200	52000								
9,9	11	251	8000	1200	52000									
11,0	12	226	8000	1200	52000									
11,6	13	215	8000	1200	52000	İRA İRF İRAF	123			319	323			
11,7	13	209	8000	3750	41000							320	325	
13,2	15	186	8000	3750	41000							321	353	
14,7	17	167	8000	3750	41000									
16,2	19	151	8000	3750	41000									
20,0	23	122	8000	3750	41000									
22,0	25	112	8000	3750	41000									
24,5	28	100	8000	3750	41000									



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
8000 Nm	27,1	31	90,71	8000	3750	41000	İRA İRF İRAF	123			319 320 321	323 325 353
	32,4	37	75,77	8000	3750	41000						
	36,8	42	66,67	8000	3750	41000						
	41,5	47	59,16	8000	3750	39700						
	46,4	53	52,85	8000	3750	39700						
	51,7	59	47,47	8000	3750	39700						
	57,3	65	42,84	8000	3750	39700						
	60,3	69	40,70	8000	3750	39700						
	68,0	78	36,11	8000	3750	39700						
	76,1	87	32,26	8000	3750	39700						
	84,7	97	28,98	8000	3750	39700						
	93,9	107	26,15	8000	3750	39700						
	104	118	23,69	8000	3750	39700						
	114	130	21,52	8000	3750	39700						
	125	143	19,60	8000	3750	39700						
	137	156	17,89	8000	3750	39700						
	92,0	107	26,28	8000	3750	45000	İRA İRF İRAF	122			319 320 321	344 346 374
	102	118	23,77	8000	3750	45000						
	122	141	19,85	8000	3750	45000						
	138	160	17,47	8000	3750	45000						
	156	181	15,50	8000	3750	45000						
	175	202	13,85	8000	3750	45000						
	194	225	12,44	8000	3750	45000						
	210	244	11,50	8000	3750	45000						
	237	275	10,20	8000	3750	45000						
	265	307	9,112	8000	3750	45000						
	295	342	8,185	8000	3750	45000						
	313	363	7,724	8000	3750	45000						
	348	404	6,938	8000	3750	45000						
	386	447	6,261	8000	3750	45000						
	426	494	5,671	8000	3750	45000						
	469	543	5,153	8000	3750	45000						
515	597	4,694	8000	3750	45000							
564	654	4,284	8000	3750	45000							
617	715	3,917	8000	3750	45000							
674	781	3,585	8000	3750	45000							
736	853	3,284	8000	3750	45000							
13000 Nm	7,7	5,21	537	13000	1550	60000	İRA İRF İRAF	143 İR 82			355 356 357	587 601 627
	9,3	6,32	443	13000	1550	60000						
	10,3	7,04	398	13000	1550	60000						
	11,5	7,80	359	13000	1550	60000						
	12,4	8,46	331	13000	1550	60000						
	14,8	10	277	13000	1550	60000						
	16,5	11	249	13000	1550	60000						
	18,3	12	225	13000	1550	60000						
	19,9	14	207	13000	1550	60000						
	22,0	15	187	13000	1550	60000						
	26,2	18	157	13000	1550	60000						
	0,17	0,11	24943	13000	1200	60000	İRA İRF İRAF	143 İR 73			349 350 351	513 527 553
	0,19	0,13	21564	13000	1200	60000						
	0,21	0,14	19545	13000	1200	60000						
	0,24	0,16	17730	13000	1200	60000						
	0,28	0,19	15134	13000	1200	60000						
	0,31	0,21	13372	13000	1200	60000						
	0,34	0,23	12131	13000	1200	60000						
	0,39	0,26	10788	13000	1200	60000						
	0,44	0,30	9446	13000	1200	60000						



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =2800rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg						
<b>13000 Nm</b>	0,50	0,33	8427	13000	1200	60000	İRA İRF İRAF	143 İR 73			349 350 351 513 527 553					
	0,56	0,37	7474	13000	1200	60000										
	0,62	0,42	6732	13000	1200	60000										
	0,71	0,47	5907	13000	1200	60000										
	0,77	0,52	5425	13000	1200	60000										
	0,86	0,58	4839	13000	1200	60000										
	0,96	0,64	4347	13000	1200	60000										
	1,1	0,73	3814	13000	1200	60000										
	1,2	0,82	3404	13000	1200	60000										
	1,4	0,93	3026	13000	1200	60000										
	1,5	1,03	2717	13000	1200	60000										
	1,9	1,28	2184	13000	1200	60000										
	2,1	1,41	1979	13000	1200	60000	İRA İRF İRAF	143 İR 72			349 350 351 511 525 551					
	2,3	1,59	1759	13000	1200	60000										
	2,6	1,75	1596	13000	1200	60000										
	3,0	2,05	1365	13000	1200	60000										
	3,7	2,52	1110	13000	1200	60000										
	4,2	2,83	990	13000	1200	60000										
	4,6	3,15	889	13000	1200	60000										
	5,3	3,59	780	13000	1200	60000										
	5,9	4,02	696	13000	1200	60000										
	6,9	4,71	595	13000	1200	60000										
	7,4	5,13	546	13000	1200	60000						İRA İRF İRAF	144			343 344 345 564 578 604
	8,3	5,74	488	13000	1200	60000										
	9,2	6,39	438	13000	1200	60000										
	10,5	7,29	384	13000	1200	60000										
	11,8	8,13	345	13000	1200	60000										
	13,2	9,10	308	13000	1200	60000										
	14,7	10	276	13000	1200	60000										
	15,4	11	263	13000	1200	60000										
	17,2	12	236	13000	1200	60000										
	19,0	13	213	13000	1200	60000										
	21,0	15	192	13000	1200	60000										
	23,2	16	175	13000	1200	60000	İRA İRF İRAF	143			337 338 339 526 540 566					
	24,7	17	161	13000	3750	60000										
	27,2	19	146	13000	3750	60000										
	30,0	21	133	13000	3750	60000										
	38,6	27	103	13000	3750	60000										
	43,2	30	92,24	13000	3750	60000										
	48,1	34	82,86	13000	3750	60000										
54,9	39	72,71	13000	3750	60000											
61,5	43	64,89	13000	3750	60000											
68,5	48	58,24	13000	3750	60000											
71,9	50	55,48	13000	3750	60000											
80,1	56	49,79	13000	3750	60000											
88,9	62	44,88	13000	3750	60000											
98,2	69	40,61	13000	3750	60000											
108	76	36,86	13000	3750	60000											
119	84	33,53	13000	3750	60000											
143	100	27,90	13000	3750	60000	İRA İRF İRAF	142			337 338 339 476 490 516						
171	120	23,32	13000	3750	60000											
199	140	20,02	13000	3750	60000											
196	140	20,02	13000	3750	60000											
216	154	18,16	13000	3750	60000											
242	173	16,20	13000	3750	60000											
270	192	14,56	13000	3750	60000											
308	219	12,77	13000	3750	60000											





Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie	$F_{Q1}$ Rad. Yük Over Loads Charges radiales	$F_{Q10}$ Rad. Yük Over Loads Charges radiales	Tip Type Types			
	[kW]	[r.p.m] ( $n_1=2800rpm$ )	[Nm]	[N]	[N]	kg				
13000 Nm	345	246	11,40	13000	3750	60000	İRA İRF İRAF	142	337 338 339	476 490 516
	384	274	10,23	13000	3750	60000				
	426	304	9,222	13000	3750	60000				
	471	336	8,344	13000	3750	60000				
	519	370	7,573	13000	3750	60000				
	570	406	6,890	13000	3750	60000				
	685	488	5,733	13000	3750	60000				
	820	584	4,792	13000	3750	60000				
18000 Nm	0,81	0,40	7067	18000	3750	110000	İRA İRF İRAF	153 İR 103	379 380 381	1170 1220 1240
	0,91	0,45	6223	18000	3750	110000				
	1,0	0,50	5577	18000	3750	110000				
	1,1	0,56	5035	18000	3750	110000				
	1,2	0,61	4570	18000	3750	110000				
	1,6	0,78	3586	18000	3750	110000				
	1,8	0,87	3205	18000	3750	110000				
	2,2	1,08	2588	18000	3750	110000				
	0,21	0,10	27213	18000	2500	110000	İRA İRF İRAF	153 İR 93	373 374 375	1070 1120 1140
	0,24	0,12	23722	18000	2500	110000				
	0,29	0,14	19875	18000	2500	110000				
	0,33	0,16	17651	18000	2500	110000				
	0,36	0,17	16020	18000	2500	110000				
	0,40	0,20	14354	18000	2500	110000				
	0,44	0,22	13011	18000	2500	110000				
	0,51	0,25	11306	18000	2500	110000				
	0,58	0,28	9958	18000	2500	110000				
	0,64	0,31	8987	18000	2500	110000				
	0,76	0,37	7647	18000	2500	110000				
	0,87	0,42	6643	18000	2500	110000				
	0,95	0,46	6078	18000	2500	110000				
	1,0	0,51	5519	18000	2500	110000				
	1,3	0,65	4312	18000	2500	110000				
	1,6	0,76	3704	18000	2500	110000				
	1,9	0,90	3098	18000	2500	110000				
	2,2	1,08	2596	18000	2500	110000				
	2,5	1,22	2288	18000	2500	110000				
	2,8	1,38	2033	18000	2500	110000				
	3,1	1,54	1819	18000	2500	110000				
	3,5	1,71	1637	18000	2500	110000				
	4,2	2,04	1371	18000	2500	110000				
	4,6	2,26	1240	18000	2500	110000				
	5,6	2,73	1024	18000	2500	110000				
	6,9	3,39	825	18000	2500	110000				
	7,2	3,57	784	18000	2500	110000				
	8,1	4,03	695	18000	2500	110000				
	9,2	4,57	612	18000	2500	110000				
	10,2	5,10	549	18000	2500	110000				
	11,3	5,65	495	18000	2500	110000				
	13,0	6,48	432	18000	2500	110000				
15,5	7,74	362	18000	2500	110000					
17,4	8,71	321	18000	2500	110000					
19,2	9,60	292	18000	2500	110000					
21,2	11	264	18000	2500	110000					
24,4	12	230	18000	2500	110000					
24,9	13	222	18000	5250	110000	İRA İRF İRAF	154	367 368 369	1037 1069 1089	
27,4	14	202	18000	5250	110000					
30,9	16	179	18000	5250	110000					
35,1	18	157	18000	5250	110000					
						İRA İRF İRAF	153	361 362 363	1006 1056 1076	



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=2800rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>18000 Nm</b>	39,1	20	141	18000	5250	110000	<b>İRA İRF İRAF</b>	<b>153</b>	361 362 363	1006 1056 1076
	43,3	22	127	18000	5250	110000				
	49,7	25	111	18000	5250	110000				
	59,4	30	93,05	18000	5250	110000				
	66,8	34	82,63	18000	5250	110000				
	73,6	37	75,00	18000	5250	110000				
	81,2	41	67,98	18000	5250	110000				
	93,5	47	59,07	18000	5250	110000				
	106	54	52,03	18000	5250	110000				
	125	63	44,27	18000	5250	110000				
	144	73	38,46	18000	5250	110000				
	157	80	35,19	18000	5250	110000				
	201	102	27,50	18000	5250	110000				
	234	119	23,62	18000	5250	110000				
	193	98	28,55	18000	5250	110000				
	213	108	25,93	18000	5250	110000				
	234	119	23,57	18000	5250	110000				
	262	133	21,09	18000	5250	110000				
	291	147	19,00	18000	5250	110000				
	321	163	17,22	18000	5250	110000				
	352	178	15,69	18000	5250	110000				
	385	195	14,35	18000	5250	110000				
	492	250	11,22	18000	5250	110000				
	516	262	10,70	18000	5250	110000				
	567	287	9,744	18000	5250	110000				
	619	314	8,915	18000	5250	110000				
	675	342	8,186	18000	5250	110000				
	793	402	6,965	18000	5250	110000				
	923	468	5,983	18000	5250	110000				





Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg					
85 Nm	0,16	17	81,37	85	390	2100	İRA İRF İRAF	43	175 176 177	10 11 12					
	0,19	20	70,05	85	390	2100									
	0,21	23	60,90	85	390	2100									
	0,24	26	53,33	85	390	2100									
	0,28	30	46,98	85	390	2100									
	0,31	33	41,85	85	390	2100									
	0,36	38	36,38	85	390	2100									
	0,41	44	31,86	85	390	2100									
	0,46	50	28,06	85	390	2100									
	0,50	53	26,19	85	390	2100									
	0,53	56	24,83	85	390	2000									
	0,58	62	22,62	85	390	2000									
	0,62	66	21,11	85	390	2000									
	0,65	70	20,01	85	390	2000									
	0,70	75	18,59	85	390	2000									
	0,73	79	17,76	85	390	1850									
	0,79	85	16,45	85	390	1850									
	0,82	89	15,81	85	390	1850									
	0,89	96	14,60	85	390	1850									
	0,93	99	14,09	85	390	1800									
	1,0	108	13,00	85	390	1800									
	1,1	121	11,58	85	390	1800									
	1,1	125	11,24	85	390	800									
	1,3	142	9,845	85	390	800									
	1,5	161	8,672	85	390	800									
	1,7	182	7,673	85	390	750									
	1,9	204	6,872	85	390	750									
	2,1	230	6,080	85	390	750									
	2,3	253	5,538	85	390	750									
	2,4	259	5,398	85	390	750									
	2,6	286	4,900	85	390	750									
	2,7	291	4,803	85	390	750									
	3,0	322	4,350	85	390	750									
3,0	327	4,280	85	390	750										
3,3	362	3,870	85	390	750										
3,7	406	3,449	85	390	750										
150 Nm	0,00	0,16	8598	150	390	4250	İRA İRF İRAF	53 İR 43	187 188 189	26 28 29					
	0,00	0,19	7402	150	390	4250									
	0,00	0,22	6435	150	390	4250									
	0,00	0,26	5419	150	390	4250									
	0,01	0,30	4699	150	390	4250									
	0,01	0,34	4117	150	390	4250									
	0,01	0,42	3338	150	390	4250									
	0,01	0,47	2948	150	390	4250									
	0,01	0,52	2679	150	390	4250									
	0,01	0,60	2346	150	390	4250									
	0,01	0,67	2085	150	390	4250									
	0,01	0,75	1863	150	390	4250									
	0,01	0,85	1641	150	390	4250									
	0,02	0,96	1462	150	390	4250									
	0,02	1,10	1271	150	390	4250									
	0,02	1,16	1204	150	390	4250									
	0,02	1,34	1046	150	390	4250									
	0,03	1,53	917	150	390	4250									
	0,03	1,73	809	150	390	4250									
												İRA İRF İRAF	52 İR 43	187 188 189	25 27 28



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>150 Nm</b>	0,03	1,97	709	150	390	4250	İRA İRF İRAF	52 İR 43	187	25
	0,04	2,22	630	150	390	4250			188	27
	0,04	2,52	555	150	390	4250			189	28
	0,05	2,82	496	150	390	4250	İRA İRF İRAF	53 İR 42	187 188 189	25 27 28
	0,02	1,18	1188	150	390	4250				
	0,02	1,35	1040	150	390	4250				
	0,03	1,53	916	150	390	4250				
	0,03	1,59	878	150	390	4250				
	0,03	1,81	772	150	390	4250				
	0,04	2,09	669	150	390	4250				
	0,04	2,39	586	150	390	4250				
	0,05	2,70	519	150	390	4250				
	0,06	3,33	421	150	390	4250				
	0,06	3,71	377	150	390	4250				
	0,07	4,20	333	150	390	4250				
	0,08	4,76	294	150	390	4250				
	0,09	5,24	267	150	390	4250				
	0,10	5,88	238	150	390	4250				
	0,12	7,25	193	150	390	4250				
	0,14	8,28	169	150	390	4250				
	0,16	9,46	148	150	390	4250				
	0,18	11	131	150	390	4250				
	0,20	12	116	150	390	4250				
	0,22	13	106	150	475	4250				
	0,26	16	88,98	150	475	4250				
	0,30	18	77,17	150	475	4250				
	0,34	21	67,60	150	475	4250				
	0,42	26	54,82	150	475	4250				
	0,48	29	48,41	150	475	4250				
	0,52	32	43,99	150	475	4250				
	0,59	36	39,10	150	475	4250				
	0,66	40	34,93	150	475	4250				
	0,73	45	31,34	150	475	4250				
	0,82	50	28,21	150	475	4250				
	0,90	55	25,46	150	475	4250				
	1,00	61	23,03	150	475	4250				
	1,1	64	21,88	150	475	4250				
	1,2	71	19,70	150	475	4250				
	1,3	79	17,78	150	475	4250				
	1,4	87	16,08	150	475	4250				
1,3	81	17,18	150	475	3500					
1,5	93	15,05	150	475	3500					
1,7	105	13,29	150	475	3500					
1,9	119	11,81	150	475	3500					
2,1	133	10,56	150	475	3500					
2,4	148	9,470	150	475	3500					
2,5	158	8,888	150	475	3500					
2,8	176	7,974	150	475	3500					
3,2	195	7,178	150	475	3500					
3,5	216	6,479	150	475	3500					
3,9	241	5,821	150	475	3500					
4,3	266	5,254	150	475	3500					
4,5	278	5,032	150	475	3500					
5,0	310	4,515	150	475	3500					
5,6	344	4,064	150	475	3500					
							İRA İRF İRAF	52	181	15
									182	17
									183	18



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=1400rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
150 Nm	6,2	382	3,668	150	475	3500	İRA İRF İRAF	52	181 182 183	15 17 18
	6,8	422	3,317	150	475	3500				
	7,4	458	3,059	150	475	3500				
	7,8	482	2,906	150	475	3500				
	8,8	544	2,572	150	475	3500				
410 Nm	0,49	11	128	410	590	7000	İRA İRF İRAF	631	193 194 195	29 34 35
	0,53	12	119	410	590	7000				
	0,65	15	96,27	410	590	7000				
	0,72	16	87,81	410	590	7000				
	0,75	17	83,37	410	590	7000				
	0,89	20	70,96	410	590	7000				
	1,0	23	61,03	410	590	7000				
	1,2	27	51,65	410	590	7000				
	1,3	30	46,79	410	590	7000				
	1,5	33	42,55	410	590	7000				
	1,8	39	35,74	410	590	7000				
	2,1	47	29,85	410	590	7000				
	2,5	56	25,16	410	590	7000				
	2,9	65	21,50	410	590	7000				
	3,1	68	20,53	410	590	7000				
	3,5	77	18,18	410	590	7000				
	4,0	90	15,59	410	590	7000				
	4,6	101	13,81	410	590	7000				
	3,7	84	16,67	410	590	7000				
	4,1	93	15,13	410	590	7000				
	4,6	104	13,48	410	590	7000				
	5,1	115	12,21	410	590	7000				
	5,6	126	11,10	410	590	7000				
	6,1	139	10,07	410	590	7000				
	6,6	150	9,358	410	590	7000				
	7,3	165	8,510	410	590	7000				
	8,1	182	7,673	410	590	7000				
	8,7	197	7,108	410	590	7000				
	9,6	216	6,480	410	590	7000				
	10,3	234	5,992	410	590	7000				
	10,8	245	5,723	410	590	7000				
	11,6	263	5,325	410	590	7000				
	12,2	277	5,060	410	590	7000				
13,8	311	4,499	410	590	7000					
15,5	350	3,998	410	590	7000					
16,7	377	3,711	410	590	7000					
18,8	426	3,287	410	590	7000					
21,2	480	2,917	410	590	7000					
23,9	540	2,592	410	590	7000					
25,3	573	2,444	410	590	7000					
410 Nm	0,00	0,10	13520	410	475	7000	İRA İRF İRAF	63 İR 53	223 224 225	44 49 50
	0,01	0,11	12617	410	475	7000				
	0,01	0,12	11345	410	475	7000				
	0,01	0,13	10587	410	475	7000				
	0,01	0,14	9873	410	475	7000				
	0,01	0,15	9214	410	475	7000				
	0,01	0,19	7479	410	475	7000				
	0,01	0,22	6508	410	475	7000				
	0,01	0,23	6194	410	475	7000				
	0,01	0,24	5936	410	475	7000				
	0,01	0,24	5780	410	475	7000				
	0,01	0,25	5636	410	475	7000				



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=1400\text{rpm}$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg			
	$P_1$ [kW]	$n_2$ [r.p.m]	$i$	$M_2$ [Nm]	$F_{Q1}$ [N]	$F_{Q10}$ [N]						
410 Nm	0,01	0,29	4814	410	475	7000	İRA İRF İRAF	63 İR 53	223	44		
	0,01	0,30	4661	410	475	7000						
	0,01	0,31	4570	410	475	7000						
	0,02	0,33	4251	410	475	7000						
	0,02	0,35	4036	410	475	7000						
	0,02	0,36	3890	410	475	7000						
	0,02	0,41	3436	410	475	7000						
	0,02	0,47	2955	410	475	7000						
	0,02	0,52	2685	410	475	7000						
	0,03	0,56	2500	410	475	7000						
	0,03	0,64	2198	410	475	7000						
	0,03	0,68	2052	410	475	7000						
	0,04	0,78	1797	410	475	7000						
	0,04	0,82	1701	410	475	7000						
	0,04	0,85	1654	410	475	7000						
	0,04	0,88	1587	410	475	7000						
	0,04	0,93	1509	410	475	7000						
	0,05	0,98	1432	410	475	7000						
	0,05	1,09	1280	410	475	7000						
	0,05	1,15	1219	410	475	7000						
	0,06	1,20	1167	410	475	7000						
	0,06	1,26	1108	410	475	7000						
	0,06	1,33	1049	410	475	7000						
	0,07	1,48	943	410	475	7000						
	0,07	1,58	887	410	475	7000						
	0,08	1,73	811	410	475	7000						
	0,08	1,74	804	410	475	7000						
	0,09	1,92	731	410	475	7000						
	0,09	2,04	686	410	475	7000						
	0,10	2,25	622	410	475	7000						
	0,11	2,28	614	410	475	7000						
	0,11	2,47	566	410	475	7000						
	0,12	2,60	538	410	475	7000						
	0,14	2,95	475	410	475	7000						
	0,14	3,12	449	410	475	7000						
	0,15	3,30	424	410	475	7000						
	0,16	3,54	396	410	475	7000						
	0,20	4,39	319	410	475	7000						
	0,22	4,81	291	410	475	7000						
	0,23	5,06	276	410	475	7000						
	0,27	5,95	235	410	475	7000						
	0,30	6,55	214	410	475	7000						
	0,35	7,69	182	410	475	7000						
	0,41	8,94	157	410	475	7000						
	0,48	11	132	410	475	7000						
	0,49	11	128	410	590	7000						
	0,53	12	119	410	590	7000						
0,65	15	96,27	410	590	7000							
0,72	16	87,81	410	590	7000							
0,75	17	83,37	410	590	7000							
0,89	20	70,96	410	590	7000							
1,0	23	61,03	410	590	7000							
1,2	27	51,65	410	590	7000							
1,3	30	46,79	410	590	7000							
1,5	33	42,55	410	590	7000							
1,8	39	35,74	410	590	7000							
2,1	47	29,85	410	590	7000							
							İRA İRF İRAF	64	217	32		
											218	37
											219	38
							İRA İRF İRAF	63	211	29		
											212	34
											213	35



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
410 Nm	2,5	56	25,16	410	590	7000	İRA İRF İRAF	63	211 212 213	29 34 35	
	2,9	65	21,50	410	590	7000					
	3,1	68	20,53	410	590	7000					
	3,5	77	18,18	410	590	7000					
	4,0	90	15,59	410	590	7000					
	4,6	101	13,81	410	590	7000					
	3,7	84	16,67	410	590	4500					
	4,1	93	15,13	410	590	4500					
	4,6	104	13,48	410	590	4500					
	5,1	115	12,21	410	590	4500					
	5,6	126	11,10	410	590	4500					
	6,1	139	10,07	410	590	4500					
	6,6	150	9,358	410	590	4500					
	7,3	165	8,510	410	590	4500					
	8,1	182	7,673	410	590	4500					
	8,7	197	7,108	410	590	4500					
	9,6	216	6,480	410	590	4500					
	10,3	234	5,992	410	590	4500					
	10,8	245	5,723	410	590	4500					
	11,6	263	5,325	410	590	4500					
	12,2	277	5,060	410	590	4500					
	13,8	311	4,499	410	590	4500					
	15,5	350	3,998	410	590	4500					
	16,7	377	3,711	410	590	4500					
	18,8	426	3,287	410	590	4500					
21,2	480	2,917	410	590	4500						
23,9	540	2,592	410	590	4500						
25,3	573	2,444	410	590	4500						
600 Nm	0,01	0,09	16071	600	475	10100	İRA İRF İRAF	731 İR 53	241 242 243	54 57 60	
	0,01	0,10	14258	600	475	10100					
	0,01	0,11	12326	600	475	10100					
	0,01	0,13	10380	600	475	10100					
	0,01	0,16	9001	600	475	10100					
	0,01	0,18	7782	600	475	10100					
	0,01	0,20	6862	600	475	10100					
	0,02	0,23	6012	600	475	10100					
	0,02	0,26	5301	600	475	10100					
	0,02	0,33	4299	600	475	10100					
	0,03	0,37	3796	600	475	10100					
	0,03	0,41	3450	600	475	10100					
	0,03	0,46	3068	600	475	10100					
	0,04	0,51	2747	600	475	10100					
	0,04	0,57	2443	600	475	10100					
	0,04	0,54	2613	600	475	10100					
	0,04	0,60	2318	600	475	10100					
	0,05	0,70	2004	600	475	10100					
	0,05	0,75	1872	600	475	10100					
	0,06	0,85	1640	600	475	10100					
	0,07	0,97	1446	600	475	10100					
	0,07	1,09	1286	600	475	10100					
	0,08	1,19	1172	600	475	10100					
	0,09	1,35	1035	600	475	10100					
	0,10	1,52	921	600	475	10100					
	0,11	1,70	825	600	475	10100					
	0,13	1,88	743	600	475	10100					
	0,14	2,07	675	600	475	10100					
								İRA İRF İRAF	721 İR 53	241 242 243	53 56 59



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
<b>600 Nm</b>	0,22	3,36	417	600	475	10100	İRA İRF İRAF	721	İR 52	241	50
	0,26	3,84	365	600	475	10100					
	0,29	4,35	322	600	475	10100					
	0,33	4,88	287	600	475	10100					
	0,36	5,47	256	600	475	10100					
	0,41	6,19	226	600	475	10100					
	0,46	6,97	201	600	475	10100					
	0,52	7,78	180	600	475	10100					
	0,58	8,64	162	600	475	10100					
	0,64	9,66	145	600	475	10100					
	0,15	2,25	622	600	475	10100					
	0,17	2,60	538	600	475	10100					
	0,20	3,01	465	600	475	10100					
	0,21	3,22	435	600	475	10100					
	0,24	3,65	384	600	475	10100					
	0,28	4,14	338	600	475	10100					
	0,31	4,65	301	600	475	10100					
	0,39	5,84	240	600	475	10100					
	0,50	7,43	188	600	475	10100					
	0,55	8,30	169	600	475	10100					
	0,62	9,22	152	600	475	10100					
	0,61	9,21	152	600	1000	10100					
	0,68	10	135	600	1000	10100					
	0,79	12	117	600	1000	10100					
	0,91	14	101	600	1000	10100					
	1,0	16	88,93	600	1000	10100					
	1,2	18	78,43	600	1000	10100					
	1,3	20	69,75	600	1000	9700					
	1,5	22	62,46	600	1000	9700					
	1,7	25	55,54	600	1000	9700					
	1,9	28	49,74	600	1000	9700					
	2,1	31	44,79	600	1000	9700					
	2,3	35	39,89	600	1000	9500					
	2,6	40	35,22	600	1000	9500					
	2,9	45	31,31	600	1000	9500					
	3,3	50	27,97	600	1000	9250					
	3,7	56	25,10	600	1000	9250					
	4,1	62	22,59	600	1000	9250					
	2,9	44	31,62	600	1000	7500					
	3,2	50	28,06	600	1000	7500					
	3,7	58	24,25	600	1000	7500					
	4,2	65	21,39	600	1000	7500					
4,8	74	19,02	600	1000	7250						
5,3	82	17,03	600	1000	7250						
5,9	91	15,40	600	1000	7250						
6,6	102	13,73	600	1000	7250						
7,5	115	12,13	600	1000	7250						
8,1	125	11,17	600	1000	7250						
9,2	142	9,866	600	1000	7000						
10,3	160	8,769	600	1000	7000						
11,6	179	7,834	600	1000	7000						
12,9	199	7,029	600	1000	7000						
14,3	221	6,327	600	1000	7000						
15,9	245	5,710	600	1000	7000						
17,6	271	5,164	600	1000	7000						
19,4	299	4,677	600	1000	7000						





Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=1400rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
600 Nm	21,4	330	4,240	600	1000	7000	İRA İRF İRAF	721	229 230 231	37 40 43
	23,8	368	3,809	600	1000	7000				
	26,4	407	3,438	600	1000	7000				
	29,2	450	3,109	600	1000	7000				
	32,2	497	2,816	600	1000	7000				
	35,5	548	2,553	600	1000	7000				
870 Nm	0,01	0,09	16321	870	475	12100	İRA İRF İRAF	73 İR 53	259 260 261	53 56 59
	0,01	0,10	14110	870	475	12100				
	0,01	0,10	13744	870	475	12100				
	0,01	0,12	11919	870	475	12100				
	0,01	0,13	10947	870	475	12100				
	0,01	0,14	10304	870	475	12100				
	0,01	0,15	9654	870	475	12100				
	0,02	0,16	8586	870	475	12100				
	0,02	0,18	7688	870	475	12100				
	0,02	0,22	6474	870	475	12100				
	0,02	0,25	5674	870	475	12100				
	0,03	0,26	5287	870	475	12100				
	0,03	0,32	4423	870	475	12100				
	0,04	0,35	3989	870	475	12100				
	0,04	0,40	3522	870	475	12100				
	0,04	0,44	3153	870	475	12100				
	0,05	0,50	2817	870	475	12100				
	0,06	0,55	2527	870	475	12100				
	0,07	0,66	2106	870	475	12100				
	0,07	0,69	2017	870	475	12100				
	0,07	0,74	1882	870	475	12100				
	0,08	0,82	1703	870	475	12100				
	0,09	0,92	1520	870	475	12100				
	0,10	0,99	1410	870	475	12100				
	0,11	1,11	1265	870	475	12100				
	0,12	1,18	1187	870	475	12100				
	0,14	1,43	981	870	475	12100				
	0,15	1,52	921	870	475	12100				
	0,16	1,62	865	870	475	12100				
	0,17	1,72	812	870	475	12100				
	0,18	1,82	769	870	475	12100				
	0,19	1,94	722	870	475	12100				
	0,21	2,16	648	870	475	12100				
	0,24	2,43	576	870	475	12100				
	0,30	3,13	447	870	475	12100				
	0,34	3,55	394	870	475	12100				
0,39	3,99	351	870	475	12100					
0,43	4,46	314	870	475	12100					
0,48	4,95	283	870	475	12100					
0,86	9,06	154	870	1200	12100					
1,00	10	134	870	1200	12100					
1,3	14	103	870	1200	12100					
1,5	15	91,36	870	1200	12100					
1,6	17	81,25	870	1200	12100					
1,8	19	72,76	870	1200	12100					
2,0	21	65,52	870	1200	12100					
2,2	24	59,42	870	1200	12100					
2,5	27	52,47	870	1200	12100					
2,9	30	46,36	870	1200	12100					
3,2	34	41,67	870	1200	12100					
3,6	37	37,38	870	1200	12100					
74	0,39	3,99	351	870	475	12100	İRA İRF İRAF	74	253 254 255	45 48 51
	0,43	4,46	314	870	475	12100				
	0,48	4,95	283	870	475	12100				
	0,86	9,06	154	870	1200	12100				
	1,00	10	134	870	1200	12100				
	1,3	14	103	870	1200	12100				
	1,5	15	91,36	870	1200	12100				
	1,6	17	81,25	870	1200	12100				
	1,8	19	72,76	870	1200	12100				
	2,0	21	65,52	870	1200	12100				
	2,2	24	59,42	870	1200	12100				
	2,5	27	52,47	870	1200	12100				
73	2,9	30	46,36	870	1200	12100	İRA İRF İRAF	73	247 248 249	37 40 43
	3,2	34	41,67	870	1200	12100				
	3,6	37	37,38	870	1200	12100				
	0,11	1,11	1265	870	475	12100				
	0,12	1,18	1187	870	475	12100				
	0,14	1,43	981	870	475	12100				
73 İR 52	0,15	1,52	921	870	475	12100	İRA İRF İRAF	73 İR 52	259 260 261	52 55 58
	0,16	1,62	865	870	475	12100				
	0,17	1,72	812	870	475	12100				
	0,18	1,82	769	870	475	12100				
	0,19	1,94	722	870	475	12100				
	0,21	2,16	648	870	475	12100				



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg
870 Nm	4,3	45	31,16	870	1200	12100	İRA İRF İRAF	73	247 248 249	37 40 43
	4,8	50	27,84	870	1200	12100				
	5,3	56	24,98	870	1200	12100				
	5,9	62	22,48	870	1200	12100				
	6,6	69	20,29	870	1200	12100				
	7,3	76	18,35	870	1200	12100				
	8,0	84	16,62	870	1200	12100				
	8,9	93	15,07	870	1200	12100				
	9,7	104	13,53	870	1200	9000				
	10,9	116	12,02	870	1200	9000				
	12,2	130	10,74	870	1200	9000				
	14,1	150	9,337	870	1200	9000				
	15,8	168	8,333	870	1200	9000				
	17,6	187	7,476	870	1200	9000				
	19,5	208	6,730	870	1200	9000				
	21,6	230	6,074	870	1200	9000				
	23,9	255	5,494	870	1200	9000				
	26,3	280	4,995	870	1200	9000				
	29,2	311	4,497	870	1200	9000				
	32,4	345	4,059	870	1200	9000				
35,8	381	3,670	870	1200	9000					
39,5	421	3,324	870	1200	9000					
43,6	464	3,014	870	1200	9000					
48,1	512	2,733	870	1200	9000					
51,1	545	2,571	870	1200	9000					
1500 Nm	0,01	0,08	18231	1500	590	17000	İRA İRF İRAF	83 İR 53	277 278 279	120 125 127
	0,02	0,09	15217	1500	590	17000				
	0,02	0,10	13984	1500	590	17000				
	0,02	0,11	12302	1500	590	17500				
	0,02	0,13	10968	1500	590	17500				
	0,03	0,16	8893	1500	590	17500				
	0,03	0,18	7902	1500	590	17500				
	0,03	0,20	7092	1500	590	17500				
	0,04	0,22	6393	1500	590	17500				
	0,04	0,26	5484	1500	590	17500				
	0,05	0,28	4922	1500	590	17500				
	0,05	0,32	4437	1500	590	17500				
	0,06	0,35	4015	1500	590	17500				
	0,07	0,39	3593	1500	590	17500				
	0,07	0,43	3239	1500	590	17500				
	0,08	0,48	2930	1500	590	17500				
	0,09	0,53	2659	1500	590	17500				
	0,10	0,58	2419	1500	590	17500				
	0,11	0,63	2205	1500	590	17500				
	0,12	0,70	2013	1500	590	17500				
	0,13	0,76	1840	1500	590	17500				
	0,13	0,79	1778	1500	590	17500				
	0,15	0,89	1580	1500	590	17500				
	0,17	0,99	1418	1500	590	17500				
	0,18	1,07	1308	1500	590	17500				
	0,19	1,09	1279	1500	590	17500				
	0,20	1,20	1162	1500	590	17500				
	0,20	1,21	1157	1500	590	17500				
	0,23	1,33	1050	1500	590	17500				
	0,23	1,34	1043	1500	590	17500				
	0,25	1,49	940	1500	590	17500				
	0,28	1,65	850	1500	590	17500				
	0,31	1,81	772	1500	590	17500				
0,33	1,94	723	1500	590	17500					
							İRA İRF İRAF	82 İR 53	277 278 279	130 135 137



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
	<b>1500 Nm</b>									
0,33	2,00	700	1500	590	17500	İRA İRF İRAF	84	271	106	
0,37	2,21	635	1500	590	17500					
0,40	2,42	579	1500	590	17500					
0,44	2,64	530	1500	590	17500					
0,48	2,87	487	1500	590	17500					
0,55	3,27	428	1500	590	17500					
0,61	3,67	382	1500	590	17500					
0,68	4,08	343	1500	590	17500					
0,75	4,52	310	1500	590	17500					
0,85	5,09	275	1500	590	17500					
0,86	5,13	273	1500	590	17500					
0,96	5,77	243	1500	590	17500					
1,1	6,43	218	1500	590	17500					
1,2	7,13	196	1500	590	17500					
1,3	8,02	174	1500	590	17500					
1,4	8,31	168	1500	590	17500					
0,92	5,59	251	1500	1550	17500	İRA İRF İRAF	83	265	79	
1,0	6,33	221	1500	1550	17500					
1,1	6,71	209	1500	1550	17500					
1,2	7,50	187	1500	1550	17500					
1,4	8,32	168	1500	1550	17500					
1,5	9,17	153	1500	1550	17500					
1,7	10	139	1500	1550	17500					
1,8	11	127	1500	1550	17500					
2,0	12	117	1500	1550	17500					
2,2	14	103	1500	1550	17500					
2,5	15	91,85	1500	1550	17500					
2,8	17	82,47	1500	1550	17500					
3,1	19	74,47	1500	1550	17500					
3,5	21	66,18	1500	1550	17500					
3,9	24	59,39	1500	1550	17500					
4,3	26	53,54	1500	1550	17500					
4,8	29	47,59	1500	1550	17500					
5,0	30	45,93	1500	1550	17500					
5,6	34	41,22	1500	1550	17500					
6,2	38	37,16	1500	1550	17500					
7,0	42	33,03	1500	1550	17500					
7,6	47	30,08	1500	1550	17500					
8,5	52	27,12	1500	1550	17500					
9,4	57	24,54	1500	1550	17500					
10,3	63	22,27	1500	1550	17500					
11,4	69	20,26	1500	1550	17500					
12,5	76	18,47	1500	1550	17500					
13,6	83	16,86	1500	1550	17500					
14,9	91	15,41	1500	1550	17500					
15,2	94	14,90	1500	1550	13000	İRA İRF İRAF	82	265	89	
17,1	106	13,24	1500	1550	13000					
19,1	118	11,88	1500	1550	13000					
21,2	131	10,71	1500	1550	13000					
23,4	144	9,689	1500	1550	13000					
25,8	159	8,793	1500	1550	13000					
27,5	170	8,244	1500	1550	13000					
30,5	188	7,432	1500	1550	13000					
33,7	208	6,724	1500	1550	13000					
37,1	229	6,103	1500	1550	13000					
40,8	252	5,552	1500	1550	13000					
44,8	277	5,061	1500	1550	13000					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
1500 Nm	49,1	303	4,620	1500	1550	13000	İRA İRF İRAF	82	265 266 267	89 94 96
	53,7	332	4,222	1500	1550	13000				
	55,9	346	4,052	1500	1550	13000				
	61,4	379	3,694	1500	1550	13000				
	67,2	415	3,372	1500	1550	13000				
	73,5	454	3,082	1500	1550	13000				
	77,5	478	2,926	1500	1550	13000				
	84,8	524	2,674	1500	1550	13000				
	95,5	590	2,373	1500	1550	13000				
2800 Nm	0,02	0,06	22852	2800	590	25000	İRA İRF İRAF	93 İR 63	295 296 297	154 164 174
	0,02	0,07	20623	2800	590	25000				
	0,02	0,07	18725	2800	590	25000				
	0,02	0,08	18426	2800	590	25000				
	0,03	0,08	17911	2800	590	25000				
	0,03	0,08	16707	2800	590	25000				
	0,03	0,08	16629	2800	590	25000				
	0,03	0,09	15663	2800	590	25000				
	0,03	0,09	15160	2800	590	25000				
	0,03	0,09	15098	2800	590	25000				
	0,03	0,10	14679	2800	590	25000				
	0,03	0,10	14410	2800	590	25000				
	0,03	0,10	13583	2800	590	25000				
	0,03	0,11	13137	2800	590	25000				
	0,03	0,11	13037	2800	590	25000				
	0,04	0,11	12258	2800	590	25000				
	0,04	0,12	11681	2800	590	25000				
	0,04	0,12	11577	2800	590	25000				
	0,04	0,13	11130	2800	590	25000				
	0,04	0,13	10542	2800	590	25000				
	0,04	0,14	10288	2800	590	25000				
	0,05	0,15	9565	2800	590	25000				
	0,05	0,15	9309	2800	590	25000				
	0,05	0,15	9206	2800	590	25000				
	0,05	0,16	8565	2800	590	25000				
	0,05	0,17	8198	2800	590	25000				
	0,06	0,17	8006	2800	590	25000				
	0,06	0,18	7808	2800	590	25000				
	0,06	0,19	7366	2800	590	25000				
	0,06	0,19	7224	2800	590	25000				
	0,07	0,20	6881	2800	590	25000				
	0,07	0,21	6715	2800	590	25000				
	0,07	0,22	6420	2800	590	25000				
	0,07	0,23	6115	2800	590	25000				
	0,08	0,24	5918	2800	590	25000				
	0,08	0,24	5745	2800	590	25000				
	0,08	0,26	5472	2800	590	25000				
	0,09	0,27	5259	2800	590	25000				
	0,09	0,27	5169	2800	590	25000				
	0,09	0,29	4872	2800	590	25000				
	0,10	0,30	4706	2800	590	25000				
	0,10	0,30	4673	2800	590	25000				
0,10	0,33	4294	2800	590	25000					
0,11	0,33	4241	2800	590	25000					
0,11	0,33	4190	2800	590	25000					



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$	$n_2$	$i$	$M_2$	$F_{Q1}$	$F_{Q10}$	Tip Type Types			
	GÜÇ Power Puissance	Çıkış Devri Output Speeds Vitesse de sortie	Tahvil Ratio Rapport de réduction	Çıkış Momenti Output Torque Couple de sortie	Rad. Yük Over Loads Charges radiales	Rad. Yük Over Loads Charges radiales				
	[kW]	[r.p.m] ( $n_1=1400rpm$ )	[Nm]	[N]	[N]	[N]				
<b>2800 Nm</b>	0,11	0,35	3954	2800	590	25000	İRA İRF İRAF	93 İR 62	295 296 297	149 159 169
	0,12	0,38	3688	2800	590	25000				
	0,12	0,39	3582	2800	590	25000				
	0,13	0,42	3341	2800	590	25000				
	0,14	0,43	3241	2800	590	25000				
	0,15	0,48	2936	2800	590	25000				
	0,15	0,49	2878	2800	590	25000				
	0,17	0,54	2607	2800	590	25000				
	0,19	0,60	2336	2800	590	25000				
	0,21	0,66	2108	2800	590	25000				
	0,23	0,73	1914	2800	590	25000				
	0,28	0,87	1601	2800	590	25000				
	0,30	0,95	1473	2800	590	25000				
	0,33	1,04	1343	2800	590	25000				
	0,37	1,18	1183	2800	590	25000				
	0,42	1,33	1052	2800	590	25000				
	0,47	1,49	941	2800	590	25000				
	0,53	1,67	838	2800	590	25000				
	0,60	1,89	739	2800	590	25000				
	0,67	2,13	656	2800	590	25000				
	0,75	2,39	587	2800	590	25000				
	0,84	2,65	528	2800	590	25000				
	0,91	2,93	478	2800	590	25000				
	1,0	3,25	431	2800	590	25000				
	1,1	3,68	380	2800	590	25000				
	1,3	4,14	338	2800	590	25000				
	1,4	4,63	302	2800	590	25000				
	1,6	5,20	269	2800	590	25000				
	1,8	5,90	237	2800	590	25000				
	2,1	6,64	211	2800	590	25000				
	2,3	7,42	189	2800	590	25000				
	2,6	8,25	170	2800	590	25000				
	2,8	9,12	153	2800	590	25000				
	1,5	4,77	293	2800	2500	25000				
	1,6	5,11	274	2800	2500	25000				
	1,8	5,82	241	2800	2500	25000				
	2,0	6,55	214	2800	2500	25000				
	2,2	7,32	191	2800	2500	25000				
	2,5	8,11	173	2800	2500	25000				
	2,7	8,93	157	2800	2500	25000				
	3,3	11	131	2800	2500	25000				
	3,6	12	121	2800	2500	25000				
	3,9	13	110	2800	2500	25000				
	4,4	14	96,96	2800	2500	25000				
	5,0	16	86,17	2800	2500	25000				
5,6	18	77,10	2800	2500	25000					
6,3	20	68,66	2800	2500	25000					
7,1	23	60,50	2800	2500	25000					
8,0	26	53,77	2800	2500	25000					
8,9	29	48,11	2800	2500	25000					
9,9	32	43,29	2800	2500	25000					
11,0	36	39,14	2800	2500	25000					
12,1	39	35,52	2800	2500	25000					
13,3	43	32,34	2800	2500	25000					
14,5	47	29,53	2800	2500	25000					
15,9	52	27,01	2800	2500	25000					
							İRA İRF İRAF	94	289 290 291	149 159 169
							İRA İRF İRAF	93	283 284 285	133 143 153



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
<b>2800 Nm</b>	17,3	57	24,76	2800	2500	25000	İRA İRF İRAF	93			283	133
	21,4	70	20,09	2800	2500	25000					284	143
	25,5	83	16,85	2800	2500	25000					285	153
	30,2	99	14,21	2800	2500	25000						
	18,1	60	23,38	2800	2500	20000	İRA İRF İRAF	92				
	20,5	68	20,60	2800	2500	20000						
	23,1	76	18,31	2800	2500	20000						
	25,8	85	16,38	2800	2500	20000						
	28,7	95	14,74	2800	2500	20000						
	31,7	105	13,33	2800	2500	20000						
	38,4	127	11,01	2800	2500	20000						
	42,1	139	10,05	2800	2500	20000						
	46,0	152	9,200	2800	2500	20000						
	50,9	168	8,317	2800	2500	20000						
	56,1	185	7,548	2800	2500	20000						
	61,6	204	6,872	2800	2500	20000						
	67,4	223	6,274	2800	2500	20000						
	73,7	244	5,740	2800	2500	20000						
	80,4	266	5,261	2800	2500	20000						
	95,4	316	4,437	2800	2500	20000						
	104	343	4,080	2800	2500	20000						
	113	373	3,753	2800	2500	20000						
	118	391	3,580	2800	2500	20000						
	140	464	3,019	2800	2500	20000						
152	504	2,776	2800	2500	20000							
166	548	2,554	2800	2500	20000							
173	571	2,450	2800	2500	20000							
<b>4300 Nm</b>	0,03	0,06	22099	4300	1200	34000	İRA İRF İRAF	103 İR 73				
	0,04	0,07	18788	4300	1200	34000						
	0,04	0,08	16845	4300	1200	34000						
	0,05	0,09	15213	4300	1200	34000						
	0,05	0,10	13823	4300	1200	34000						
	0,05	0,11	12625	4300	1200	34000						
	0,06	0,12	11581	4300	1200	34000						
	0,07	0,14	10325	4300	1200	34000						
	0,08	0,15	9118	4300	1200	34000						
	0,09	0,17	8104	4300	1200	34000						
	0,10	0,19	7241	4300	1200	34000						
	0,11	0,22	6496	4300	1200	34000						
	0,12	0,24	5848	4300	1200	34000						
	0,13	0,27	5278	4300	1200	34000						
	0,14	0,29	4790	4300	1200	34000						
	0,16	0,33	4230	4300	1200	34000						
	0,18	0,37	3760	4300	1200	34000						
	0,21	0,42	3359	4300	1200	34000						
	0,23	0,46	3014	4300	1200	34000						
	0,25	0,52	2713	4300	1200	34000						
	0,28	0,57	2448	4300	1200	34000						
	0,25	0,51	2733	4300	1200	34000						
	0,28	0,58	2413	4300	1200	34000	İRA İRF İRAF	102 İR 73				
	0,32	0,65	2145	4300	1200	34000						
	0,35	0,73	1916	4300	1200	34000						
	0,42	0,86	1635	4300	1200	34000						
	0,47	0,96	1460	4300	1200	34000						
	0,52	1,07	1311	4300	1200	34000						
0,58	1,19	1180	4300	1200	34000							



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types				
										kg	
<b>4300 Nm</b>	0,58	1,19	1173	4300	1200	34000	İRA İRF İRAF	103	İR 72	313	251
	0,65	1,34	1046	4300	1200	34000				314	254
	0,74	1,52	923	4300	1200	34000				315	276
	0,83	1,71	821	4300	1200	34000					
	0,83	1,74	803	4300	1200	34000					
	0,93	1,95	720	4300	1200	34000					
	1,1	2,29	612	4300	1200	34000					
	1,2	2,55	548	4300	1200	34000					
	1,4	2,83	495	4300	1200	34000	İRA İRF İRAF	104		307	246
	1,5	3,13	447	4300	1200	34000			308	249	
	1,7	3,45	406	4300	1200	34000			309	271	
	1,8	3,78	371	4300	1200	34000					
	2,0	4,12	340	4300	1200	34000					
	2,2	4,57	306	4300	1200	34000					
	2,4	4,98	281	4300	1200	34000					
	2,6	5,47	256	4300	3750	30000					
	2,9	6,22	225	4300	3750	30000					
	3,2	6,74	208	4300	3750	30000					
	3,6	7,58	185	4300	3750	30000					
	4,0	8,46	165	4300	3750	30000					
	4,7	9,95	141	4300	3750	30000					
	5,2	11	126	4300	3750	30000					
	5,8	12	113	4300	3750	30000					
	6,4	14	104	4300	3750	30000					
	7,0	15	94,54	4300	3750	30000					
	7,6	16	86,72	4300	3750	30000					
	8,5	18	77,32	4300	3750	30000					
	9,7	21	68,28	4300	3750	30000	İRA İRF İRAF	103		301	207
	10,9	23	60,69	4300	3750	30000			302	210	
	12,2	26	54,22	4300	3750	30000			303	232	
	13,6	29	48,65	4300	3750	30000					
	15,1	32	43,79	4300	3750	30000					
	16,7	35	39,53	4300	3750	30000					
	18,4	39	35,87	4300	3750	30000					
	20,8	44	31,68	4300	3750	30000					
	23,4	50	28,16	4300	3750	30000					
	26,2	56	25,16	4300	3750	30000					
	29,2	62	22,57	4300	3750	30000					
	32,5	69	20,32	4300	3750	30000					
	35,9	76	18,37	4300	3750	30000					
	39,8	84	16,58	4300	3750	30000					
	43,9	93	15,02	4300	3750	30000					
	36,7	79	17,69	4300	3750	25000					
	41,6	90	15,62	4300	3750	25000					
	46,8	101	13,89	4300	3750	25000					
52,4	113	12,41	4300	3750	25000						
61,4	132	10,59	4300	3750	25000						
68,7	148	9,457	4300	3750	25000						
76,6	165	8,485	4300	3750	25000	İRA İRF İRAF	102		301	200	
85,1	183	7,638	4300	3750	25000			302	203		
90,9	196	7,144	4300	3750	25000			303	225		
102	219	6,382	4300	3750	25000						
113	244	5,726	4300	3750	25000						
126	272	5,154	4300	3750	21000						
140	301	4,652	4300	3750	21000						
154	333	4,207	4300	3750	21000						
175	376	3,723	4300	3750	21000						



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg				
<b>4300 Nm</b>	193	417	3,360	4300	3750	21000	İRA İRF İRAF	102			301	200		
	214	461	3,039	4300	3750	21000					302	203		
	236	509	2,752	4300	3750	19000					303	225		
	260	561	2,495	4300	3750	19000								
	287	619	2,263	4300	3750	19000								
<b>8000 Nm</b>	0,04	0,04	32309	8000	1200	52000	İRA İRF İRAF	123 İR 73			331	338		
	0,04	0,05	28749	8000	1200	52000							332	340
	0,05	0,05	25807	8000	1200	52000							333	368
	0,06	0,06	23337	8000	1200	52000								
	0,07	0,07	18918	8000	1200	52000								
	0,07	0,08	17260	8000	1200	52000								
	0,08	0,09	15494	8000	1200	52000								
	0,10	0,10	13395	8000	1200	52000								
	0,11	0,12	12113	8000	1200	52000								
	0,11	0,13	11190	8000	1200	52000								
	0,13	0,14	10209	8000	1200	52000								
	0,14	0,15	9165	8000	1200	52000								
	0,15	0,17	8288	8000	1200	52000								
	0,16	0,18	7928	8000	1200	52000								
	0,20	0,22	6426	8000	1200	52000								
	0,22	0,24	5863	8000	1200	52000								
	0,24	0,27	5263	8000	1200	52000								
	0,27	0,29	4759	8000	1200	52000								
	0,31	0,34	4059	8000	1200	52000	İRA İRF İRAF	122 İR 73			331	309		
	0,34	0,38	3671	8000	1200	52000							332	311
	0,36	0,40	3509	8000	1200	52000							333	339
	0,40	0,44	3173	8000	1200	52000								
	0,45	0,49	2829	8000	1200	52000								
	0,50	0,56	2517	8000	1200	52000	İRA İRF İRAF	123 İR 72			331	336		
	0,56	0,62	2260	8000	1200	52000							332	338
	0,62	0,69	2043	8000	1200	52000							333	366
	0,76	0,84	1657	8000	1200	52000								
	0,84	0,93	1511	8000	1200	52000								
	0,93	1,03	1357	8000	1200	52000								
	1,0	1,14	1227	8000	1200	52000								
	1,2	1,37	1025	8000	1200	52000								
	1,4	1,55	902	8000	1200	52000								
	1,4	1,59	883	8000	1200	52000								
	1,6	1,75	799	8000	1200	52000	İRA İRF İRAF	124			325	389		
	1,9	2,16	647	8000	1200	52000							326	391
	2,1	2,37	591	8000	1200	52000							327	419
	2,3	2,64	530	8000	1200	52000								
	2,6	2,92	479	8000	1200	52000								
	3,1	3,50	400	8000	1200	52000								
	3,5	3,97	352	8000	1200	52000								
	4,0	4,48	313	8000	1200	52000								
	4,5	5,01	279	8000	1200	52000								
5,0	5,58	251	8000	1200	52000									
5,5	6,18	226	8000	1200	52000	İRA İRF İRAF	123			319	323			
5,8	6,51	215	8000	1200	52000							320	325	
5,9	6,69	209	8000	3750	41000							321	353	
6,6	7,52	186	8000	3750	41000									
7,3	8,38	167	8000	3750	41000									
8,1	9,27	151	8000	3750	41000									
10,0	11	122	8000	3750	41000									
11,0	13	112	8000	3750	41000									
12,2	14	100	8000	3750	41000									





Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
<b>8000 Nm</b>	13,5	15	90,71	8000	3750	41000	İRA İRF İRAF	123	319	323	
	16,2	18	75,77	8000	3750	41000					
	18,4	21	66,67	8000	3750	41000					
	20,7	24	59,16	8000	3750	39700					
	23,2	26	52,85	8000	3750	39700					
	25,8	29	47,47	8000	3750	39700					
	28,6	33	42,84	8000	3750	39700					
	30,2	34	40,70	8000	3750	39700					
	34,0	39	36,11	8000	3750	39700					
	38,0	43	32,26	8000	3750	39700					
	42,3	48	28,98	8000	3750	39700					
	46,9	54	26,15	8000	3750	39700					
	51,8	59	23,69	8000	3750	39700					
	57,0	65	21,52	8000	3750	39700					
	62,6	71	19,60	8000	3750	39700					
	68,6	78	17,89	8000	3750	39700					
	46,0	53	26,28	8000	3750	45000					
	50,9	59	23,77	8000	3750	45000					
	60,9	71	19,85	8000	3750	45000					
	69,2	80	17,47	8000	3750	45000					
	78,0	90	15,50	8000	3750	45000					
	87,3	101	13,85	8000	3750	45000					
	97,2	113	12,44	8000	3750	45000					
	105	122	11,50	8000	3750	45000					
	119	137	10,20	8000	3750	45000					
	133	154	9,112	8000	3750	45000					
	148	171	8,185	8000	3750	45000					
	156	181	7,724	8000	3750	45000					
	174	202	6,938	8000	3750	45000					
	193	224	6,261	8000	3750	45000					
	213	247	5,671	8000	3750	45000					
	235	272	5,153	8000	3750	45000					
	258	298	4,694	8000	3750	45000					
	282	327	4,284	8000	3750	45000					
	309	357	3,917	8000	3750	45000					
	337	391	3,585	8000	3750	45000					
368	426	3,284	8000	3750	45000						
<b>13000 Nm</b>	3,8	2,61	537	13000	1550	60000	İRA İRF İRAF	143 İR 82	355	587	
	4,6	3,16	443	13000	1550	60000					
	5,2	3,52	398	13000	1550	60000					
	5,7	3,90	359	13000	1550	60000					
	6,2	4,23	331	13000	1550	60000					
	7,4	5,05	277	13000	1550	60000					
	8,3	5,62	249	13000	1550	60000					
	9,1	6,22	225	13000	1550	60000					
	9,9	6,76	207	13000	1550	60000					
	11,0	7,49	187	13000	1550	60000					
	13,1	8,92	157	13000	1550	60000					
	0,08	0,06	24943	13000	1200	60000					
	0,10	0,06	21564	13000	1200	60000					
	0,11	0,07	19545	13000	1200	60000					
	0,12	0,08	17730	13000	1200	60000					
	0,14	0,09	15134	13000	1200	60000					
	0,16	0,10	13372	13000	1200	60000					
	0,17	0,12	12131	13000	1200	60000					
	0,19	0,13	10788	13000	1200	60000					
	0,22	0,15	9446	13000	1200	60000					
								İRA İRF İRAF	143 İR 73	349	513



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
13000 Nm	0,25	0,17	8427	13000	1200	60000	İRA İRF İRAF	143 İR 73	349 350 351	513 527 553
	0,28	0,19	7474	13000	1200	60000				
	0,31	0,21	6732	13000	1200	60000				
	0,35	0,24	5907	13000	1200	60000				
	0,38	0,26	5425	13000	1200	60000				
	0,43	0,29	4839	13000	1200	60000				
	0,48	0,32	4347	13000	1200	60000				
	0,55	0,37	3814	13000	1200	60000				
	0,61	0,41	3404	13000	1200	60000				
	0,69	0,46	3026	13000	1200	60000				
	0,77	0,52	2717	13000	1200	60000				
	0,94	0,64	2184	13000	1200	60000				
	1,0	0,71	1979	13000	1200	60000	İRA İRF İRAF	143 İR 72	349 350 351	511 525 551
	1,2	0,80	1759	13000	1200	60000				
	1,3	0,88	1596	13000	1200	60000				
	1,5	1,03	1365	13000	1200	60000				
	1,9	1,26	1110	13000	1200	60000				
	2,1	1,41	990	13000	1200	60000				
	2,3	1,57	889	13000	1200	60000				
	2,6	1,79	780	13000	1200	60000				
	3,0	2,01	696	13000	1200	60000				
	3,5	2,35	595	13000	1200	60000				
	3,7	2,57	546	13000	1200	60000				
	4,2	2,87	488	13000	1200	60000				
	4,6	3,20	438	13000	1200	60000				
	5,3	3,64	384	13000	1200	60000				
	5,9	4,06	345	13000	1200	60000				
	6,6	4,55	308	13000	1200	60000				
	7,3	5,07	276	13000	1200	60000				
	7,7	5,32	263	13000	1200	60000				
	8,6	5,93	236	13000	1200	60000				
	9,5	6,58	213	13000	1200	60000				
	10,5	7,27	192	13000	1200	60000				
	11,6	8,02	175	13000	1200	60000				
	12,3	8,67	161	13000	3750	60000	İRA İRF İRAF	143	337 338 339	526 540 566
	13,6	9,56	146	13000	3750	60000				
	15,0	11	133	13000	3750	60000				
	19,3	14	103	13000	3750	60000				
	21,6	15	92,24	13000	3750	60000				
	24,1	17	82,86	13000	3750	60000				
	27,4	19	72,71	13000	3750	60000				
	30,7	22	64,89	13000	3750	60000				
	34,2	24	58,24	13000	3750	60000				
	35,9	25	55,48	13000	3750	60000				
	40,1	28	49,79	13000	3750	60000				
	44,4	31	44,88	13000	3750	60000				
	49,1	34	40,61	13000	3750	60000				
	54,1	38	36,86	13000	3750	60000				
	59,5	42	33,53	13000	3750	60000				
	71,5	50	27,90	13000	3750	60000				
85,5	60	23,32	13000	3750	60000					
99,6	70	20,02	13000	3750	60000					
98,1	70	20,02	13000	3750	60000	İRA İRF İRAF	142	337 338 339	476 490 516	
108	77	18,16	13000	3750	60000					
121	86	16,20	13000	3750	60000					
135	96	14,56	13000	3750	60000					
154	110	12,77	13000	3750	60000					



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=1400rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg				
<b>13000 Nm</b>	172	123	11,40	13000	3750	60000	İRA İRF İRAF	142	337 338 339	476 490 516				
	192	137	10,23	13000	3750	60000								
	213	152	9,222	13000	3750	60000								
	235	168	8,344	13000	3750	60000								
	259	185	7,573	13000	3750	60000								
	285	203	6,890	13000	3750	60000								
	343	244	5,733	13000	3750	60000								
	410	292	4,792	13000	3750	60000								
<b>18000 Nm</b>	0,40	0,20	7067	18000	3750	110000	İRA İRF İRAF	153 İR 103	379 380 381	1170 1220 1240				
	0,46	0,22	6223	18000	3750	110000								
	0,51	0,25	5577	18000	3750	110000								
	0,57	0,28	5035	18000	3750	110000								
	0,62	0,31	4570	18000	3750	110000								
	0,79	0,39	3586	18000	3750	110000								
	0,89	0,44	3205	18000	3750	110000								
	1,1	0,54	2588	18000	3750	110000								
	0,11	0,05	27213	18000	2500	110000	İRA İRF İRAF	153 İR 93	373 374 375	1070 1120 1140				
	0,12	0,06	23722	18000	2500	110000								
	0,15	0,07	19875	18000	2500	110000								
	0,16	0,08	17651	18000	2500	110000								
	0,18	0,09	16020	18000	2500	110000								
	0,20	0,10	14354	18000	2500	110000								
	0,22	0,11	13011	18000	2500	110000								
	0,26	0,12	11306	18000	2500	110000								
	0,29	0,14	9958	18000	2500	110000								
	0,32	0,16	8987	18000	2500	110000								
	0,38	0,18	7647	18000	2500	110000								
	0,43	0,21	6643	18000	2500	110000								
	0,48	0,23	6078	18000	2500	110000								
	0,52	0,25	5519	18000	2500	110000								
	0,67	0,32	4312	18000	2500	110000								
	0,78	0,38	3704	18000	2500	110000								
	0,93	0,45	3098	18000	2500	110000								
	1,1	0,54	2596	18000	2500	110000								
	1,2	0,61	2288	18000	2500	110000					İRA İRF İRAF	153 İR 92	373 374 375	1050 1053 1048
	1,4	0,69	2033	18000	2500	110000								
	1,6	0,77	1819	18000	2500	110000								
	1,7	0,86	1637	18000	2500	110000								
	2,1	1,02	1371	18000	2500	110000								
	2,3	1,13	1240	18000	2500	110000								
	2,8	1,37	1024	18000	2500	110000								
	3,4	1,70	825	18000	2500	110000								
	3,6	1,79	784	18000	2500	110000	İRA İRF İRAF	154	367 368 369	1037 1069 1089				
	4,0	2,01	695	18000	2500	110000								
	4,6	2,29	612	18000	2500	110000								
	5,1	2,55	549	18000	2500	110000								
	5,7	2,83	495	18000	2500	110000								
	6,5	3,24	432	18000	2500	110000								
7,7	3,87	362	18000	2500	110000									
8,7	4,36	321	18000	2500	110000									
9,6	4,80	292	18000	2500	110000									
10,6	5,30	264	18000	2500	110000									
12,2	6,09	230	18000	2500	110000									
12,4	6,31	222	18000	5250	110000	İRA İRF İRAF					153	361 362 363	1006 1056 1076	
13,7	6,94	202	18000	5250	110000									
15,4	7,83	179	18000	5250	110000									
17,5	8,89	157	18000	5250	110000									



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =1400rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>18000 Nm</b>	19,6	9,92	141	18000	5250	110000	<b>İRA İRF İRAF</b>	<b>153</b>	361 362 363	1006 1056 1076
	21,7	11	127	18000	5250	110000				
	24,9	13	111	18000	5250	110000				
	29,7	15	93,05	18000	5250	110000				
	33,4	17	82,63	18000	5250	110000				
	36,8	19	75,00	18000	5250	110000				
	40,6	21	67,98	18000	5250	110000				
	46,7	24	59,07	18000	5250	110000				
	53,1	27	52,03	18000	5250	110000				
	62,4	32	44,27	18000	5250	110000				
	71,8	36	38,46	18000	5250	110000				
	78,5	40	35,19	18000	5250	110000				
	100	51	27,50	18000	5250	110000				
	117	59	23,62	18000	5250	110000				
	96,7	49	28,55	18000	5250	110000				
	106	54	25,93	18000	5250	110000				
	117	59	23,57	18000	5250	110000				
	131	66	21,09	18000	5250	110000				
	145	74	19,00	18000	5250	110000				
	160	81	17,22	18000	5250	110000				
	176	89	15,69	18000	5250	110000				
	192	98	14,35	18000	5250	110000				
	246	125	11,22	18000	5250	110000				
	258	131	10,70	18000	5250	110000				
	283	144	9,744	18000	5250	110000				
	310	157	8,915	18000	5250	110000				
	337	171	8,186	18000	5250	110000				
	396	201	6,965	18000	5250	110000				
461	234	5,983	18000	5250	110000					
							<b>İRA İRF İRAF</b>	<b>152</b>	361 362 363	1006 1056 1076



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=900$ rpm)	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg					
85 Nm	0,10	11	81,37	85	390	2100	İRA İRF İRAF	43	175 176 177	10 11 12					
	0,12	13	70,05	85	390	2100									
	0,14	15	60,90	85	390	2100									
	0,16	17	53,33	85	390	2100									
	0,18	19	46,98	85	390	2100									
	0,20	22	41,85	85	390	2100									
	0,23	25	36,38	85	390	2100									
	0,26	28	31,86	85	390	2100									
	0,30	32	28,06	85	390	2100									
	0,32	34	26,19	85	390	2100									
	0,34	36	24,83	85	390	2000									
	0,37	40	22,62	85	390	2000									
	0,40	43	21,11	85	390	2000									
	0,42	45	20,01	85	390	2000									
	0,45	48	18,59	85	390	2000									
	0,47	51	17,76	85	390	1850									
	0,51	55	16,45	85	390	1850									
	0,53	57	15,81	85	390	1850									
	0,57	62	14,60	85	390	1850									
	0,60	64	14,09	85	390	1800									
	0,65	69	13,00	85	390	1800									
	0,72	78	11,58	85	390	1800									
	0,73	80	11,24	85	390	800									
	0,84	91	9,845	85	390	800									
	0,95	104	8,672	85	390	800									
	1,1	117	7,673	85	390	750									
	1,2	131	6,872	85	390	750									
	1,4	148	6,080	85	390	750									
1,5	163	5,538	85	390	750										
1,5	167	5,398	85	390	750										
1,7	184	4,900	85	390	750										
1,7	187	4,803	85	390	750										
1,9	207	4,350	85	390	750										
1,9	210	4,280	85	390	750										
2,1	233	3,870	85	390	750										
2,4	261	3,449	85	390	750										
150 Nm	0,00	0,10	8598	150	390	4250	İRA İRF İRAF	53 İR 43	187 188 189	26 28 29					
	0,00	0,12	7402	150	390	4250									
	0,00	0,14	6435	150	390	4250									
	0,00	0,17	5419	150	390	4250									
	0,00	0,19	4699	150	390	4250									
	0,00	0,22	4117	150	390	4250									
	0,00	0,27	3338	150	390	4250									
	0,01	0,31	2948	150	390	4250									
	0,01	0,34	2679	150	390	4250									
	0,01	0,38	2346	150	390	4250									
	0,01	0,43	2085	150	390	4250									
	0,01	0,48	1863	150	390	4250									
	0,01	0,55	1641	150	390	4250									
	0,01	0,62	1462	150	390	4250									
	0,01	0,71	1271	150	390	4250									
	0,01	0,75	1204	150	390	4250									
	0,01	0,86	1046	150	390	4250									
	0,02	0,98	917	150	390	4250									
	0,02	1,11	809	150	390	4250									
												İRA İRF İRAF	52 İR 43	187 188 189	25 27 28



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
150 Nm	0,02	1,27	709	150	390	4250	İRA İRF İRAF	52 İR 43	187	25
	0,02	1,43	630	150	390	4250			188	27
	0,03	1,62	555	150	390	4250			189	28
	0,03	1,81	496	150	390	4250	İRA İRF İRAF	53 İR 42	187 188 189	25 27 28
	0,01	0,76	1188	150	390	4250				
	0,01	0,87	1040	150	390	4250				
	0,02	0,98	916	150	390	4250				
	0,02	1,03	878	150	390	4250				
	0,02	1,17	772	150	390	4250				
	0,02	1,35	669	150	390	4250				
	0,03	1,54	586	150	390	4250				
	0,03	1,73	519	150	390	4250				
	0,04	2,14	421	150	390	4250				
	0,04	2,39	377	150	390	4250				
	0,05	2,70	333	150	390	4250				
	0,05	3,06	294	150	390	4250				
	0,06	3,37	267	150	390	4250				
	0,06	3,78	238	150	390	4250				
	0,08	4,66	193	150	390	4250				
	0,09	5,33	169	150	390	4250	İRA İRF İRAF	52 İR 42	187 188 189	24 26 27
	0,10	6,08	148	150	390	4250				
	0,11	6,87	131	150	390	4250				
	0,13	7,76	116	150	390	4250	İRA İRF İRAF	53	181 182 183	16 18 19
	0,14	8,52	106	150	475	4250				
	0,17	10	88,98	150	475	4250				
	0,19	12	77,17	150	475	4250				
	0,22	13	67,60	150	475	4250				
	0,27	16	54,82	150	475	4250				
	0,31	19	48,41	150	475	4250				
	0,34	20	43,99	150	475	4250				
	0,38	23	39,10	150	475	4250				
	0,42	26	34,93	150	475	4250				
	0,47	29	31,34	150	475	4250				
	0,52	32	28,21	150	475	4250				
	0,58	35	25,46	150	475	4250				
	0,64	39	23,03	150	475	4250				
	0,68	41	21,88	150	475	4250				
	0,75	46	19,70	150	475	4250				
	0,83	51	17,78	150	475	4250				
	0,92	56	16,08	150	475	4250				
0,85	52	17,18	150	475	3500					
0,97	60	15,05	150	475	3500					
1,1	68	13,29	150	475	3500					
1,2	76	11,81	150	475	3500					
1,4	85	10,56	150	475	3500					
1,5	95	9,470	150	475	3500					
1,6	101	8,888	150	475	3500	İRA İRF İRAF	52	181 182 183	15 17 18	
1,8	113	7,974	150	475	3500					
2,0	125	7,178	150	475	3500					
2,2	139	6,479	150	475	3500					
2,5	155	5,821	150	475	3500					
2,8	171	5,254	150	475	3500					
2,9	179	5,032	150	475	3500					
3,2	199	4,515	150	475	3500					
3,6	221	4,064	150	475	3500					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg										
150 Nm	4,0	245	3,668	150	475	3500	İRA İRF İRAF	52			181	15								
	4,4	271	3,317	150	475	3500					182	17								
	4,8	294	3,059	150	475	3500					183	18								
	5,0	310	2,906	150	475	3500														
	5,7	350	2,572	150	475	3500														
410 Nm	0,32	7,03	128	410	590	7000	İRA İRF İRAF	631			193	29								
	0,34	7,54	119	410	590	7000							194	34						
	0,42	9,35	96,27	410	590	7000							195	35						
	0,46	10	87,81	410	590	7000														
	0,48	11	83,37	410	590	7000														
	0,57	13	70,96	410	590	7000														
	0,66	15	61,03	410	590	7000														
	0,78	17	51,65	410	590	7000														
	0,86	19	46,79	410	590	7000														
	0,95	21	42,55	410	590	7000														
	1,1	25	35,74	410	590	7000														
	1,4	30	29,85	410	590	7000														
	1,6	36	25,16	410	590	7000														
	1,9	42	21,50	410	590	7000														
	2,0	44	20,53	410	590	7000														
	2,2	50	18,18	410	590	7000														
	2,6	58	15,59	410	590	7000														
	2,9	65	13,81	410	590	7000														
	2,4	54	16,67	410	590	7000														
	2,6	59	15,13	410	590	7000							İRA İRF İRAF	621			193	24		
	3,0	67	13,48	410	590	7000													194	29
	3,3	74	12,21	410	590	7000													195	30
	3,6	81	11,10	410	590	7000														
	4,0	89	10,07	410	590	7000														
	4,3	96	9,358	410	590	7000														
	4,7	106	8,510	410	590	7000														
	5,2	117	7,673	410	590	7000														
	5,6	127	7,108	410	590	7000														
	6,1	139	6,480	410	590	7000														
	6,6	150	5,992	410	590	7000														
7,0	157	5,723	410	590	7000															
7,5	169	5,325	410	590	7000															
7,9	178	5,060	410	590	7000															
8,9	200	4,499	410	590	7000															
10,0	225	3,998	410	590	7000															
10,7	243	3,711	410	590	7000															
12,1	274	3,287	410	590	7000															
13,7	309	2,917	410	590	7000															
15,4	347	2,592	410	590	7000															
16,3	368	2,444	410	590	7000															
410 Nm	0,00	0,07	13520	410	475	7000	İRA İRF İRAF	63 İR 53			223	44								
	0,00	0,07	12617	410	475	7000							224	49						
	0,00	0,08	11345	410	475	7000							225	50						
	0,00	0,09	10587	410	475	7000														
	0,00	0,09	9873	410	475	7000														
	0,00	0,10	9214	410	475	7000														
	0,01	0,12	7479	410	475	7000														
	0,01	0,14	6508	410	475	7000														
	0,01	0,15	6194	410	475	7000														
	0,01	0,15	5936	410	475	7000														
	0,01	0,16	5780	410	475	7000														
	0,01	0,16	5636	410	475	7000														



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
410 Nm	0,01	0,19	4814	410	475	7000	İRA İRF İRAF	63 İR 53	223 224 225	44 49 50
	0,01	0,19	4661	410	475	7000				
	0,01	0,20	4570	410	475	7000				
	0,01	0,21	4251	410	475	7000				
	0,01	0,22	4036	410	475	7000				
	0,01	0,23	3890	410	475	7000				
	0,01	0,26	3436	410	475	7000				
	0,01	0,30	2955	410	475	7000				
	0,02	0,34	2685	410	475	7000				
	0,02	0,36	2500	410	475	7000				
	0,02	0,41	2198	410	475	7000				
	0,02	0,44	2052	410	475	7000				
	0,02	0,50	1797	410	475	7000				
	0,02	0,53	1701	410	475	7000				
	0,03	0,54	1654	410	475	7000				
	0,03	0,57	1587	410	475	7000				
	0,03	0,60	1509	410	475	7000				
	0,03	0,63	1432	410	475	7000				
	0,03	0,70	1280	410	475	7000				
	0,03	0,74	1219	410	475	7000				
	0,04	0,77	1167	410	475	7000				
	0,04	0,81	1108	410	475	7000				
	0,04	0,86	1049	410	475	7000				
	0,04	0,95	943	410	475	7000				
	0,05	1,01	887	410	475	7000				
	0,05	1,11	811	410	475	7000				
	0,05	1,12	804	410	475	7000				
	0,06	1,23	731	410	475	7000				
	0,06	1,31	686	410	475	7000				
	0,07	1,45	622	410	475	7000				
	0,07	1,47	614	410	475	7000				
	0,07	1,59	566	410	475	7000				
	0,08	1,67	538	410	475	7000				
	0,09	1,89	475	410	475	7000				
	0,09	2,00	449	410	475	7000				
	0,10	2,12	424	410	475	7000				
	0,10	2,27	396	410	475	7000				
	0,13	2,82	319	410	475	7000				
	0,14	3,09	291	410	475	7000				
	0,15	3,26	276	410	475	7000				
	0,17	3,82	235	410	475	7000				
	0,19	4,21	214	410	475	7000				
0,23	4,94	182	410	475	7000					
0,26	5,75	157	410	475	7000					
0,31	6,79	132	410	475	7000					
0,32	7,03	128	410	590	7000					
0,34	7,54	119	410	590	7000					
0,42	9,35	96,27	410	590	7000					
0,46	10	87,81	410	590	7000					
0,48	11	83,37	410	590	7000					
0,57	13	70,96	410	590	7000					
0,66	15	61,03	410	590	7000					
0,78	17	51,65	410	590	7000					
0,86	19	46,79	410	590	7000					
0,95	21	42,55	410	590	7000					
1,1	25	35,74	410	590	7000					
1,4	30	29,85	410	590	7000					
							İRA İRF İRAF	64	217 218 219	32 37 38
							İRA İRF İRAF	63	211 212 213	29 34 35





Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg
410 Nm	1,6	36	25,16	410	590	7000	İRA İRF İRAF	63	211 212 213	29 34 35
	1,9	42	21,50	410	590	7000				
	2,0	44	20,53	410	590	7000				
	2,2	50	18,18	410	590	7000				
	2,6	58	15,59	410	590	7000				
	2,9	65	13,81	410	590	7000				
	2,4	54	16,67	410	590	4500	İRA İRF İRAF	62	211 212 213	24 29 30
	2,6	59	15,13	410	590	4500				
	3,0	67	13,48	410	590	4500				
	3,3	74	12,21	410	590	4500				
	3,6	81	11,10	410	590	4500				
	4,0	89	10,07	410	590	4500				
	4,3	96	9,358	410	590	4500				
	4,7	106	8,510	410	590	4500				
	5,2	117	7,673	410	590	4500				
	5,6	127	7,108	410	590	4500				
	6,1	139	6,480	410	590	4500				
	6,6	150	5,992	410	590	4500				
	7,0	157	5,723	410	590	4500				
	7,5	169	5,325	410	590	4500				
	7,9	178	5,060	410	590	4500				
	8,9	200	4,499	410	590	4500				
	10,0	225	3,998	410	590	4500				
	10,7	243	3,711	410	590	4500				
12,1	274	3,287	410	590	4500					
13,7	309	2,917	410	590	4500					
15,4	347	2,592	410	590	4500					
16,3	368	2,444	410	590	4500					
600 Nm	0,00	0,06	16071	600	475	10100	İRA İRF İRAF	731 İR 53	241 242 243	54 57 60
	0,00	0,06	14258	600	475	10100				
	0,01	0,07	12326	600	475	10100				
	0,01	0,09	10380	600	475	10100				
	0,01	0,10	9001	600	475	10100				
	0,01	0,12	7782	600	475	10100				
	0,01	0,13	6862	600	475	10100				
	0,01	0,15	6012	600	475	10100				
	0,01	0,17	5301	600	475	10100				
	0,01	0,21	4299	600	475	10100				
	0,02	0,24	3796	600	475	10100				
	0,02	0,26	3450	600	475	10100				
	0,02	0,29	3068	600	475	10100				
	0,02	0,33	2747	600	475	10100				
	0,03	0,37	2443	600	475	10100				
	0,02	0,34	2613	600	475	10100	İRA İRF İRAF	731 İR 52	241 242 243	54 57 60
	0,03	0,39	2318	600	475	10100				
	0,03	0,45	2004	600	475	10100				
	0,03	0,48	1872	600	475	10100	İRA İRF İRAF	721 İR 53	241 242 243	53 56 59
	0,04	0,55	1640	600	475	10100				
	0,04	0,62	1446	600	475	10100				
	0,05	0,70	1286	600	475	10100				
	0,05	0,77	1172	600	475	10100				
	0,06	0,87	1035	600	475	10100				
	0,07	0,98	921	600	475	10100				
	0,07	1,09	825	600	475	10100				
	0,08	1,21	743	600	475	10100				
	0,09	1,33	675	600	475	10100				



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg		
600 Nm	0,14	2,16	417	600	475	10100	İRA İRF İRAF	721 İR 52			241 242 243	50 53 56
	0,16	2,47	365	600	475	10100						
	0,19	2,80	322	600	475	10100						
	0,21	3,14	287	600	475	10100						
	0,23	3,52	256	600	475	10100						
	0,27	3,98	226	600	475	10100						
	0,30	4,48	201	600	475	10100						
	0,33	5,00	180	600	475	10100						
	0,37	5,56	162	600	475	10100						
	0,41	6,21	145	600	475	10100						
	0,10	1,45	622	600	475	10100						
	0,11	1,67	538	600	475	10100						
	0,13	1,94	465	600	475	10100						
	0,14	2,07	435	600	475	10100						
	0,16	2,34	384	600	475	10100						
	0,18	2,66	338	600	475	10100						
	0,20	2,99	301	600	475	10100						
	0,25	3,75	240	600	475	10100						
	0,32	4,78	188	600	475	10100						
	0,36	5,34	169	600	475	10100						
	0,40	5,92	152	600	475	10100						
	0,39	5,92	152	600	1000	10100						
	0,44	6,67	135	600	1000	10100						
	0,51	7,72	117	600	1000	10100						
	0,59	8,92	101	600	1000	10100						
	0,67	10	88,93	600	1000	10100						
	0,75	11	78,43	600	1000	10100						
	0,85	13	69,75	600	1000	9700						
	0,95	14	62,46	600	1000	9700						
	1,1	16	55,54	600	1000	9700						
	1,2	18	49,74	600	1000	9700						
	1,3	20	44,79	600	1000	9700						
	1,5	23	39,89	600	1000	9500						
	1,7	26	35,22	600	1000	9500						
	1,9	29	31,31	600	1000	9500						
	2,1	32	27,97	600	1000	9250						
	2,4	36	25,10	600	1000	9250						
	2,6	40	22,59	600	1000	9250						
	1,8	28	31,62	600	1000	7500						
	2,1	32	28,06	600	1000	7500						
	2,4	37	24,25	600	1000	7500						
	2,7	42	21,39	600	1000	7500						
3,1	47	19,02	600	1000	7250							
3,4	53	17,03	600	1000	7250							
3,8	58	15,40	600	1000	7250							
4,2	66	13,73	600	1000	7250							
4,8	74	12,13	600	1000	7250							
5,2	81	11,17	600	1000	7250							
5,9	91	9,866	600	1000	7000							
6,6	103	8,769	600	1000	7000							
7,4	115	7,834	600	1000	7000							
8,3	128	7,029	600	1000	7000							
9,2	142	6,327	600	1000	7000							
10,2	158	5,710	600	1000	7000							
11,3	174	5,164	600	1000	7000							
12,5	192	4,677	600	1000	7000							



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=900$ rpm)	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types							
										kg				
600 Nm	13,7	212	4,240	600	1000	7000	İRA İRF İRAF	721	229 230 231	37 40 43				
	15,3	236	3,809	600	1000	7000								
	17,0	262	3,438	600	1000	7000								
	18,7	289	3,109	600	1000	7000								
	20,7	320	2,816	600	1000	7000								
	22,8	353	2,553	600	1000	7000								
870 Nm	0,01	0,06	16321	870	475	12100	İRA İRF İRAF	73 İR 53	259 260 261	53 56 59				
	0,01	0,06	14110	870	475	12100								
	0,01	0,07	13744	870	475	12100								
	0,01	0,08	11919	870	475	12100								
	0,01	0,08	10947	870	475	12100								
	0,01	0,09	10304	870	475	12100								
	0,01	0,09	9654	870	475	12100								
	0,01	0,10	8586	870	475	12100								
	0,01	0,12	7688	870	475	12100								
	0,01	0,14	6474	870	475	12100								
	0,02	0,16	5674	870	475	12100								
	0,02	0,17	5287	870	475	12100								
	0,02	0,20	4423	870	475	12100								
	0,02	0,23	3989	870	475	12100								
	0,03	0,26	3522	870	475	12100								
	0,03	0,29	3153	870	475	12100								
	0,03	0,32	2817	870	475	12100								
	0,04	0,36	2527	870	475	12100								
	0,04	0,43	2106	870	475	12100								
	0,04	0,45	2017	870	475	12100								
	0,05	0,48	1882	870	475	12100								
	0,05	0,53	1703	870	475	12100								
	0,06	0,59	1520	870	475	12100								
	0,06	0,64	1410	870	475	12100								
	0,07	0,71	1265	870	475	12100								
	0,07	0,76	1187	870	475	12100								
	0,09	0,92	981	870	475	12100								
	0,10	0,98	921	870	475	12100								
	0,10	1,04	865	870	475	12100								
	0,11	1,11	812	870	475	12100								
	0,11	1,17	769	870	475	12100								
	0,12	1,25	722	870	475	12100								
	0,14	1,39	648	870	475	12100								
	0,15	1,56	576	870	475	12100								
	0,19	2,01	447	870	475	12100								
	0,22	2,28	394	870	475	12100								
0,25	2,57	351	870	475	12100									
0,28	2,87	314	870	475	12100									
0,31	3,18	283	870	475	12100									
0,56	5,83	154	870	1200	12100									
0,64	6,74	134	870	1200	12100									
0,83	8,74	103	870	1200	12100									
0,94	9,85	91,36	870	1200	12100									
1,1	11	81,25	870	1200	12100									
1,2	12	72,76	870	1200	12100									
1,3	14	65,52	870	1200	12100									
1,4	15	59,42	870	1200	12100									
1,6	17	52,47	870	1200	12100									
1,9	19	46,36	870	1200	12100									
2,1	22	41,67	870	1200	12100									
2,3	24	37,38	870	1200	12100									
73 İR 52	İRA İRF İRAF	73 İR 52	259 260 261	52 55 58										
					74	İRA İRF İRAF	74	253 254 255	45 48 51					
										73	İRA İRF İRAF	73	247 248 249	37 40 43



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg
870 Nm	2,8	29	31,16	870	1200	12100	İRA İRF İRAF	73	247 248 249	37 40 43
	3,1	32	27,84	870	1200	12100				
	3,4	36	24,98	870	1200	12100				
	3,8	40	22,48	870	1200	12100				
	4,2	44	20,29	870	1200	12100				
	4,7	49	18,35	870	1200	12100				
	5,2	54	16,62	870	1200	12100				
	5,7	60	15,07	870	1200	12100				
	6,2	67	13,53	870	1200	9000				
	7,0	75	12,02	870	1200	9000				
	7,9	84	10,74	870	1200	9000				
	9,1	96	9,337	870	1200	9000				
	10,1	108	8,333	870	1200	9000				
	11,3	120	7,476	870	1200	9000				
	12,6	134	6,730	870	1200	9000				
	13,9	148	6,074	870	1200	9000				
	15,4	164	5,494	870	1200	9000				
	16,9	180	4,995	870	1200	9000				
	18,8	200	4,497	870	1200	9000				
	20,8	222	4,059	870	1200	9000				
23,0	245	3,670	870	1200	9000					
25,4	271	3,324	870	1200	9000					
28,0	299	3,014	870	1200	9000					
30,9	329	2,733	870	1200	9000					
32,9	350	2,571	870	1200	9000					
1500 Nm	0,01	0,05	18231	1500	590	17000	İRA İRF İRAF	83 İR 53	277 278 279	120 125 127
	0,01	0,06	15217	1500	590	17000				
	0,01	0,06	13984	1500	590	17000				
	0,01	0,07	12302	1500	590	17500				
	0,01	0,08	10968	1500	590	17500				
	0,02	0,10	8893	1500	590	17500				
	0,02	0,11	7902	1500	590	17500				
	0,02	0,13	7092	1500	590	17500				
	0,02	0,14	6393	1500	590	17500				
	0,03	0,16	5484	1500	590	17500				
	0,03	0,18	4922	1500	590	17500				
	0,03	0,20	4437	1500	590	17500				
	0,04	0,22	4015	1500	590	17500				
	0,04	0,25	3593	1500	590	17500				
	0,05	0,28	3239	1500	590	17500				
	0,05	0,31	2930	1500	590	17500				
	0,06	0,34	2659	1500	590	17500				
	0,06	0,37	2419	1500	590	17500				
	0,07	0,41	2205	1500	590	17500				
	0,08	0,45	2013	1500	590	17500				
	0,08	0,49	1840	1500	590	17500				
	0,09	0,51	1778	1500	590	17500				
	0,10	0,57	1580	1500	590	17500				
	0,11	0,63	1418	1500	590	17500				
	0,12	0,69	1308	1500	590	17500				
	0,12	0,70	1279	1500	590	17500				
	0,13	0,77	1162	1500	590	17500				
	0,13	0,78	1157	1500	590	17500				
	0,15	0,86	1050	1500	590	17500				
	0,15	0,86	1043	1500	590	17500				
	0,16	0,96	940	1500	590	17500				
	0,18	1,06	850	1500	590	17500				
0,20	1,17	772	1500	590	17500					
0,21	1,24	723	1500	590	17500					
							İRA İRF İRAF	82 İR 53	277 278 279	130 135 137



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$	$n_2$	$i$	$M_2$	$F_{Q1}$	$F_{Q10}$	Tip Type Types			
	GÜÇ Power Puissance	Çıkış Devri Output Speeds Vitesse de sortie	Tahvil Ratio Rapport de réduction	Çıkış Momenti Output Torque Couple de sortie	Rad. Yük Over Loads Charges radiales	Rad. Yük Over Loads Charges radiales				
	[kW]	[r.p.m] ( $n_1=900\text{rpm}$ )	[Nm]	[N]	[N]	kg				
<b>1500 Nm</b>	0,21	1,29	700	1500	590	17500	İRA İRF İRAF	84	271	106
	0,24	1,42	635	1500	590	17500				
	0,26	1,56	579	1500	590	17500				
	0,28	1,70	530	1500	590	17500				
	0,31	1,85	487	1500	590	17500				
	0,35	2,10	428	1500	590	17500				
	0,39	2,36	382	1500	590	17500				
	0,44	2,62	343	1500	590	17500				
	0,48	2,91	310	1500	590	17500				
	0,55	3,27	275	1500	590	17500				
	0,55	3,30	273	1500	590	17500				
	0,62	3,71	243	1500	590	17500				
	0,69	4,13	218	1500	590	17500				
	0,76	4,58	196	1500	590	17500				
	0,86	5,16	174	1500	590	17500				
	0,89	5,34	168	1500	590	17500				
	0,59	3,59	251	1500	1550	17500				
	0,67	4,07	221	1500	1550	17500				
	0,71	4,31	209	1500	1550	17500				
	0,79	4,82	187	1500	1550	17500				
	0,88	5,35	168	1500	1550	17500				
	0,97	5,89	153	1500	1550	17500				
	1,1	6,47	139	1500	1550	17500				
	1,2	7,06	127	1500	1550	17500				
	1,3	7,68	117	1500	1550	17500				
	1,4	8,74	103	1500	1550	17500				
	1,6	9,80	91,85	1500	1550	17500				
	1,8	11	82,47	1500	1550	17500				
	2,0	12	74,47	1500	1550	17500				
	2,2	14	66,18	1500	1550	17500				
	2,5	15	59,39	1500	1550	17500				
	2,8	17	53,54	1500	1550	17500				
	3,1	19	47,59	1500	1550	17500				
	3,2	20	45,93	1500	1550	17500				
	3,6	22	41,22	1500	1550	17500				
	4,0	24	37,16	1500	1550	17500				
	4,5	27	33,03	1500	1550	17500				
	4,9	30	30,08	1500	1550	17500				
	5,5	33	27,12	1500	1550	17500				
	6,0	37	24,54	1500	1550	17500				
	6,6	40	22,27	1500	1550	17500				
	7,3	44	20,26	1500	1550	17500				
	8,0	49	18,47	1500	1550	17500				
	8,8	53	16,86	1500	1550	17500				
	9,6	58	15,41	1500	1550	17500				
	9,8	60	14,90	1500	1550	13000				
	11,0	68	13,24	1500	1550	13000				
	12,3	76	11,88	1500	1550	13000				
13,6	84	10,71	1500	1550	13000					
15,0	93	9,689	1500	1550	13000					
16,6	102	8,793	1500	1550	13000					
17,7	109	8,244	1500	1550	13000					
19,6	121	7,432	1500	1550	13000					
21,7	134	6,724	1500	1550	13000					
23,9	147	6,103	1500	1550	13000					
26,2	162	5,552	1500	1550	13000					
28,8	178	5,061	1500	1550	13000					
						İRA İRF İRAF	83	265	79	
						İRA İRF İRAF	82	265	89	



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=900$ rpm)	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types		 kg	
1500 Nm	31,5	195	4,620	1500	1550	13000	İRA İRF İRAF	82	265 266 267	89 94 96
	34,5	213	4,222	1500	1550	13000				
	36,0	222	4,052	1500	1550	13000				
	39,4	244	3,694	1500	1550	13000				
	43,2	267	3,372	1500	1550	13000				
	47,3	292	3,082	1500	1550	13000				
	49,8	308	2,926	1500	1550	13000				
	54,5	337	2,674	1500	1550	13000				
	61,4	379	2,373	1500	1550	13000				
2800 Nm	0,01	0,04	22852	2800	590	25000	İRA İRF İRAF	93 İR 63	295 296 297	154 164 174
	0,01	0,04	20623	2800	590	25000				
	0,02	0,05	18725	2800	590	25000				
	0,02	0,05	18426	2800	590	25000				
	0,02	0,05	17911	2800	590	25000				
	0,02	0,05	16707	2800	590	25000				
	0,02	0,05	16629	2800	590	25000				
	0,02	0,06	15663	2800	590	25000				
	0,02	0,06	15160	2800	590	25000				
	0,02	0,06	15098	2800	590	25000				
	0,02	0,06	14679	2800	590	25000				
	0,02	0,06	14410	2800	590	25000				
	0,02	0,07	13583	2800	590	25000				
	0,02	0,07	13137	2800	590	25000				
	0,02	0,07	13037	2800	590	25000				
	0,02	0,07	12258	2800	590	25000				
	0,02	0,08	11681	2800	590	25000				
	0,02	0,08	11577	2800	590	25000				
	0,03	0,08	11130	2800	590	25000				
	0,03	0,09	10542	2800	590	25000				
	0,03	0,09	10288	2800	590	25000				
	0,03	0,09	9565	2800	590	25000				
	0,03	0,10	9309	2800	590	25000				
	0,03	0,10	9206	2800	590	25000				
	0,03	0,11	8565	2800	590	25000				
	0,04	0,11	8198	2800	590	25000				
	0,04	0,11	8006	2800	590	25000				
	0,04	0,12	7808	2800	590	25000				
	0,04	0,12	7366	2800	590	25000				
	0,04	0,12	7224	2800	590	25000				
	0,04	0,13	6881	2800	590	25000				
	0,04	0,13	6715	2800	590	25000				
	0,05	0,14	6420	2800	590	25000				
	0,05	0,15	6115	2800	590	25000				
	0,05	0,15	5918	2800	590	25000				
	0,05	0,16	5745	2800	590	25000				
	0,05	0,16	5472	2800	590	25000				
	0,05	0,17	5259	2800	590	25000				
	0,06	0,17	5169	2800	590	25000				
	0,06	0,18	4872	2800	590	25000				
	0,06	0,19	4706	2800	590	25000				
	0,06	0,19	4673	2800	590	25000				
0,07	0,21	4294	2800	590	25000					
0,07	0,21	4241	2800	590	25000					
0,07	0,21	4190	2800	590	25000					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>2800 Nm</b>	0,07	0,23	3954	2800	590	25000	İRA İRF İRAF	93 İR 62		
	0,08	0,24	3688	2800	590	25000				
	0,08	0,25	3582	2800	590	25000				
	0,09	0,27	3341	2800	590	25000				
	0,09	0,28	3241	2800	590	25000				
	0,10	0,31	2936	2800	590	25000				
	0,10	0,31	2878	2800	590	25000				
	0,11	0,35	2607	2800	590	25000				
	0,12	0,39	2336	2800	590	25000				
	0,14	0,43	2108	2800	590	25000				
	0,15	0,47	1914	2800	590	25000				
	0,18	0,56	1601	2800	590	25000				
	0,19	0,61	1473	2800	590	25000				
	0,21	0,67	1343	2800	590	25000				
	0,24	0,76	1183	2800	590	25000				
	0,27	0,86	1052	2800	590	25000				
	0,30	0,96	941	2800	590	25000				
	0,34	1,07	838	2800	590	25000				
	0,39	1,22	739	2800	590	25000				
	0,43	1,37	656	2800	590	25000				
	0,48	1,53	587	2800	590	25000				
	0,54	1,70	528	2800	590	25000				
	0,59	1,88	478	2800	590	25000				
	0,65	2,09	431	2800	590	25000				
	0,74	2,37	380	2800	590	25000				
	0,83	2,66	338	2800	590	25000				
	0,93	2,98	302	2800	590	25000				
	1,0	3,34	269	2800	590	25000				
	1,2	3,79	237	2800	590	25000				
	1,3	4,27	211	2800	590	25000				
	1,5	4,77	189	2800	590	25000				
	1,7	5,30	170	2800	590	25000				
	1,8	5,87	153	2800	590	25000				
	0,94	3,07	293	2800	2500	25000				
	1,0	3,29	274	2800	2500	25000				
	1,1	3,74	241	2800	2500	25000				
	1,3	4,21	214	2800	2500	25000				
	1,4	4,70	191	2800	2500	25000				
	1,6	5,21	173	2800	2500	25000				
	1,8	5,74	157	2800	2500	25000				
2,1	6,86	131	2800	2500	25000					
2,3	7,46	121	2800	2500	25000					
2,5	8,18	110	2800	2500	25000					
2,8	9,28	96,96	2800	2500	25000					
3,2	10	86,17	2800	2500	25000					
3,6	12	77,10	2800	2500	25000					
4,0	13	68,66	2800	2500	25000					
4,6	15	60,50	2800	2500	25000					
5,1	17	53,77	2800	2500	25000					
5,7	19	48,11	2800	2500	25000					
6,4	21	43,29	2800	2500	25000					
7,1	23	39,14	2800	2500	25000					
7,8	25	35,52	2800	2500	25000					
8,5	28	32,34	2800	2500	25000					
9,4	30	29,53	2800	2500	25000					
10,2	33	27,01	2800	2500	25000					
							İRA İRF İRAF	94		
							İRA İRF İRAF	93		



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
<b>2800 Nm</b>	11,2	36	24,76	2800	2500	25000	İRA İRF İRAF	93			283	133
	13,7	45	20,09	2800	2500	25000					284	143
	16,4	53	16,85	2800	2500	25000					285	153
	19,4	63	14,21	2800	2500	25000						
	11,6	38	23,38	2800	2500	20000	İRA İRF İRAF	92				
	13,2	44	20,60	2800	2500	20000						
	14,9	49	18,31	2800	2500	20000						
	16,6	55	16,38	2800	2500	20000						
	18,4	61	14,74	2800	2500	20000						
	20,4	68	13,33	2800	2500	20000						
	24,7	82	11,01	2800	2500	20000						
	27,1	90	10,05	2800	2500	20000						
	29,6	98	9,200	2800	2500	20000						
	32,7	108	8,317	2800	2500	20000						
	36,0	119	7,548	2800	2500	20000						
	39,6	131	6,872	2800	2500	20000						
	43,3	143	6,274	2800	2500	20000						
	47,4	157	5,740	2800	2500	20000						
	51,7	171	5,261	2800	2500	20000						
	61,3	203	4,437	2800	2500	20000						
	66,7	221	4,080	2800	2500	20000						
	72,5	240	3,753	2800	2500	20000						
	76,0	251	3,580	2800	2500	20000						
	90,1	298	3,019	2800	2500	20000						
98,0	324	2,776	2800	2500	20000							
106	352	2,554	2800	2500	20000							
111	367	2,450	2800	2500	20000							
<b>4300 Nm</b>	0,02	0,04	22099	4300	1200	34000	İRA İRF İRAF	103 İR 73				
	0,02	0,05	18788	4300	1200	34000						
	0,03	0,05	16845	4300	1200	34000						
	0,03	0,06	15213	4300	1200	34000						
	0,03	0,07	13823	4300	1200	34000						
	0,04	0,07	12625	4300	1200	34000						
	0,04	0,08	11581	4300	1200	34000						
	0,04	0,09	10325	4300	1200	34000						
	0,05	0,10	9118	4300	1200	34000						
	0,05	0,11	8104	4300	1200	34000						
	0,06	0,12	7241	4300	1200	34000						
	0,07	0,14	6496	4300	1200	34000						
	0,08	0,15	5848	4300	1200	34000						
	0,08	0,17	5278	4300	1200	34000						
	0,09	0,19	4790	4300	1200	34000						
	0,10	0,21	4230	4300	1200	34000						
	0,12	0,24	3760	4300	1200	34000						
	0,13	0,27	3359	4300	1200	34000						
	0,15	0,30	3014	4300	1200	34000						
	0,16	0,33	2713	4300	1200	34000						
	0,18	0,37	2448	4300	1200	34000						
	0,16	0,33	2733	4300	1200	34000						
	0,18	0,37	2413	4300	1200	34000	İRA İRF İRAF	102 İR 73				
	0,20	0,42	2145	4300	1200	34000						
	0,23	0,47	1916	4300	1200	34000						
	0,27	0,55	1635	4300	1200	34000						
	0,30	0,62	1460	4300	1200	34000						
	0,33	0,69	1311	4300	1200	34000						
0,37	0,76	1180	4300	1200	34000							





Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=900rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
<b>4300 Nm</b>	0,37	0,77	1173	4300	1200	34000	İRA İRF İRAF	103	İR 72	313	251
	0,42	0,86	1046	4300	1200	34000				314	254
	0,47	0,98	923	4300	1200	34000				315	276
	0,53	1,10	821	4300	1200	34000					
	0,54	1,12	803	4300	1200	34000	İRA İRF İRAF	104			
	0,60	1,25	720	4300	1200	34000					
	0,70	1,47	612	4300	1200	34000					
	0,78	1,64	548	4300	1200	34000					
	0,87	1,82	495	4300	1200	34000					
	0,96	2,02	447	4300	1200	34000					
	1,1	2,22	406	4300	1200	34000					
	1,2	2,43	371	4300	1200	34000					
	1,3	2,65	340	4300	1200	34000					
	1,4	2,94	306	4300	1200	34000					
	1,5	3,20	281	4300	1200	34000					
	1,7	3,52	256	4300	3750	30000					
	1,9	4,00	225	4300	3750	30000	İRA İRF İRAF	103			
	2,0	4,33	208	4300	3750	30000					
	2,3	4,88	185	4300	3750	30000					
	2,6	5,44	165	4300	3750	30000					
	3,0	6,40	141	4300	3750	30000					
	3,4	7,13	126	4300	3750	30000					
	3,7	7,95	113	4300	3750	30000					
	4,1	8,69	104	4300	3750	30000					
	4,5	9,52	94,54	4300	3750	30000					
	4,9	10	86,72	4300	3750	30000					
	5,5	12	77,32	4300	3750	30000					
	6,2	13	68,28	4300	3750	30000					
	7,0	15	60,69	4300	3750	30000					
	7,8	17	54,22	4300	3750	30000					
	8,7	19	48,65	4300	3750	30000					
	9,7	21	43,79	4300	3750	30000					
	10,7	23	39,53	4300	3750	30000					
	11,8	25	35,87	4300	3750	30000					
	13,4	28	31,68	4300	3750	30000					
	15,1	32	28,16	4300	3750	30000					
	16,9	36	25,16	4300	3750	30000					
	18,8	40	22,57	4300	3750	30000					
	20,9	44	20,32	4300	3750	30000					
	23,1	49	18,37	4300	3750	30000					
	25,6	54	16,58	4300	3750	30000					
	28,2	60	15,02	4300	3750	30000					
23,6	51	17,69	4300	3750	25000	İRA İRF İRAF	102				
26,7	58	15,62	4300	3750	25000						
30,1	65	13,89	4300	3750	25000						
33,7	73	12,41	4300	3750	25000						
39,5	85	10,59	4300	3750	25000						
44,2	95	9,457	4300	3750	25000						
49,2	106	8,485	4300	3750	25000						
54,7	118	7,638	4300	3750	25000						
58,5	126	7,144	4300	3750	25000						
65,4	141	6,382	4300	3750	25000						
72,9	157	5,726	4300	3750	25000						
81,0	175	5,154	4300	3750	21000						
89,8	193	4,652	4300	3750	21000						
99,3	214	4,207	4300	3750	21000						
112	242	3,723	4300	3750	21000						
								301	200		
								302	203		
								303	225		



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg										
<b>4300 Nm</b>	124	268	3,360	4300	3750	21000	İRA İRF İRAF	102			301	200								
	137	296	3,039	4300	3750	21000					302	203								
	152	327	2,752	4300	3750	19000					303	225								
	167	361	2,495	4300	3750	19000														
	185	398	2,263	4300	3750	19000														
<b>8000 Nm</b>	0,03	0,03	32309	8000	1200	52000	İRA İRF İRAF	123 İR 73			331	338								
	0,03	0,03	28749	8000	1200	52000							332	340						
	0,03	0,03	25807	8000	1200	52000							333	368						
	0,04	0,04	23337	8000	1200	52000														
	0,04	0,05	18918	8000	1200	52000														
	0,05	0,05	17260	8000	1200	52000														
	0,05	0,06	15494	8000	1200	52000														
	0,06	0,07	13395	8000	1200	52000														
	0,07	0,07	12113	8000	1200	52000														
	0,07	0,08	11190	8000	1200	52000														
	0,08	0,09	10209	8000	1200	52000														
	0,09	0,10	9165	8000	1200	52000														
	0,10	0,11	8288	8000	1200	52000														
	0,10	0,11	7928	8000	1200	52000														
	0,13	0,14	6426	8000	1200	52000														
	0,14	0,15	5863	8000	1200	52000														
	0,16	0,17	5263	8000	1200	52000														
	0,17	0,19	4759	8000	1200	52000														
	0,20	0,22	4059	8000	1200	52000							İRA İRF İRAF	122 İR 73			331	309		
	0,22	0,25	3671	8000	1200	52000													332	311
	0,23	0,26	3509	8000	1200	52000													333	339
	0,26	0,28	3173	8000	1200	52000														
	0,29	0,32	2829	8000	1200	52000							İRA İRF İRAF	123 İR 72			331	336		
	0,32	0,36	2517	8000	1200	52000													332	338
	0,36	0,40	2260	8000	1200	52000													333	366
	0,40	0,44	2043	8000	1200	52000														
	0,49	0,54	1657	8000	1200	52000														
	0,54	0,60	1511	8000	1200	52000														
	0,60	0,66	1357	8000	1200	52000														
	0,66	0,73	1227	8000	1200	52000														
	0,79	0,88	1025	8000	1200	52000														
	0,90	1,00	902	8000	1200	52000														
	0,91	1,02	883	8000	1200	52000							İRA İRF İRAF	124			325	389		
	1,0	1,13	799	8000	1200	52000													326	391
	1,2	1,39	647	8000	1200	52000													327	419
	1,4	1,52	591	8000	1200	52000														
	1,5	1,70	530	8000	1200	52000														
	1,7	1,88	479	8000	1200	52000														
	2,0	2,25	400	8000	1200	52000														
	2,3	2,55	352	8000	1200	52000														
2,6	2,88	313	8000	1200	52000															
2,9	3,22	279	8000	1200	52000															
3,2	3,59	251	8000	1200	52000	İRA İRF İRAF	123			319	323									
3,5	3,97	226	8000	1200	52000							320	325							
3,7	4,18	215	8000	1200	52000							321	353							
3,8	4,30	209	8000	3750	41000															
4,2	4,84	186	8000	3750	41000															
4,7	5,39	167	8000	3750	41000															
5,2	5,96	151	8000	3750	41000															
6,4	7,35	122	8000	3750	41000															
7,1	8,05	112	8000	3750	41000															
7,9	8,97	100	8000	3750	41000															



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
8000 Nm	8,7	9,92	90,71	8000	3750	41000	İRA İRF İRAF	123			319 320 321  323 325 353	
	10,4	12	75,77	8000	3750	41000						
	11,8	13	66,67	8000	3750	41000						
	13,3	15	59,16	8000	3750	39700						
	14,9	17	52,85	8000	3750	39700						
	16,6	19	47,47	8000	3750	39700						
	18,4	21	42,84	8000	3750	39700						
	19,4	22	40,70	8000	3750	39700						
	21,8	25	36,11	8000	3750	39700						
	24,5	28	32,26	8000	3750	39700						
	27,2	31	28,98	8000	3750	39700						
	30,2	34	26,15	8000	3750	39700						
	33,3	38	23,69	8000	3750	39700						
	36,7	42	21,52	8000	3750	39700						
	40,2	46	19,60	8000	3750	39700						
	44,1	50	17,89	8000	3750	39700						
		29,6	34	26,28	8000	3750	45000	İRA İRF İRAF	122			319 320 321  344 346 374
	32,7	38	23,77	8000	3750	45000						
	39,1	45	19,85	8000	3750	45000						
	44,5	52	17,47	8000	3750	45000						
	50,1	58	15,50	8000	3750	45000						
	56,1	65	13,85	8000	3750	45000						
	62,5	72	12,44	8000	3750	45000						
	67,6	78	11,50	8000	3750	45000						
	76,2	88	10,20	8000	3750	45000						
	85,3	99	9,112	8000	3750	45000						
	94,9	110	8,185	8000	3750	45000						
	101	117	7,724	8000	3750	45000						
	112	130	6,938	8000	3750	45000						
	124	144	6,261	8000	3750	45000						
	137	159	5,671	8000	3750	45000						
	151	175	5,153	8000	3750	45000						
166	192	4,694	8000	3750	45000							
181	210	4,284	8000	3750	45000							
198	230	3,917	8000	3750	45000							
217	251	3,585	8000	3750	45000							
237	274	3,284	8000	3750	45000							
13000 Nm	2,5	1,68	537	13000	1550	60000	İRA İRF İRAF	143 İR 82			355 356 357  587 601 627	
	3,0	2,03	443	13000	1550	60000						
	3,3	2,26	398	13000	1550	60000						
	3,7	2,51	359	13000	1550	60000						
	4,0	2,72	331	13000	1550	60000						
	4,8	3,25	277	13000	1550	60000						
	5,3	3,61	249	13000	1550	60000						
	5,9	4,00	225	13000	1550	60000						
	6,4	4,35	207	13000	1550	60000						
	7,1	4,81	187	13000	1550	60000						
	8,4	5,73	157	13000	1550	60000						
		0,05	0,04	24943	13000	1200	60000	İRA İRF İRAF	143 İR 73			349 350 351  513 527 553
	0,06	0,04	21564	13000	1200	60000						
	0,07	0,05	19545	13000	1200	60000						
	0,08	0,05	17730	13000	1200	60000						
	0,09	0,06	15134	13000	1200	60000						
	0,10	0,07	13372	13000	1200	60000						
	0,11	0,07	12131	13000	1200	60000						
	0,12	0,08	10788	13000	1200	60000						
	0,14	0,10	9446	13000	1200	60000						



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =900rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
13000 Nm	0,16	0,11	8427	13000	1200	60000	İRA İRF İRAF	143 İR 73	349 350 351	513 527 553
	0,18	0,12	7474	13000	1200	60000				
	0,20	0,13	6732	13000	1200	60000				
	0,23	0,15	5907	13000	1200	60000				
	0,25	0,17	5425	13000	1200	60000				
	0,28	0,19	4839	13000	1200	60000				
	0,31	0,21	4347	13000	1200	60000				
	0,35	0,24	3814	13000	1200	60000				
	0,39	0,26	3404	13000	1200	60000				
	0,44	0,30	3026	13000	1200	60000				
	0,49	0,33	2717	13000	1200	60000				
	0,60	0,41	2184	13000	1200	60000				
	0,67	0,45	1979	13000	1200	60000				
	0,75	0,51	1759	13000	1200	60000				
	0,83	0,56	1596	13000	1200	60000				
	0,97	0,66	1365	13000	1200	60000				
	1,2	0,81	1110	13000	1200	60000				
	1,3	0,91	990	13000	1200	60000				
	1,5	1,01	889	13000	1200	60000				
	1,7	1,15	780	13000	1200	60000				
	1,9	1,29	696	13000	1200	60000				
	2,2	1,51	595	13000	1200	60000				
	2,4	1,65	546	13000	1200	60000				
	2,7	1,85	488	13000	1200	60000				
	3,0	2,05	438	13000	1200	60000				
	3,4	2,34	384	13000	1200	60000				
	3,8	2,61	345	13000	1200	60000				
	4,2	2,93	308	13000	1200	60000				
	4,7	3,26	276	13000	1200	60000				
	4,9	3,42	263	13000	1200	60000				
	5,5	3,81	236	13000	1200	60000				
	6,1	4,23	213	13000	1200	60000				
	6,8	4,68	192	13000	1200	60000				
	7,5	5,15	175	13000	1200	60000				
	7,9	5,57	161	13000	3750	60000				
	8,8	6,15	146	13000	3750	60000				
	9,7	6,78	133	13000	3750	60000				
	12,4	8,70	103	13000	3750	60000				
	13,9	9,76	92,24	13000	3750	60000				
	15,5	11	82,86	13000	3750	60000				
	17,6	12	72,71	13000	3750	60000				
	19,8	14	64,89	13000	3750	60000				
	22,0	15	58,24	13000	3750	60000				
	23,1	16	55,48	13000	3750	60000				
	25,7	18	49,79	13000	3750	60000				
28,6	20	44,88	13000	3750	60000					
31,6	22	40,61	13000	3750	60000					
34,8	24	36,86	13000	3750	60000					
38,2	27	33,53	13000	3750	60000					
45,9	32	27,90	13000	3750	60000					
55,0	39	23,32	13000	3750	60000					
64,0	45	20,02	13000	3750	60000					
63,1	45	20,02	13000	3750	60000					
69,5	50	18,16	13000	3750	60000					
77,9	56	16,20	13000	3750	60000					
86,7	62	14,56	13000	3750	60000					
98,9	70	12,77	13000	3750	60000					
						İRA İRF İRAF	143	337 338 339	526 540 566	
						İRA İRF İRAF	142	337 338 339	476 490 516	



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=900\text{rpm}$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg		
13000 Nm	111	79	11,40	13000	3750	60000	İRA İRF İRAF	142			337 338 339	476 490 516
	123	88	10,23	13000	3750	60000						
	137	98	9,222	13000	3750	60000						
	151	108	8,344	13000	3750	60000						
	167	119	7,573	13000	3750	60000						
	183	131	6,890	13000	3750	60000						
	220	157	5,733	13000	3750	60000						
	264	188	4,792	13000	3750	60000						
18000 Nm	0,26	0,13	7067	18000	3750	110000	İRA İRF İRAF	153 İR 103			379 380 381	1170 1220 1240
	0,29	0,14	6223	18000	3750	110000						
	0,33	0,16	5577	18000	3750	110000						
	0,36	0,18	5035	18000	3750	110000						
	0,40	0,20	4570	18000	3750	110000						
	0,51	0,25	3586	18000	3750	110000						
	0,57	0,28	3205	18000	3750	110000						
	0,71	0,35	2588	18000	3750	110000						
	0,07	0,03	27213	18000	2500	110000	İRA İRF İRAF	153 İR 93			373 374 375	1070 1120 1140
	0,08	0,04	23722	18000	2500	110000						
	0,09	0,05	19875	18000	2500	110000						
	0,11	0,05	17651	18000	2500	110000						
	0,12	0,06	16020	18000	2500	110000						
	0,13	0,06	14354	18000	2500	110000						
	0,14	0,07	13011	18000	2500	110000						
	0,16	0,08	11306	18000	2500	110000						
	0,19	0,09	9958	18000	2500	110000						
	0,21	0,10	8987	18000	2500	110000						
	0,24	0,12	7647	18000	2500	110000						
	0,28	0,14	6643	18000	2500	110000						
	0,31	0,15	6078	18000	2500	110000						
	0,34	0,16	5519	18000	2500	110000						
	0,43	0,21	4312	18000	2500	110000						
	0,50	0,24	3704	18000	2500	110000						
	0,60	0,29	3098	18000	2500	110000						
	0,70	0,35	2596	18000	2500	110000						
	0,80	0,39	2288	18000	2500	110000						
	0,90	0,44	2033	18000	2500	110000						
	1,0	0,49	1819	18000	2500	110000						
	1,1	0,55	1637	18000	2500	110000						
	1,3	0,66	1371	18000	2500	110000						
	1,5	0,73	1240	18000	2500	110000						
	1,8	0,88	1024	18000	2500	110000						
	2,2	1,09	825	18000	2500	110000						
	2,3	1,15	784	18000	2500	110000						
	2,6	1,29	695	18000	2500	110000						
	2,9	1,47	612	18000	2500	110000						
	3,3	1,64	549	18000	2500	110000						
	3,6	1,82	495	18000	2500	110000						
	4,2	2,08	432	18000	2500	110000						
5,0	2,49	362	18000	2500	110000							
5,6	2,80	321	18000	2500	110000							
6,2	3,09	292	18000	2500	110000							
6,8	3,40	264	18000	2500	110000							
7,8	3,92	230	18000	2500	110000							
8,0	4,06	222	18000	5250	110000	İRA İRF İRAF	154			367 368 369	1037 1069 1089	
8,8	4,46	202	18000	5250	110000							
9,9	5,03	179	18000	5250	110000							
11,3	5,72	157	18000	5250	110000							
							İRA İRF İRAF	153			361 362 363	1006 1056 1076



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=900rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
<b>18000 Nm</b>	12,6	6,38	141	18000	5250	110000	<b>İRA İRF İRAF</b>	<b>153</b>	361 362 363	1006 1056 1076
	13,9	7,06	127	18000	5250	110000				
	16,0	8,10	111	18000	5250	110000				
	19,1	9,67	93,05	18000	5250	110000				
	21,5	11	82,63	18000	5250	110000				
	23,7	12	75,00	18000	5250	110000				
	26,1	13	67,98	18000	5250	110000				
	30,0	15	59,07	18000	5250	110000				
	34,1	17	52,03	18000	5250	110000				
	40,1	20	44,27	18000	5250	110000				
	46,1	23	38,46	18000	5250	110000				
	50,4	26	35,19	18000	5250	110000				
	64,6	33	27,50	18000	5250	110000				
	75,2	38	23,62	18000	5250	110000				
	62,2	32	28,55	18000	5250	110000				
	68,5	35	25,93	18000	5250	110000				
	75,3	38	23,57	18000	5250	110000				
	84,2	43	21,09	18000	5250	110000				
	93,4	47	19,00	18000	5250	110000				
	103	52	17,22	18000	5250	110000				
	113	57	15,69	18000	5250	110000				
	124	63	14,35	18000	5250	110000				
	158	80	11,22	18000	5250	110000				
	166	84	10,70	18000	5250	110000				
	182	92	9,744	18000	5250	110000				
	199	101	8,915	18000	5250	110000				
	217	110	8,186	18000	5250	110000				
	255	129	6,965	18000	5250	110000				
	297	150	5,983	18000	5250	110000				
							<b>İRA İRF İRAF</b>		<b>152</b>	361 362 363



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types		 kg						
85 Nm	0,08	8,60	81,37	85	390	2100	İRA İRF İRAF	43	175 176 177	10 11 12					
	0,09	9,99	70,05	85	390	2100									
	0,11	11	60,90	85	390	2100									
	0,12	13	53,33	85	390	2100									
	0,14	15	46,98	85	390	2100									
	0,16	17	41,85	85	390	2100									
	0,18	19	36,38	85	390	2100									
	0,20	22	31,86	85	390	2100									
	0,23	25	28,06	85	390	2100									
	0,25	27	26,19	85	390	2100									
	0,26	28	24,83	85	390	2000									
	0,29	31	22,62	85	390	2000									
	0,31	33	21,11	85	390	2000									
	0,33	35	20,01	85	390	2000									
	0,35	38	18,59	85	390	2000									
	0,37	39	17,76	85	390	1850									
	0,40	43	16,45	85	390	1850									
	0,41	44	15,81	85	390	1850									
	0,45	48	14,60	85	390	1850									
	0,46	50	14,09	85	390	1800									
	0,50	54	13,00	85	390	1800									
	0,56	60	11,58	85	390	1800									
	0,57	62	11,24	85	390	800									
	0,65	71	9,845	85	390	800									
	0,74	81	8,672	85	390	800									
	0,84	91	7,673	85	390	750									
	0,93	102	6,872	85	390	750									
	1,1	115	6,080	85	390	750									
1,2	126	5,538	85	390	750										
1,2	130	5,398	85	390	750										
1,3	143	4,900	85	390	750										
1,3	146	4,803	85	390	750										
1,5	161	4,350	85	390	750										
1,5	164	4,280	85	390	750										
1,7	181	3,870	85	390	750										
1,9	203	3,449	85	390	750										
150 Nm	0,00	0,08	8598	150	390	4250	İRA İRF İRAF	53 İR 43	187 188 189	26 28 29					
	0,00	0,09	7402	150	390	4250									
	0,00	0,11	6435	150	390	4250									
	0,00	0,13	5419	150	390	4250									
	0,00	0,15	4699	150	390	4250									
	0,00	0,17	4117	150	390	4250									
	0,00	0,21	3338	150	390	4250									
	0,00	0,24	2948	150	390	4250									
	0,00	0,26	2679	150	390	4250									
	0,01	0,30	2346	150	390	4250									
	0,01	0,34	2085	150	390	4250									
	0,01	0,38	1863	150	390	4250									
	0,01	0,43	1641	150	390	4250									
	0,01	0,48	1462	150	390	4250									
	0,01	0,55	1271	150	390	4250									
	0,01	0,58	1204	150	390	4250									
	0,01	0,67	1046	150	390	4250									
	0,01	0,76	917	150	390	4250									
	0,01	0,87	809	150	390	4250									
												İRA İRF İRAF	52 İR 43	187 188 189	25 27 28



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
150 Nm	0,02	0,99	709	150	390	4250	İRA İRF İRAF	52 İR 43	187	25
	0,02	1,11	630	150	390	4250			188	27
	0,02	1,26	555	150	390	4250			189	28
	0,02	1,41	496	150	390	4250	İRA İRF İRAF	53 İR 42	187 188 189	25 27 28
	0,01	0,59	1188	150	390	4250				
	0,01	0,67	1040	150	390	4250				
	0,01	0,76	916	150	390	4250				
	0,01	0,80	878	150	390	4250				
	0,02	0,91	772	150	390	4250				
	0,02	1,05	669	150	390	4250				
	0,02	1,19	586	150	390	4250				
	0,02	1,35	519	150	390	4250				
	0,03	1,66	421	150	390	4250				
	0,03	1,86	377	150	390	4250	İRA İRF İRAF	52 İR 42	187 188 189	24 26 27
	0,04	2,10	333	150	390	4250				
	0,04	2,38	294	150	390	4250				
	0,04	2,62	267	150	390	4250				
	0,05	2,94	238	150	390	4250				
	0,06	3,63	193	150	390	4250				
	0,07	4,14	169	150	390	4250				
	0,08	4,73	148	150	390	4250				
	0,09	5,34	131	150	390	4250				
	0,10	6,03	116	150	390	4250				
	0,11	6,62	106	150	475	4250				
	0,13	7,87	88,98	150	475	4250				
	0,15	9,07	77,17	150	475	4250				
	0,17	10	67,60	150	475	4250				
	0,21	13	54,82	150	475	4250				
	0,24	14	48,41	150	475	4250				
	0,26	16	43,99	150	475	4250				
	0,29	18	39,10	150	475	4250				
	0,33	20	34,93	150	475	4250	İRA İRF İRAF	52	181 182 183	15 17 18
	0,37	22	31,34	150	475	4250				
	0,41	25	28,21	150	475	4250				
	0,45	27	25,46	150	475	4250				
	0,50	30	23,03	150	475	4250				
	0,53	32	21,88	150	475	4250				
	0,58	36	19,70	150	475	4250				
	0,65	39	17,78	150	475	4250				
	0,72	44	16,08	150	475	4250				
0,66	41	17,18	150	475	3500					
0,75	47	15,05	150	475	3500					
0,85	53	13,29	150	475	3500					
0,96	59	11,81	150	475	3500					
1,1	66	10,56	150	475	3500					
1,2	74	9,470	150	475	3500					
1,3	79	8,888	150	475	3500					
1,4	88	7,974	150	475	3500					
1,6	98	7,178	150	475	3500					
1,7	108	6,479	150	475	3500					
1,9	120	5,821	150	475	3500					
2,2	133	5,254	150	475	3500					
2,3	139	5,032	150	475	3500					
2,5	155	4,515	150	475	3500					
2,8	172	4,064	150	475	3500					





Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg		
	İRA İRF İRAF	52	181 182 183	15 17 18								
<b>150 Nm</b>	3,1	191	3,668	150	475	3500	İRA İRF İRAF	52			181 182 183	15 17 18
	3,4	211	3,317	150	475	3500						
	3,7	229	3,059	150	475	3500						
	3,9	241	2,906	150	475	3500						
	4,4	272	2,572	150	475	3500						
<b>410 Nm</b>	0,25	5,47	128	410	590	7000	İRA İRF İRAF	631			193 194 195	29 34 35
	0,26	5,86	119	410	590	7000						
	0,33	7,27	96,27	410	590	7000						
	0,36	7,97	87,81	410	590	7000						
	0,38	8,40	83,37	410	590	7000						
	0,44	9,86	70,96	410	590	7000						
	0,52	11	61,03	410	590	7000						
	0,61	14	51,65	410	590	7000						
	0,67	15	46,79	410	590	7000						
	0,74	16	42,55	410	590	7000						
	0,88	20	35,74	410	590	7000						
	1,1	23	29,85	410	590	7000						
	1,2	28	25,16	410	590	7000						
	1,5	33	21,50	410	590	7000						
	1,5	34	20,53	410	590	7000						
	1,7	39	18,18	410	590	7000						
	2,0	45	15,59	410	590	7000						
	2,3	51	13,81	410	590	7000						
	1,9	42	16,67	410	590	7000						
	2,0	46	15,13	410	590	7000						
	2,3	52	13,48	410	590	7000						
	2,5	57	12,21	410	590	7000						
	2,8	63	11,10	410	590	7000						
	3,1	69	10,07	410	590	7000						
	3,3	75	9,358	410	590	7000						
	3,6	82	8,510	410	590	7000						
	4,0	91	7,673	410	590	7000						
	4,4	98	7,108	410	590	7000						
	4,8	108	6,480	410	590	7000						
	5,2	117	5,992	410	590	7000						
	5,4	122	5,723	410	590	7000						
	5,8	131	5,325	410	590	7000						
6,1	138	5,060	410	590	7000							
6,9	156	4,499	410	590	7000							
7,7	175	3,998	410	590	7000							
8,3	189	3,711	410	590	7000							
9,4	213	3,287	410	590	7000							
10,6	240	2,917	410	590	7000							
12,0	270	2,592	410	590	7000							
12,7	286	2,444	410	590	7000							
<b>410 Nm</b>	0,00	0,05	13520	410	475	7000	İRA İRF İRAF	63 İR 53			223 224 225	44 49 50
	0,00	0,06	12617	410	475	7000						
	0,00	0,06	11345	410	475	7000						
	0,00	0,07	10587	410	475	7000						
	0,00	0,07	9873	410	475	7000						
	0,00	0,08	9214	410	475	7000						
	0,00	0,09	7479	410	475	7000						
	0,01	0,11	6508	410	475	7000						
	0,01	0,11	6194	410	475	7000						
	0,01	0,12	5936	410	475	7000						
	0,01	0,12	5780	410	475	7000						
	0,01	0,12	5636	410	475	7000						



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types		 kg					
410 Nm	0,01	0,15	4814	410	475	7000	İRA İRF İRAF	63 İR 53	223	44				
	0,01	0,15	4661	410	475	7000								
	0,01	0,15	4570	410	475	7000								
	0,01	0,16	4251	410	475	7000								
	0,01	0,17	4036	410	475	7000								
	0,01	0,18	3890	410	475	7000								
	0,01	0,20	3436	410	475	7000								
	0,01	0,24	2955	410	475	7000								
	0,01	0,26	2685	410	475	7000								
	0,01	0,28	2500	410	475	7000								
	0,01	0,32	2198	410	475	7000								
	0,02	0,34	2052	410	475	7000								
	0,02	0,39	1797	410	475	7000								
	0,02	0,41	1701	410	475	7000								
	0,02	0,42	1654	410	475	7000								
	0,02	0,44	1587	410	475	7000								
	0,02	0,46	1509	410	475	7000								
	0,02	0,49	1432	410	475	7000								
	0,03	0,55	1280	410	475	7000								
	0,03	0,57	1219	410	475	7000								
	0,03	0,60	1167	410	475	7000								
	0,03	0,63	1108	410	475	7000								
	0,03	0,67	1049	410	475	7000								
	0,03	0,74	943	410	475	7000								
	0,04	0,79	887	410	475	7000								
	0,04	0,86	811	410	475	7000								
	0,04	0,87	804	410	475	7000								
	0,04	0,96	731	410	475	7000								
	0,05	1,02	686	410	475	7000								
	0,05	1,13	622	410	475	7000								
	0,05	1,14	614	410	475	7000								
	0,06	1,24	566	410	475	7000								
	0,06	1,30	538	410	475	7000								
	0,07	1,47	475	410	475	7000								
	0,07	1,56	449	410	475	7000								
	0,08	1,65	424	410	475	7000								
	0,08	1,77	396	410	475	7000								
	0,10	2,19	319	410	475	7000								
	0,11	2,40	291	410	475	7000								
	0,12	2,53	276	410	475	7000								
	0,14	2,97	235	410	475	7000								
	0,15	3,27	214	410	475	7000								
	0,18	3,85	182	410	475	7000								
	0,20	4,47	157	410	475	7000								
	0,24	5,28	132	410	475	7000								
0,25	5,47	128	410	590	7000									
0,26	5,86	119	410	590	7000									
0,33	7,27	96,27	410	590	7000									
0,36	7,97	87,81	410	590	7000									
0,38	8,40	83,37	410	590	7000									
0,44	9,86	70,96	410	590	7000									
0,52	11	61,03	410	590	7000									
0,61	14	51,65	410	590	7000									
0,67	15	46,79	410	590	7000									
0,74	16	42,55	410	590	7000									
0,88	20	35,74	410	590	7000									
1,1	23	29,85	410	590	7000									
							İRA İRF İRAF	63	211	29				
									İRA İRF İRAF	64	217	32		
											İRA İRF İRAF	66	218	37
											İRA İRF İRAF	67	219	38
							İRA İRF İRAF	63	212	34				
									İRA İRF İRAF	68	213	35		



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg					
410 Nm	1,2	28	25,16	410	590	7000	İRA İRF İRAF	63	211 212 213	29 34 35					
	1,5	33	21,50	410	590	7000									
	1,5	34	20,53	410	590	7000									
	1,7	39	18,18	410	590	7000									
	2,0	45	15,59	410	590	7000									
	2,3	51	13,81	410	590	7000									
	410 Nm	1,9	42	16,67	410	590	4500	İRA İRF İRAF	62	211 212 213	24 29 30				
		2,0	46	15,13	410	590	4500								
		2,3	52	13,48	410	590	4500								
		2,5	57	12,21	410	590	4500								
		2,8	63	11,10	410	590	4500								
		3,1	69	10,07	410	590	4500								
		3,3	75	9,358	410	590	4500								
		3,6	82	8,510	410	590	4500								
		4,0	91	7,673	410	590	4500								
		4,4	98	7,108	410	590	4500								
		4,8	108	6,480	410	590	4500								
		5,2	117	5,992	410	590	4500								
		5,4	122	5,723	410	590	4500								
		5,8	131	5,325	410	590	4500								
		6,1	138	5,060	410	590	4500								
		6,9	156	4,499	410	590	4500								
		7,7	175	3,998	410	590	4500								
		8,3	189	3,711	410	590	4500								
9,4		213	3,287	410	590	4500									
10,6		240	2,917	410	590	4500									
12,0		270	2,592	410	590	4500									
12,7		286	2,444	410	590	4500									
600 Nm		0,00	0,04	16071	600	475	10100					İRA İRF İRAF	731 İR 53	241 242 243	54 57 60
		0,00	0,05	14258	600	475	10100								
	0,00	0,06	12326	600	475	10100									
	0,00	0,07	10380	600	475	10100									
	0,01	0,08	9001	600	475	10100									
	0,01	0,09	7782	600	475	10100									
	0,01	0,10	6862	600	475	10100									
	0,01	0,12	6012	600	475	10100									
	0,01	0,13	5301	600	475	10100									
	0,01	0,16	4299	600	475	10100									
	0,01	0,18	3796	600	475	10100									
	0,01	0,20	3450	600	475	10100									
	0,02	0,23	3068	600	475	10100									
	0,02	0,25	2747	600	475	10100									
	0,02	0,29	2443	600	475	10100									
	0,02	0,27	2613	600	475	10100									
	600 Nm	0,02	0,30	2318	600	475	10100	İRA İRF İRAF	731 İR 52	241 242 243	54 57 60				
		0,02	0,35	2004	600	475	10100								
		0,03	0,37	1872	600	475	10100								
		600 Nm	0,03	0,43	1640	600	475	10100	İRA İRF İRAF	721 İR 53	241 242 243	53 56 59			
			0,03	0,48	1446	600	475	10100							
			0,04	0,54	1286	600	475	10100							
			0,04	0,60	1172	600	475	10100							
			0,05	0,68	1035	600	475	10100							
			0,05	0,76	921	600	475	10100							
			0,06	0,85	825	600	475	10100							
			0,06	0,94	743	600	475	10100							
			0,07	1,04	675	600	475	10100							



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
<b>600 Nm</b>	0,11	1,68	417	600	475	10100	İRA İRF İRAF	721 İR 52	241 242 243	50 53 56
	0,13	1,92	365	600	475	10100				
	0,15	2,17	322	600	475	10100				
	0,16	2,44	287	600	475	10100				
	0,18	2,73	256	600	475	10100				
	0,21	3,10	226	600	475	10100				
	0,23	3,48	201	600	475	10100				
	0,26	3,89	180	600	475	10100				
	0,29	4,32	162	600	475	10100				
	0,32	4,83	145	600	475	10100				
	0,08	1,13	622	600	475	10100				
	0,09	1,30	538	600	475	10100				
	0,10	1,51	465	600	475	10100				
	0,11	1,61	435	600	475	10100				
	0,12	1,82	384	600	475	10100				
	0,14	2,07	338	600	475	10100				
	0,16	2,33	301	600	475	10100				
	0,19	2,92	240	600	475	10100				
	0,25	3,72	188	600	475	10100				
	0,28	4,15	169	600	475	10100				
	0,31	4,61	152	600	475	10100				
	0,30	4,60	152	600	1000	10100				
	0,34	5,19	135	600	1000	10100				
	0,39	6,00	117	600	1000	10100				
	0,46	6,94	101	600	1000	10100				
	0,52	7,87	88,93	600	1000	10100				
	0,59	8,93	78,43	600	1000	10100				
	0,66	10	69,75	600	1000	9700				
	0,74	11	62,46	600	1000	9700				
	0,83	13	55,54	600	1000	9700				
	0,93	14	49,74	600	1000	9700				
	1,0	16	44,79	600	1000	9700				
	1,2	18	39,89	600	1000	9500				
	1,3	20	35,22	600	1000	9500				
	1,5	22	31,31	600	1000	9500				
	1,6	25	27,97	600	1000	9250				
	1,8	28	25,10	600	1000	9250				
	2,0	31	22,59	600	1000	9250				
	1,4	22	31,62	600	1000	7500				
	1,6	25	28,06	600	1000	7500				
	1,9	29	24,25	600	1000	7500				
	2,1	33	21,39	600	1000	7500				
	2,4	37	19,02	600	1000	7250				
	2,7	41	17,03	600	1000	7250				
	2,9	45	15,40	600	1000	7250				
3,3	51	13,73	600	1000	7250					
3,7	58	12,13	600	1000	7250					
4,1	63	11,17	600	1000	7250					
4,6	71	9,866	600	1000	7000					
5,2	80	8,769	600	1000	7000					
5,8	89	7,834	600	1000	7000					
6,4	100	7,029	600	1000	7000					
7,2	111	6,327	600	1000	7000					
7,9	123	5,710	600	1000	7000					
8,8	136	5,164	600	1000	7000					
9,7	150	4,677	600	1000	7000					
							İRA İRF İRAF	721	229 230 231	37 40 43



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=700$ rpm)	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
600 Nm	10,7	165	4,240	600	1000	7000	İRA İRF İRAF	721	229 230 231	37 40 43
	11,9	184	3,809	600	1000	7000				
	13,2	204	3,438	600	1000	7000				
	14,6	225	3,109	600	1000	7000				
	16,1	249	2,816	600	1000	7000				
	17,8	274	2,553	600	1000	7000				
870 Nm	0,00	0,04	16321	870	475	12100	İRA İRF İRAF	73 İR 53	259 260 261	53 56 59
	0,00	0,05	14110	870	475	12100				
	0,01	0,05	13744	870	475	12100				
	0,01	0,06	11919	870	475	12100				
	0,01	0,06	10947	870	475	12100				
	0,01	0,07	10304	870	475	12100				
	0,01	0,07	9654	870	475	12100				
	0,01	0,08	8586	870	475	12100				
	0,01	0,09	7688	870	475	12100				
	0,01	0,11	6474	870	475	12100				
	0,01	0,12	5674	870	475	12100				
	0,01	0,13	5287	870	475	12100				
	0,02	0,16	4423	870	475	12100				
	0,02	0,18	3989	870	475	12100				
	0,02	0,20	3522	870	475	12100				
	0,02	0,22	3153	870	475	12100				
	0,02	0,25	2817	870	475	12100				
	0,03	0,28	2527	870	475	12100				
	0,03	0,33	2106	870	475	12100				
	0,03	0,35	2017	870	475	12100				
	0,04	0,37	1882	870	475	12100				
	0,04	0,41	1703	870	475	12100				
	0,05	0,46	1520	870	475	12100				
	0,05	0,50	1410	870	475	12100				
	0,05	0,55	1265	870	475	12100				
	0,06	0,59	1187	870	475	12100				
	0,07	0,71	981	870	475	12100				
	0,07	0,76	921	870	475	12100				
	0,08	0,81	865	870	475	12100				
	0,08	0,86	812	870	475	12100				
	0,09	0,91	769	870	475	12100				
	0,10	0,97	722	870	475	12100				
	0,11	1,08	648	870	475	12100				
	0,12	1,21	576	870	475	12100				
	0,15	1,57	447	870	475	12100				
	0,17	1,78	394	870	475	12100				
0,19	2,00	351	870	475	12100					
0,22	2,23	314	870	475	12100					
0,24	2,48	283	870	475	12100					
0,43	4,53	154	870	1200	12100					
0,50	5,24	134	870	1200	12100					
0,65	6,80	103	870	1200	12100					
0,73	7,66	91,36	870	1200	12100					
0,82	8,62	81,25	870	1200	12100					
0,92	9,62	72,76	870	1200	12100					
1,0	11	65,52	870	1200	12100					
1,1	12	59,42	870	1200	12100					
1,3	13	52,47	870	1200	12100					
1,4	15	46,36	870	1200	12100					
1,6	17	41,67	870	1200	12100					
1,8	19	37,38	870	1200	12100					
73 İR 52	0,05	0,59	1187	870	475	12100	İRA İRF İRAF	73 İR 52	259 260 261	52 55 58
	0,07	0,71	981	870	475	12100				
	0,07	0,76	921	870	475	12100				
	0,08	0,81	865	870	475	12100				
	0,08	0,86	812	870	475	12100				
	0,09	0,91	769	870	475	12100				
74	0,10	0,97	722	870	475	12100	İRA İRF İRAF	74	253 254 255	45 48 51
	0,11	1,08	648	870	475	12100				
	0,12	1,21	576	870	475	12100				
	0,15	1,57	447	870	475	12100				
	0,17	1,78	394	870	475	12100				
	0,19	2,00	351	870	475	12100				
73	0,22	2,23	314	870	475	12100	İRA İRF İRAF	73	247 248 249	37 40 43
	0,24	2,48	283	870	475	12100				
	0,43	4,53	154	870	1200	12100				
	0,50	5,24	134	870	1200	12100				
	0,65	6,80	103	870	1200	12100				
	0,73	7,66	91,36	870	1200	12100				
	0,82	8,62	81,25	870	1200	12100				
	0,92	9,62	72,76	870	1200	12100				
	1,0	11	65,52	870	1200	12100				
	1,1	12	59,42	870	1200	12100				



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg		
870 Nm	2,1	22	31,16	870	1200	12100	İRA İRF İRAF	73			247 248 249	37 40 43
	2,4	25	27,84	870	1200	12100						
	2,7	28	24,98	870	1200	12100						
	3,0	31	22,48	870	1200	12100						
	3,3	34	20,29	870	1200	12100						
	3,6	38	18,35	870	1200	12100						
	4,0	42	16,62	870	1200	12100						
	4,4	46	15,07	870	1200	12100						
	4,9	52	13,53	870	1200	9000						
	5,5	58	12,02	870	1200	9000						
	6,1	65	10,74	870	1200	9000						
	7,0	75	9,337	870	1200	9000						
	7,9	84	8,333	870	1200	9000						
	8,8	94	7,476	870	1200	9000						
	9,8	104	6,730	870	1200	9000						
	10,8	115	6,074	870	1200	9000						
	12,0	127	5,494	870	1200	9000						
	13,2	140	4,995	870	1200	9000						
	14,6	156	4,497	870	1200	9000						
	16,2	172	4,059	870	1200	9000						
17,9	191	3,670	870	1200	9000							
19,8	211	3,324	870	1200	9000							
21,8	232	3,014	870	1200	9000							
24,0	256	2,733	870	1200	9000							
25,6	272	2,571	870	1200	9000							
1500 Nm	0,01	0,04	18231	1500	590	17000	İRA İRF İRAF	83 İR 53			277 278 279	120 125 127
	0,01	0,05	15217	1500	590	17000						
	0,01	0,05	13984	1500	590	17000						
	0,01	0,06	12302	1500	590	17500						
	0,01	0,06	10968	1500	590	17500						
	0,01	0,08	8893	1500	590	17500						
	0,02	0,09	7902	1500	590	17500						
	0,02	0,10	7092	1500	590	17500						
	0,02	0,11	6393	1500	590	17500						
	0,02	0,13	5484	1500	590	17500						
	0,02	0,14	4922	1500	590	17500						
	0,03	0,16	4437	1500	590	17500						
	0,03	0,17	4015	1500	590	17500						
	0,03	0,19	3593	1500	590	17500						
	0,04	0,22	3239	1500	590	17500						
	0,04	0,24	2930	1500	590	17500						
	0,05	0,26	2659	1500	590	17500						
	0,05	0,29	2419	1500	590	17500						
	0,05	0,32	2205	1500	590	17500						
	0,06	0,35	2013	1500	590	17500						
	0,07	0,38	1840	1500	590	17500						
	0,07	0,39	1778	1500	590	17500						
	0,08	0,44	1580	1500	590	17500						
	0,08	0,49	1418	1500	590	17500						
	0,09	0,54	1308	1500	590	17500						
	0,09	0,55	1279	1500	590	17500						
	0,10	0,60	1162	1500	590	17500						
	0,10	0,61	1157	1500	590	17500						
	0,11	0,67	1050	1500	590	17500						
	0,11	0,67	1043	1500	590	17500						
	0,13	0,74	940	1500	590	17500						
	0,14	0,82	850	1500	590	17500						
0,15	0,91	772	1500	590	17500							
0,16	0,97	723	1500	590	17500							
							İRA İRF İRAF	82 İR 53			277 278 279	130 135 137



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=700$ rpm)	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
<b>1500 Nm</b>	0,17	1,00	700	1500	590	17500	İRA İRF İRAF	84	271 272 273	106 111 113
	0,18	1,10	635	1500	590	17500				
	0,20	1,21	579	1500	590	17500				
	0,22	1,32	530	1500	590	17500				
	0,24	1,44	487	1500	590	17500				
	0,27	1,63	428	1500	590	17500				
	0,31	1,83	382	1500	590	17500				
	0,34	2,04	343	1500	590	17500				
	0,38	2,26	310	1500	590	17500				
	0,42	2,54	275	1500	590	17500				
	0,43	2,56	273	1500	590	17500				
	0,48	2,88	243	1500	590	17500				
	0,54	3,21	218	1500	590	17500				
	0,59	3,57	196	1500	590	17500				
	0,67	4,01	174	1500	590	17500				
	0,69	4,16	168	1500	590	17500				
	0,46	2,79	251	1500	1550	17500	İRA İRF İRAF	83	265 266 267	79 84 86
	0,52	3,17	221	1500	1550	17500				
	0,55	3,36	209	1500	1550	17500				
	0,62	3,75	187	1500	1550	17500				
	0,68	4,16	168	1500	1550	17500				
	0,75	4,58	153	1500	1550	17500				
	0,83	5,03	139	1500	1550	17500				
	0,90	5,49	127	1500	1550	17500				
	0,98	5,98	117	1500	1550	17500				
	1,1	6,79	103	1500	1550	17500				
	1,3	7,62	91,85	1500	1550	17500				
	1,4	8,49	82,47	1500	1550	17500				
	1,5	9,40	74,47	1500	1550	17500				
	1,7	11	66,18	1500	1550	17500				
	1,9	12	59,39	1500	1550	17500				
	2,1	13	53,54	1500	1550	17500				
	2,4	15	47,59	1500	1550	17500				
	2,5	15	45,93	1500	1550	17500				
	2,8	17	41,22	1500	1550	17500				
	3,1	19	37,16	1500	1550	17500				
	3,5	21	33,03	1500	1550	17500				
	3,8	23	30,08	1500	1550	17500				
	4,2	26	27,12	1500	1550	17500				
	4,7	29	24,54	1500	1550	17500				
	5,2	31	22,27	1500	1550	17500				
	5,7	35	20,26	1500	1550	17500				
6,2	38	18,47	1500	1550	17500					
6,8	42	16,86	1500	1550	17500					
7,5	45	15,41	1500	1550	17500					
7,6	47	14,90	1500	1550	13000	İRA İRF İRAF	82	265 266 267	89 94 96	
8,6	53	13,24	1500	1550	13000					
9,5	59	11,88	1500	1550	13000					
10,6	65	10,71	1500	1550	13000					
11,7	72	9,689	1500	1550	13000					
12,9	80	8,793	1500	1550	13000					
13,7	85	8,244	1500	1550	13000					
15,2	94	7,432	1500	1550	13000					
16,9	104	6,724	1500	1550	13000					
18,6	115	6,103	1500	1550	13000					
20,4	126	5,552	1500	1550	13000					
22,4	138	5,061	1500	1550	13000					



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=700rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			
										kg
1500 Nm	24,5	152	4,620	1500	1550	13000	İRA İRF İRAF	82	265 266 267	89 94 96
	26,8	166	4,222	1500	1550	13000				
	28,0	173	4,052	1500	1550	13000				
	30,7	189	3,694	1500	1550	13000				
	33,6	208	3,372	1500	1550	13000				
	36,8	227	3,082	1500	1550	13000				
	38,7	239	2,926	1500	1550	13000				
	42,4	262	2,674	1500	1550	13000				
	47,8	295	2,373	1500	1550	13000				
2800 Nm	0,01	0,03	22852	2800	590	25000	İRA İRF İRAF	93 İR 63	295 296 297	154 164 174
	0,01	0,03	20623	2800	590	25000				
	0,01	0,04	18725	2800	590	25000				
	0,01	0,04	18426	2800	590	25000				
	0,01	0,04	17911	2800	590	25000				
	0,01	0,04	16707	2800	590	25000				
	0,01	0,04	16629	2800	590	25000				
	0,01	0,04	15663	2800	590	25000				
	0,01	0,05	15160	2800	590	25000				
	0,01	0,05	15098	2800	590	25000				
	0,02	0,05	14679	2800	590	25000				
	0,02	0,05	14410	2800	590	25000				
	0,02	0,05	13583	2800	590	25000				
	0,02	0,05	13137	2800	590	25000				
	0,02	0,05	13037	2800	590	25000				
	0,02	0,06	12258	2800	590	25000				
	0,02	0,06	11681	2800	590	25000				
	0,02	0,06	11577	2800	590	25000				
	0,02	0,06	11130	2800	590	25000				
	0,02	0,07	10542	2800	590	25000				
	0,02	0,07	10288	2800	590	25000				
	0,02	0,07	9565	2800	590	25000				
	0,02	0,08	9309	2800	590	25000				
	0,02	0,08	9206	2800	590	25000				
	0,03	0,08	8565	2800	590	25000				
	0,03	0,09	8198	2800	590	25000				
	0,03	0,09	8006	2800	590	25000				
	0,03	0,09	7808	2800	590	25000				
	0,03	0,10	7366	2800	590	25000				
	0,03	0,10	7224	2800	590	25000				
	0,03	0,10	6881	2800	590	25000				
	0,03	0,10	6715	2800	590	25000				
	0,04	0,11	6420	2800	590	25000				
	0,04	0,11	6115	2800	590	25000				
	0,04	0,12	5918	2800	590	25000				
	0,04	0,12	5745	2800	590	25000				
	0,04	0,13	5472	2800	590	25000				
	0,04	0,13	5259	2800	590	25000				
	0,04	0,14	5169	2800	590	25000				
	0,05	0,14	4872	2800	590	25000				
	0,05	0,15	4706	2800	590	25000				
	0,05	0,15	4673	2800	590	25000				
0,05	0,16	4294	2800	590	25000					
0,05	0,17	4241	2800	590	25000					
0,05	0,17	4190	2800	590	25000					





Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub>	n <sub>2</sub>	İ	M <sub>2</sub>	F <sub>Q1</sub>	F <sub>Q10</sub>	Tip Type Types			
	GÜÇ Power Puissance	Çıkış Devri Output Speeds Vitesse de sortie	Tahvil Ratio Rapport de réduction	Çıkış Momenti Output Torque Couple de sortie	Rad. Yük Over Loads Charges radiales	Rad. Yük Over Loads Charges radiales				
	[kW]	[r.p.m] (n <sub>1</sub> =700rpm)	[Nm]	[N]	[N]					
2800 Nm	0,06	0,18	3954	2800	590	25000	İRA İRF İRAF	93 İR 62	295	149
	0,06	0,19	3688	2800	590	25000				
	0,06	0,20	3582	2800	590	25000				
	0,07	0,21	3341	2800	590	25000				
	0,07	0,22	3241	2800	590	25000				
	0,08	0,24	2936	2800	590	25000				
	0,08	0,24	2878	2800	590	25000				
	0,08	0,27	2607	2800	590	25000				
	0,09	0,30	2336	2800	590	25000				
	0,11	0,33	2108	2800	590	25000				
	0,12	0,37	1914	2800	590	25000				
	0,14	0,44	1601	2800	590	25000				
	0,15	0,48	1473	2800	590	25000				
	0,16	0,52	1343	2800	590	25000				
	0,19	0,59	1183	2800	590	25000				
	0,21	0,67	1052	2800	590	25000				
	0,24	0,74	941	2800	590	25000				
	0,26	0,84	838	2800	590	25000				
	0,30	0,95	739	2800	590	25000				
	0,34	1,07	656	2800	590	25000				
	0,38	1,19	587	2800	590	25000				
	0,42	1,33	528	2800	590	25000				
	0,46	1,46	478	2800	590	25000				
	0,51	1,62	431	2800	590	25000				
	0,57	1,84	380	2800	590	25000				
	0,65	2,07	338	2800	590	25000				
	0,72	2,32	302	2800	590	25000				
	0,81	2,60	269	2800	590	25000				
	0,92	2,95	237	2800	590	25000				
	1,0	3,32	211	2800	590	25000				
	1,2	3,71	189	2800	590	25000				
	1,3	4,12	170	2800	590	25000				
	1,4	4,56	153	2800	590	25000				
	0,73	2,39	293	2800	2500	25000				
	0,78	2,56	274	2800	2500	25000				
	0,89	2,91	241	2800	2500	25000				
	1,0	3,28	214	2800	2500	25000				
	1,1	3,66	191	2800	2500	25000				
	1,2	4,05	173	2800	2500	25000				
	1,4	4,46	157	2800	2500	25000				
	1,6	5,34	131	2800	2500	25000				
	1,8	5,80	121	2800	2500	25000				
	2,0	6,36	110	2800	2500	25000				
	2,2	7,22	96,96	2800	2500	25000				
	2,5	8,12	86,17	2800	2500	25000				
2,8	9,08	77,10	2800	2500	25000					
3,1	10	68,66	2800	2500	25000					
3,5	12	60,50	2800	2500	25000					
4,0	13	53,77	2800	2500	25000					
4,5	15	48,11	2800	2500	25000					
5,0	16	43,29	2800	2500	25000					
5,5	18	39,14	2800	2500	25000					
6,0	20	35,52	2800	2500	25000					
6,6	22	32,34	2800	2500	25000					
7,3	24	29,53	2800	2500	25000					
7,9	26	27,01	2800	2500	25000					
						İRA İRF İRAF	94	289	149	
						İRA İRF İRAF	93	283	133	



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg
<b>2800 Nm</b>	8,7	28	24,76	2800	2500	25000	İRA İRF İRAF	93	283	133
	10,7	35	20,09	2800	2500	25000			284	143
	12,7	42	16,85	2800	2500	25000			285	153
	15,1	49	14,21	2800	2500	25000				
	9,0	30	23,38	2800	2500	20000	İRA İRF İRAF	92	283	163
	10,3	34	20,60	2800	2500	20000				
	11,6	38	18,31	2800	2500	20000				
	12,9	43	16,38	2800	2500	20000				
	14,3	47	14,74	2800	2500	20000				
	15,9	53	13,33	2800	2500	20000				
	19,2	64	11,01	2800	2500	20000				
	21,0	70	10,05	2800	2500	20000				
	23,0	76	9,200	2800	2500	20000				
	25,4	84	8,317	2800	2500	20000				
	28,0	93	7,548	2800	2500	20000				
	30,8	102	6,872	2800	2500	20000				
	33,7	112	6,274	2800	2500	20000				
	36,9	122	5,740	2800	2500	20000				
	40,2	133	5,261	2800	2500	20000				
	47,7	158	4,437	2800	2500	20000				
	51,8	172	4,080	2800	2500	20000				
	56,4	187	3,753	2800	2500	20000				
	59,1	196	3,580	2800	2500	20000				
	70,1	232	3,019	2800	2500	20000				
76,2	252	2,776	2800	2500	20000					
82,8	274	2,554	2800	2500	20000					
86,3	286	2,450	2800	2500	20000					
<b>4300 Nm</b>	0,02	0,03	22099	4300	1200	34000	İRA İRF İRAF	103 İR 73	313	253
	0,02	0,04	18788	4300	1200	34000				
	0,02	0,04	16845	4300	1200	34000				
	0,02	0,05	15213	4300	1200	34000				
	0,02	0,05	13823	4300	1200	34000				
	0,03	0,06	12625	4300	1200	34000				
	0,03	0,06	11581	4300	1200	34000				
	0,03	0,07	10325	4300	1200	34000				
	0,04	0,08	9118	4300	1200	34000				
	0,04	0,09	8104	4300	1200	34000				
	0,05	0,10	7241	4300	1200	34000				
	0,05	0,11	6496	4300	1200	34000				
	0,06	0,12	5848	4300	1200	34000				
	0,07	0,13	5278	4300	1200	34000				
	0,07	0,15	4790	4300	1200	34000				
	0,08	0,17	4230	4300	1200	34000				
	0,09	0,19	3760	4300	1200	34000				
	0,10	0,21	3359	4300	1200	34000				
	0,11	0,23	3014	4300	1200	34000				
	0,13	0,26	2713	4300	1200	34000				
	0,14	0,29	2448	4300	1200	34000				
	0,12	0,26	2733	4300	1200	34000				
	0,14	0,29	2413	4300	1200	34000				
	0,16	0,33	2145	4300	1200	34000				
	0,18	0,37	1916	4300	1200	34000				
	0,21	0,43	1635	4300	1200	34000				
	0,23	0,48	1460	4300	1200	34000				
	0,26	0,53	1311	4300	1200	34000				
0,29	0,59	1180	4300	1200	34000					
							İRA İRF İRAF	102 İR 73	313	246
									314	249
									315	271



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=700rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg	
<b>4300 Nm</b>	0,29	0,60	1173	4300	1200	34000	İRA İRF İRAF	103	İR 72	313	251
	0,32	0,67	1046	4300	1200	34000				314	254
	0,37	0,76	923	4300	1200	34000				315	276
	0,41	0,85	821	4300	1200	34000	İRA İRF İRAF	104		307	246
	0,42	0,87	803	4300	1200	34000					
	0,47	0,97	720	4300	1200	34000					
	0,55	1,14	612	4300	1200	34000					
	0,61	1,28	548	4300	1200	34000					
	0,68	1,42	495	4300	1200	34000					
	0,75	1,57	447	4300	1200	34000					
	0,83	1,73	406	4300	1200	34000					
	0,90	1,89	371	4300	1200	34000					
	0,98	2,06	340	4300	1200	34000					
	1,1	2,28	306	4300	1200	34000					
	1,2	2,49	281	4300	1200	34000					
	1,3	2,73	256	4300	3750	30000	İRA İRF İRAF	103		301	207
	1,5	3,11	225	4300	3750	30000					
	1,6	3,37	208	4300	3750	30000					
	1,8	3,79	185	4300	3750	30000					
	2,0	4,23	165	4300	3750	30000					
	2,3	4,98	141	4300	3750	30000					
	2,6	5,55	126	4300	3750	30000					
	2,9	6,18	113	4300	3750	30000					
	3,2	6,76	104	4300	3750	30000					
	3,5	7,40	94,54	4300	3750	30000					
	3,8	8,07	86,72	4300	3750	30000					
	4,3	9,05	77,32	4300	3750	30000					
	4,8	10	68,28	4300	3750	30000					
	5,4	12	60,69	4300	3750	30000					
	6,1	13	54,22	4300	3750	30000					
	6,8	14	48,65	4300	3750	30000					
	7,5	16	43,79	4300	3750	30000					
	8,3	18	39,53	4300	3750	30000					
	9,2	20	35,87	4300	3750	30000					
	10,4	22	31,68	4300	3750	30000					
	11,7	25	28,16	4300	3750	30000					
	13,1	28	25,16	4300	3750	30000					
	14,6	31	22,57	4300	3750	30000					
	16,2	34	20,32	4300	3750	30000					
	18,0	38	18,37	4300	3750	30000					
	19,9	42	16,58	4300	3750	30000					
	22,0	47	15,02	4300	3750	30000					
	18,4	40	17,69	4300	3750	25000	İRA İRF İRAF	102		301	200
	20,8	45	15,62	4300	3750	25000					
	23,4	50	13,89	4300	3750	25000					
	26,2	56	12,41	4300	3750	25000					
	30,7	66	10,59	4300	3750	25000					
	34,4	74	9,457	4300	3750	25000					
	38,3	82	8,485	4300	3750	25000					
	42,5	92	7,638	4300	3750	25000					
45,5	98	7,144	4300	3750	25000						
50,9	110	6,382	4300	3750	25000						
56,7	122	5,726	4300	3750	25000						
63,0	136	5,154	4300	3750	21000						
69,8	150	4,652	4300	3750	21000						
77,2	166	4,207	4300	3750	21000						
87,3	188	3,723	4300	3750	21000						



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg	
4300 Nm	96,7	208	3,360	4300	3750	21000	İRA İRF İRAF	102			301 302 303 200 203 225
	107	230	3,039	4300	3750	21000					
	118	254	2,752	4300	3750	19000					
	130	281	2,495	4300	3750	19000					
	144	309	2,263	4300	3750	19000					
8000 Nm	0,02	0,02	32309	8000	1200	52000	İRA İRF İRAF	123 İR 73			331 332 333 338 340 368
	0,02	0,02	28749	8000	1200	52000					
	0,02	0,03	25807	8000	1200	52000					
	0,03	0,03	23337	8000	1200	52000					
	0,03	0,04	18918	8000	1200	52000					
	0,04	0,04	17260	8000	1200	52000					
	0,04	0,05	15494	8000	1200	52000					
	0,05	0,05	13395	8000	1200	52000					
	0,05	0,06	12113	8000	1200	52000					
	0,06	0,06	11190	8000	1200	52000					
	0,06	0,07	10209	8000	1200	52000					
	0,07	0,08	9165	8000	1200	52000					
	0,08	0,08	8288	8000	1200	52000					
	0,08	0,09	7928	8000	1200	52000					
	0,10	0,11	6426	8000	1200	52000					
	0,11	0,12	5863	8000	1200	52000					
	0,12	0,13	5263	8000	1200	52000					
	0,13	0,15	4759	8000	1200	52000					
	0,16	0,17	4059	8000	1200	52000					
	0,17	0,19	3671	8000	1200	52000					
	0,18	0,20	3509	8000	1200	52000					
	0,20	0,22	3173	8000	1200	52000					
	0,22	0,25	2829	8000	1200	52000					
	0,25	0,28	2517	8000	1200	52000					
	0,28	0,31	2260	8000	1200	52000					
	0,31	0,34	2043	8000	1200	52000					
	0,38	0,42	1657	8000	1200	52000					
	0,42	0,46	1511	8000	1200	52000					
	0,47	0,52	1357	8000	1200	52000					
	0,52	0,57	1227	8000	1200	52000					
	0,62	0,68	1025	8000	1200	52000					
	0,70	0,78	902	8000	1200	52000					
	0,71	0,79	883	8000	1200	52000					
	0,78	0,88	799	8000	1200	52000					
	0,96	1,08	647	8000	1200	52000					
	1,1	1,19	591	8000	1200	52000					
	1,2	1,32	530	8000	1200	52000					
	1,3	1,46	479	8000	1200	52000					
	1,6	1,75	400	8000	1200	52000					
	1,8	1,99	352	8000	1200	52000					
2,0	2,24	313	8000	1200	52000						
2,2	2,51	279	8000	1200	52000						
2,5	2,79	251	8000	1200	52000						
2,8	3,09	226	8000	1200	52000						
2,9	3,25	215	8000	1200	52000						
2,9	3,35	209	8000	3750	41000						
3,3	3,76	186	8000	3750	41000						
3,7	4,19	167	8000	3750	41000						
4,1	4,63	151	8000	3750	41000						
5,0	5,72	122	8000	3750	41000						
5,5	6,26	112	8000	3750	41000						
6,1	6,98	100	8000	3750	41000						
							İRA İRF İRAF	123			319 320 321 323 325 353



Servis Faktörü Service Factor Service facteur  $S_f=1$	$P_1$ GÜÇ Power Puissance  [kW]	$n_2$ Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] ( $n_1=700rpm$ )	$i$ Tahvil Ratio Rapport de réduction	$M_2$ Çıkış Momenti Output Torque Couple de sortie [Nm]	$F_{Q1}$ Rad. Yük Over Loads Charges radiales [N]	$F_{Q10}$ Rad. Yük Over Loads Charges radiales [N]	Tip Type Types			kg
8000 Nm	6,8	7,72	90,71	8000	3750	41000	İRA İRF İRAF	123	319	323
	8,1	9,24	75,77	8000	3750	41000				
	9,2	10	66,67	8000	3750	41000				
	10,4	12	59,16	8000	3750	39700				
	11,6	13	52,85	8000	3750	39700				
	12,9	15	47,47	8000	3750	39700				
	14,3	16	42,84	8000	3750	39700				
	15,1	17	40,70	8000	3750	39700				
	17,0	19	36,11	8000	3750	39700				
	19,0	22	32,26	8000	3750	39700				
	21,2	24	28,98	8000	3750	39700				
	23,5	27	26,15	8000	3750	39700				
	25,9	30	23,69	8000	3750	39700				
	28,5	33	21,52	8000	3750	39700				
	31,3	36	19,60	8000	3750	39700				
	34,3	39	17,89	8000	3750	39700				
	23,0	27	26,28	8000	3750	45000	İRA İRF İRAF	122	319	344
	25,4	29	23,77	8000	3750	45000				
	30,4	35	19,85	8000	3750	45000				
	34,6	40	17,47	8000	3750	45000				
	39,0	45	15,50	8000	3750	45000				
	43,7	51	13,85	8000	3750	45000				
	48,6	56	12,44	8000	3750	45000				
	52,6	61	11,50	8000	3750	45000				
	59,3	69	10,20	8000	3750	45000				
	66,3	77	9,112	8000	3750	45000				
	73,8	86	8,185	8000	3750	45000				
	78,2	91	7,724	8000	3750	45000				
	87,1	101	6,938	8000	3750	45000				
	96,5	112	6,261	8000	3750	45000				
	107	123	5,671	8000	3750	45000				
	117	136	5,153	8000	3750	45000				
	129	149	4,694	8000	3750	45000				
141	163	4,284	8000	3750	45000					
154	179	3,917	8000	3750	45000					
169	195	3,585	8000	3750	45000					
184	213	3,284	8000	3750	45000					
13000 Nm	1,9	1,30	537	13000	1550	60000	İRA İRF İRAF	143 İR 82	355	587
	2,3	1,58	443	13000	1550	60000				
	2,6	1,76	398	13000	1550	60000				
	2,9	1,95	359	13000	1550	60000				
	3,1	2,11	331	13000	1550	60000				
	3,7	2,53	277	13000	1550	60000				
	4,1	2,81	249	13000	1550	60000				
	4,6	3,11	225	13000	1550	60000				
	5,0	3,38	207	13000	1550	60000				
	5,5	3,74	187	13000	1550	60000				
	6,5	4,46	157	13000	1550	60000				
	0,04	0,03	24943	13000	1200	60000	İRA İRF İRAF	143 İR 73	349	513
	0,05	0,03	21564	13000	1200	60000				
	0,05	0,04	19545	13000	1200	60000				
	0,06	0,04	17730	13000	1200	60000				
	0,07	0,05	15134	13000	1200	60000				
	0,08	0,05	13372	13000	1200	60000				
	0,09	0,06	12131	13000	1200	60000				
	0,10	0,06	10788	13000	1200	60000				
	0,11	0,07	9446	13000	1200	60000				



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg				
13000 Nm	0,12	0,08	8427	13000	1200	60000	İRA İRF İRAF	143 İR 73	349 350 351	513 527 553				
	0,14	0,09	7474	13000	1200	60000								
	0,15	0,10	6732	13000	1200	60000								
	0,18	0,12	5907	13000	1200	60000								
	0,19	0,13	5425	13000	1200	60000								
	0,22	0,14	4839	13000	1200	60000								
	0,24	0,16	4347	13000	1200	60000								
	0,27	0,18	3814	13000	1200	60000								
	0,31	0,21	3404	13000	1200	60000								
	0,34	0,23	3026	13000	1200	60000								
	0,38	0,26	2717	13000	1200	60000								
	0,47	0,32	2184	13000	1200	60000								
	0,52	0,35	1979	13000	1200	60000	İRA İRF İRAF	143 İR 72	349 350 351	511 525 551				
	0,58	0,40	1759	13000	1200	60000								
	0,64	0,44	1596	13000	1200	60000								
	0,75	0,51	1365	13000	1200	60000								
	0,93	0,63	1110	13000	1200	60000								
	1,0	0,71	990	13000	1200	60000								
	1,2	0,79	889	13000	1200	60000								
	1,3	0,90	780	13000	1200	60000								
	1,5	1,01	696	13000	1200	60000								
	1,7	1,18	595	13000	1200	60000								
	1,9	1,28	546	13000	1200	60000					İRA İRF İRAF	144	343 344 345	564 578 604
	2,1	1,44	488	13000	1200	60000								
	2,3	1,60	438	13000	1200	60000								
	2,6	1,82	384	13000	1200	60000								
	2,9	2,03	345	13000	1200	60000								
	3,3	2,28	308	13000	1200	60000								
	3,7	2,54	276	13000	1200	60000								
	3,8	2,66	263	13000	1200	60000								
	4,3	2,97	236	13000	1200	60000								
	4,8	3,29	213	13000	1200	60000								
	5,3	3,64	192	13000	1200	60000								
	5,8	4,01	175	13000	1200	60000	İRA İRF İRAF	143	337 338 339	526 540 566				
	6,2	4,33	161	13000	3750	60000								
	6,8	4,78	146	13000	3750	60000								
	7,5	5,27	133	13000	3750	60000								
	9,6	6,77	103	13000	3750	60000								
	10,8	7,59	92,24	13000	3750	60000								
	12,0	8,45	82,86	13000	3750	60000								
	13,7	9,63	72,71	13000	3750	60000								
	15,4	11	64,89	13000	3750	60000								
17,1	12	58,24	13000	3750	60000									
18,0	13	55,48	13000	3750	60000									
20,0	14	49,79	13000	3750	60000									
22,2	16	44,88	13000	3750	60000									
24,6	17	40,61	13000	3750	60000									
27,1	19	36,86	13000	3750	60000									
29,7	21	33,53	13000	3750	60000									
35,7	25	27,90	13000	3750	60000									
42,8	30	23,32	13000	3750	60000									
49,8	35	20,02	13000	3750	60000									
49,0	35	20,02	13000	3750	60000	İRA İRF İRAF	142	337 338 339	476 490 516					
54,1	39	18,16	13000	3750	60000									
60,6	43	16,20	13000	3750	60000									
67,5	48	14,56	13000	3750	60000									
76,9	55	12,77	13000	3750	60000									



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types			kg
13000 Nm	86,2	61	11,40	13000	3750	60000	İRA İRF İRAF	142	337 338 339	476 490 516
	96,0	68	10,23	13000	3750	60000				
	106	76	9,222	13000	3750	60000				
	118	84	8,344	13000	3750	60000				
	130	92	7,573	13000	3750	60000				
	143	102	6,890	13000	3750	60000				
	171	122	5,733	13000	3750	60000				
	205	146	4,792	13000	3750	60000				
18000 Nm	0,20	0,10	7067	18000	3750	110000	İRA İRF İRAF	153 İR 103	379 380 381	1170 1220 1240
	0,23	0,11	6223	18000	3750	110000				
	0,26	0,13	5577	18000	3750	110000				
	0,28	0,14	5035	18000	3750	110000				
	0,31	0,15	4570	18000	3750	110000				
	0,40	0,20	3586	18000	3750	110000				
	0,44	0,22	3205	18000	3750	110000				
	0,55	0,27	2588	18000	3750	110000				
	0,05	0,03	27213	18000	2500	110000	İRA İRF İRAF	153 İR 93	373 374 375	1070 1120 1140
	0,06	0,03	23722	18000	2500	110000				
	0,07	0,04	19875	18000	2500	110000				
	0,08	0,04	17651	18000	2500	110000				
	0,09	0,04	16020	18000	2500	110000				
	0,10	0,05	14354	18000	2500	110000				
	0,11	0,05	13011	18000	2500	110000				
	0,13	0,06	11306	18000	2500	110000				
	0,15	0,07	9958	18000	2500	110000				
	0,16	0,08	8987	18000	2500	110000				
	0,19	0,09	7647	18000	2500	110000				
	0,22	0,11	6643	18000	2500	110000				
	0,24	0,12	6078	18000	2500	110000				
	0,26	0,13	5519	18000	2500	110000				
	0,34	0,16	4312	18000	2500	110000				
	0,39	0,19	3704	18000	2500	110000				
	0,47	0,23	3098	18000	2500	110000				
	0,55	0,27	2596	18000	2500	110000				
	0,62	0,31	2288	18000	2500	110000				
	0,70	0,34	2033	18000	2500	110000				
	0,78	0,38	1819	18000	2500	110000				
	0,87	0,43	1637	18000	2500	110000				
	1,0	0,51	1371	18000	2500	110000	İRA İRF İRAF	153 İR 92	373 374 375	1050 1053 1048
	1,1	0,56	1240	18000	2500	110000				
	1,4	0,68	1024	18000	2500	110000				
	1,7	0,85	825	18000	2500	110000				
	1,8	0,89	784	18000	2500	110000				
	2,0	1,01	695	18000	2500	110000				
	2,3	1,14	612	18000	2500	110000				
	2,6	1,28	549	18000	2500	110000				
	2,8	1,41	495	18000	2500	110000	İRA İRF İRAF	154	367 368 369	1037 1069 1089
	3,2	1,62	432	18000	2500	110000				
3,9	1,93	362	18000	2500	110000					
4,4	2,18	321	18000	2500	110000					
4,8	2,40	292	18000	2500	110000					
5,3	2,65	264	18000	2500	110000					
6,1	3,05	230	18000	2500	110000					
6,2	3,16	222	18000	5250	110000	İRA İRF İRAF				
6,8	3,47	202	18000	5250	110000					
7,7	3,91	179	18000	5250	110000					
8,8	4,45	157	18000	5250	110000					



Servis Faktörü Service Factor Service facteur  S <sub>f</sub> =1	P <sub>1</sub> GÜÇ Power Puissance  [kW]	n <sub>2</sub> Çıkış Devri Output Speeds Vitesse de sortie [r.p.m] (n <sub>1</sub> =700rpm)	İ Tahvil Ratio Rapport de réduction	M <sub>2</sub> Çıkış Momenti Output Torque Couple de sortie  [Nm]	F <sub>Q1</sub> Rad. Yük Over Loads Charges radiales  [N]	F <sub>Q10</sub> Rad. Yük Over Loads Charges radiales  [N]	Tip Type Types				
										kg	
<b>18000 Nm</b>	9,8	4,96	141	18000	5250	110000	<b>İRA İRF İRAF</b>	<b>153</b>	361 362 363	1006 1056 1076	
	10,8	5,49	127	18000	5250	110000					
	12,4	6,30	111	18000	5250	110000					
	14,8	7,52	93,05	18000	5250	110000					
	16,7	8,47	82,63	18000	5250	110000					
	18,4	9,33	75,00	18000	5250	110000					
	20,3	10	67,98	18000	5250	110000					
	23,4	12	59,07	18000	5250	110000					
	26,5	13	52,03	18000	5250	110000					
	31,2	16	44,27	18000	5250	110000					
	35,9	18	38,46	18000	5250	110000					
	39,2	20	35,19	18000	5250	110000					
	50,2	25	27,50	18000	5250	110000					
	58,5	30	23,62	18000	5250	110000					
		48,4	25	28,55	18000	5250	110000	<b>İRA İRF İRAF</b>	<b>152</b>	361 362 363	1006 1056 1076
		53,2	27	25,93	18000	5250	110000				
		58,6	30	23,57	18000	5250	110000				
		65,5	33	21,09	18000	5250	110000				
		72,7	37	19,00	18000	5250	110000				
		80,2	41	17,22	18000	5250	110000				
		88,0	45	15,69	18000	5250	110000				
		96,2	49	14,35	18000	5250	110000				
		123	62	11,22	18000	5250	110000				
		129	65	10,70	18000	5250	110000				
		142	72	9,744	18000	5250	110000				
		155	79	8,915	18000	5250	110000				
		169	86	8,186	18000	5250	110000				
		198	101	6,965	18000	5250	110000				
	231	117	5,983	18000	5250	110000					





# İR Serisi Redüktörler Ölçü Sayfaları

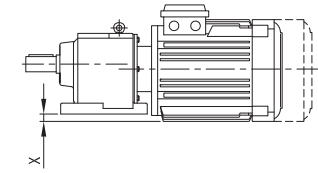
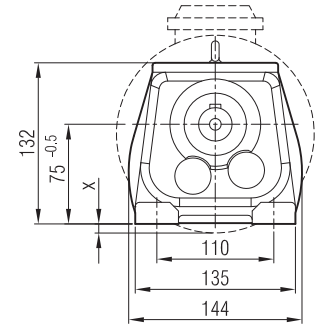
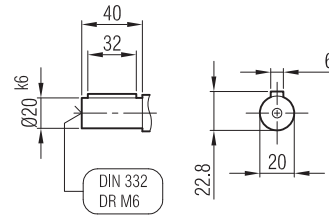
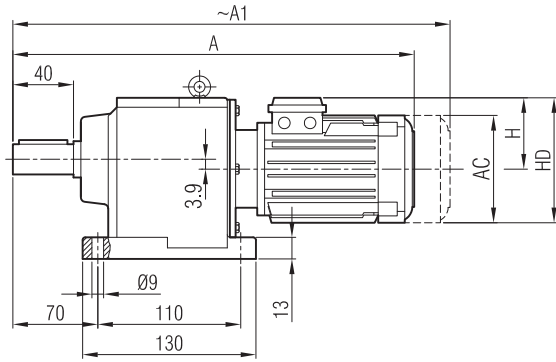
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Dimensions Pages

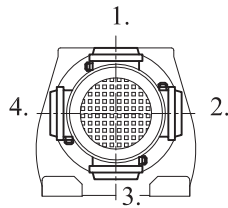
*Dimensions*



**İRAM 42**  
**İRAM 43**



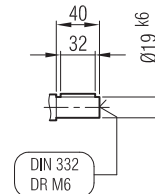
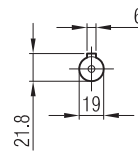
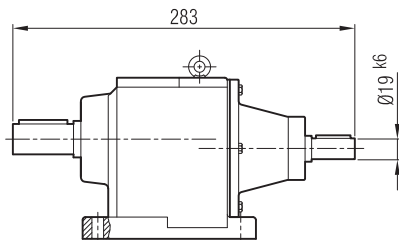
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63	71	80	90 S	90 L		
A	352	385	415	445	470		
A <sub>1</sub>	408	436	484	511	536		
H	97	111	118	126	126		
HD	160	182	198	216	216		
AC	121	138	156	176	176		
x	-	-	7	17	17		

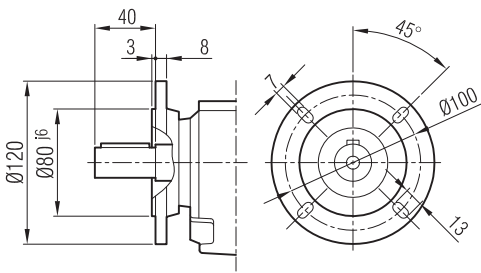
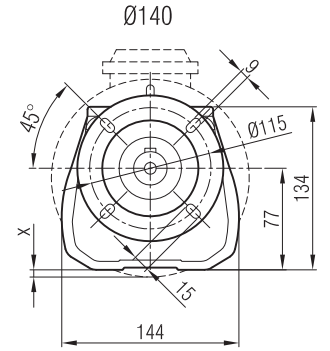
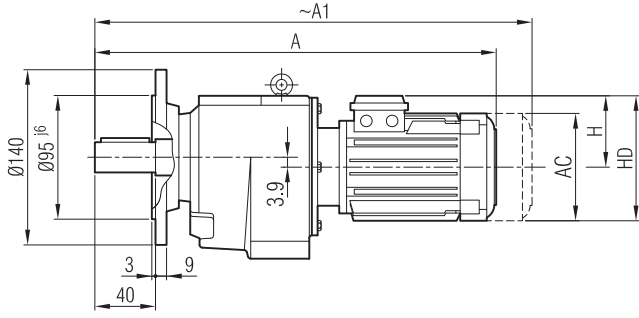
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 42**  
**İRA 43**



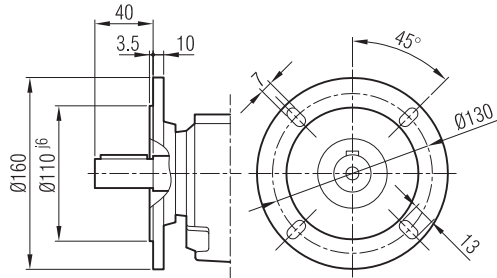


**İRFM 42**  
**İRFM 43**



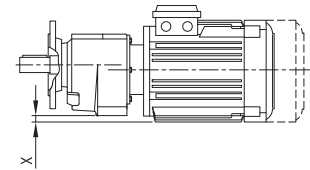
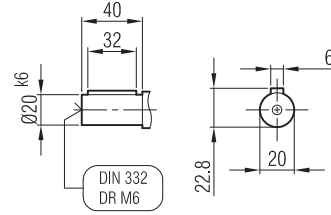
Ø120

**Opsiyonel / Option**

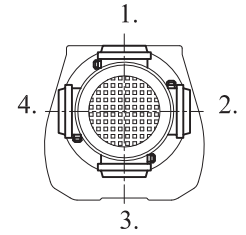


Ø160

**Opsiyonel / Option**

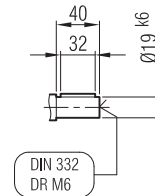
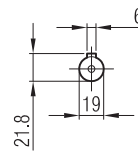
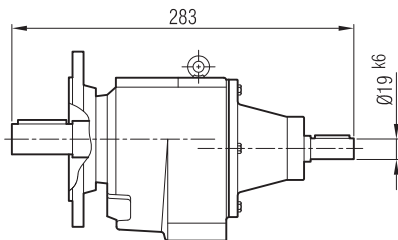


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63	71	80	90 S	90 L		
A	352	385	415	445	470		
A <sub>1</sub>	408	436	484	511	536		
H	97	111	118	126	126		
HD	160	182	198	216	216		
AC	121	138	156	176	176		
x	-	-	7	17	17		

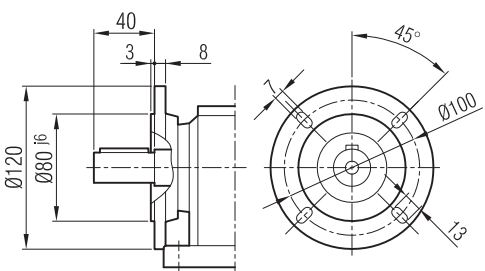
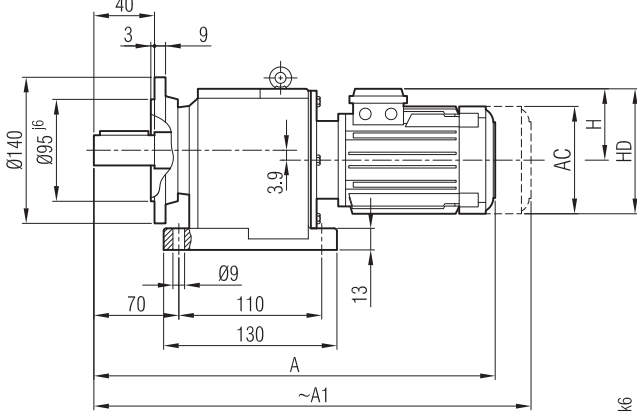
**İRF 42**  
**İRF 43**



**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

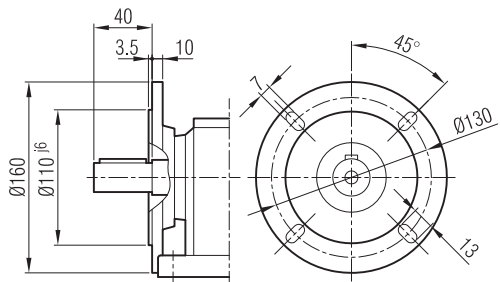


**İRAF 42**  
**İRAF 43**



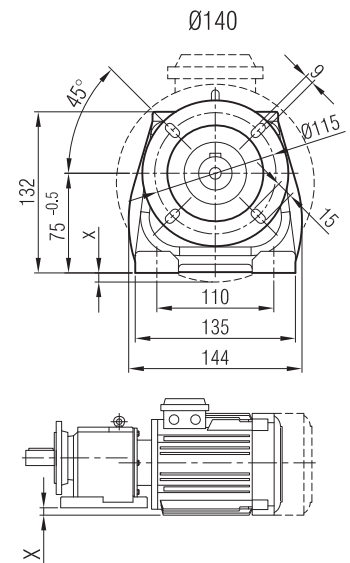
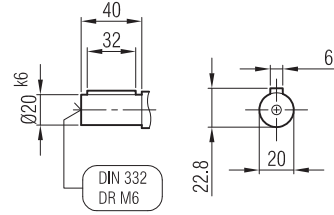
Ø120

**Opsiyonel / Option**

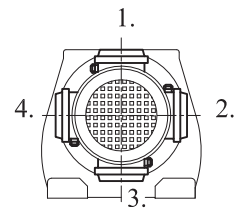


Ø160

**Opsiyonel / Option**

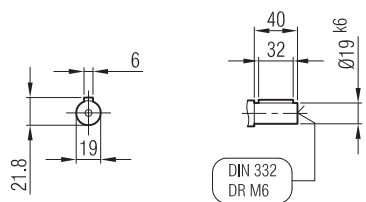
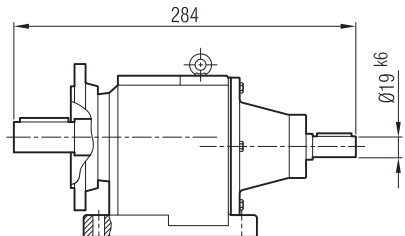


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63	71	80	90 S	90 L		
A	352	385	415	445	470		
A <sub>1</sub>	408	436	484	511	536		
H	97	111	118	126	126		
HD	160	182	198	216	216		
AC	121	138	156	176	176		
x	-	-	7	17	17		

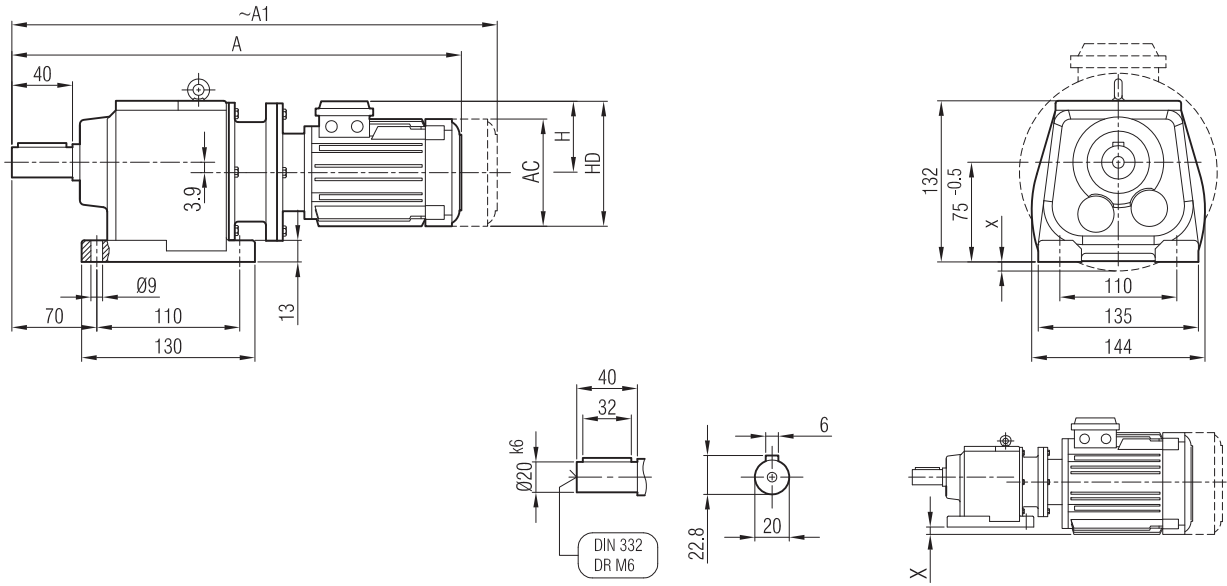
**İRAF 42**  
**İRAF 43**



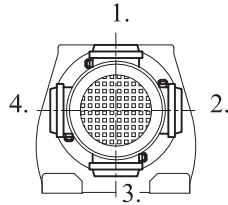
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 42**  
**İRAPM 43**



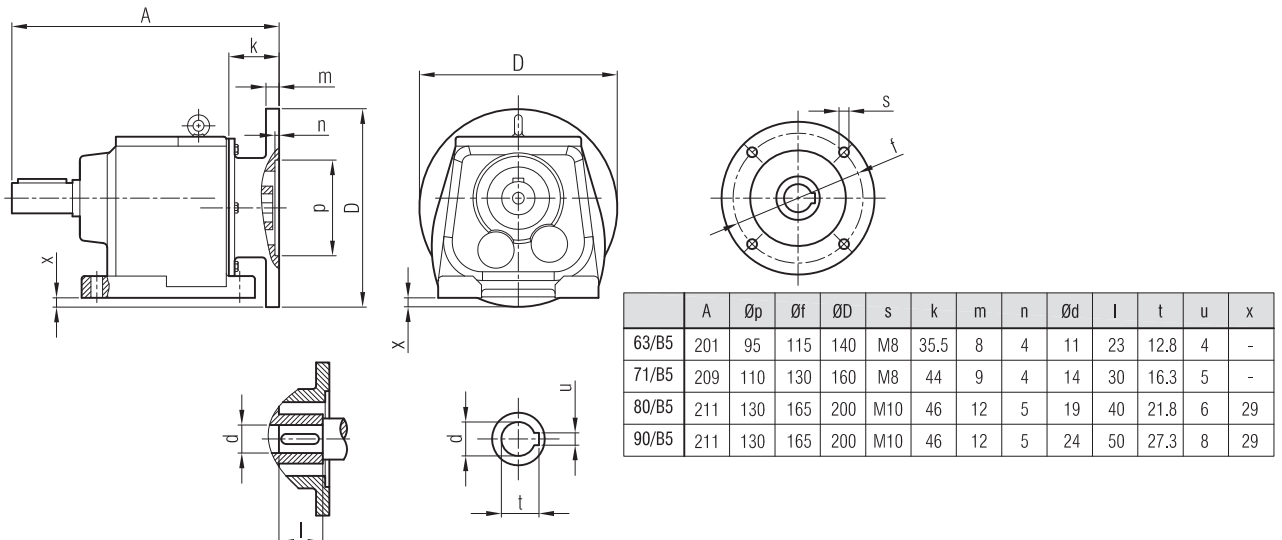
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	397	432	455	470	495
A <sub>1</sub>	453	483	524	536	561
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176
x	-	-	7	17	17

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

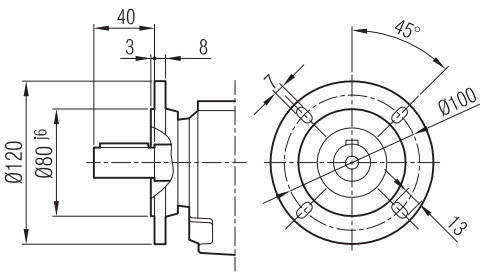
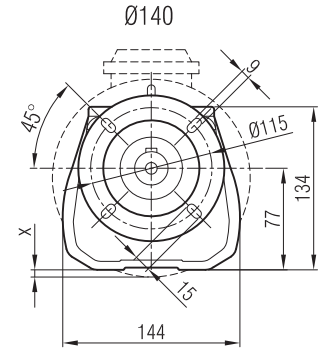
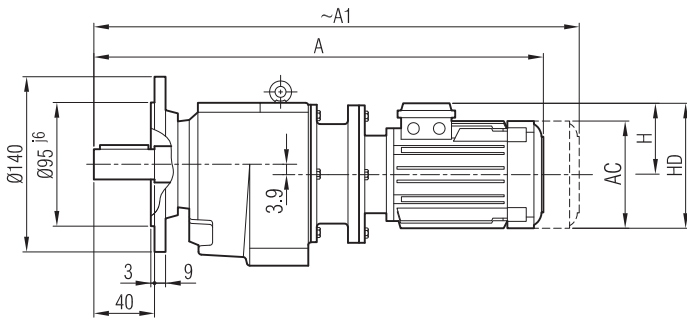
**İRAP 42**  
**İRAP 43**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	201	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	209	110	130	160	M8	44	9	4	14	30	16.3	5	-
80/B5	211	130	165	200	M10	46	12	5	19	40	21.8	6	29
90/B5	211	130	165	200	M10	46	12	5	24	50	27.3	8	29

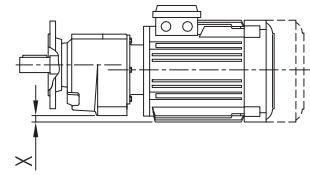
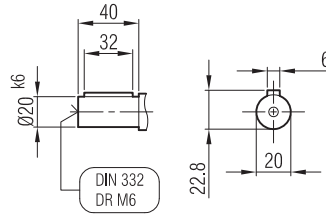


**İRFPM 42**  
**İRFPM 43**

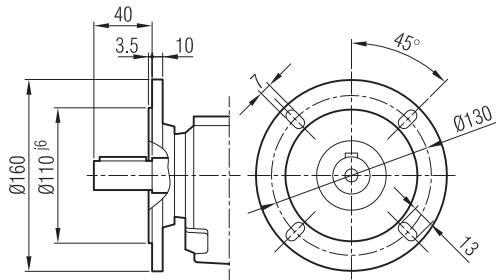
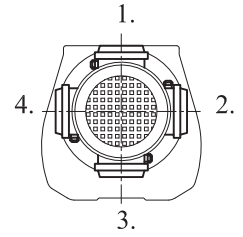


Ø120

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

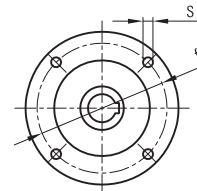
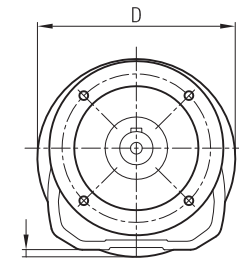
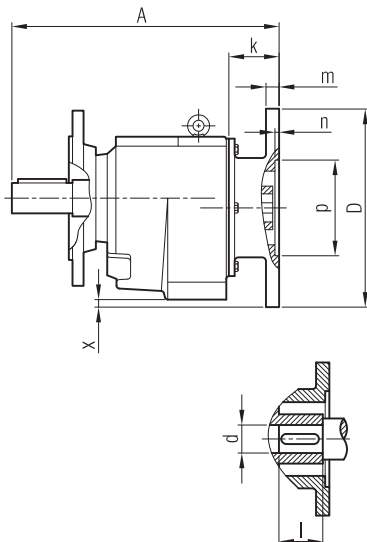


Ø160

**Opsiyonel / Option**

	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	397	432	455	470	495
A <sub>1</sub>	453	483	524	536	561
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176
x	-	-	7	17	17

**İRFP 42**  
**İRFP 43**

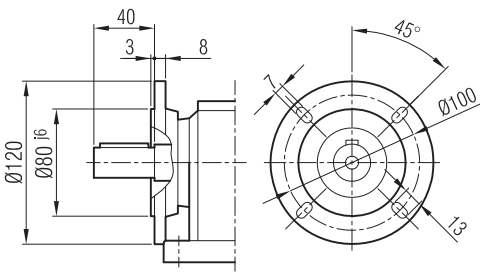
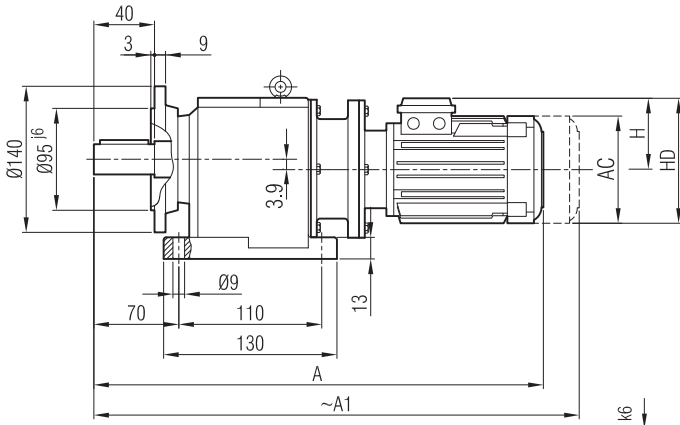


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	201	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	209	110	130	160	M8	44	9	4	14	30	16.3	5	-
80/B5	211	130	165	200	M10	46	12	5	19	40	21.8	6	29
90/B5	211	130	165	200	M10	46	12	5	24	50	27.3	8	29

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

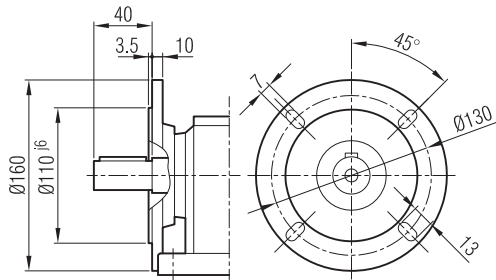


**İRAFP 42**  
**İRAFP 43**



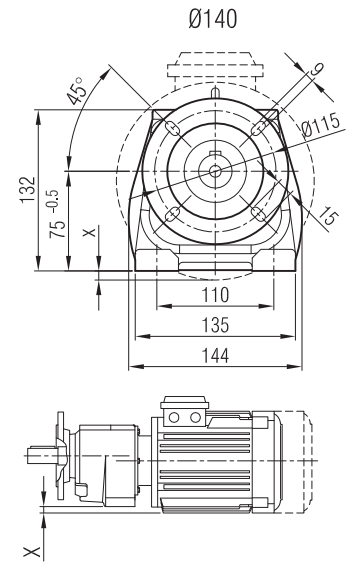
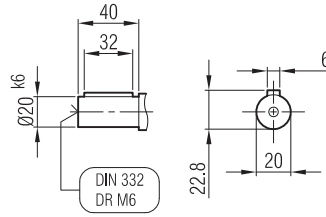
Ø120

**Opsiyonel / Option**

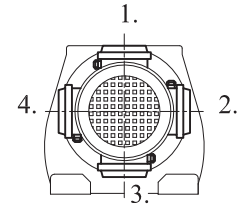


Ø160

**Opsiyonel / Option**

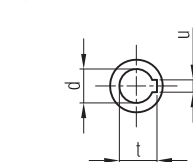
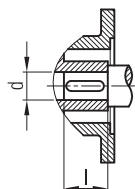
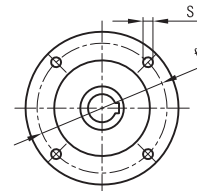
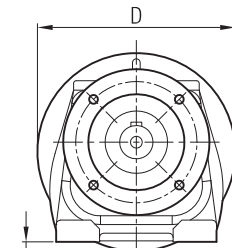
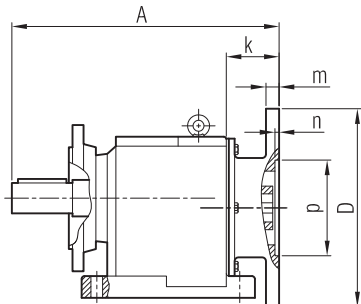


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	397	432	455	470	495
A <sub>1</sub>	453	483	524	536	561
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176
x	-	-	7	17	17

**İRAFP 42**  
**İRAFP 43**



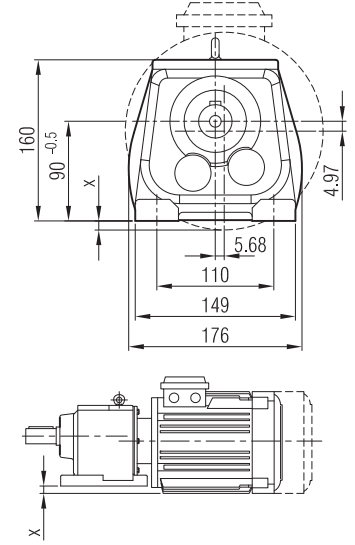
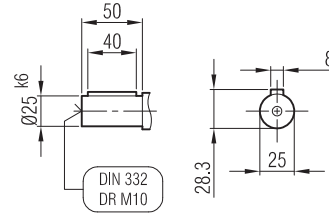
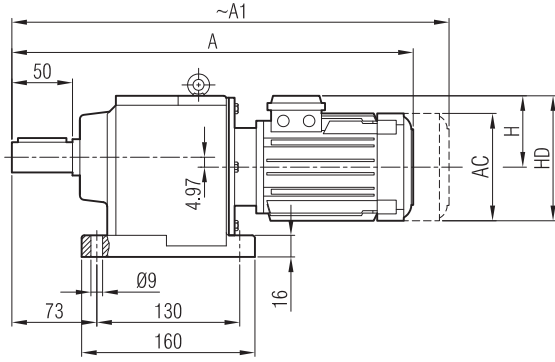
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	201	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	209	110	130	160	M8	44	9	4	14	30	16.3	5	-
80/B5	211	130	165	200	M10	46	12	5	19	40	21.8	6	29
90/B5	211	130	165	200	M10	46	12	5	24	50	27.3	8	29

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

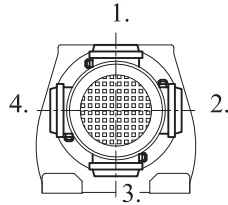




**İRAM 52**  
**İRAM 53**



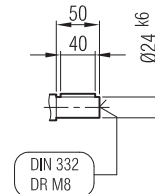
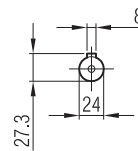
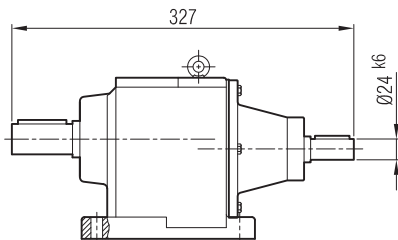
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100		
A	416	443	472	497	537		
A <sub>1</sub>	467	512	538	563	615		
H	111	118	126	126	134		
HD	182	198	216	216	234		
AC	138	156	176	176	194		
x	-	-	3	3	12		

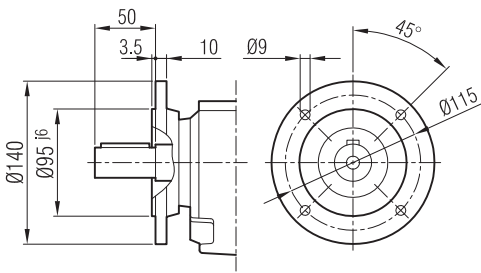
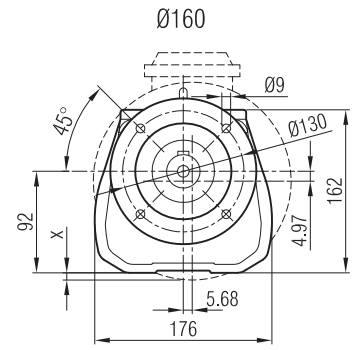
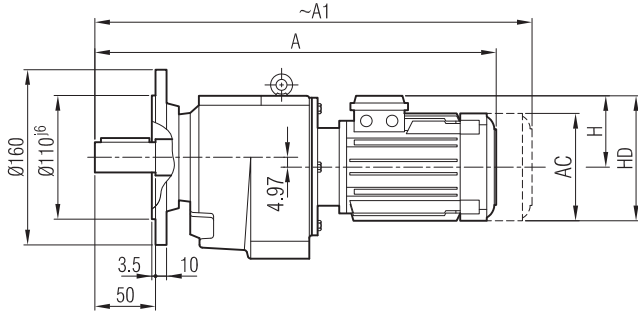
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

**İRA 52**  
**İRA 53**

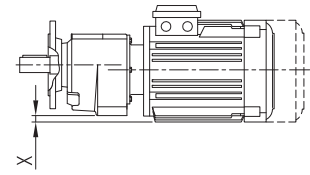
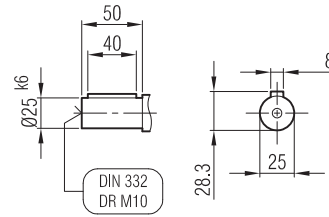




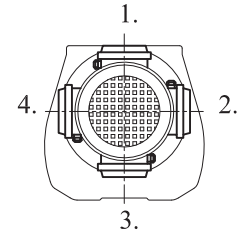
**İRFM 52**  
**İRFM 53**



**Ø140**  
**Opsiyonel / Option**

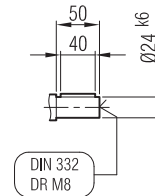
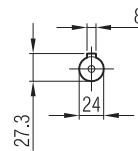
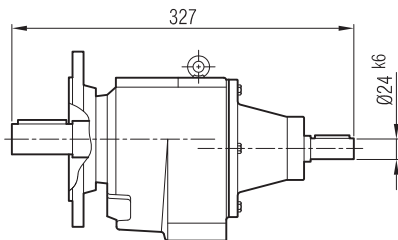


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100		
A	416	443	472	497	537		
A <sub>1</sub>	467	512	538	563	615		
H	111	118	126	126	134		
HD	182	198	216	216	234		
AC	138	156	176	176	194		
x	-	-	3	3	12		

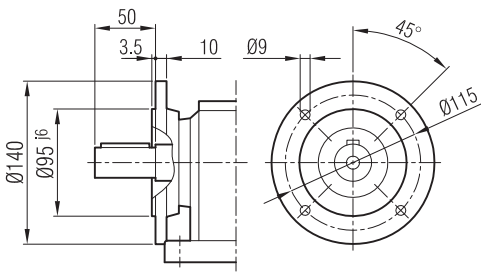
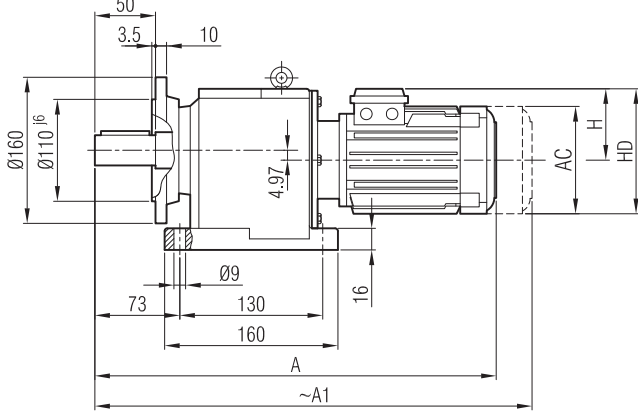
**İRF 52**  
**İRF 53**



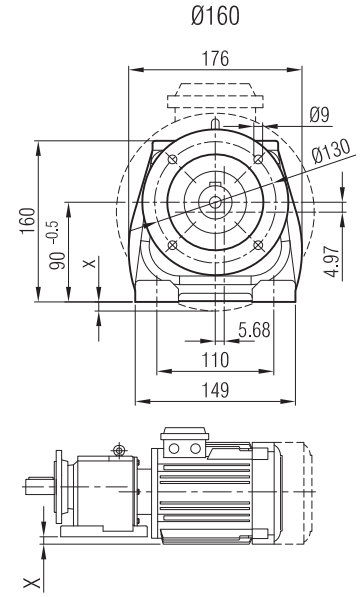
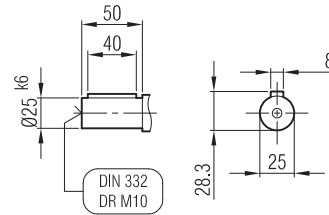
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



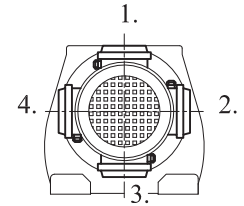
**İRAF 52**  
**İRAF 53**



Ø140  
**Opsiyonel / Option**

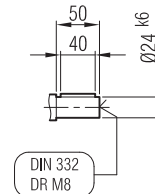
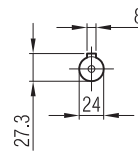
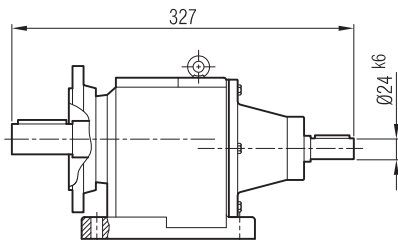


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100		
A	416	443	472	497	537		
A <sub>1</sub>	467	512	538	563	615		
H	111	118	126	126	134		
HD	182	198	216	216	234		
AC	138	156	176	176	194		
x	-	-	3	3	12		

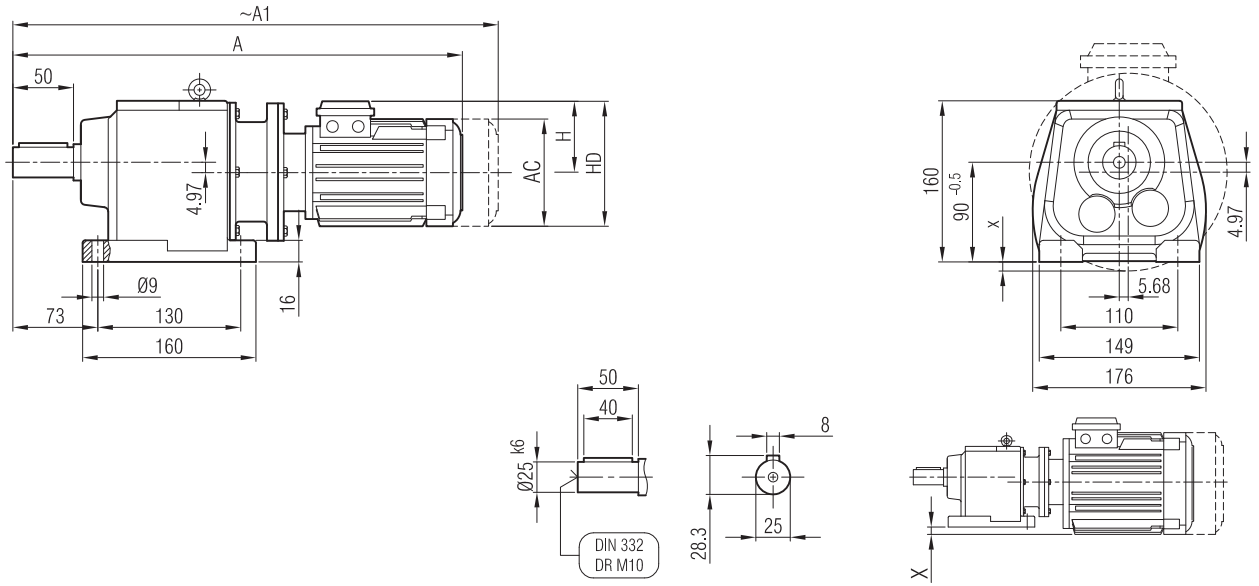
**İRAF 52**  
**İRAF 53**



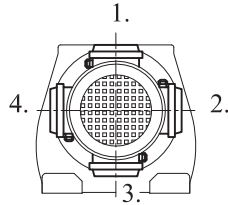
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAPM 52**  
**İRAPM 53**



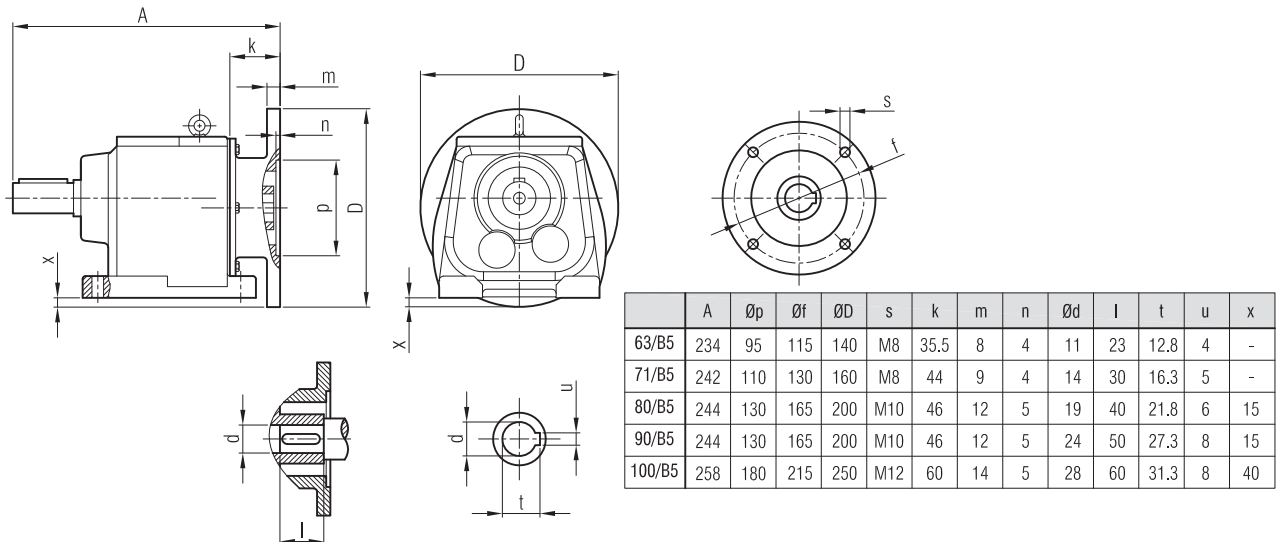
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5
A	430	465	488	503	528	574
A1	486	516	557	569	594	652
H	97	111	118	126	126	134
HD	160	182	198	216	216	234
AC	121	138	156	176	176	194
x	-	-	-	3	3	12

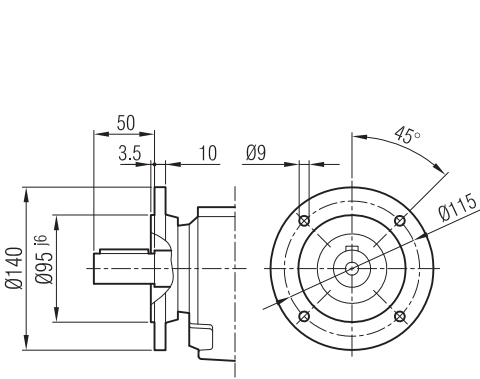
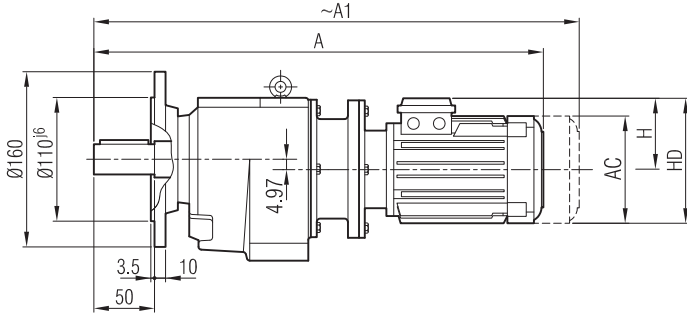
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.

**İRAP 52**  
**İRAP 53**

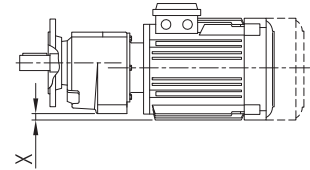
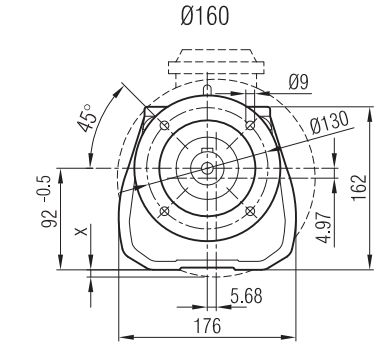
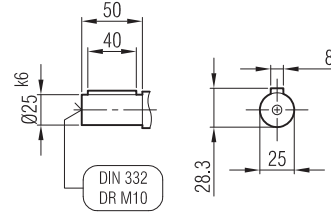




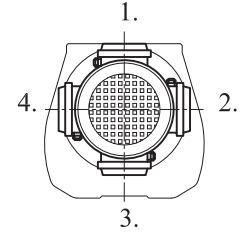
**İRFPM 52**  
**İRFPM 53**



**Ø140**  
**Opsiyonel / Option**

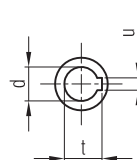
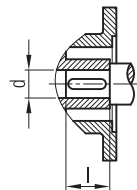
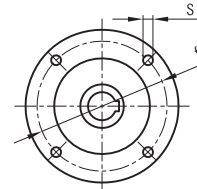
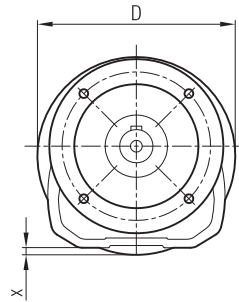
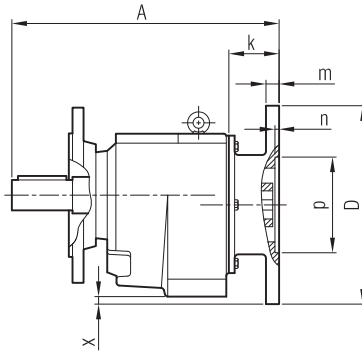


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5
A	430	465	488	503	528	574
A1	486	516	557	569	594	652
H	97	111	118	126	126	134
HD	160	182	198	216	216	234
AC	121	138	156	176	176	194
x	-	-	-	3	3	12

**İRFP 52**  
**İRFP 53**

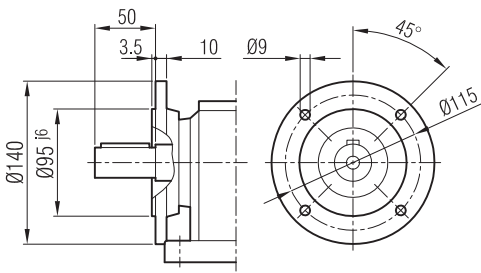
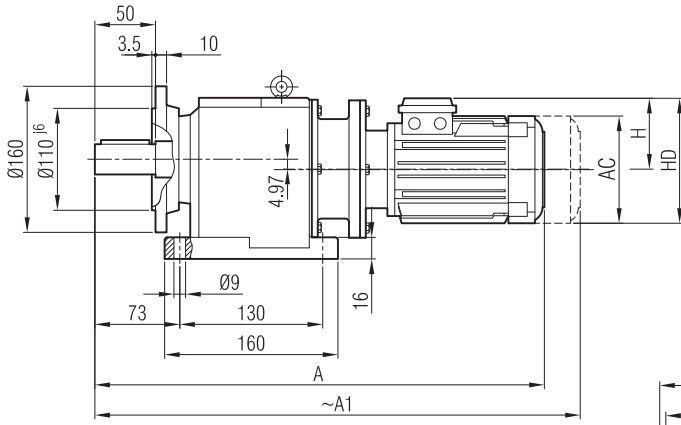


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	234	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	242	110	130	160	M8	44	9	4	14	30	16.3	5	-
80/B5	244	130	165	200	M10	46	12	5	19	40	21.8	6	15
90/B5	244	130	165	200	M10	46	12	5	24	50	27.3	8	15
100/B5	258	180	215	250	M12	60	14	5	28	60	31.3	8	40

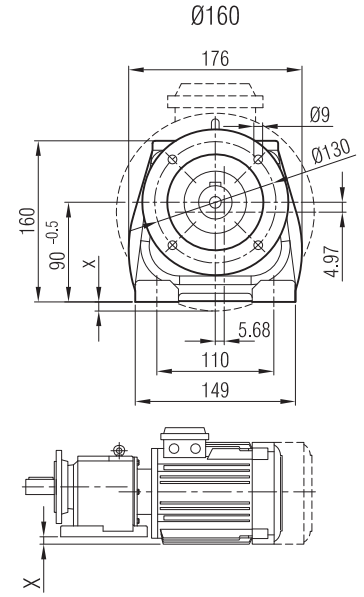
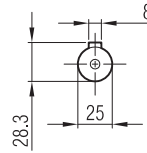
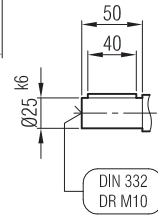
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.



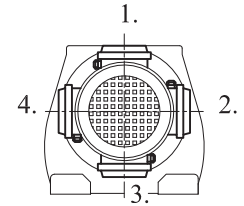
**İRAFPM 52**  
**İRAFPM 53**



**Ø140**  
**Opsiyonel / Option**

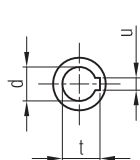
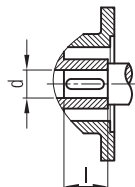
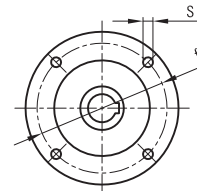
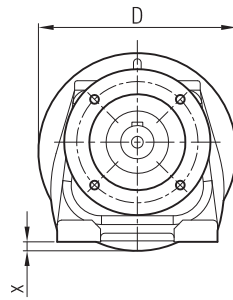
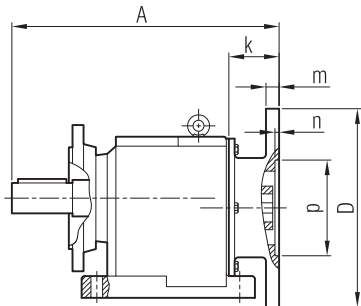


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5
A	430	465	488	503	528	574
A1	486	516	557	569	594	652
H	97	111	118	126	126	134
HD	160	182	198	216	216	234
AC	121	138	156	176	176	194
x	-	-	-	3	3	12

**İRAFP 52**  
**İRAFP 53**

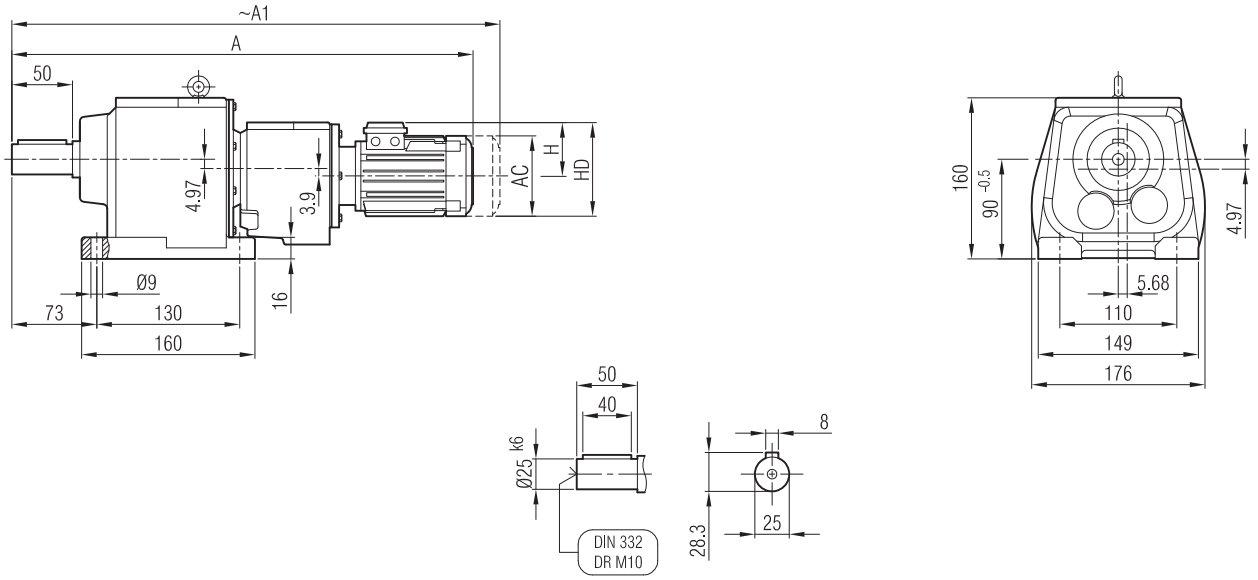


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	234	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	242	110	130	160	M8	44	9	4	14	30	16.3	5	-
80/B5	244	130	165	200	M10	46	12	5	19	40	21.8	6	15
90/B5	244	130	165	200	M10	46	12	5	24	50	27.3	8	15
100/B5	258	180	215	250	M12	60	14	5	28	60	31.3	8	40

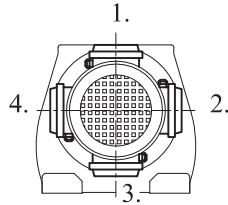
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.



**İRAM 53 İR 42**



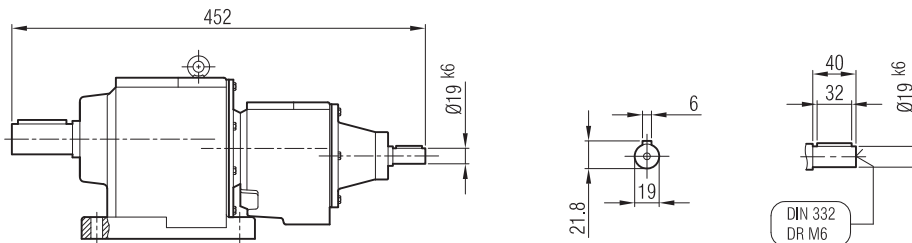
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63	71				
A	510	543				
A <sub>1</sub>	566	594				
H	97	111				
HD	160	182				
AC	121	138				

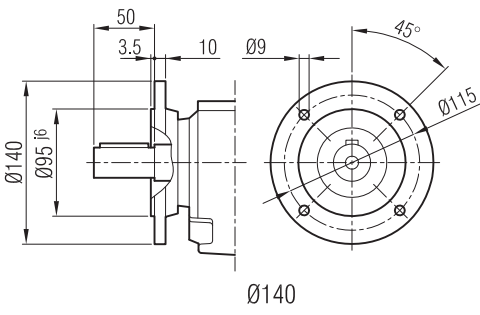
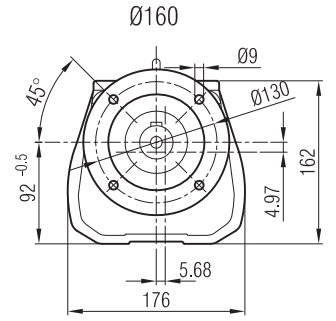
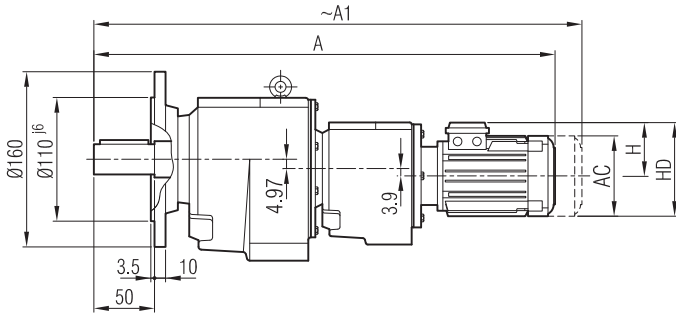
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRA 52 İR 42 / İRA 52 İR 43**  
**İRA 53 İR 42 / İRA 53 İR 43**

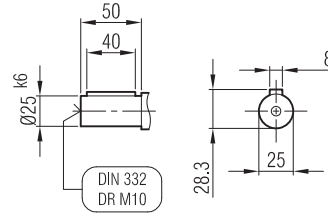




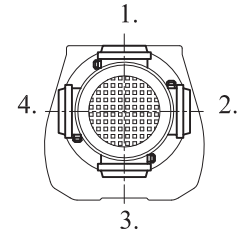
**İRFM 53 İR 42**



**Ø140 Opsiyonel / Option**

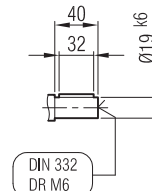
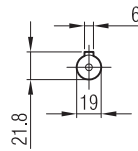
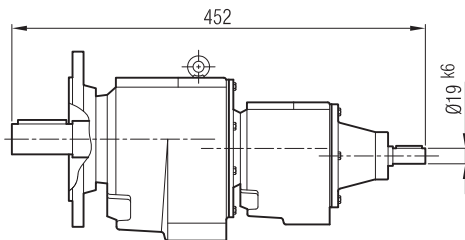


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63	71				
A	510	543				
A <sub>1</sub>	566	594				
H	97	111				
HD	160	182				
AC	121	138				

**İRF 52 İR 42 / İRF 52 İR 43**  
**İRF 53 İR 42 / İRF 53 İR 43**

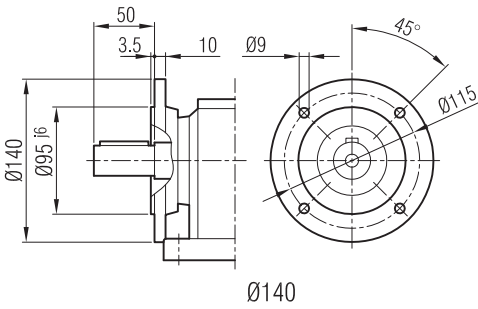
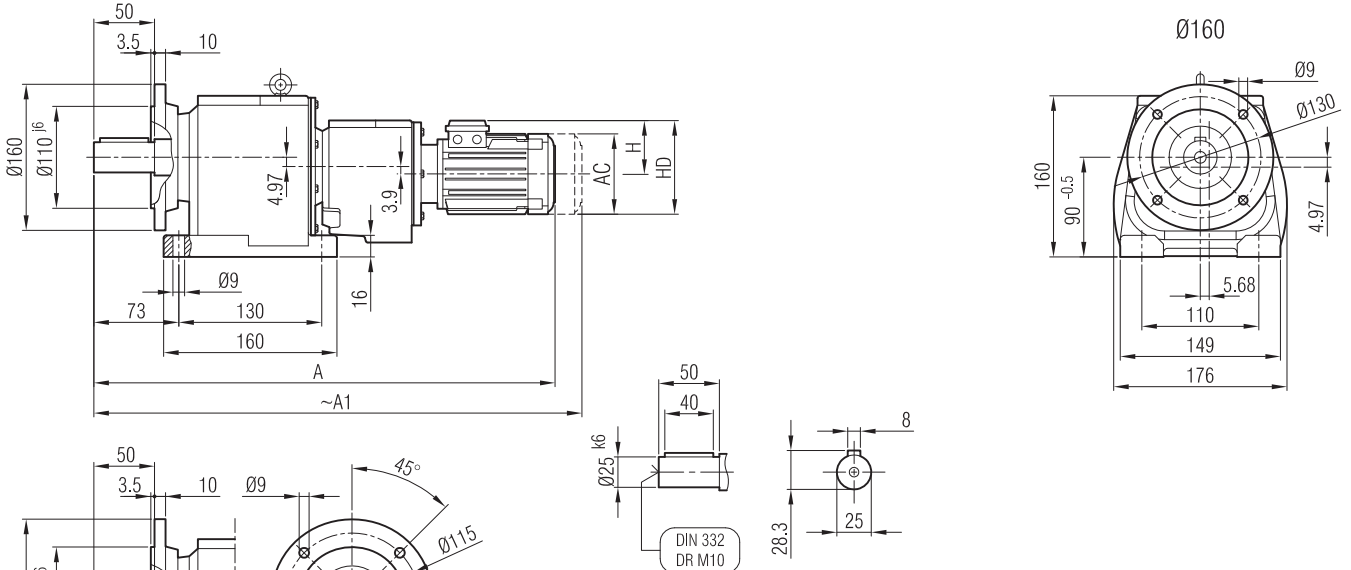


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



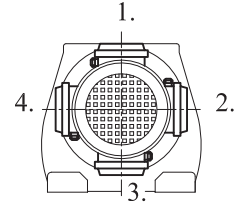


**İRAF 53 İR 42**



**Ø140**  
**Opsiyonel / Option**

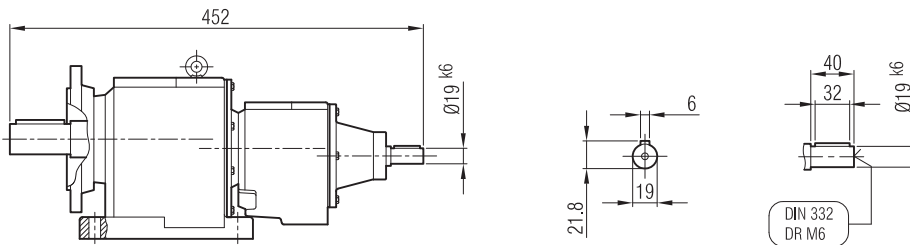
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63	71				
A	510	543				
A <sub>1</sub>	566	594				
H	97	111				
HD	160	182				
AC	121	138				

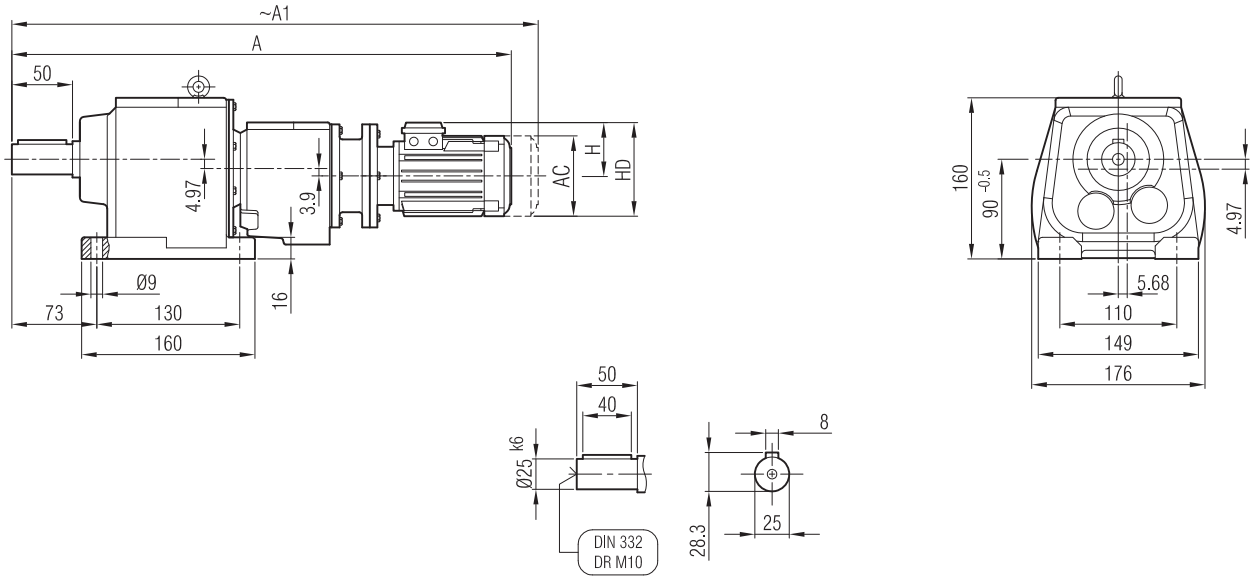
**İRAF 52 İR 42 / İRAF 52 İR 43**  
**İRAF 53 İR 42 / İRAF 53 İR 43**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

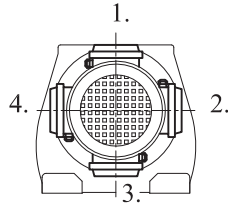




**İRAPM 53 İR 42**



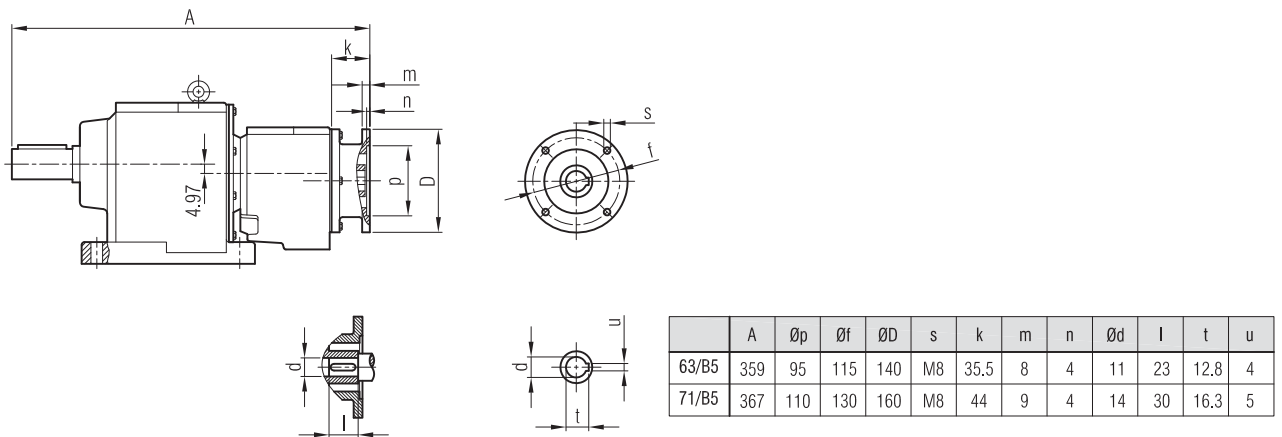
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5			
A	555	590			
A <sub>1</sub>	611	641			
H	97	111			
HD	160	182			
AC	121	138			

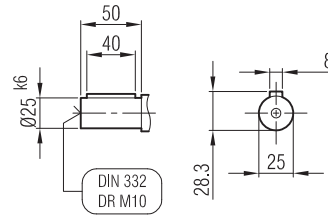
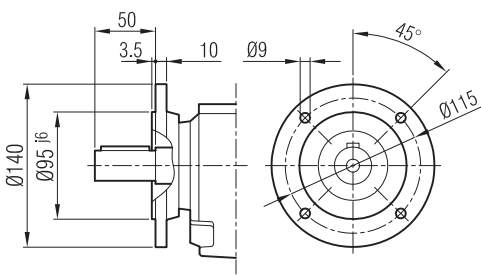
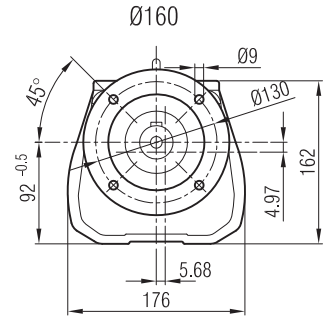
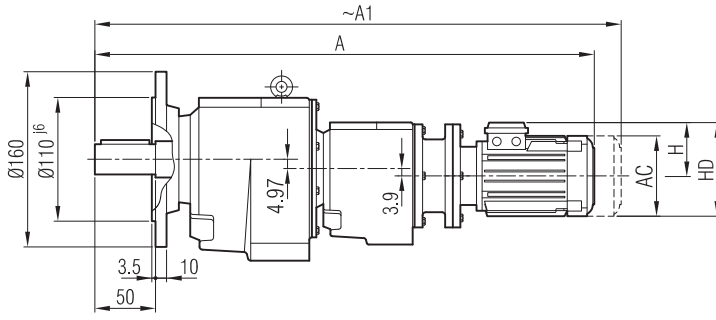
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRAP 52 İR 42 / İRAP 52 İR 43**  
**İRAP 53 İR 42 / İRAP 53 İR 43**

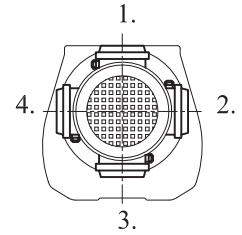




**İRFPM 53 İR 42**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

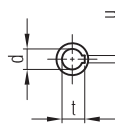
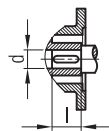
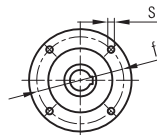
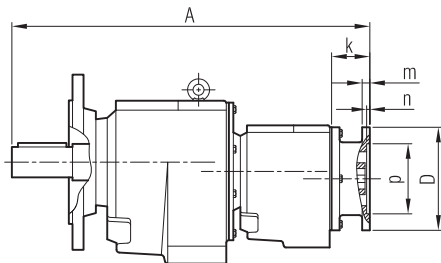


Ø140  
**Opsiyonel / Option**

	63/B5	71/B5			
A	555	590			
A <sub>1</sub>	611	641			
H	97	111			
HD	160	182			
AC	121	138			

**İRFP 52 İR 42 / İRFP 52 İR 43**  
**İRFP 53 İR 42 / İRFP 53 İR 43**

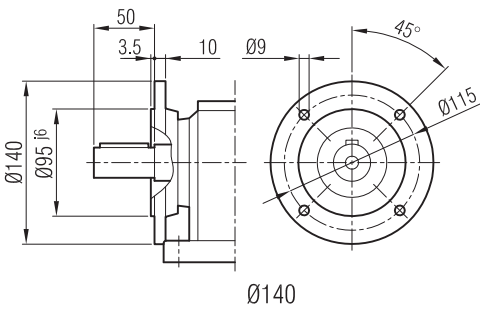
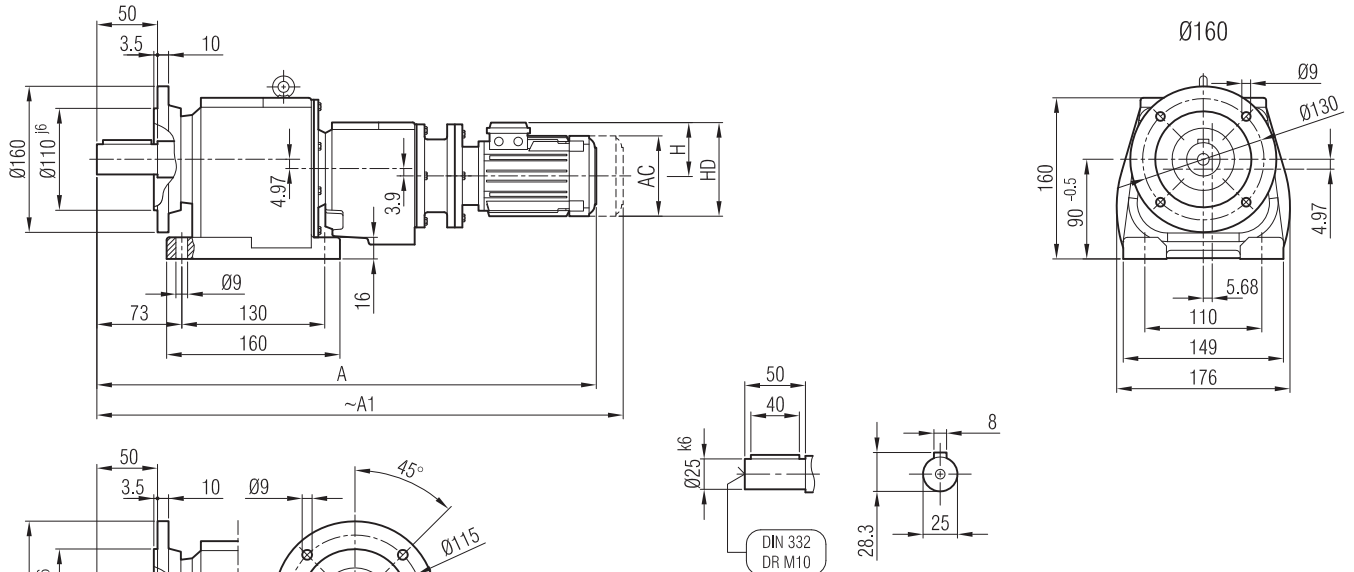
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	359	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	367	110	130	160	M8	44	9	4	14	30	16.3	5

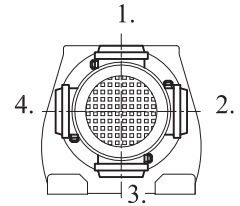


**İRAFPM 53 İR 42**



**Ø140**  
**Opsiyonel / Option**

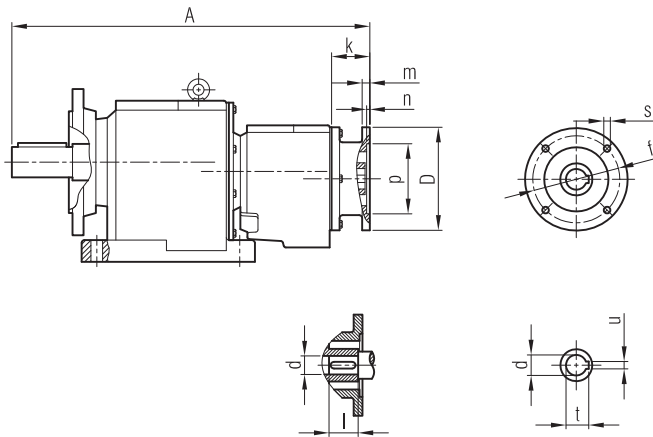
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5			
A	555	590			
A <sub>1</sub>	611	641			
H	97	111			
HD	160	182			
AC	121	138			

**İRAFP 52 İR 42 / İRAFP 52 İR 43**  
**İRAFP 53 İR 42 / İRAFP 53 İR 43**

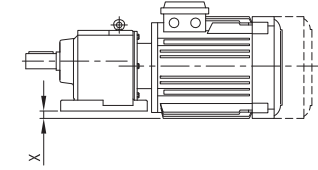
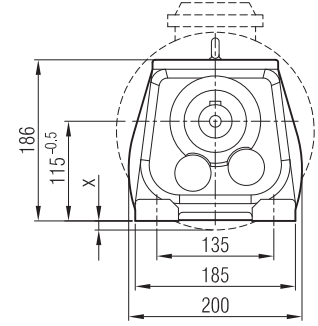
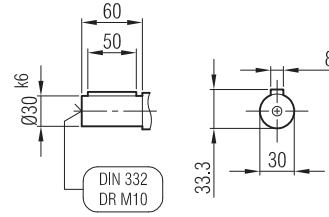
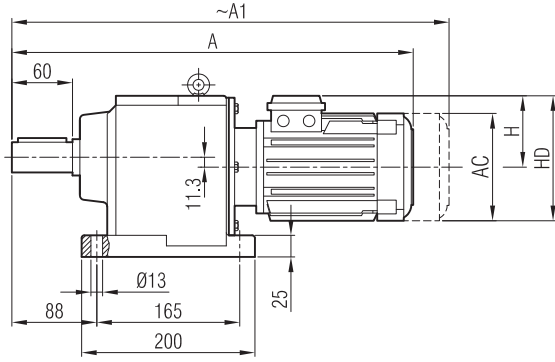
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



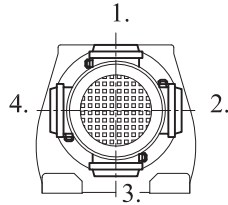
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	359	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	367	110	130	160	M8	44	9	4	14	30	16.3	5



**İRAM 621**  
**İRAM 631**



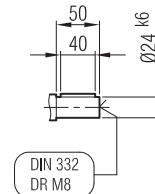
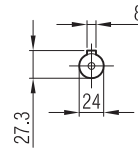
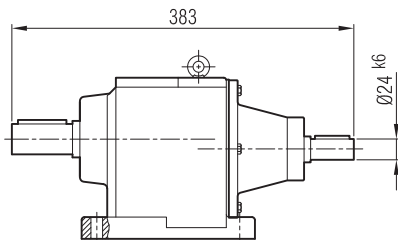
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80	90 S	90 L	100	112	132 S
A	451	481	511	536	575	595	641
A <sub>1</sub>	502	550	577	602	653	678	741
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257
x	-	-	-	-	-	5	25

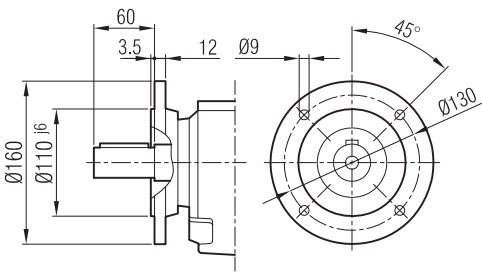
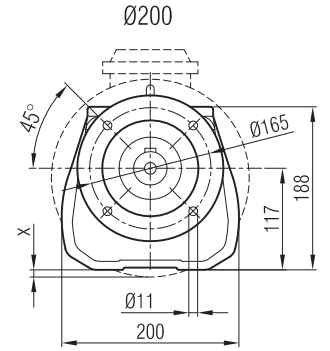
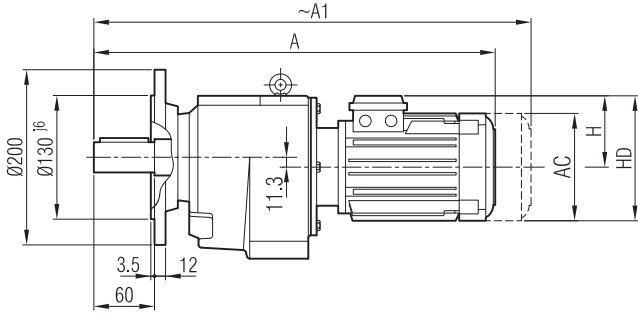
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 621**  
**İRA 631**



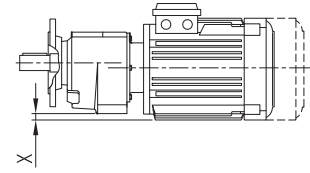
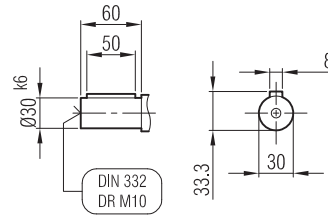


**İRFM 621**  
**İRFM 631**

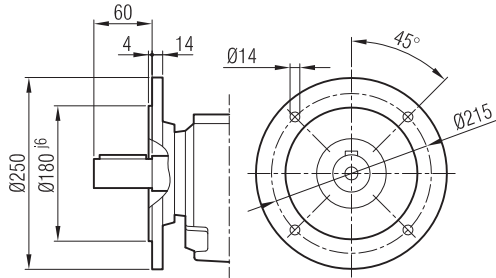
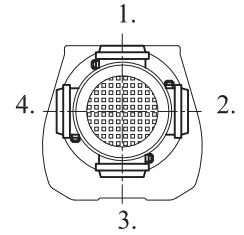


Ø160

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

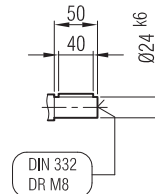
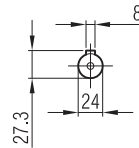
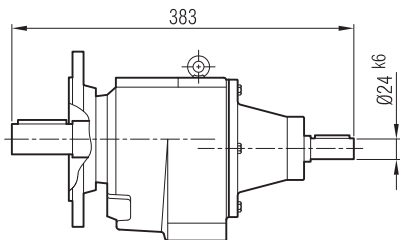


Ø250

**Opsiyonel / Option**

	71	80	90 S	90 L	100	112	132 S
A	451	481	511	536	575	595	641
A <sub>1</sub>	502	550	577	602	653	678	741
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257
x	-	-	-	-	-	5	25

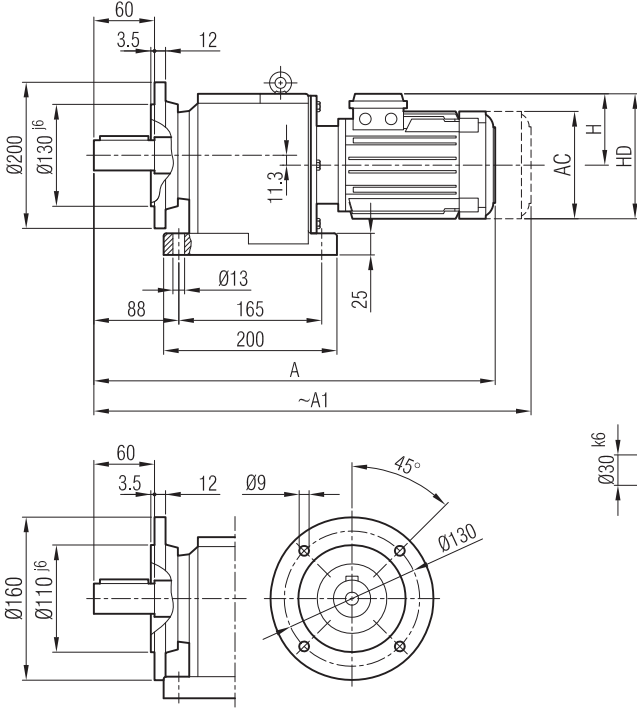
**İRF 621**  
**İRF 631**



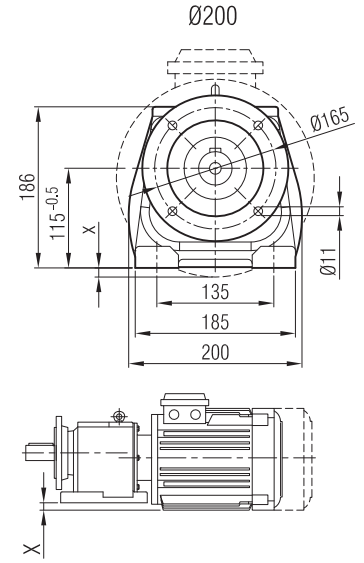
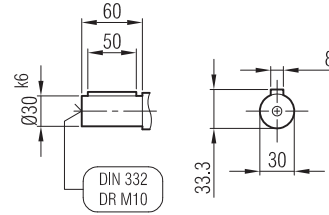
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



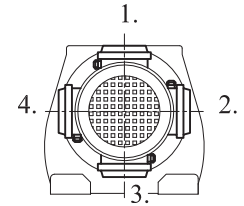
**İRAF 621**  
**İRAF 631**



Ø160  
**Opsiyonel / Option**

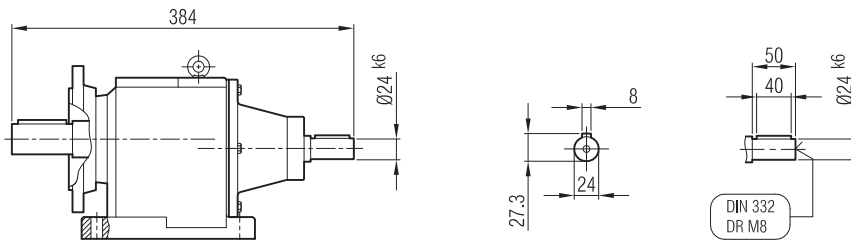


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S
A	451	481	511	536	575	595	641
A <sub>1</sub>	502	550	577	602	653	678	741
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257
x	-	-	-	-	-	5	25

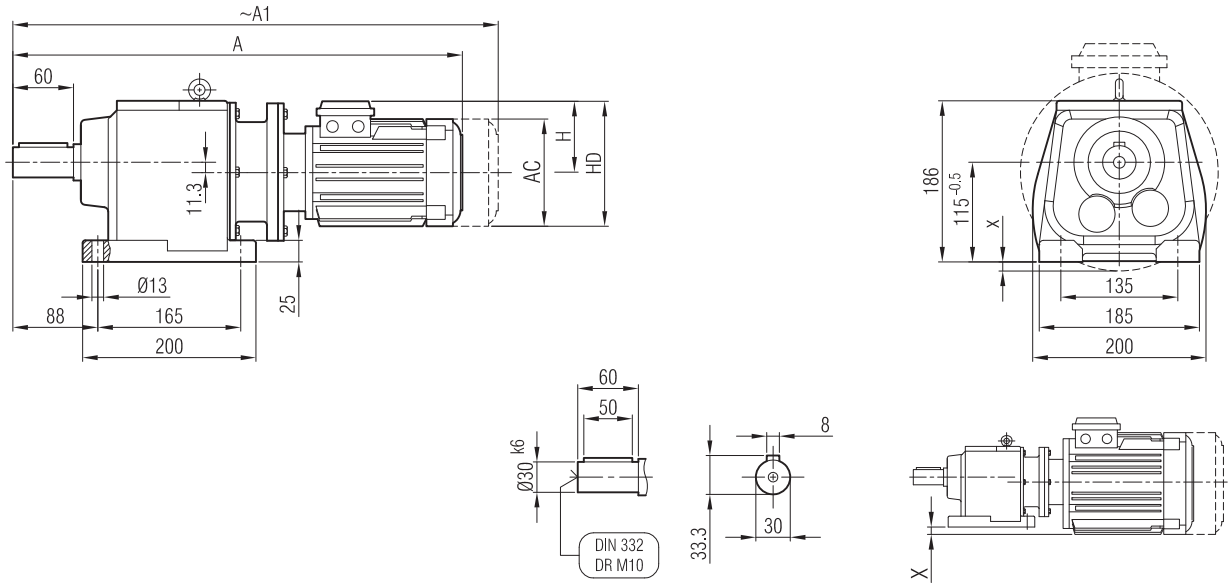
**İRAF 621**  
**İRAF 631**



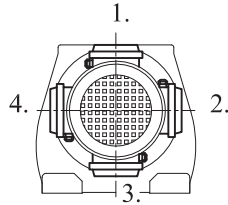
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAPM 621**  
**İRAPM 631**



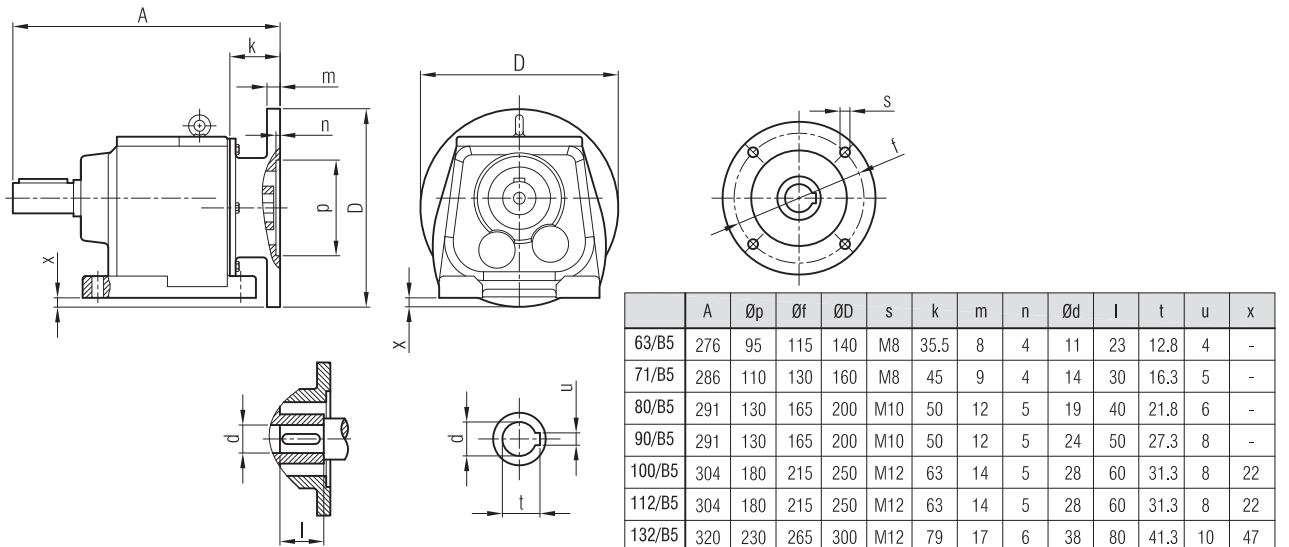
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	473	508	534	550	575	620	640	700
A <sub>1</sub>	529	559	603	616	641	698	723	800
H	97	111	118	126	126	134	145	168
HD	160	182	198	216	216	234	257	300
AC	121	138	156	176	176	194	218	257
x	-	-	-	-	-	-	5	25

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAP 621**  
**İRAP 631**

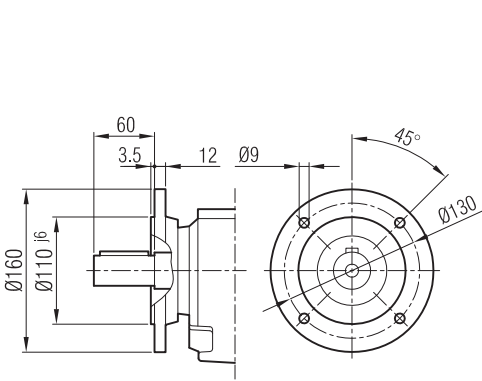
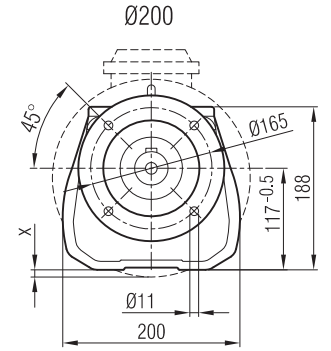
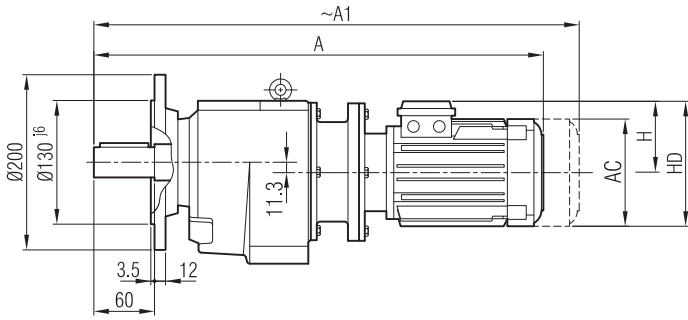


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	276	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	286	110	130	160	M8	45	9	4	14	30	16.3	5	-
80/B5	291	130	165	200	M10	50	12	5	19	40	21.8	6	-
90/B5	291	130	165	200	M10	50	12	5	24	50	27.3	8	-
100/B5	304	180	215	250	M12	63	14	5	28	60	31.3	8	22
112/B5	304	180	215	250	M12	63	14	5	28	60	31.3	8	22
132/B5	320	230	265	300	M12	79	17	6	38	80	41.3	10	47



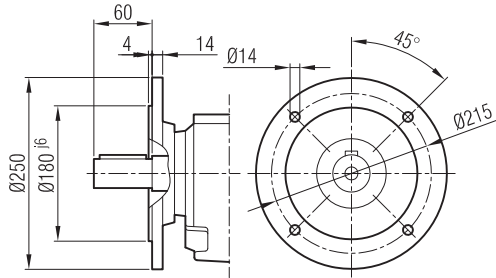


**İRFPM 621**  
**İRFPM 631**



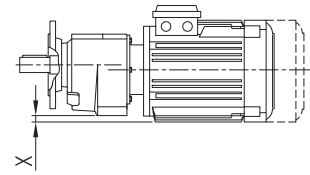
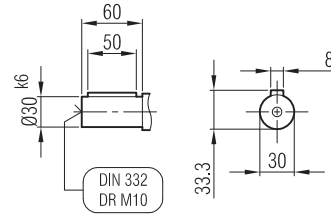
Ø160

**Opsiyonel / Option**

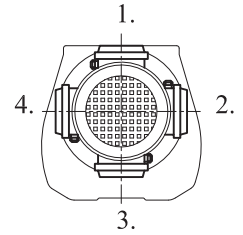


Ø250

**Opsiyonel / Option**

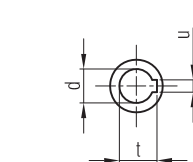
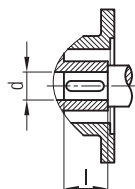
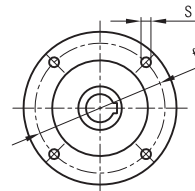
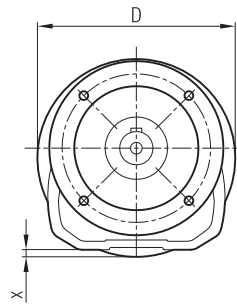
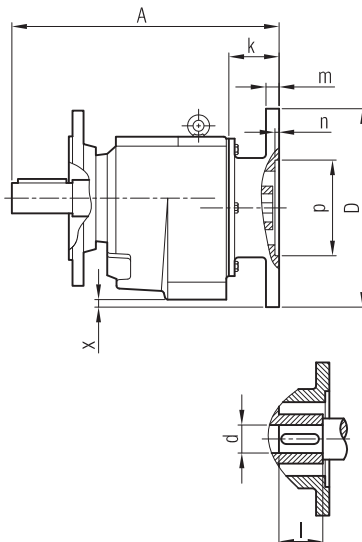


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	473	508	534	550	575	620	640	700
A <sub>1</sub>	529	559	603	616	641	698	723	800
H	97	111	118	126	126	134	145	168
HD	160	182	198	216	216	234	257	300
AC	121	138	156	176	176	194	218	257
x	-	-	-	-	-	-	5	25

**İRFP 621**  
**İRFP 631**

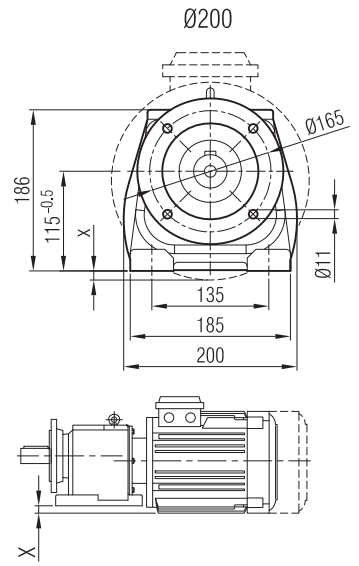
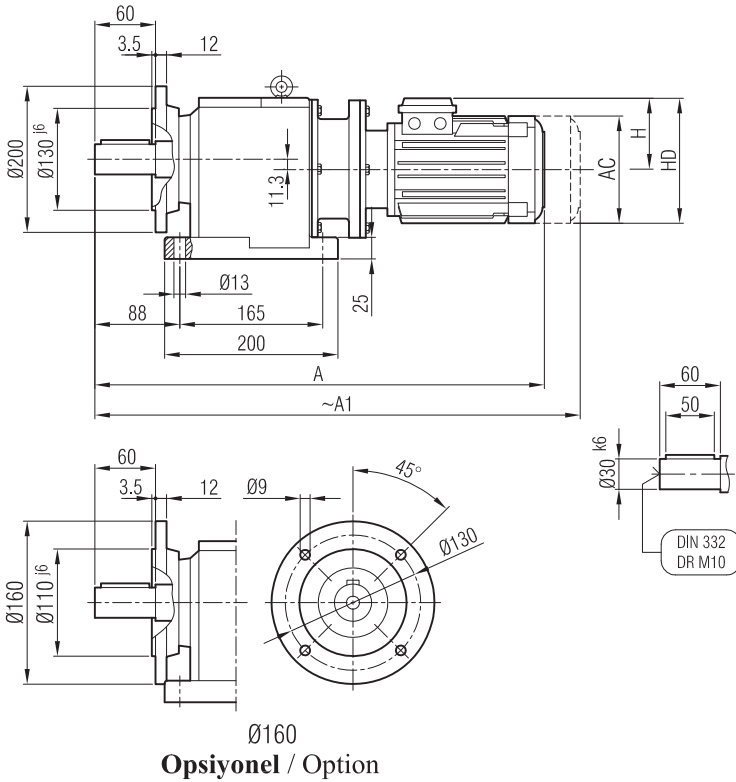


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

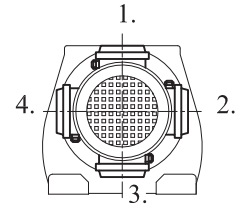
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	276	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	286	110	130	160	M8	45	9	4	14	30	16.3	5	-
80/B5	291	130	165	200	M10	50	12	5	19	40	21.8	6	-
90/B5	291	130	165	200	M10	50	12	5	24	50	27.3	8	-
100/B5	304	180	215	250	M12	63	14	5	28	60	31.3	8	22
112/B5	304	180	215	250	M12	63	14	5	28	60	31.3	8	22
132/B5	320	230	265	300	M12	79	17	6	38	80	41.3	10	47



**İRAFPM 621**  
**İRAFPM 631**

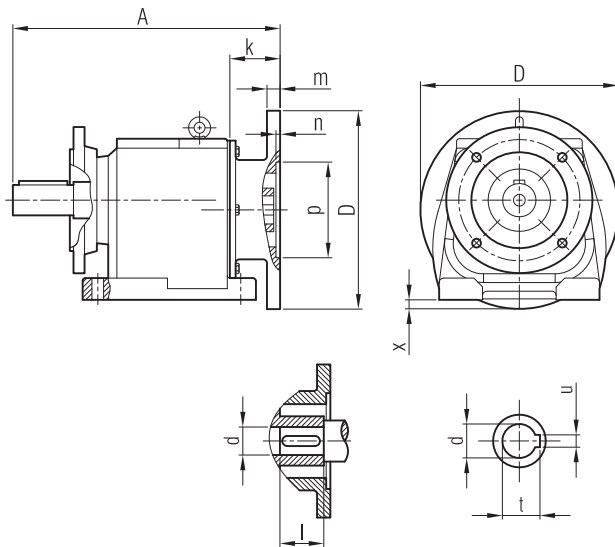


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	473	508	534	550	575	620	640	700
A <sub>1</sub>	529	559	603	616	641	698	723	800
H	97	111	118	126	126	134	145	168
HD	160	182	198	216	216	234	257	300
AC	121	138	156	176	176	194	218	257
x	-	-	-	-	-	-	5	25

**İRAFP 621**  
**İRAFP 631**

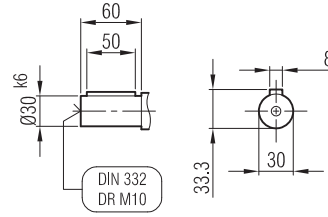
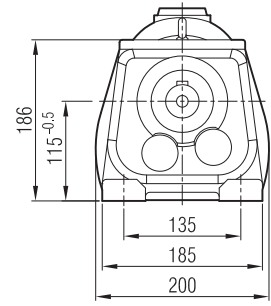
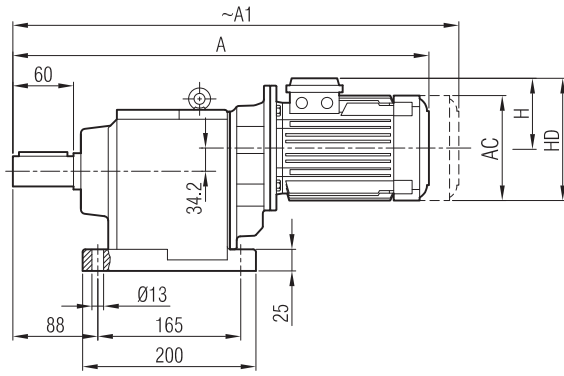


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

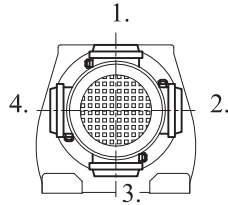
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	276	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	286	110	130	160	M8	45	9	4	14	30	16.3	5	-
80/B5	291	130	165	200	M10	50	12	5	19	40	21.8	6	-
90/B5	291	130	165	200	M10	50	12	5	24	50	27.3	8	-
100/B5	304	180	215	250	M12	63	14	5	28	60	31.3	8	22
112/B5	304	180	215	250	M12	63	14	5	28	60	31.3	8	22
132/B5	320	230	265	300	M12	79	17	6	38	80	41.3	10	47



**İRAM 641**



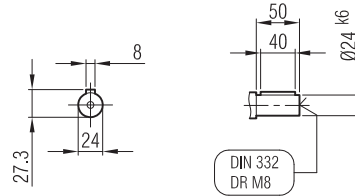
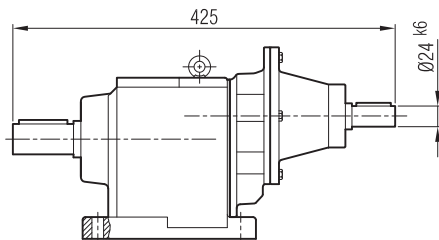
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80	90 S	90 L		
A	513	541	570	595		
A <sub>1</sub>	564	610	636	661		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

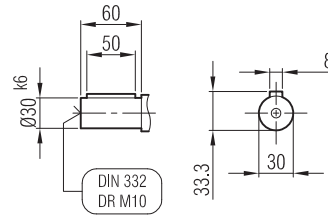
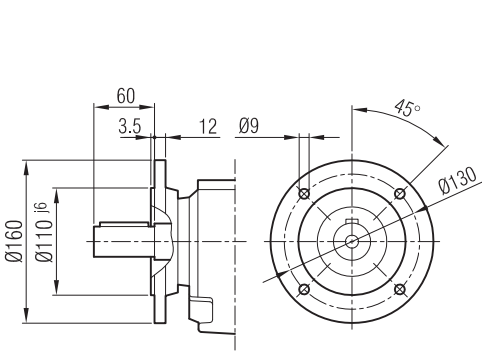
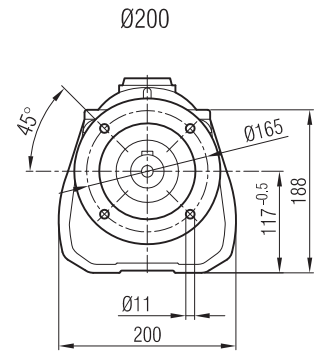
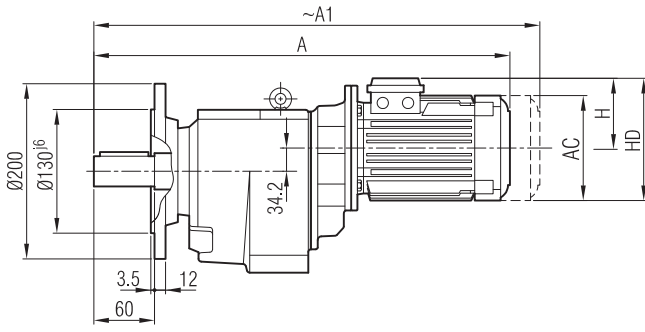
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRA 641**

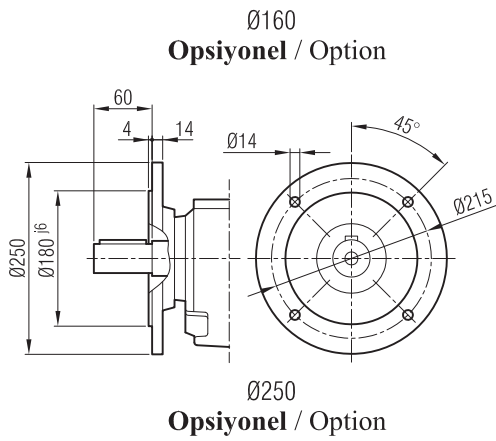
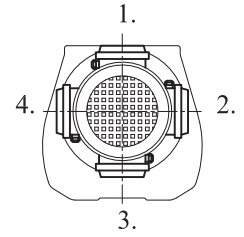




**İRFM 641**



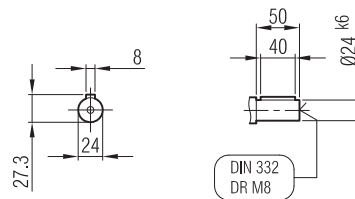
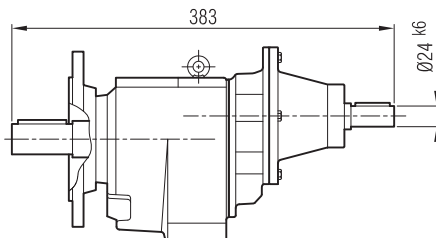
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L		
A	513	541	570	595		
A <sub>1</sub>	564	610	636	661		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

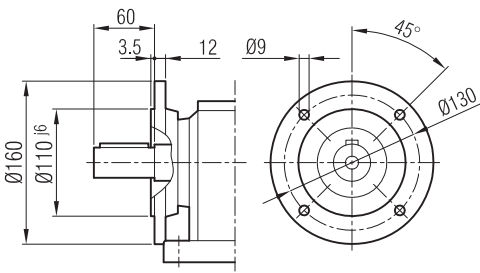
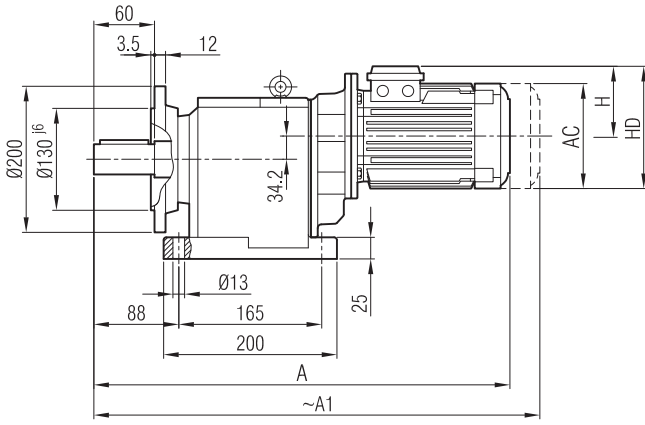
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 641**

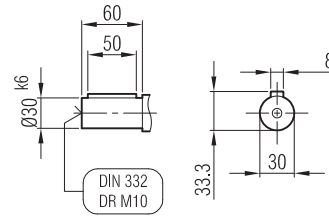




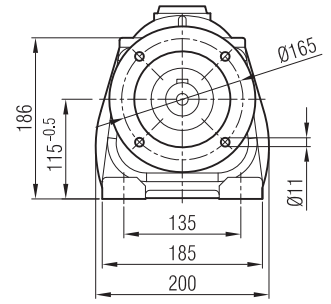
**İRAF 641**



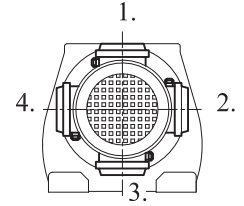
**Ø160**  
**Opsiyonel / Option**



Ø200



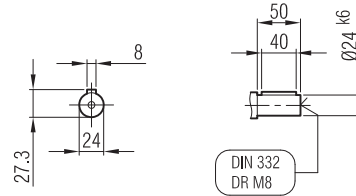
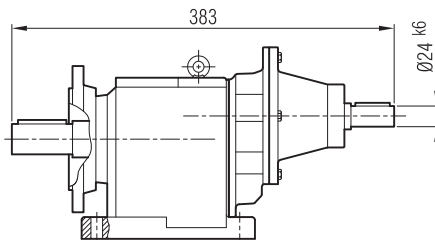
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L		
A	523	551	580	605		
A <sub>1</sub>	574	620	646	671		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

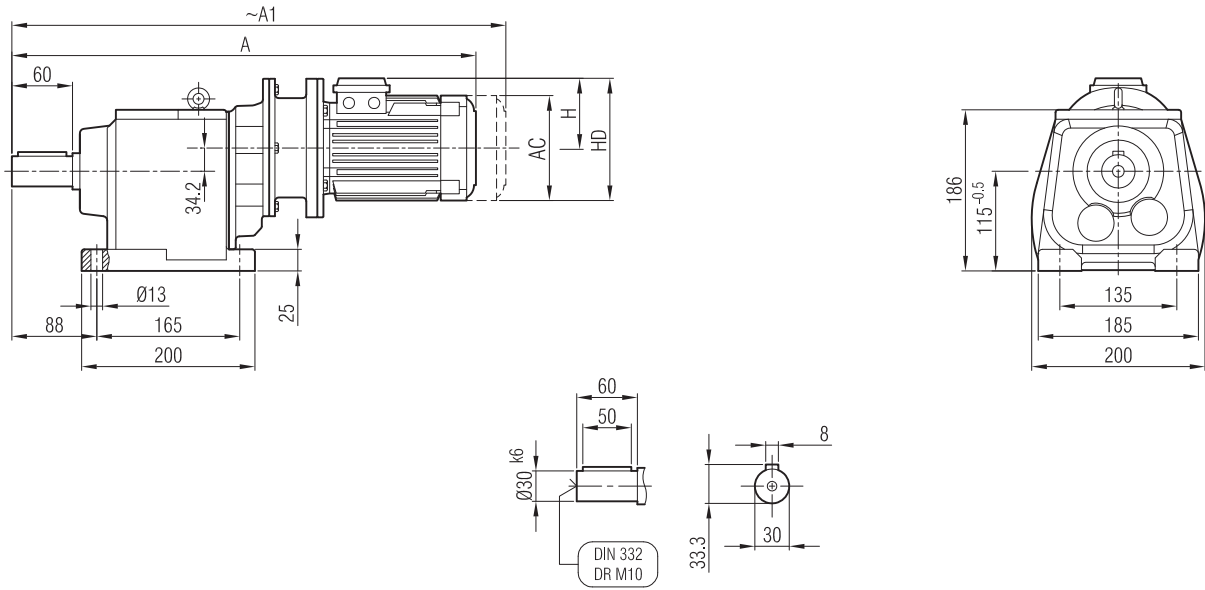
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 641**

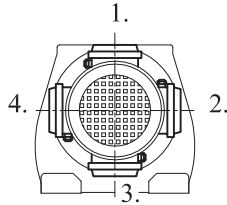




**İRAPM 641**



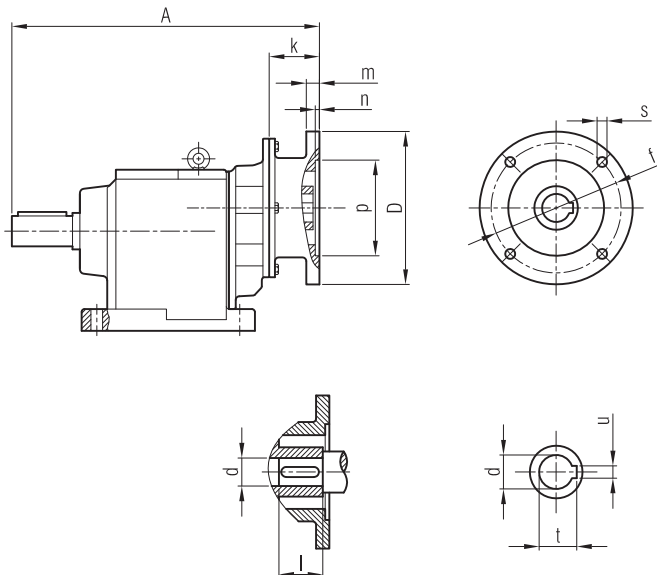
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	528	562	585	601	626
A <sub>1</sub>	584	613	654	667	692
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

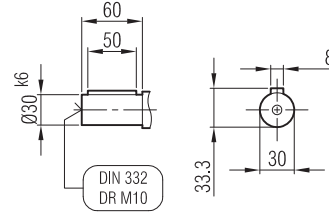
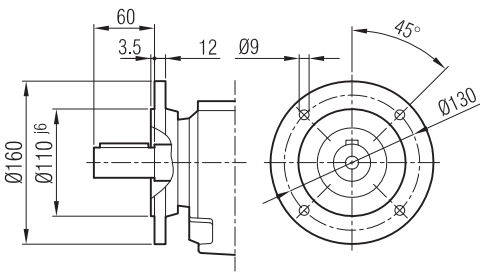
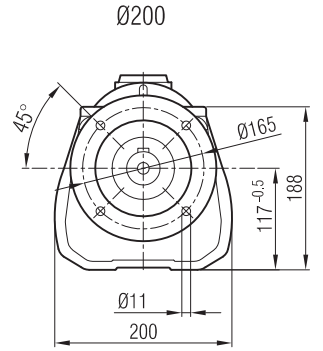
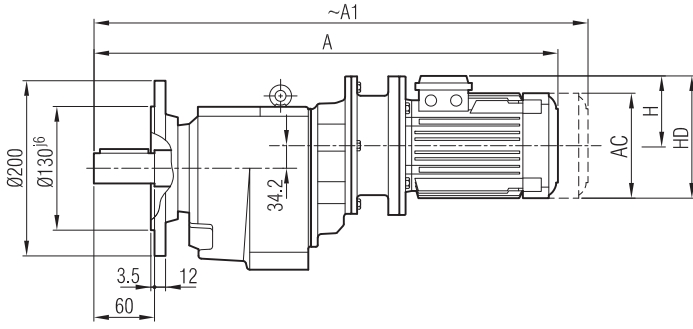
**İRAP 641**



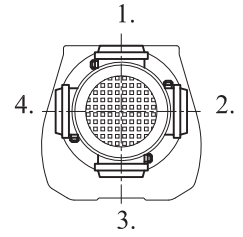
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	331	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	340	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	342	130	165	200	M10	46	12	5	19	40	21.8	6
90/B5	342	130	165	200	M10	46	12	5	24	50	27.3	8



**İRFPM 641**

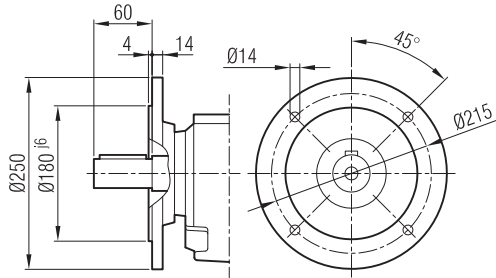


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



Ø160

**Opsiyonel / Option**



Ø250

**Opsiyonel / Option**

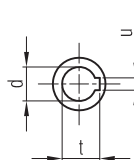
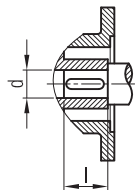
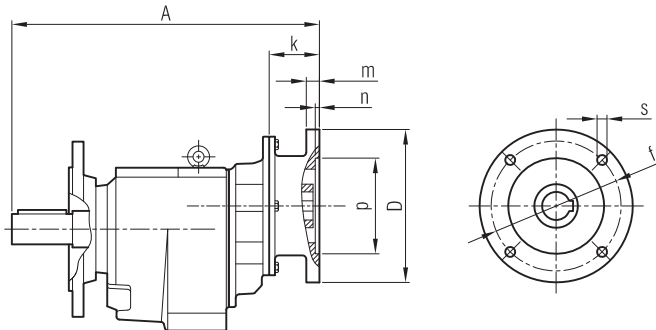
	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	528	562	585	601	626
A <sub>1</sub>	584	613	654	667	692
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**

Dimension "A<sub>1</sub>" is for motors with brake.

Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

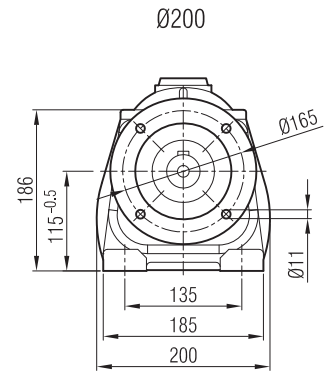
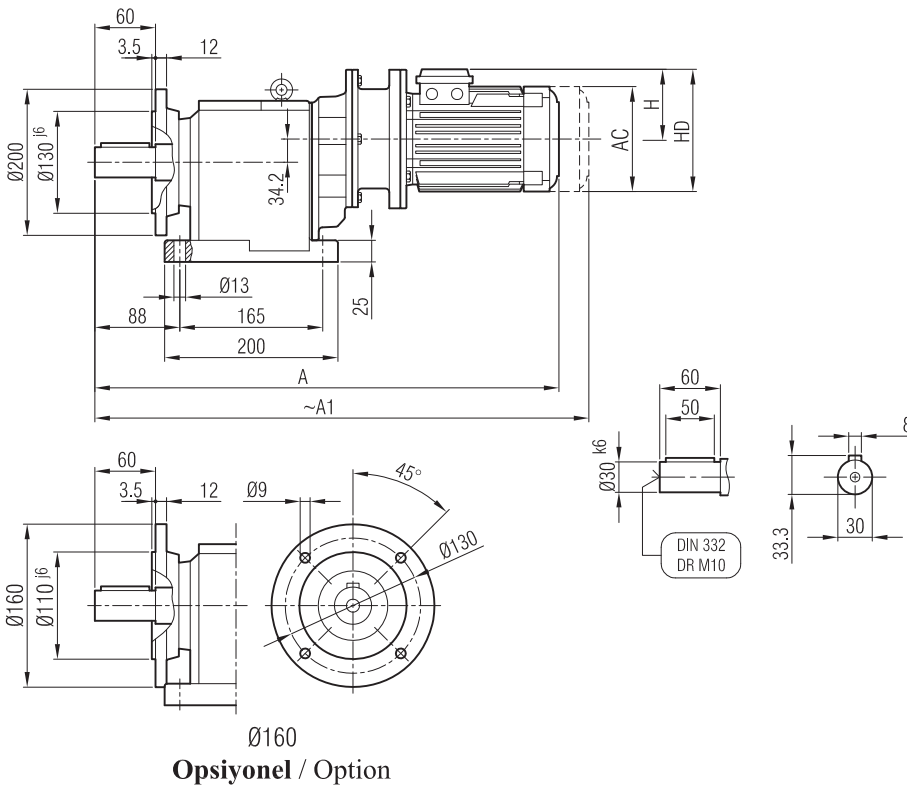
**İRFP 641**



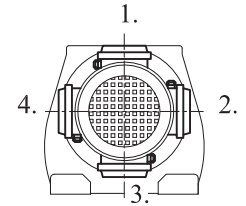
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	331	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	340	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	342	130	165	200	M10	46	12	5	19	40	21.8	6
90/B5	342	130	165	200	M10	46	12	5	24	50	27.3	8



**İRAFPM 641**

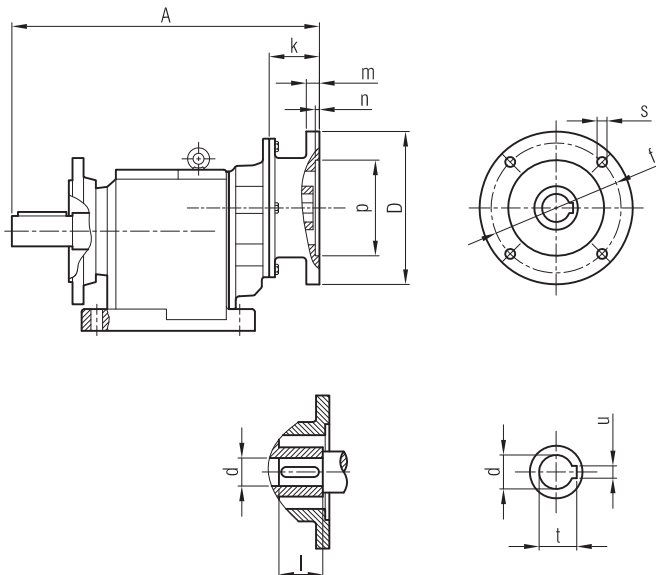


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	528	562	585	601	626
A <sub>1</sub>	584	613	654	667	692
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**İRAFP 641**



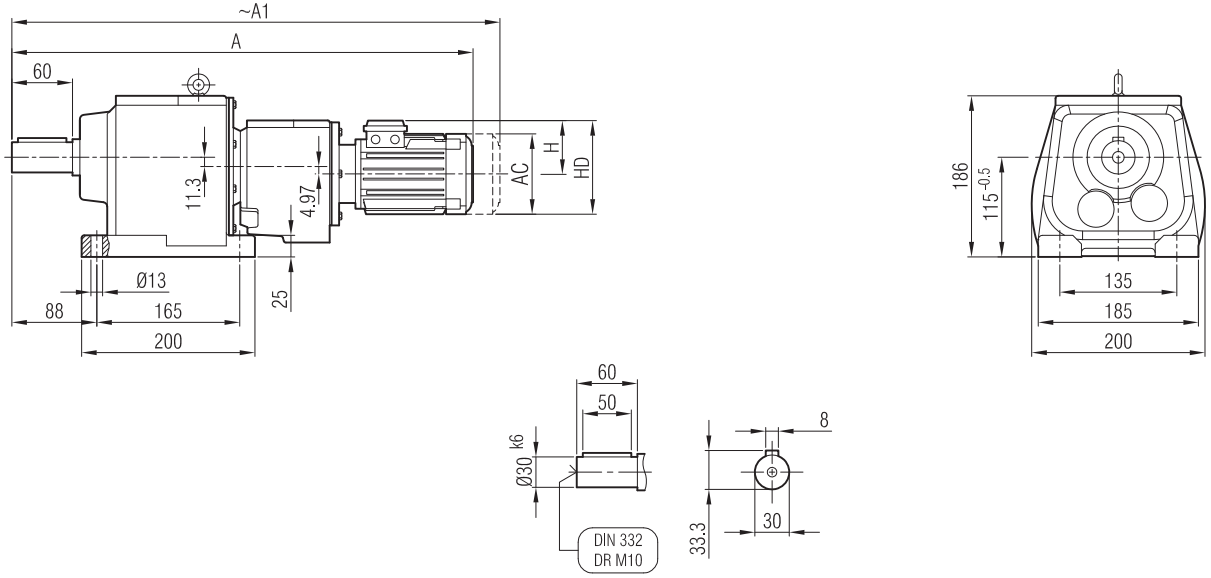
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	331	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	340	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	342	130	165	200	M10	46	12	5	19	40	21.8	6
90/B5	342	130	165	200	M10	46	12	5	24	50	27.3	8

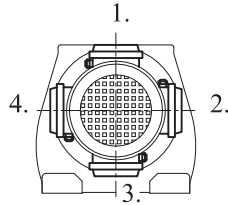




**İRAM 621 İR 52**  
**İRAM 631 İR 52**



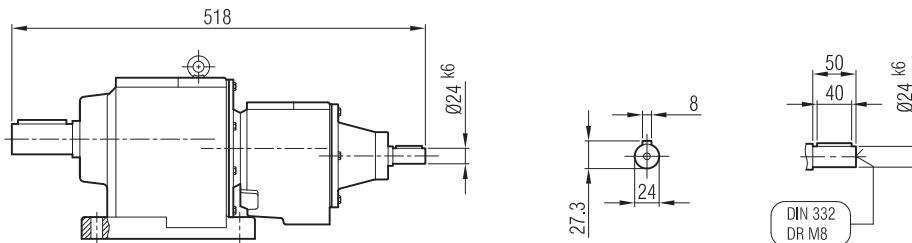
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71				
A	606				
A <sub>1</sub>	567				
H	111				
HD	182				
AC	138				

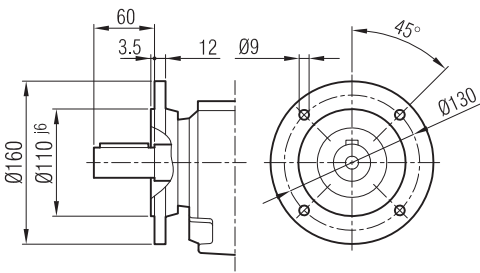
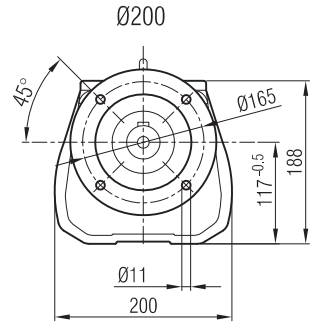
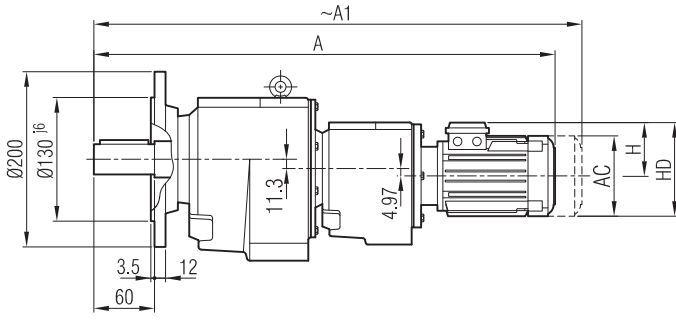
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 621 İR 52 / İRA 621 İR 53**  
**İRA 631 İR 52 / İRA 631 İR 53**



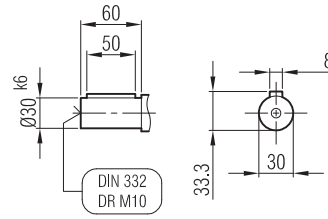


**İRFM 621 İR 52**  
**İRFM 631 İR 52**

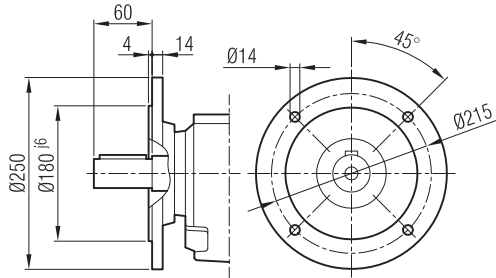
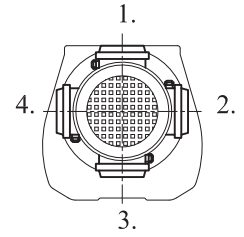


Ø160

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

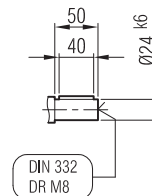
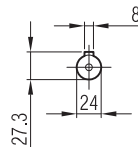
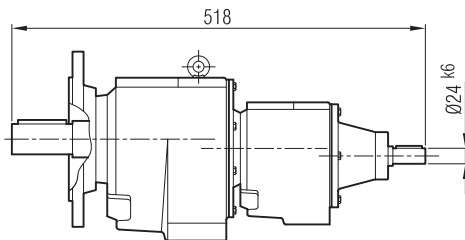


Ø250

**Opsiyonel / Option**

	71				
A	606				
A <sub>1</sub>	567				
H	111				
HD	182				
AC	138				

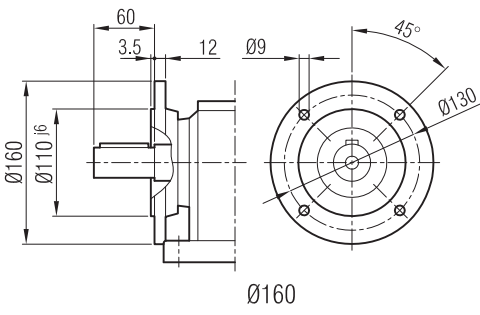
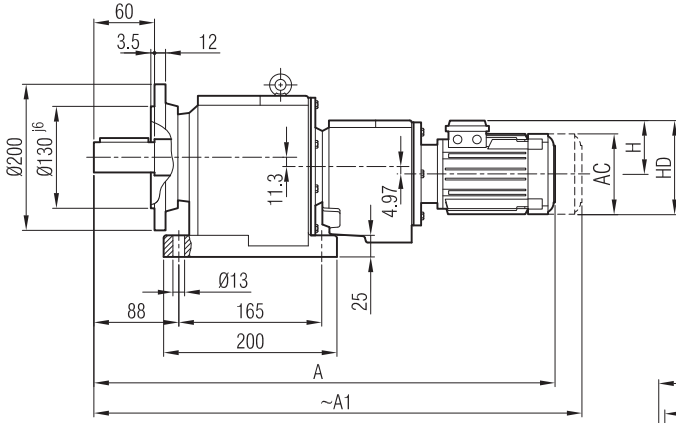
**İRF 621 İR 52 / İRF 621 İR 53**  
**İRF 631 İR 52 / İRF 631 İR 53**



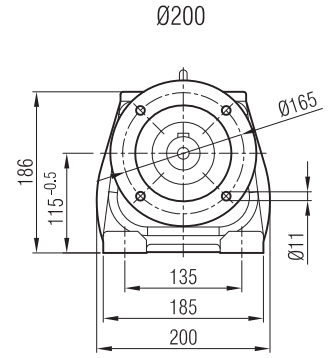
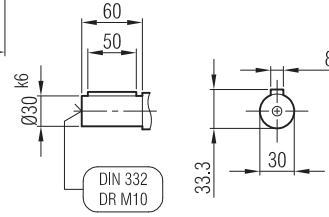
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



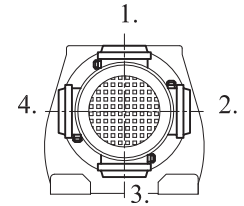
**İRAFM 621 İR 52**  
**İRAFM 631 İR 52**



**Ø160**  
**Opsiyonel / Option**

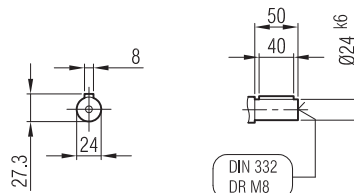
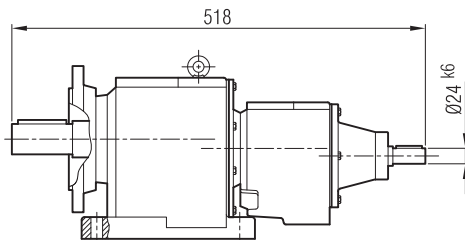


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71				
A	606				
A <sub>1</sub>	567				
H	111				
HD	182				
AC	138				

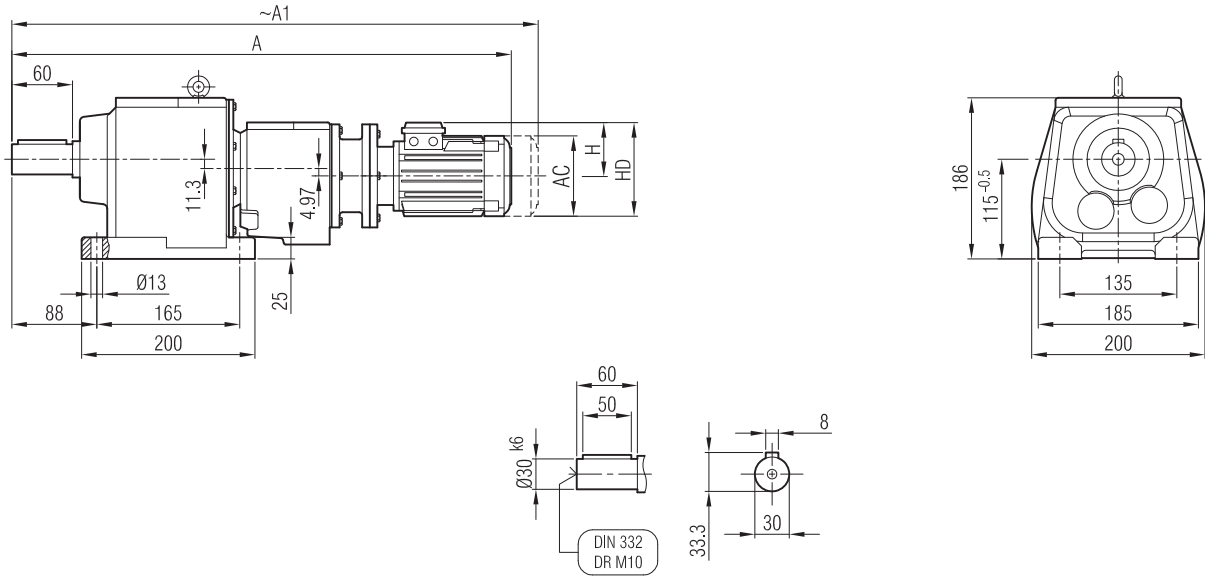
**İRAF 621 İR 52 / İRAF 621 İR 53**  
**İRAF 631 İR 52 / İRAF 631 İR 53**



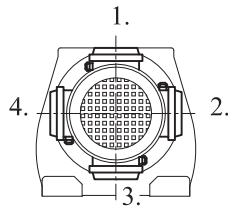
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 621 İR 52**  
**İRAPM 631 İR 52**



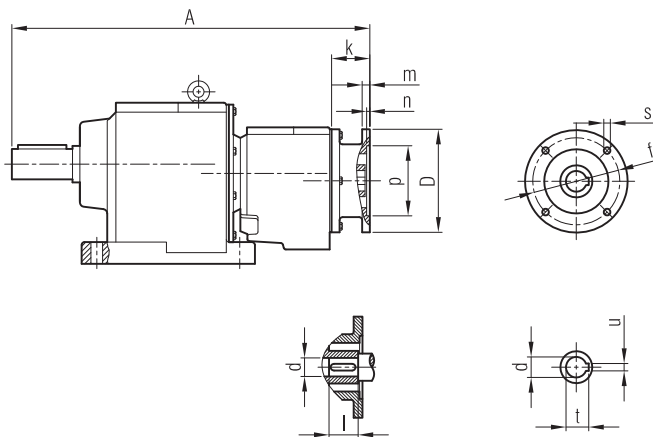
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5			
A	621	655			
A <sub>1</sub>	677	706			
H	97	111			
HD	160	182			
AC	121	138			

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

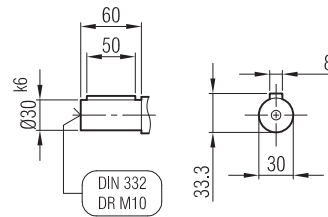
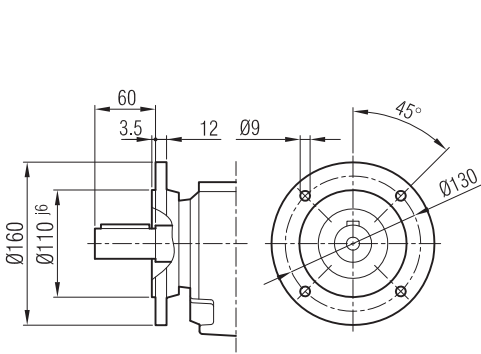
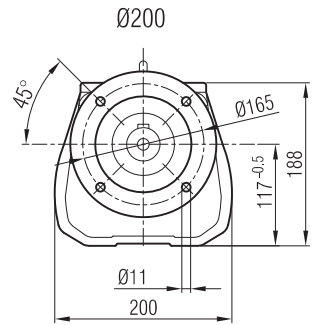
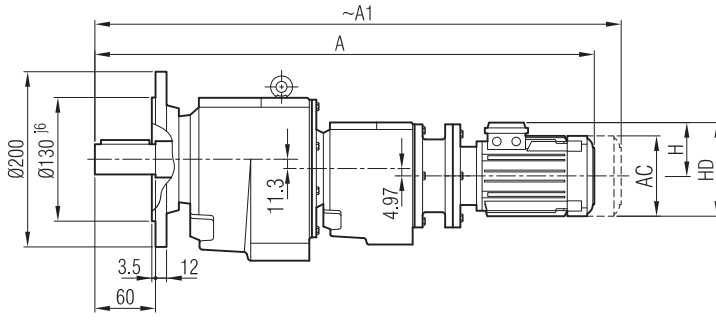
**İRAP 621 İR 52 / İRAP 621 İR 53**  
**İRAP 631 İR 52 / İRAP 631 İR 53**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	424	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	433	110	130	160	M8	44	9	4	14	30	16.3	5

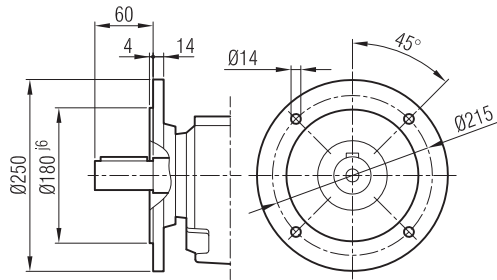


**İRFPM 621 İR 52**  
**İRFPM 631 İR 52**



Ø160

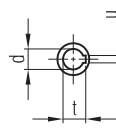
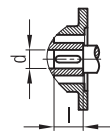
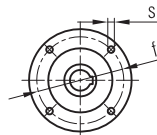
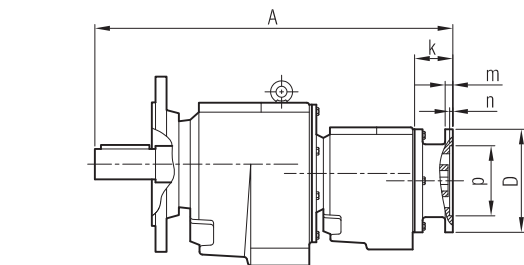
**Opsiyonel / Option**



Ø250

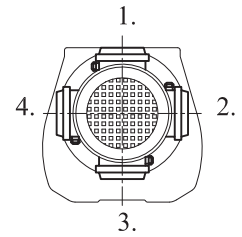
**Opsiyonel / Option**

**İRFP 621 İR 52 / İRFP 621 İR 53**  
**İRFP 631 İR 52 / İRFP 631 İR 53**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	424	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	433	110	130	160	M8	44	9	4	14	30	16.3	5

**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

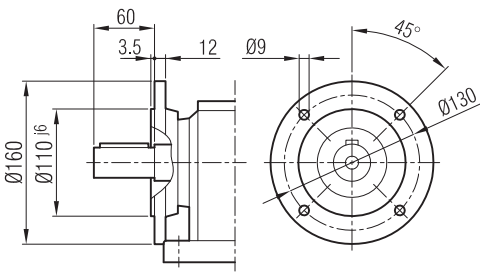
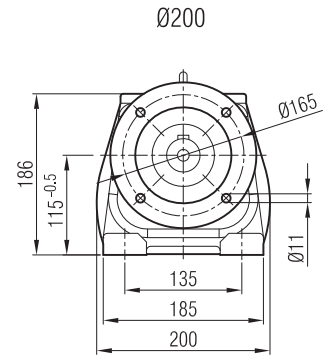
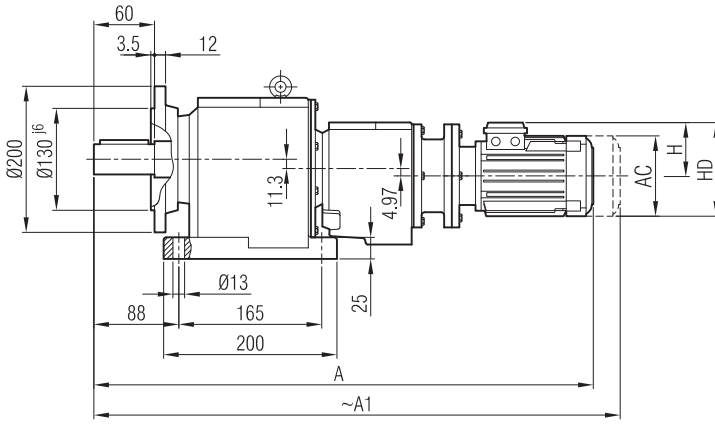


	63/B5	71/B5			
A	621	655			
A <sub>1</sub>	677	706			
H	97	111			
HD	160	182			
AC	121	138			

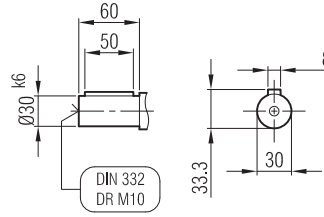
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



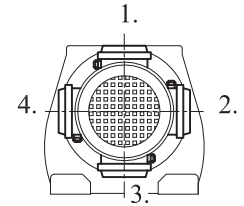
**İRAFP 621 İR 52**  
**İRAFP 631 İR 52**



Ø160  
**Opsiyonel / Option**



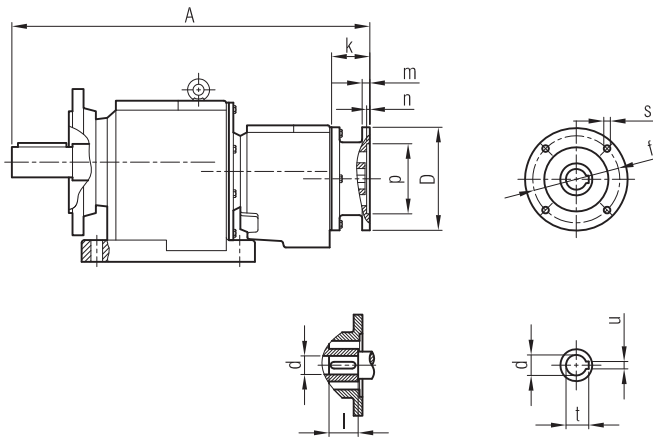
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5		
A	621	655		
A <sub>1</sub>	677	706		
H	97	111		
HD	160	182		
AC	121	138		

**İRAFP 621 İR 52 / İRAFP 621 İR 53**  
**İRAFP 631 İR 52 / İRAFP 631 İR 53**

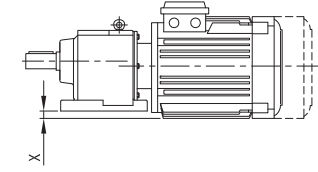
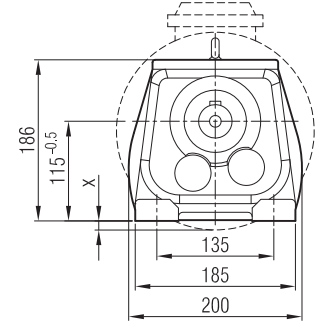
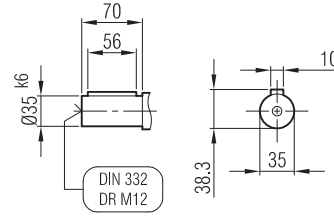
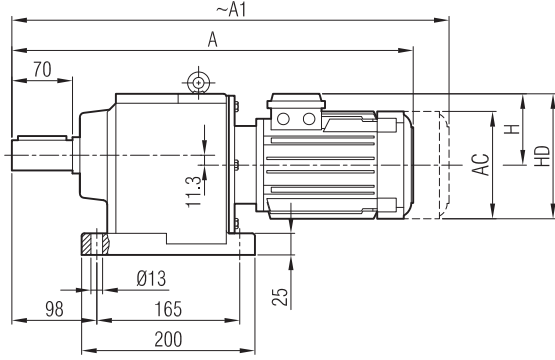
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



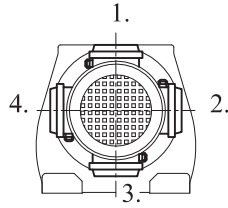
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	424	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	433	110	130	160	M8	44	9	4	14	30	16.3	5



**İRAM 62**  
**İRAM 63**



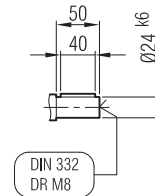
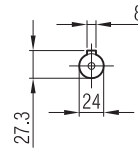
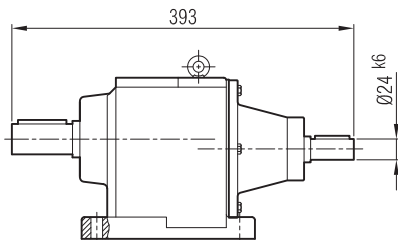
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S
A	461	491	521	546	585	605	651
A <sub>1</sub>	512	560	587	612	663	688	751
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257
x	-	-	-	-	-	5	25

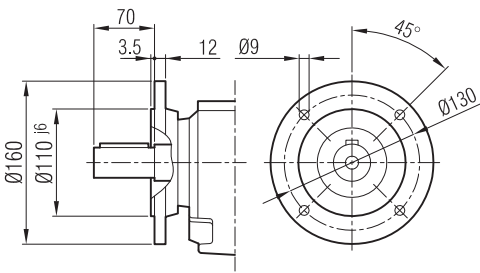
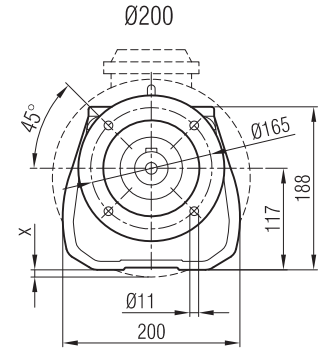
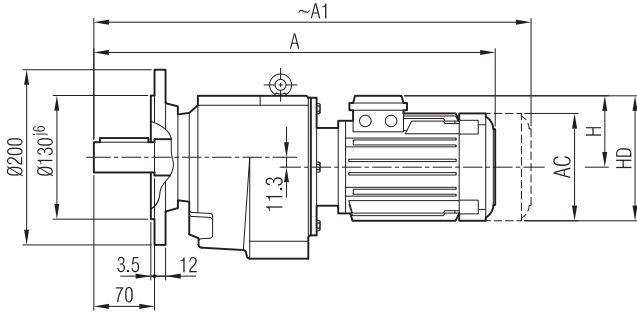
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

**İRA 62**  
**İRA 63**



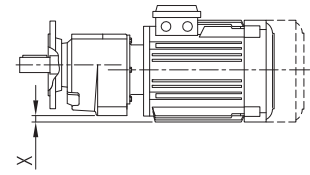
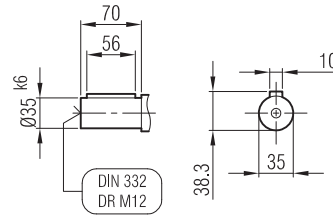


**İRFM 62**  
**İRFM 63**

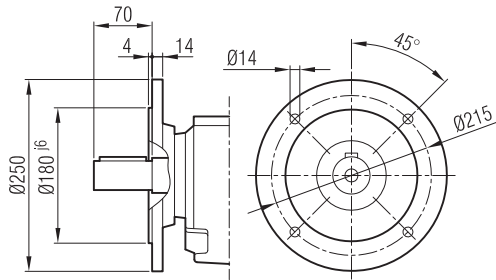
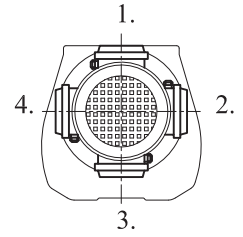


Ø160

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

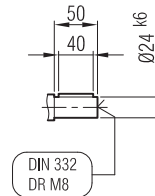
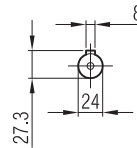
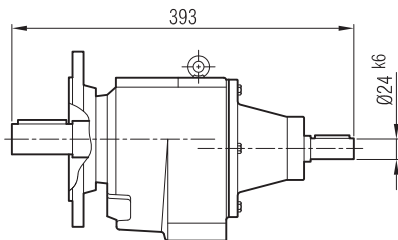


Ø250

**Opsiyonel / Option**

	71	80	90 S	90 L	100	112	132 S
A	461	491	521	546	585	605	651
A <sub>1</sub>	512	560	587	612	663	688	751
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257
x	-	-	-	-	-	5	25

**İRF 62**  
**İRF 63**

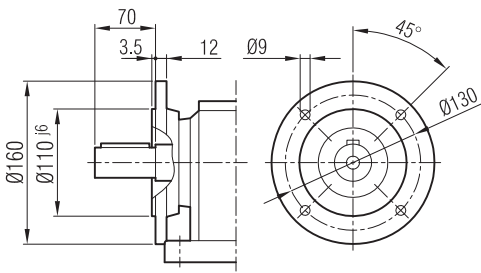
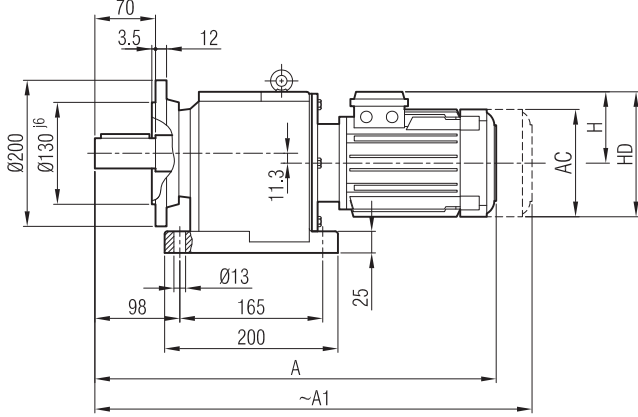


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

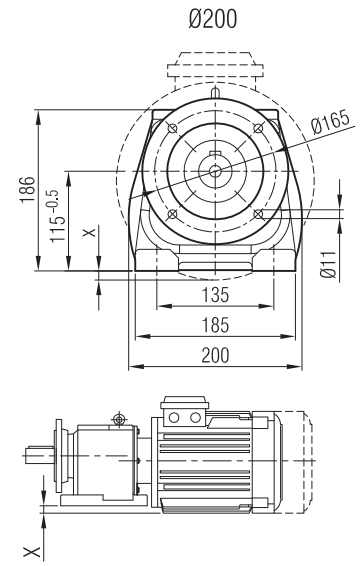
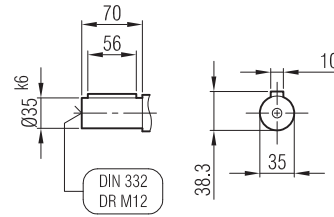




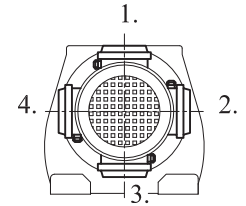
**İRAF 62**  
**İRAF 63**



Ø160  
**Opsiyonel / Option**

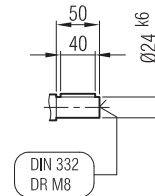
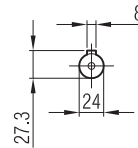
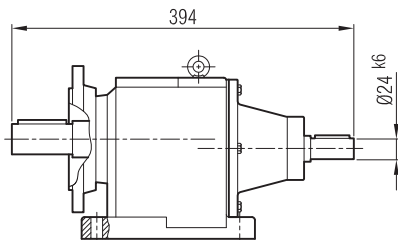


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S
A	461	491	521	546	585	605	651
A <sub>1</sub>	512	560	587	612	663	688	751
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257
x	-	-	-	-	-	5	25

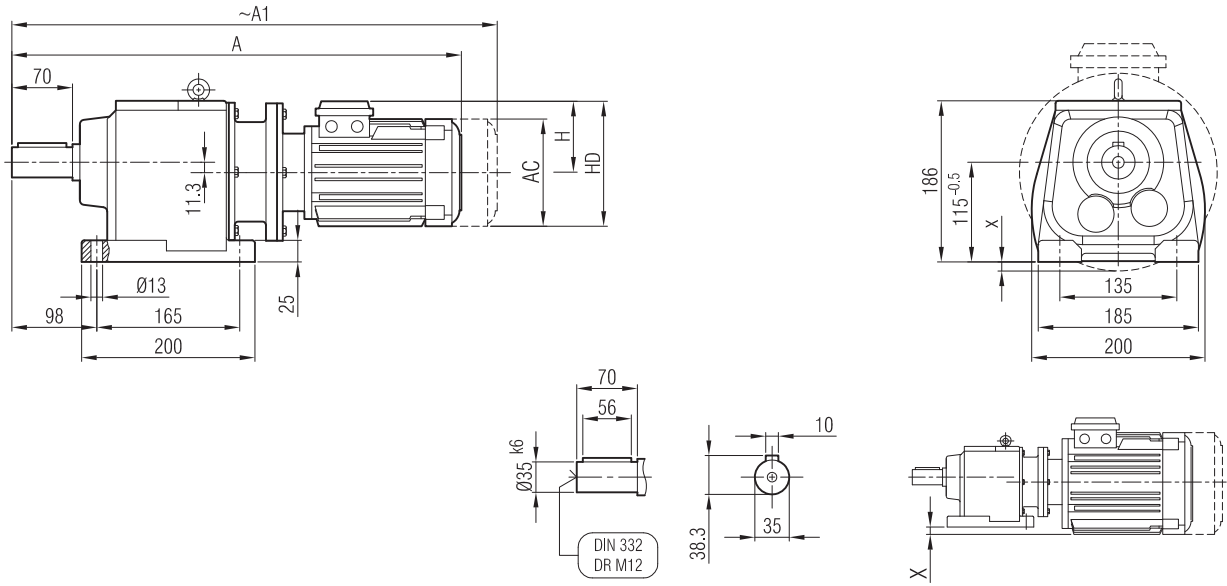
**İRAF 62**  
**İRAF 63**



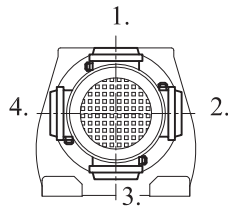
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAPM 62**  
**İRAPM 63**



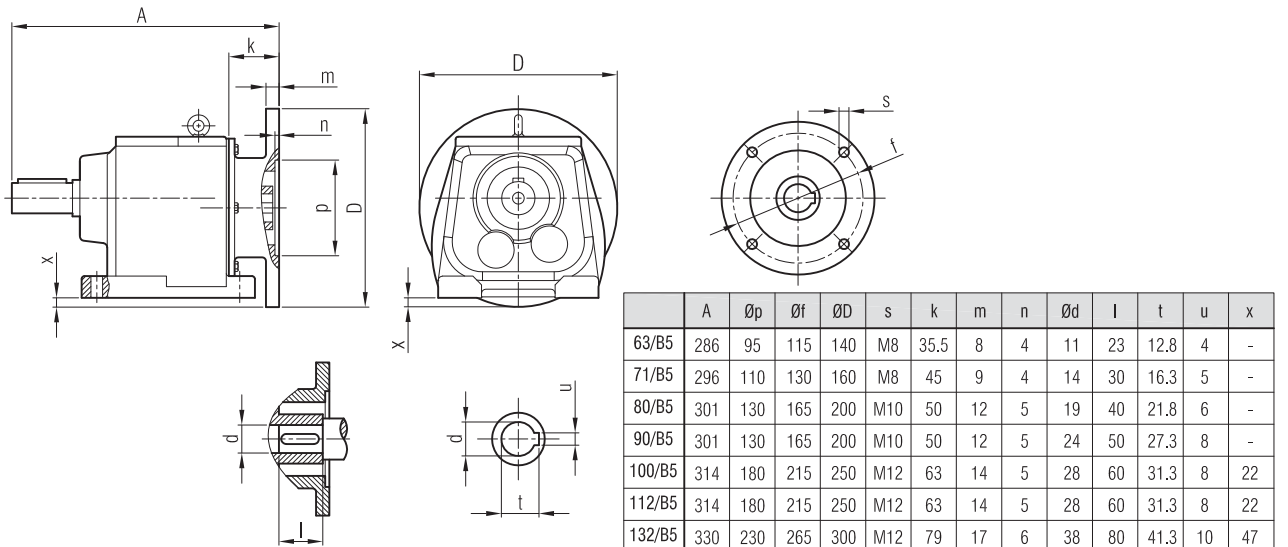
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	483	518	544	560	585	630	650	710
A <sub>1</sub>	539	569	613	626	651	708	733	810
H	97	111	118	126	126	134	145	168
HD	160	182	198	216	216	234	257	300
AC	121	138	156	176	176	194	218	257
x	-	-	-	-	-	-	5	25

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

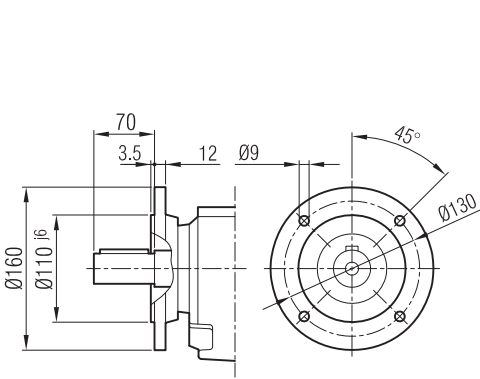
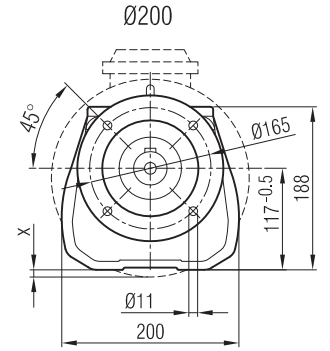
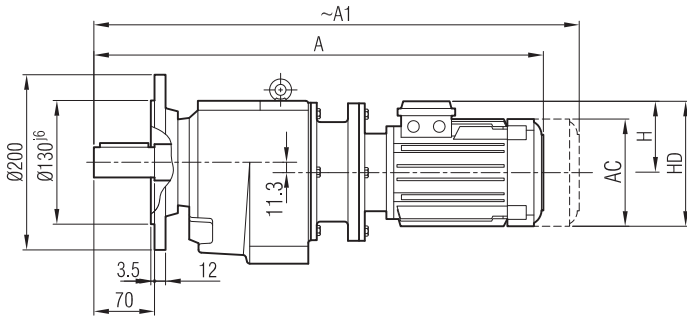
**İRAP 62**  
**İRAP 63**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5	-
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6	-
90/B5	301	130	165	200	M10	50	12	5	24	50	27.3	8	-
100/B5	314	180	215	250	M12	63	14	5	28	60	31.3	8	22
112/B5	314	180	215	250	M12	63	14	5	28	60	31.3	8	22
132/B5	330	230	265	300	M12	79	17	6	38	80	41.3	10	47

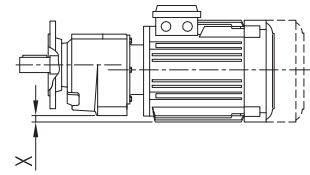
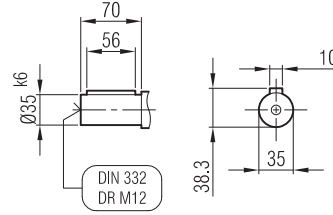


**İRFPM 62**  
**İRFPM 63**

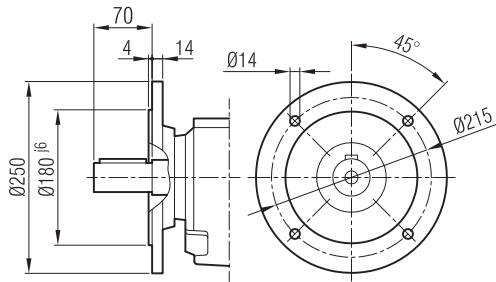
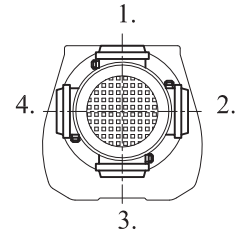


Ø160

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

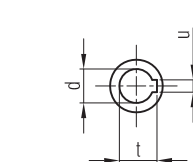
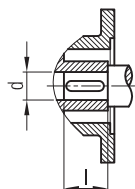
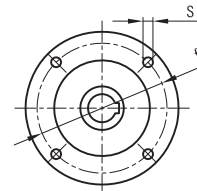
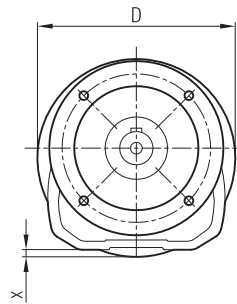
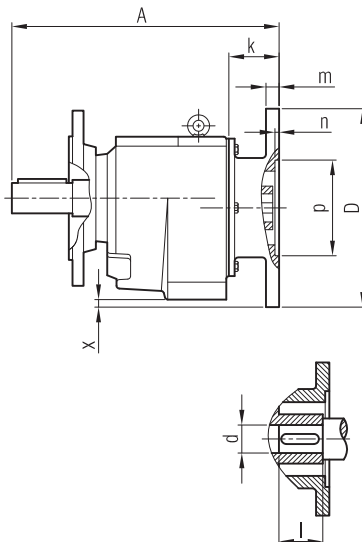


Ø250

**Opsiyonel / Option**

	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	483	518	544	560	585	630	650	710
A <sub>1</sub>	539	569	613	626	651	708	733	810
H	97	111	118	126	126	134	145	168
HD	160	182	198	216	216	234	257	300
AC	121	138	156	176	176	194	218	257
x	-	-	-	-	-	-	5	25

**İRFP 62**  
**İRFP 63**

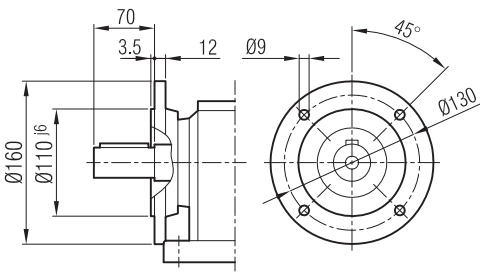
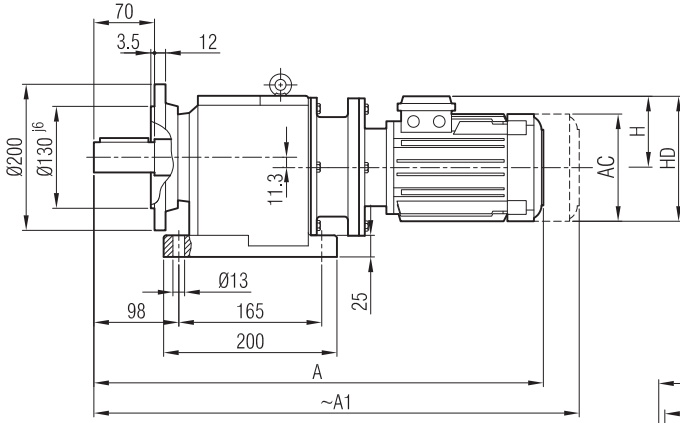


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

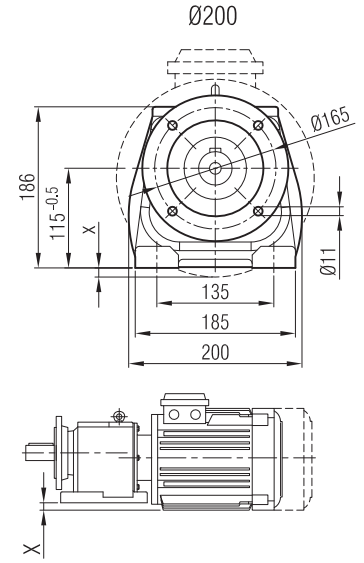
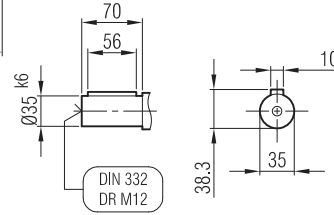
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5	-
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6	-
90/B5	301	130	165	200	M10	50	12	5	24	50	27.3	8	-
100/B5	314	180	215	250	M12	63	14	5	28	60	31.3	8	22
112/B5	314	180	215	250	M12	63	14	5	28	60	31.3	8	22
132/B5	330	230	265	300	M12	79	17	6	38	80	41.3	10	47



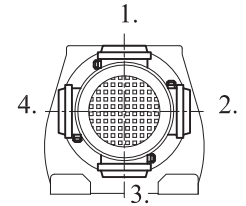
**İRAFP 62**  
**İRAFP 63**



**Ø160**  
**Opsiyonel / Option**

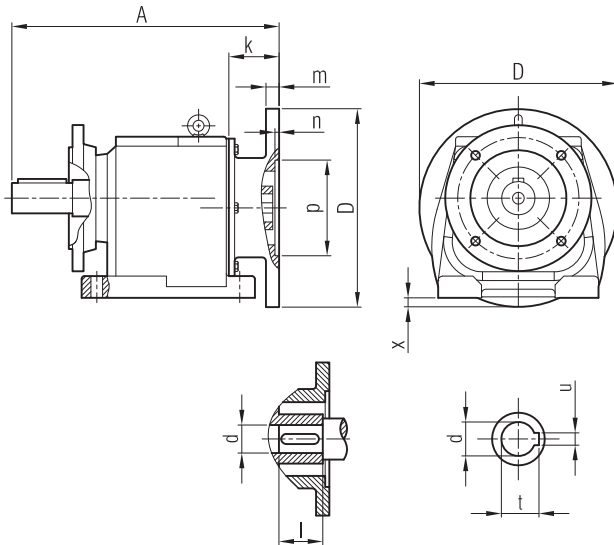


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	483	518	544	560	585	630	650	710
A <sub>1</sub>	539	569	613	626	651	708	733	810
H	97	111	118	126	126	134	145	168
HD	160	182	198	216	216	234	257	300
AC	121	138	156	176	176	194	218	257
x	-	-	-	-	-	-	5	25

**İRAFP 62**  
**İRAFP 63**

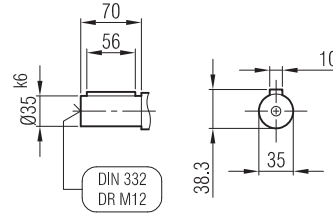
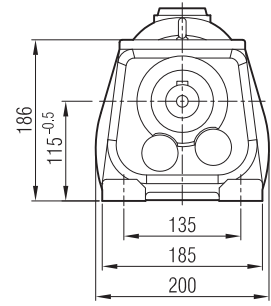
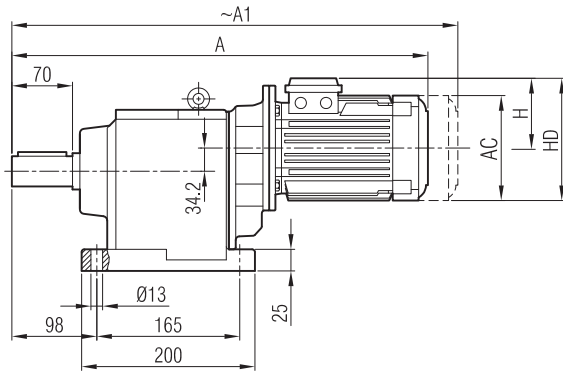


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

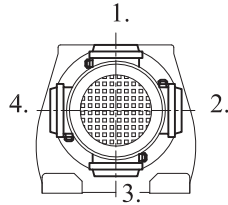
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4	-
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5	-
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6	-
90/B5	301	130	165	200	M10	50	12	5	24	50	27.3	8	-
100/B5	314	180	215	250	M12	63	14	5	28	60	31.3	8	22
112/B5	314	180	215	250	M12	63	14	5	28	60	31.3	8	22
132/B5	330	230	265	300	M12	79	17	6	38	80	41.3	10	47



**İRAM 64**



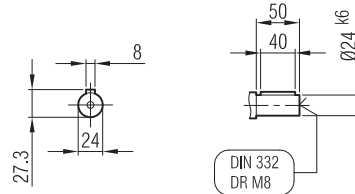
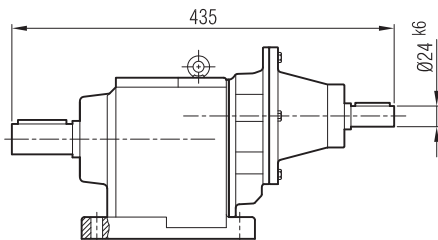
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80	90 S	90 L		
A	523	551	580	605		
A <sub>1</sub>	574	620	646	671		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

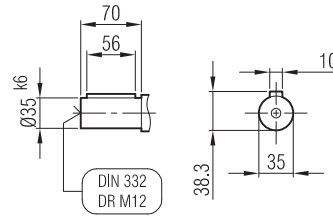
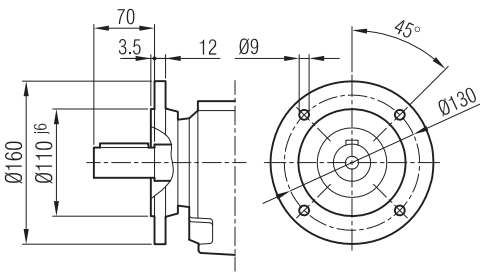
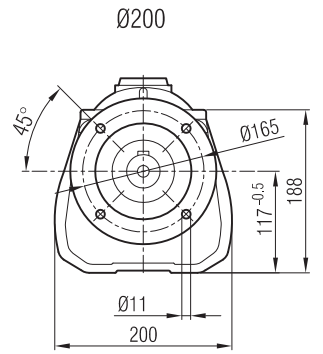
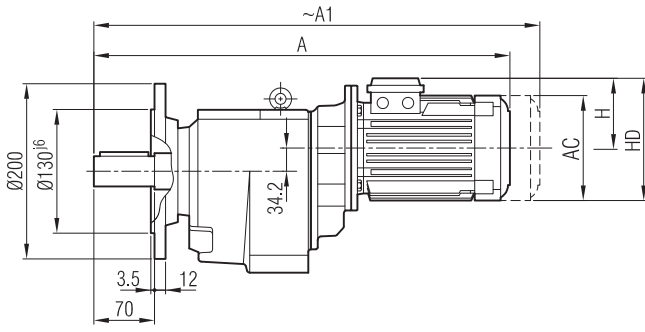
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRA 64**

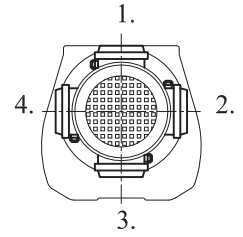




**İRFM 64**

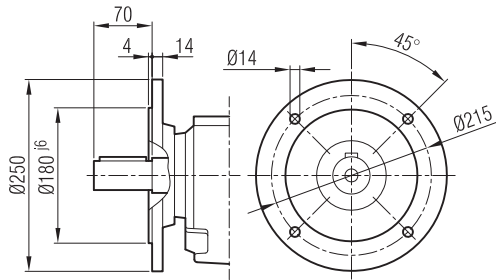


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



Ø160

**Opsiyonel / Option**



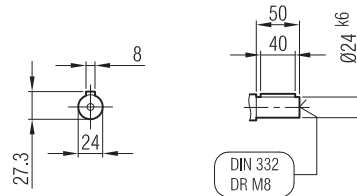
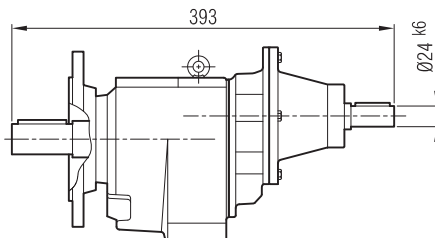
Ø250

**Opsiyonel / Option**

	71	80	90 S	90 L		
A	523	551	580	605		
A <sub>1</sub>	574	620	646	671		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

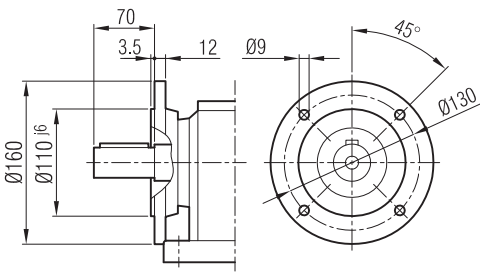
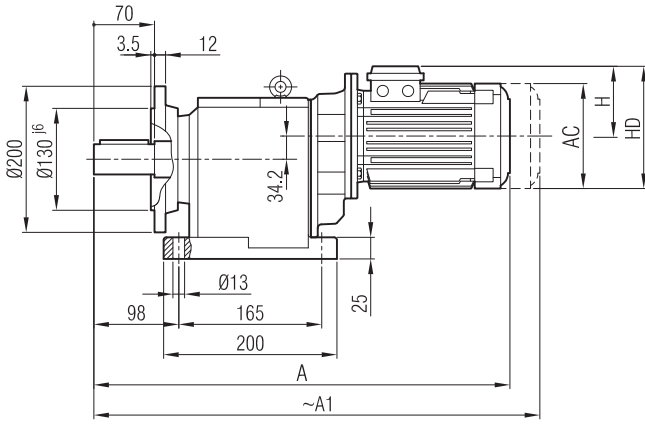
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 64**

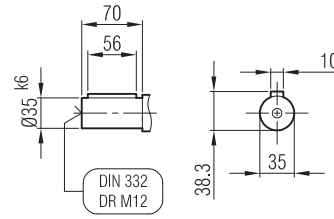




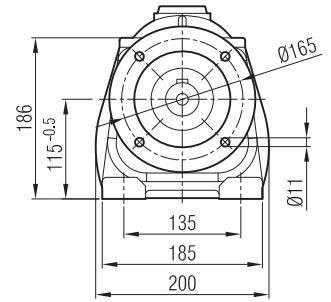
**İRAF 64**



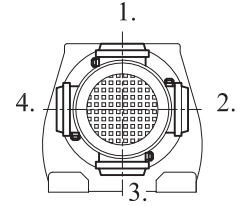
**Ø160**  
**Opsiyonel / Option**



Ø200



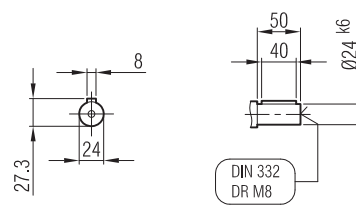
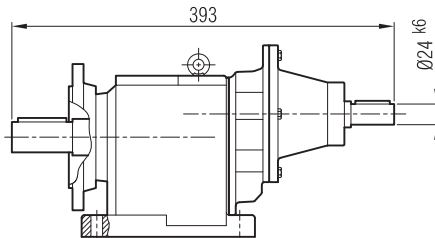
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L		
A	523	551	580	605		
A <sub>1</sub>	574	620	646	671		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

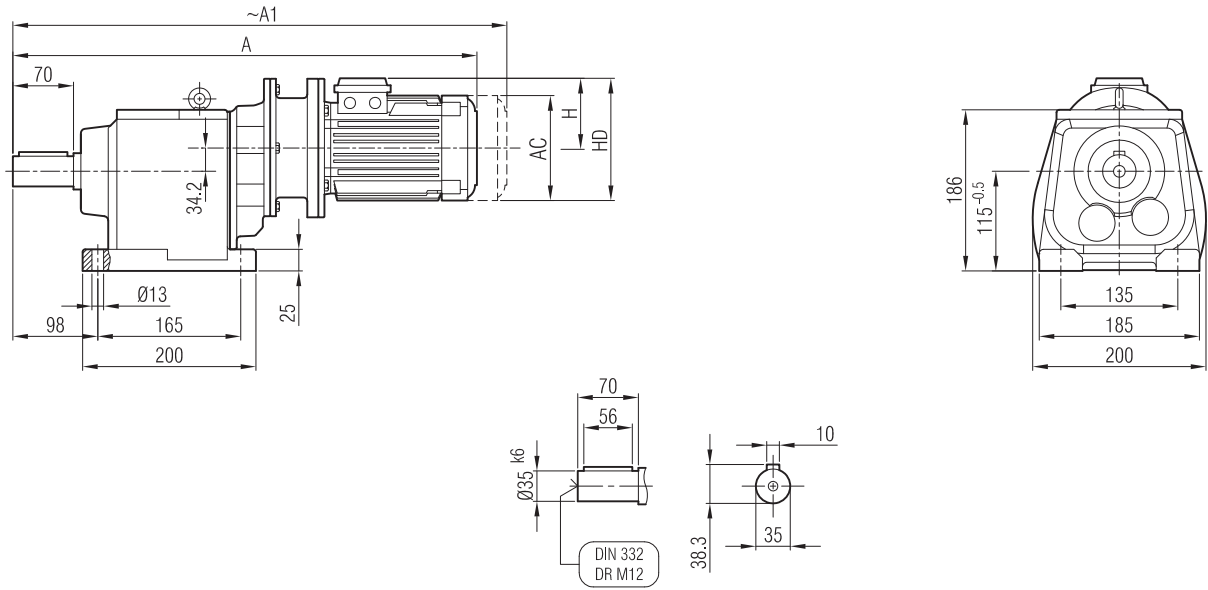
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 64**

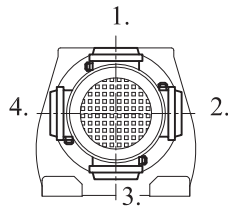




**İRAPM 64**



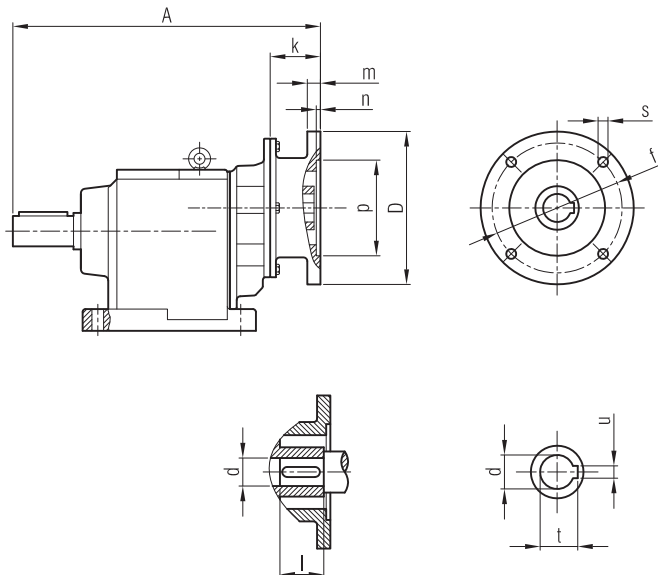
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	538	572	595	611	636
A <sub>1</sub>	594	623	664	677	702
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRAP 64**

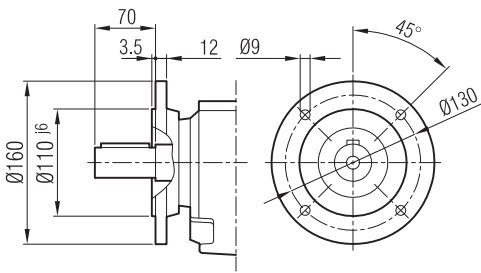
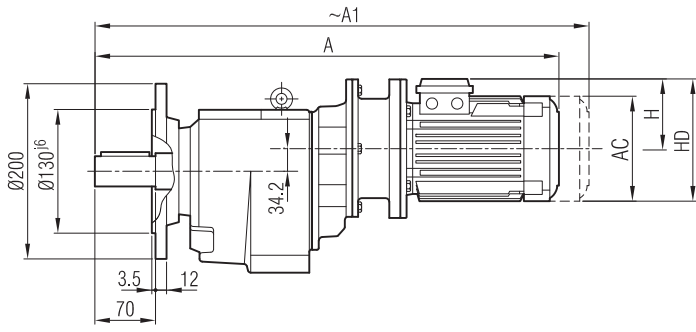


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	341	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	350	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	352	130	165	200	M10	46	12	5	19	40	21.8	6
90/B5	352	130	165	200	M10	46	12	5	24	50	27.3	8



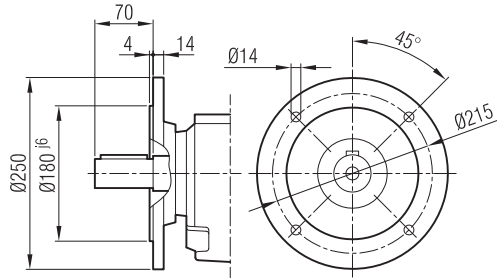


**İRFPM 64**



Ø160

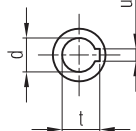
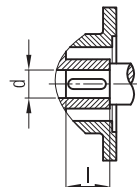
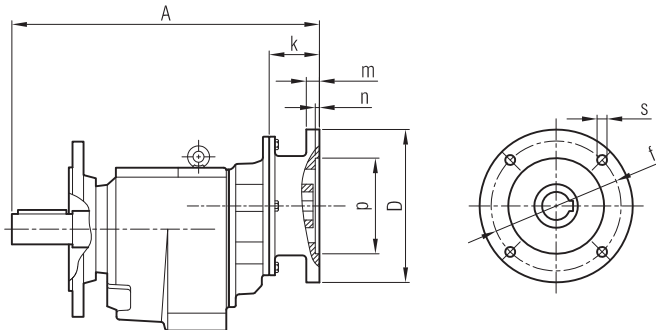
**Opsiyonel / Option**



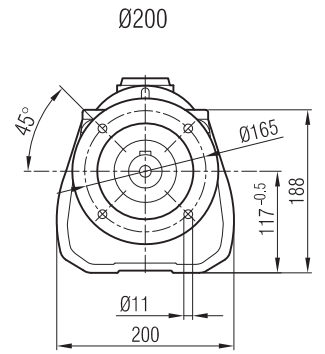
Ø250

**Opsiyonel / Option**

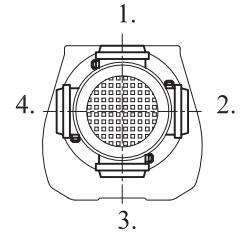
**İRFP 64**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	341	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	350	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	352	130	165	200	M10	46	12	5	19	40	21.8	6
90/B5	352	130	165	200	M10	46	12	5	24	50	27.3	8



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

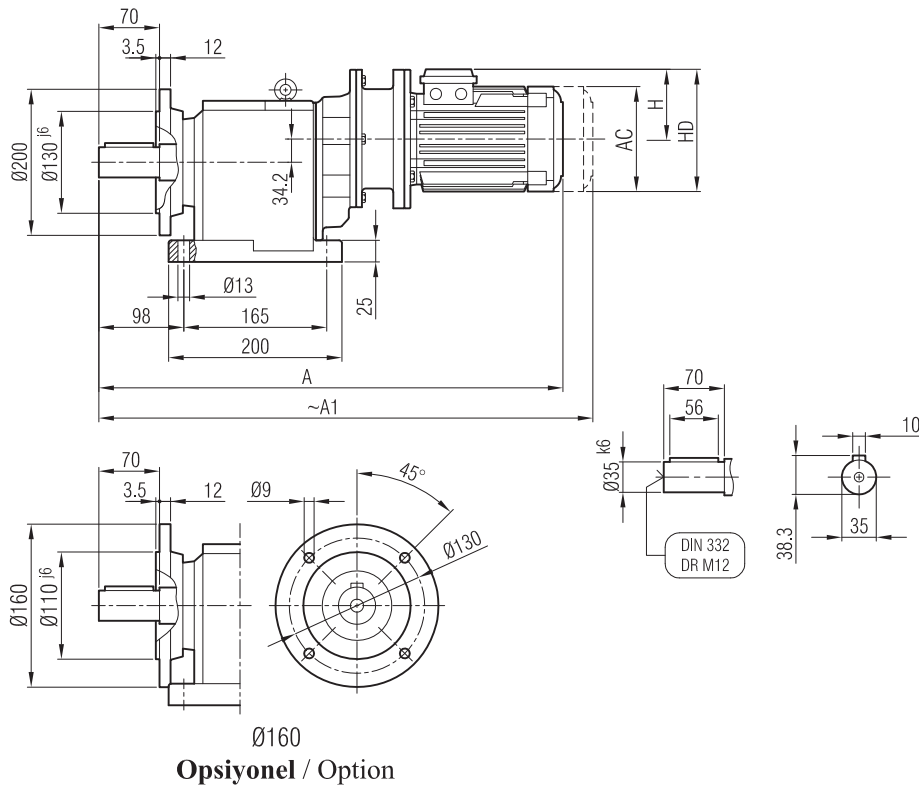


	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	538	572	595	611	636
A <sub>1</sub>	594	623	664	677	702
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

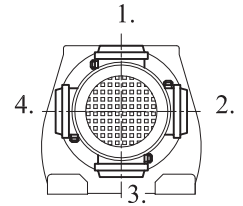


**İRAFPM 64**



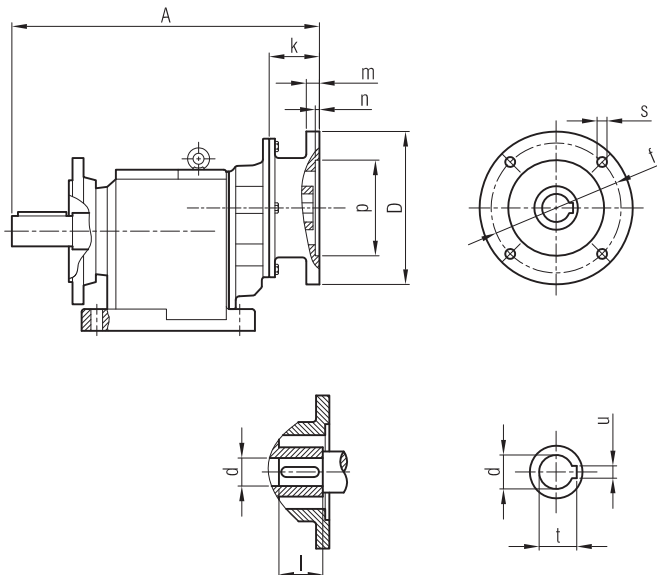
Ø160  
**Opsiyonel / Option**

**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	538	572	595	611	636
A <sub>1</sub>	594	623	664	677	702
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**İRAFP 64**

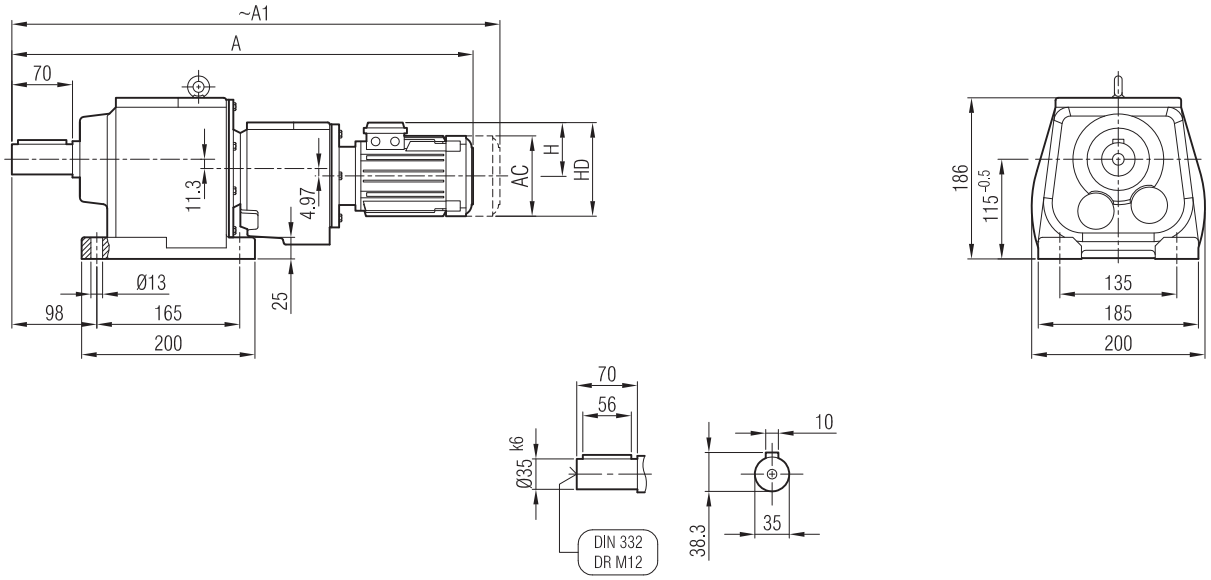


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

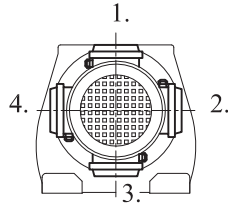
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	341	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	350	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	352	130	165	200	M10	46	12	5	19	40	21.8	6
90/B5	352	130	165	200	M10	46	12	5	24	50	27.3	8



**İRAM 62 İR 52**  
**İRAM 63 İR 52**



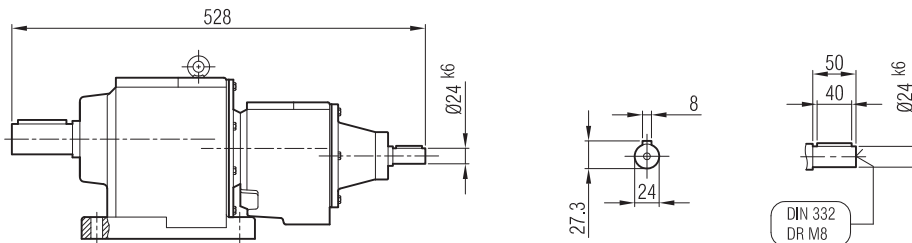
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71				
A	616				
A <sub>1</sub>	667				
H	111				
HD	182				
AC	138				

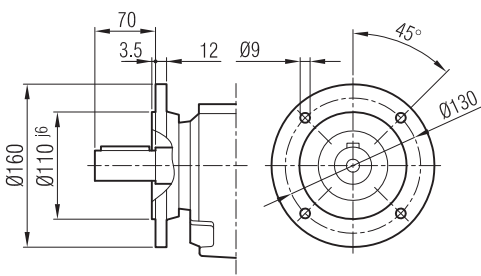
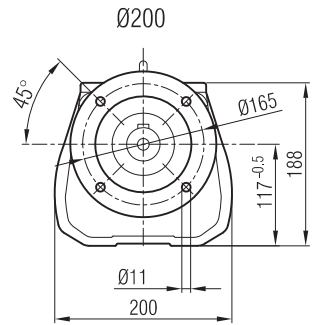
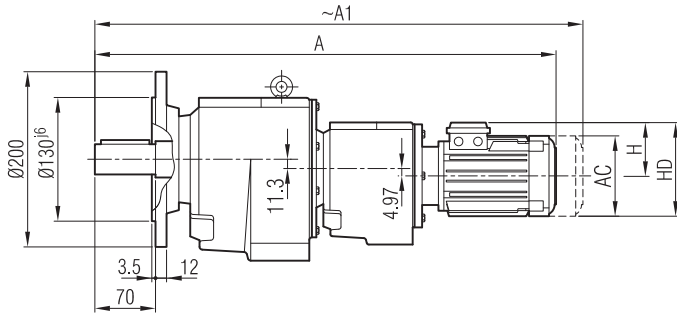
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 62 İR 52 / İRA 62 İR 53**  
**İRA 63 İR 52 / İRA 63 İR 53**



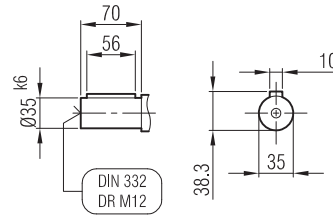


**İRFM 62 İR 52**  
**İRFM 63 İR 52**

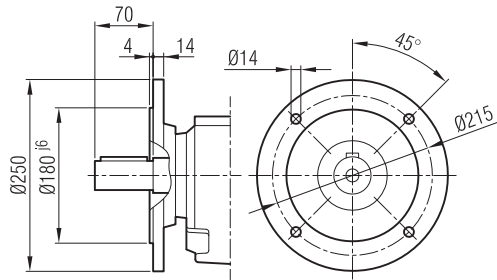
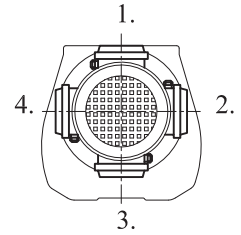


Ø160

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

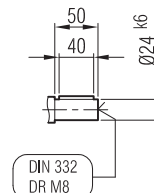
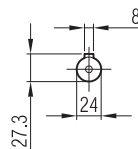
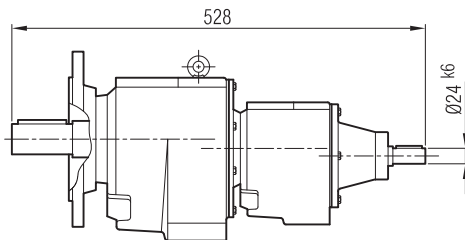


Ø250

**Opsiyonel / Option**

	71				
A	616				
A <sub>1</sub>	667				
H	111				
HD	182				
AC	138				

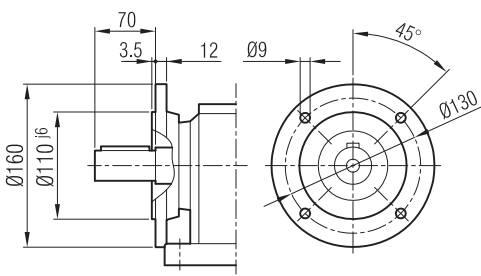
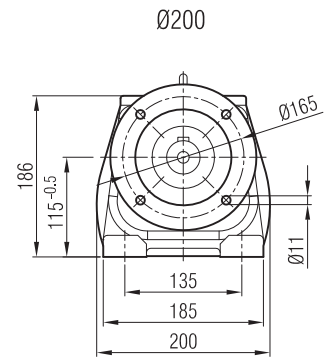
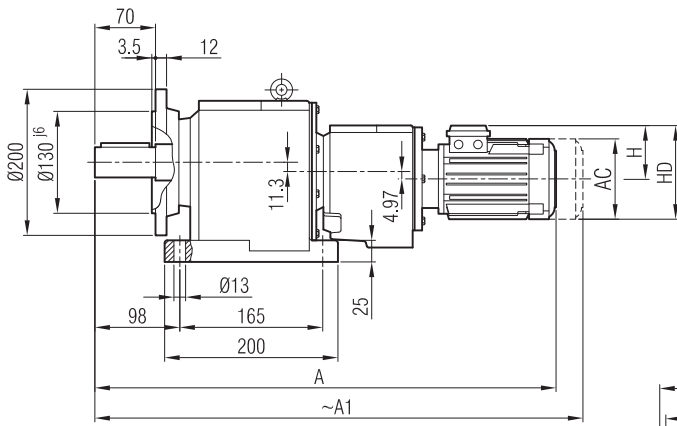
**İRF 62 İR 52 / İRF 62 İR 53**  
**İRF 63 İR 52 / İRF 63 İR 53**



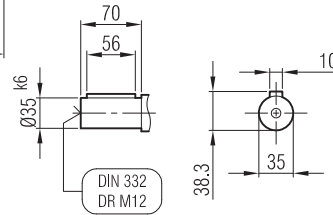
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



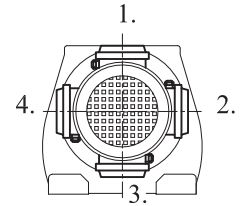
**İRAFM 62 İR 52**  
**İRAFM 63 İR 52**



Ø160  
**Opsiyonel / Option**

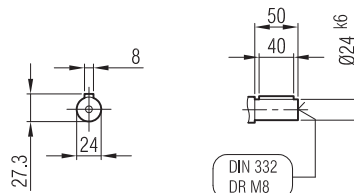
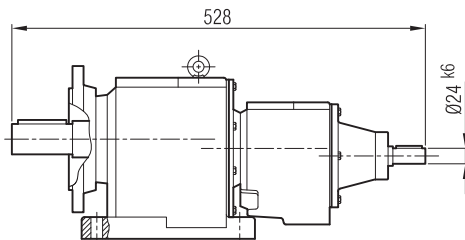


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71				
A	616				
A <sub>1</sub>	667				
H	111				
HD	182				
AC	138				

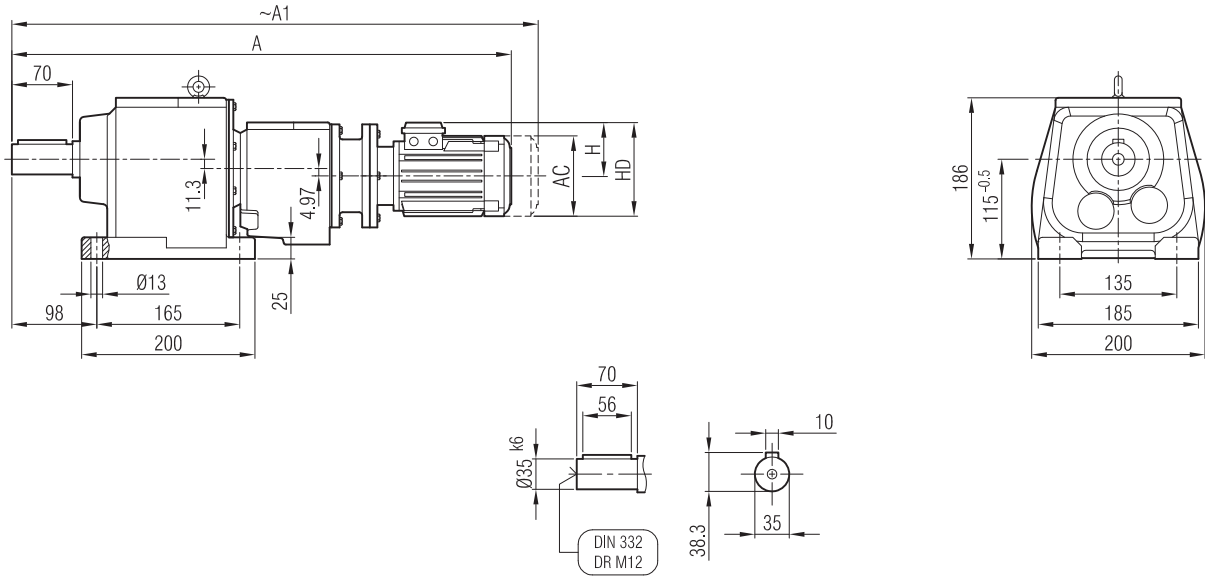
**İRAF 62 İR 52 / İRAF 62 İR 53**  
**İRAF 63 İR 52 / İRAF 63 İR 53**



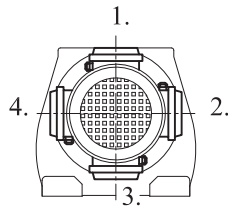
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 62 İR 52**  
**İRAPM 63 İR 52**



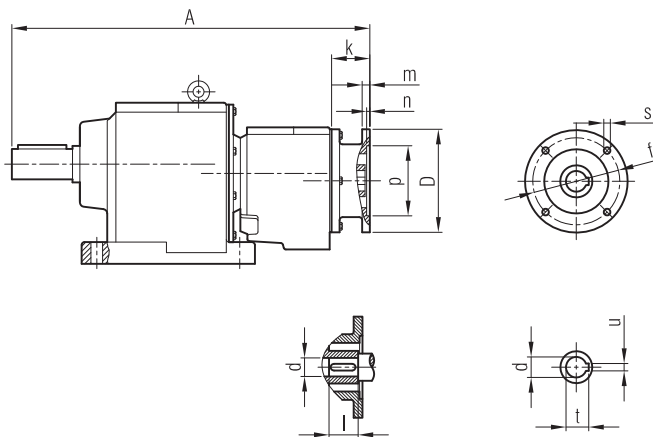
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5			
A	631	665			
A <sub>1</sub>	687	716			
H	97	111			
HD	160	182			
AC	121	138			

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

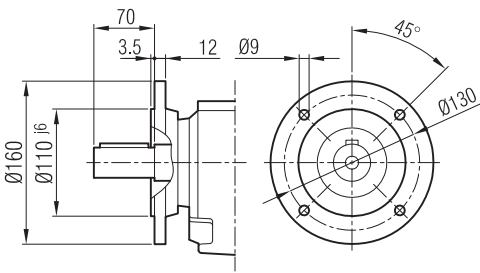
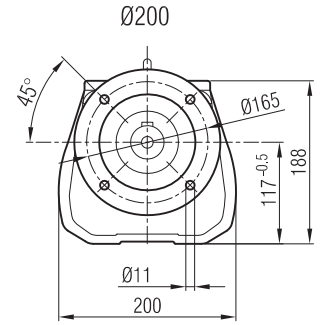
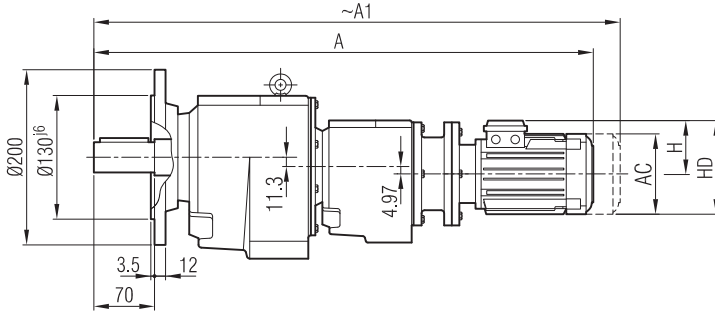
**İRAP 62 İR 52 / İRAP 62 İR 53**  
**İRAP 63 İR 52 / İRAP 63 İR 53**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	434	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	443	110	130	160	M8	44	9	4	14	30	16.3	5

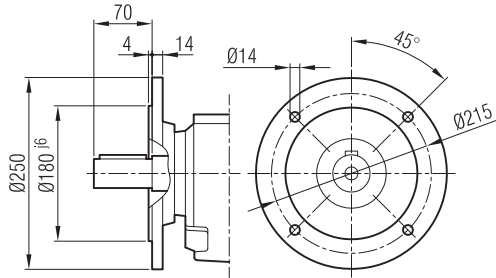


**İRFPM 62 İR 52**  
**İRFPM 63 İR 52**



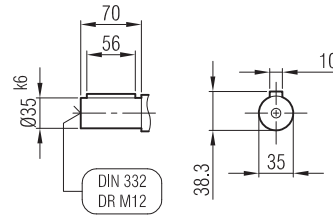
Ø160

**Opsiyonel / Option**

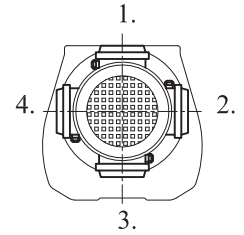


Ø250

**Opsiyonel / Option**

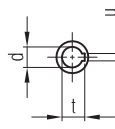
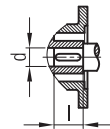
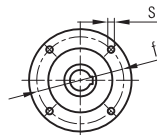
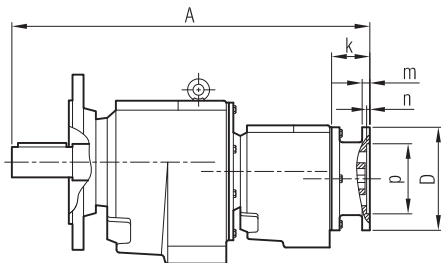


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5			
A	631	665			
A <sub>1</sub>	687	716			
H	97	111			
HD	160	182			
AC	121	138			

**İRFP 62 İR 52 / İRFP 62 İR 53**  
**İRFP 63 İR 52 / İRFP 63 İR 53**

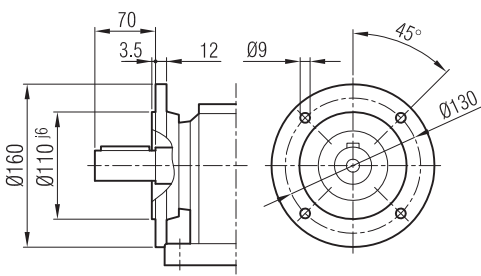
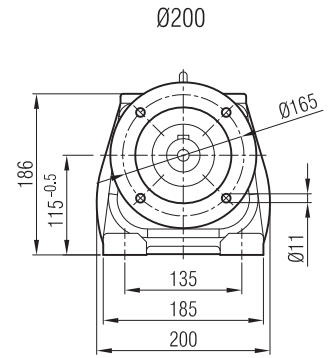
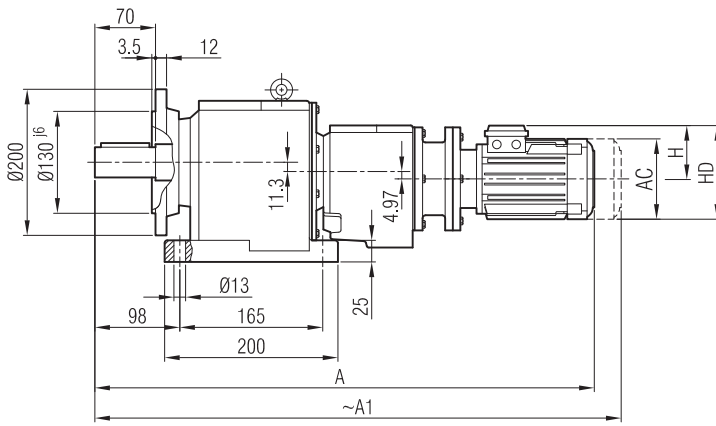


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	434	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	443	110	130	160	M8	44	9	4	14	30	16.3	5

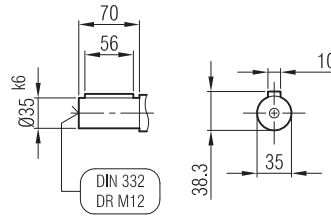
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



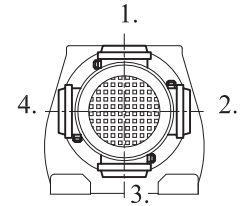
**İRAFP 62 İR 52**  
**İRAFP 63 İR 52**



Ø160  
**Opsiyonel / Option**



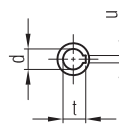
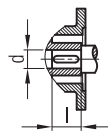
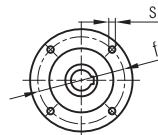
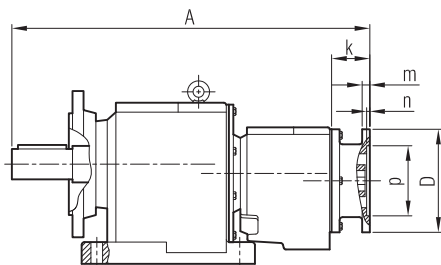
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5			
A	631	665			
A <sub>1</sub>	687	716			
H	97	111			
HD	160	182			
AC	121	138			

**İRAFP 62 İR 52 / İRAFP 62 İR 53**  
**İRAFP 63 İR 52 / İRAFP 63 İR 53**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

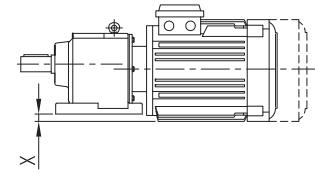
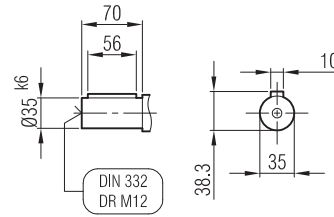
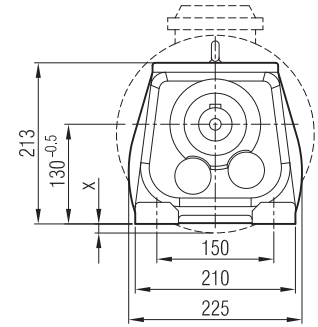
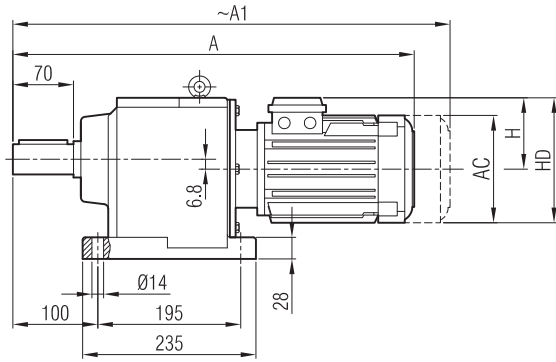


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	434	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	443	110	130	160	M8	44	9	4	14	30	16.3	5

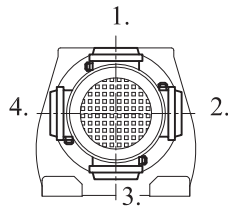




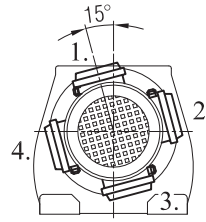
**İRAM 721**  
**İRAM 731**



**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



71-90-100-112-132  
**Tip/Type/Tipo**

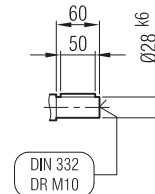
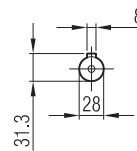
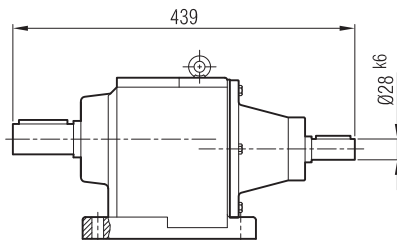


80  
**Tip/Type/Tipo**

	71	80	90 S	90 L	100	112	132 S	132 M
A	476	506	537	562	603	626	674	712
A <sub>1</sub>	527	575	603	628	681	709	774	812
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300
AC	138	156	176	176	194	218	257	257
x	-	-	-	-	-	-	6	6

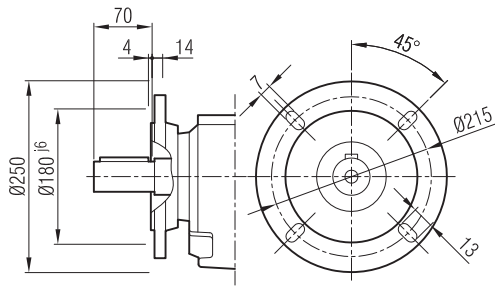
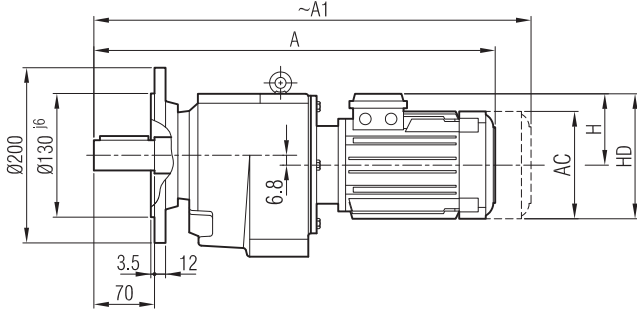
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 721**  
**İRA 731**

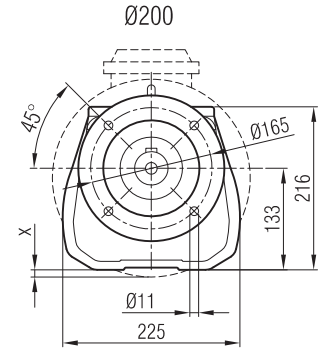
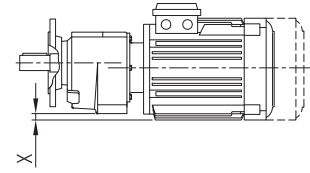
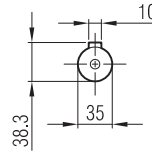
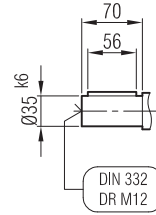




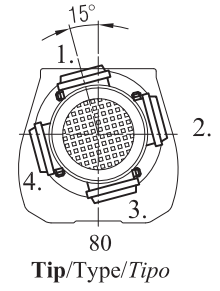
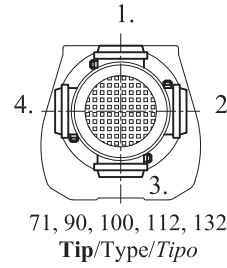
**İRFM 721**  
**İRFM 731**



**Ø250**  
**Opsiyonel / Option**

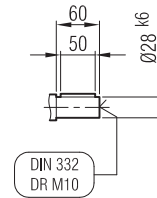
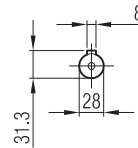
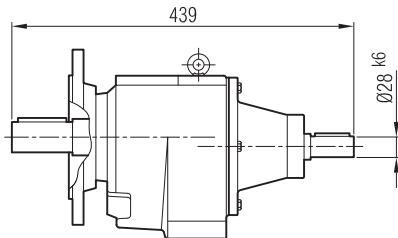


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S	132 M
A	476	506	537	562	603	626	674	712
A <sub>1</sub>	527	575	603	628	681	709	774	812
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300
AC	138	156	176	176	194	218	257	257
x	-	-	-	-	-	-	6	6

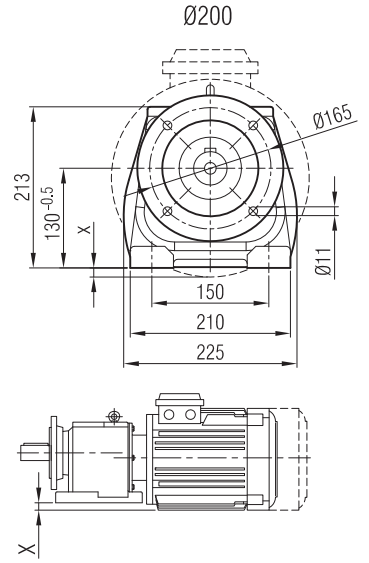
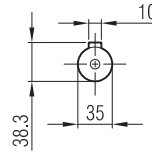
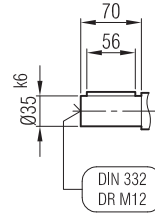
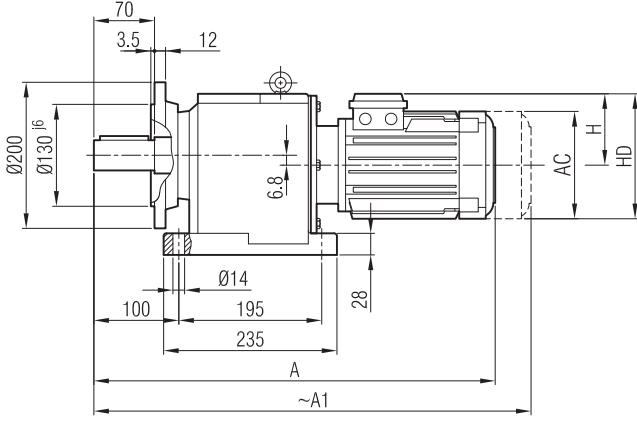
**İRF 721**  
**İRF 731**



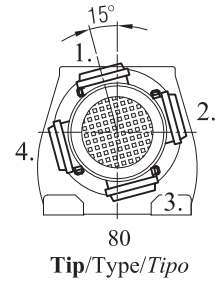
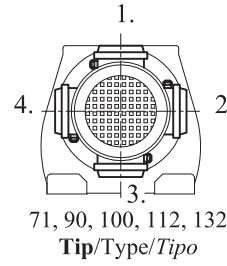
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAF 721**  
**İRAF 731**

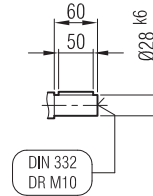
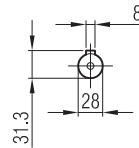
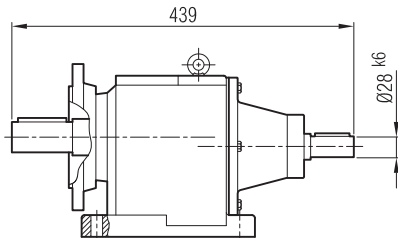


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S	132 M
A	476	506	537	562	603	626	674	712
A <sub>1</sub>	527	575	603	628	681	709	774	812
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300
AC	138	156	176	176	194	218	257	257
x	-	-	-	-	-	-	6	6

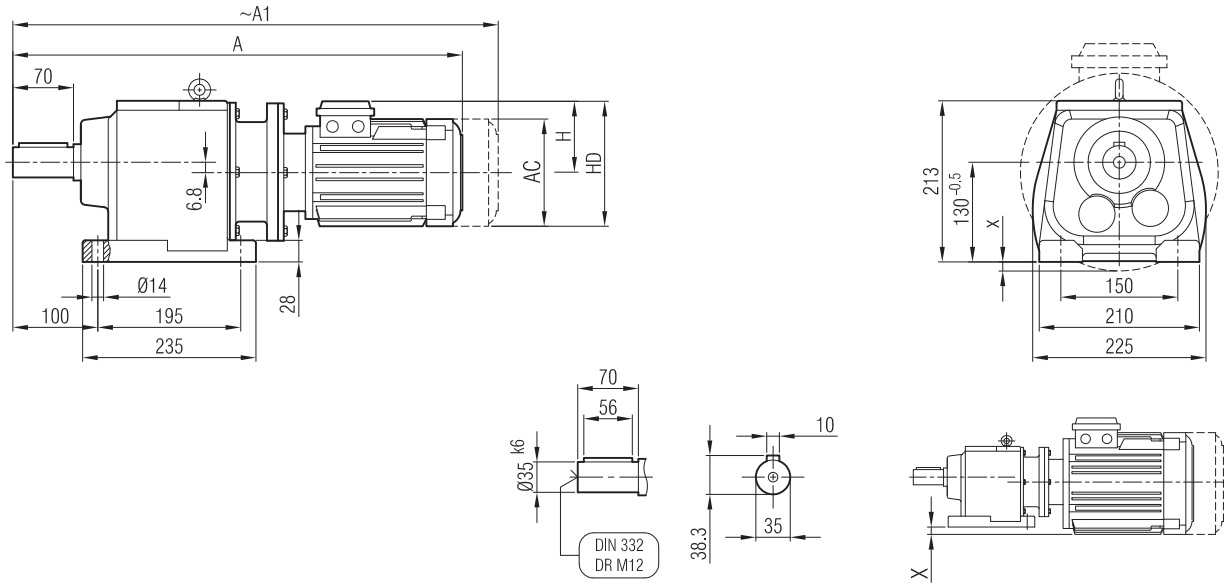
**İRAF 721**  
**İRAF 731**



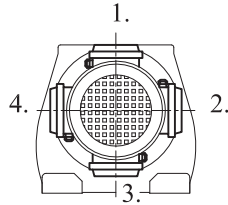
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 721**  
**İRAPM 731**



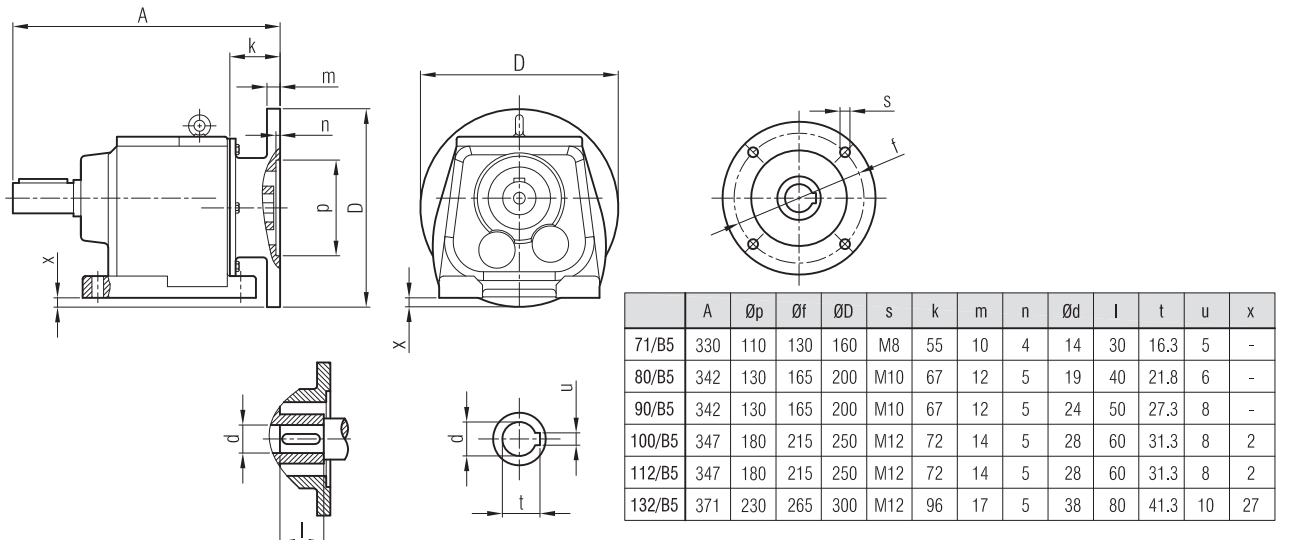
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5
A	553	586	601	626	663	683	751	789
A <sub>1</sub>	604	655	667	692	741	766	851	889
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300
AC	138	156	176	176	194	218	257	257
x	-	-	-	-	-	-	6	6

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

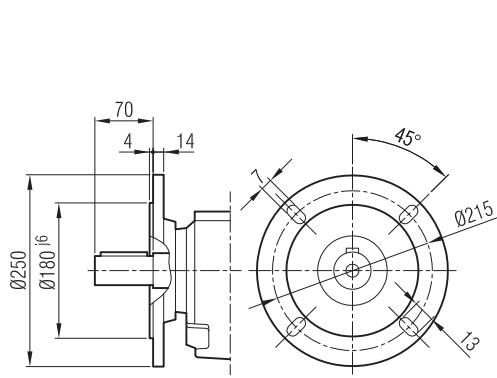
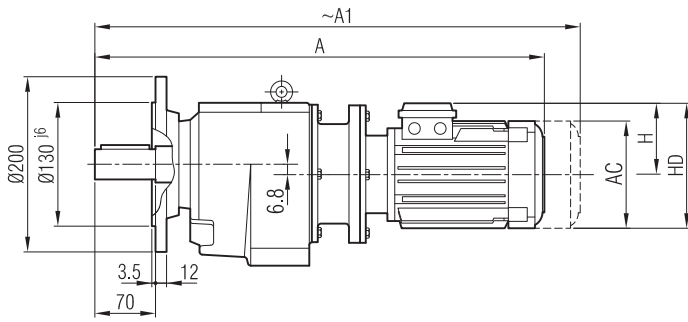
**İRAP 721**  
**İRAP 731**



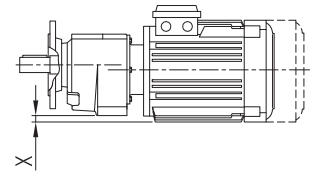
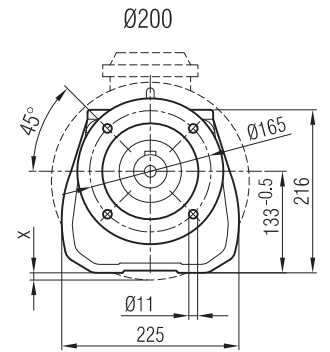
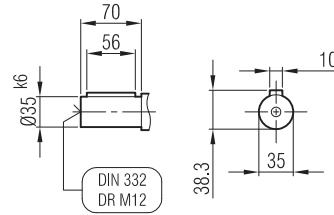
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
71/B5	330	110	130	160	M8	55	10	4	14	30	16.3	5	-
80/B5	342	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	342	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	347	180	215	250	M12	72	14	5	28	60	31.3	8	2
112/B5	347	180	215	250	M12	72	14	5	28	60	31.3	8	2
132/B5	371	230	265	300	M12	96	17	5	38	80	41.3	10	27



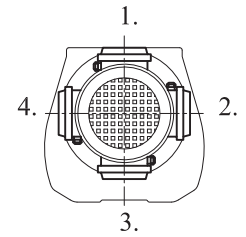
**İRFPM 721**  
**İRFPM 731**



**Ø250**  
**Opsiyonel / Option**

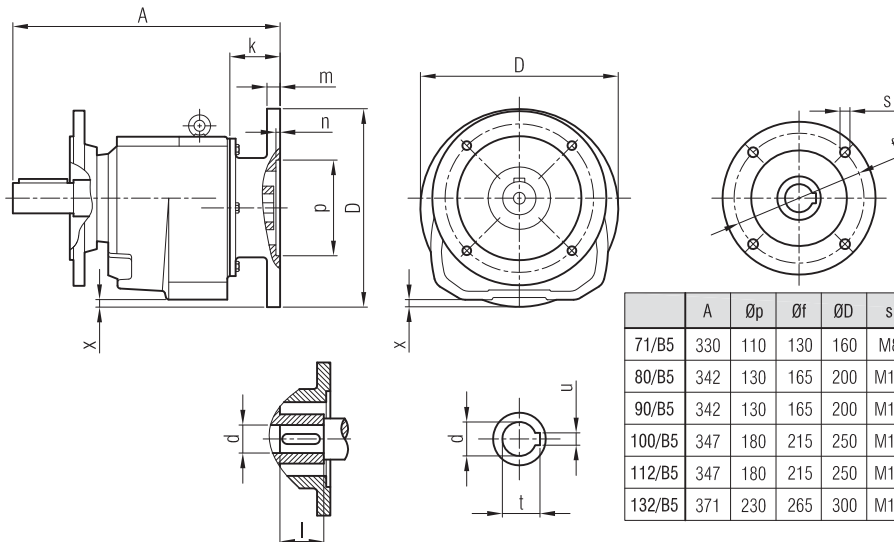


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5
A	553	586	601	626	663	683	751	789
A <sub>1</sub>	604	655	667	692	741	766	851	889
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300
AC	138	156	176	176	194	218	257	257
x	-	-	-	-	-	-	6	6

**İRFP 721**  
**İRFP 731**

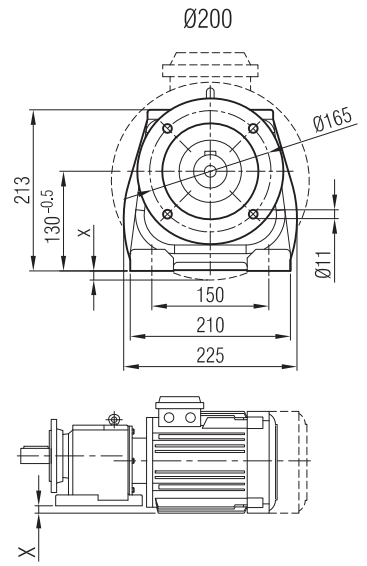
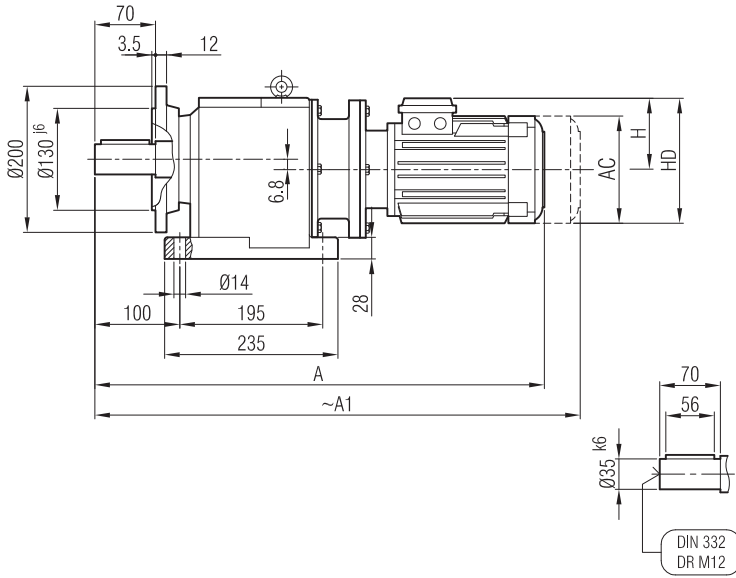


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

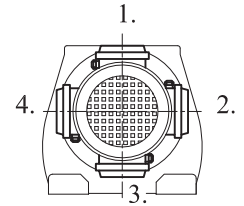
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
71/B5	330	110	130	160	M8	55	10	4	14	30	16.3	5	-
80/B5	342	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	342	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	347	180	215	250	M12	72	14	5	28	60	31.3	8	2
112/B5	347	180	215	250	M12	72	14	5	28	60	31.3	8	2
132/B5	371	230	265	300	M12	96	17	5	38	80	41.3	10	27



**İRAFPM 721**  
**İRAFPM 731**

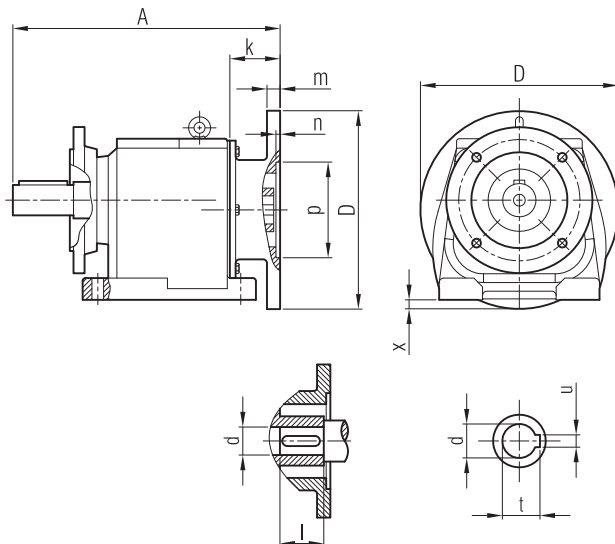


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5
A	553	586	601	626	663	683	751	789
A <sub>1</sub>	604	655	667	692	741	766	851	889
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300
AC	138	156	176	176	194	218	257	257
x	-	-	-	-	-	-	6	6

**İRAFP 721**  
**İRAFP 731**

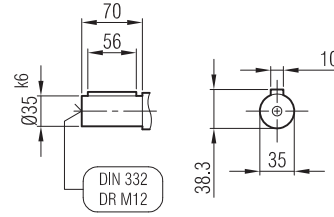
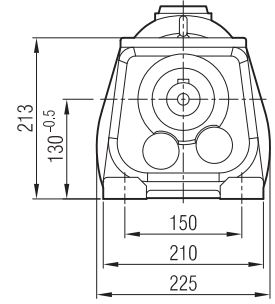
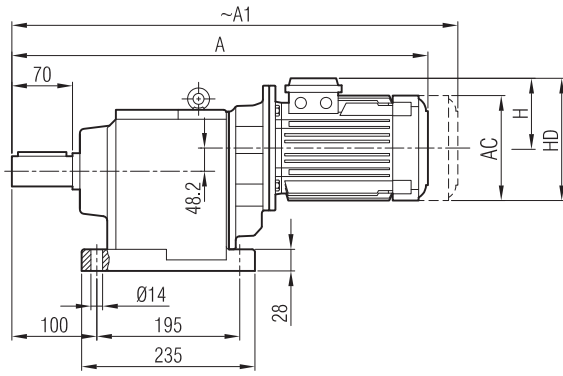


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

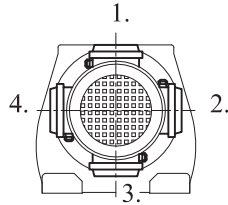
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
71/B5	330	110	130	160	M8	55	10	4	14	30	16.3	5	-
80/B5	342	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	342	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	347	180	215	250	M12	72	14	5	28	60	31.3	8	2
112/B5	347	180	215	250	M12	72	14	5	28	60	31.3	8	2
132/B5	371	230	265	300	M12	96	17	5	38	80	41.3	10	27



**İRAM 741**



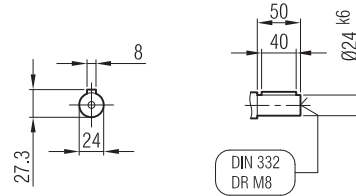
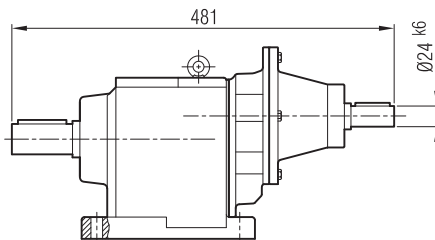
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80				
A	549	578				
A <sub>1</sub>	600	647				
H	111	118				
HD	182	198				
AC	138	156				

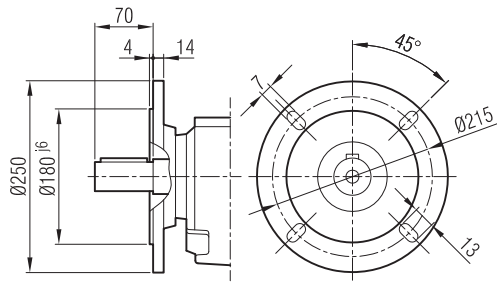
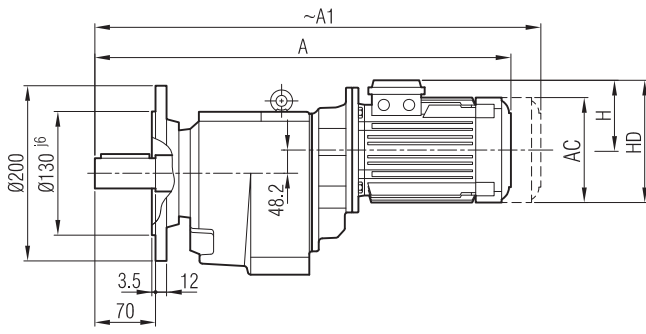
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 741**

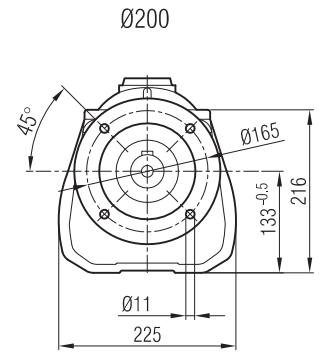
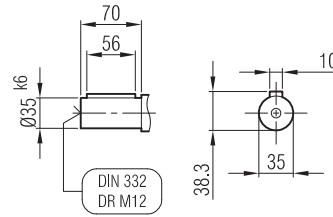




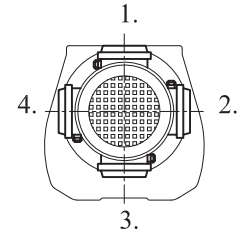
**İRFM 741**



**Ø250**  
**Opsiyonel / Option**



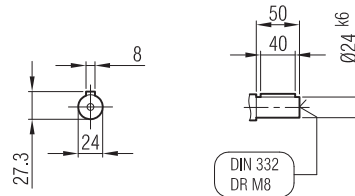
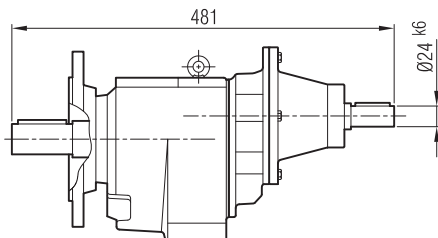
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	549	578				
A <sub>1</sub>	600	647				
H	111	118				
HD	182	198				
AC	138	156				

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

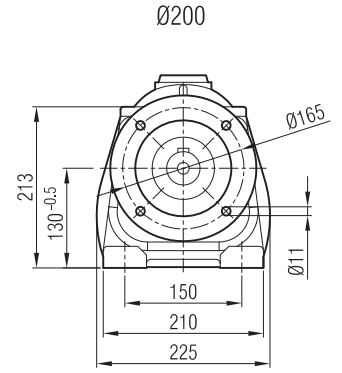
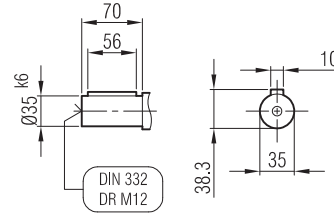
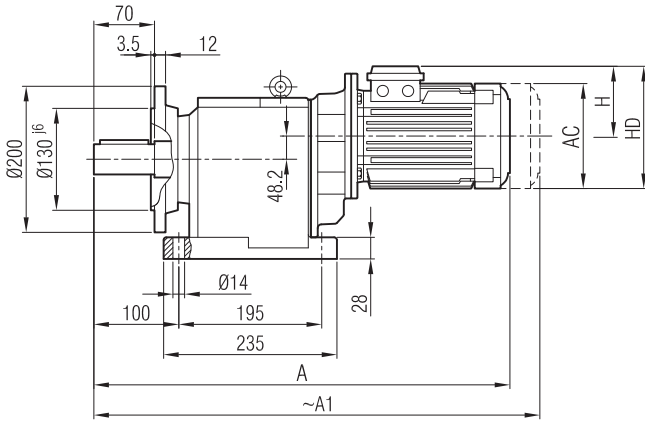
**İRF 741**



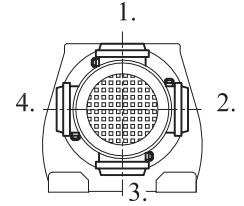




**İRAFEM 741**



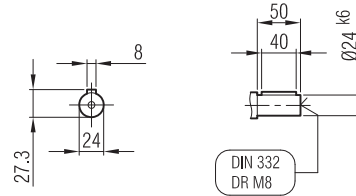
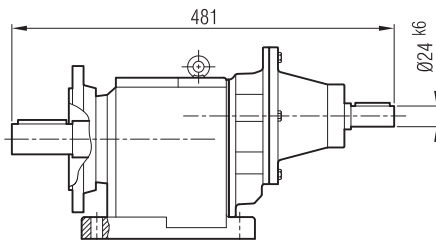
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80				
A	549	578				
A <sub>1</sub>	600	647				
H	111	118				
HD	182	198				
AC	138	156				

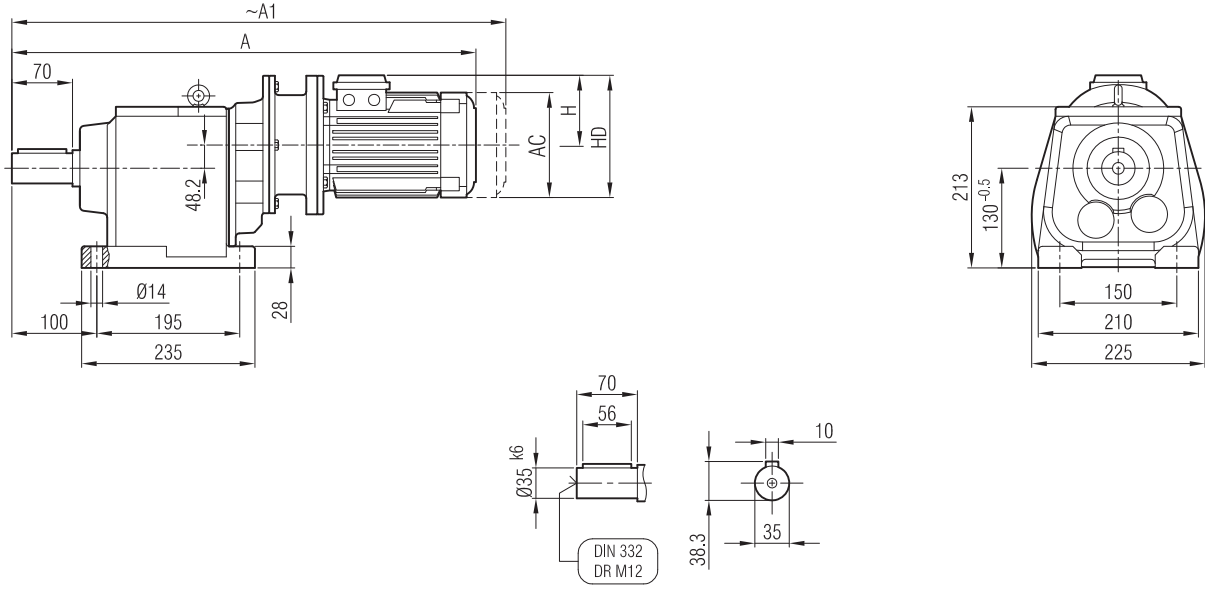
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRAF 741**

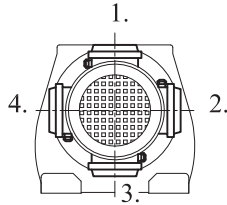




**İRAPM 741**



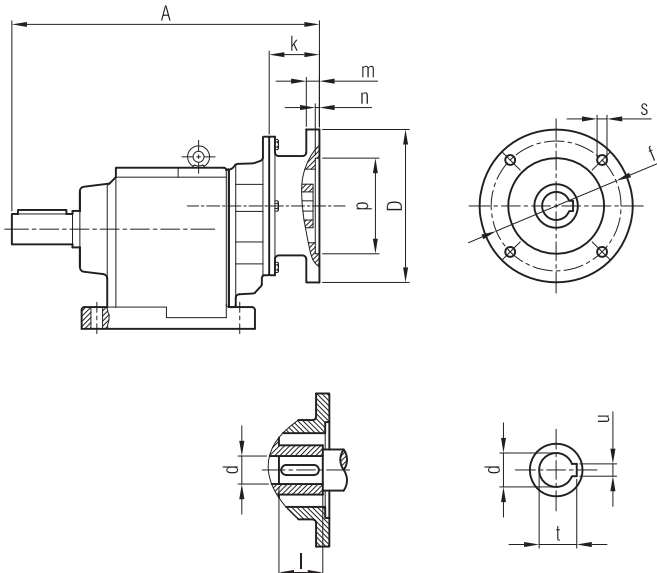
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5	80/B5		
A	570	606	632		
A <sub>1</sub>	626	657	701		
H	111	118	126		
HD	182	198	216		
AC	138	156	176		

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

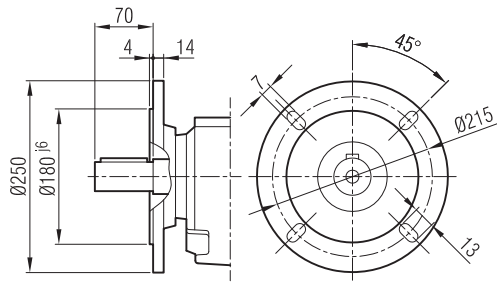
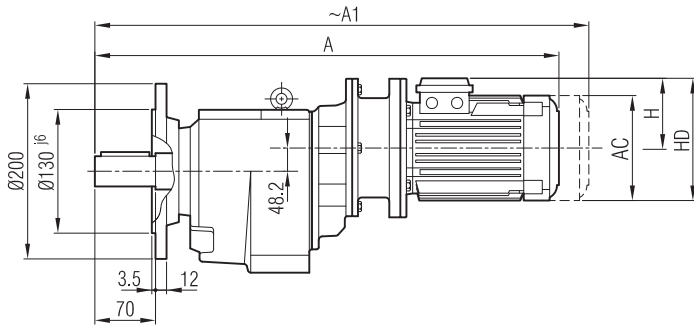
**İRAP 741**



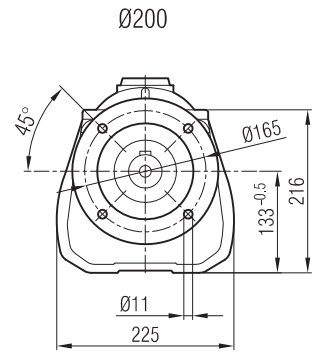
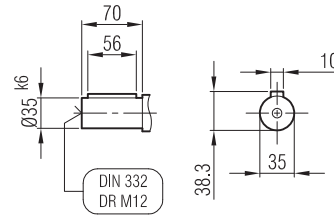
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6



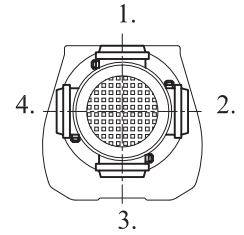
**İRFPM 741**



Ø250  
**Opsiyonel / Option**

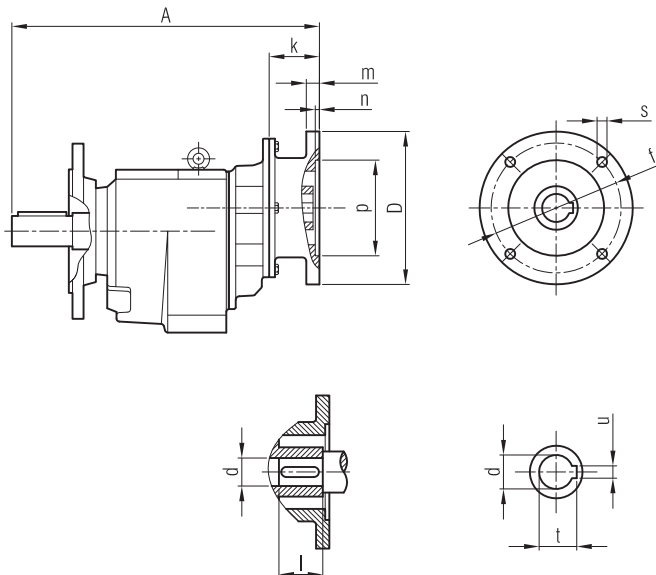


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	570	606	632		
A <sub>1</sub>	626	657	701		
H	111	118	126		
HD	182	198	216		
AC	138	156	176		

**İRFP 741**



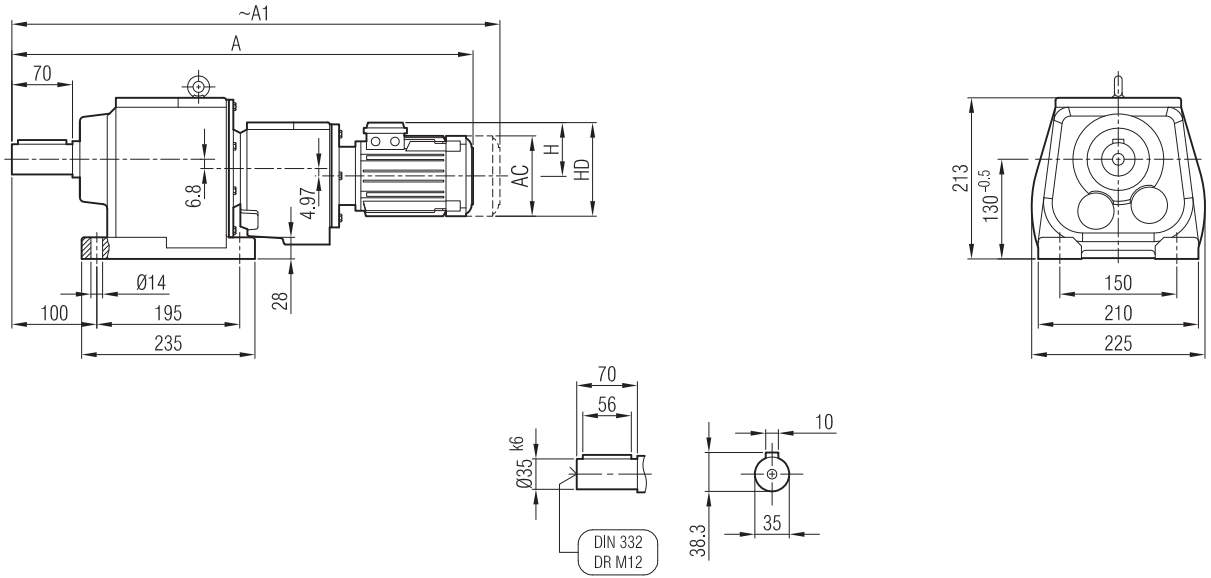
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6

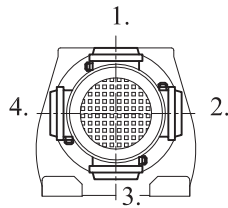




**İRAM 721 İR 53**  
**İRAM 731 İR 52**



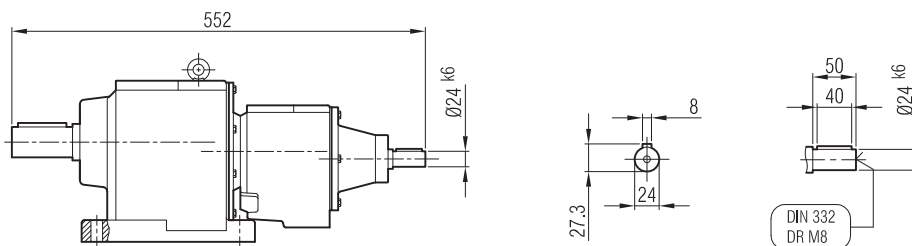
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80				
A	641	668				
A <sub>1</sub>	692	737				
H	111	118				
HD	182	198				
AC	138	156				

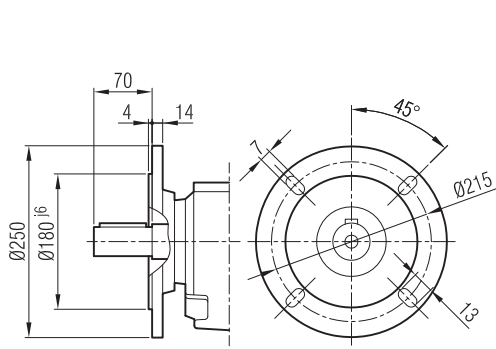
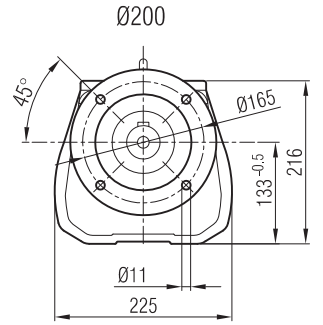
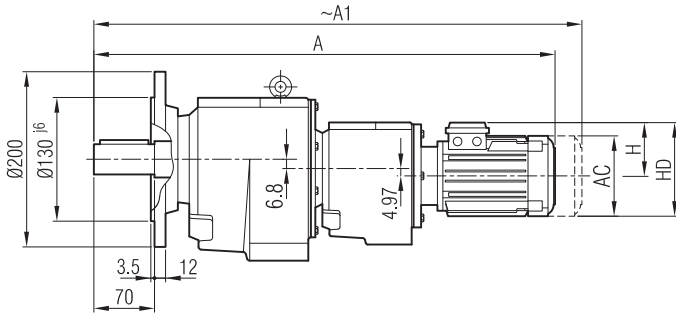
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 721 İR 52 / İRA 721 İR 53**  
**İRA 731 İR 52 / İRA 731 İR 53**

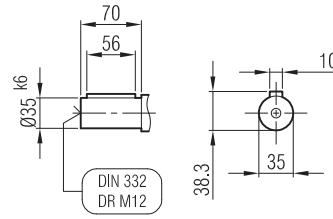




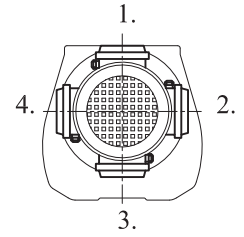
**İRFM 721 İR 53**  
**İRFM 731 İR 52**



Ø250  
**Opsiyonel / Option**

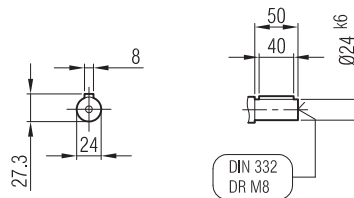
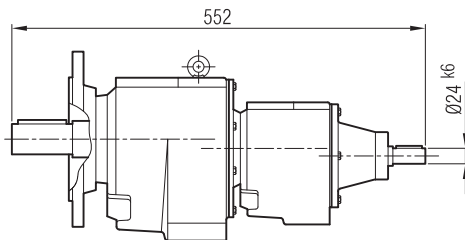


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	641	668				
A <sub>1</sub>	692	737				
H	111	118				
HD	182	198				
AC	138	156				

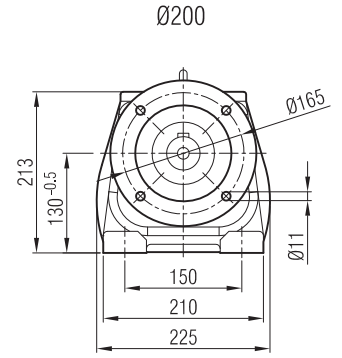
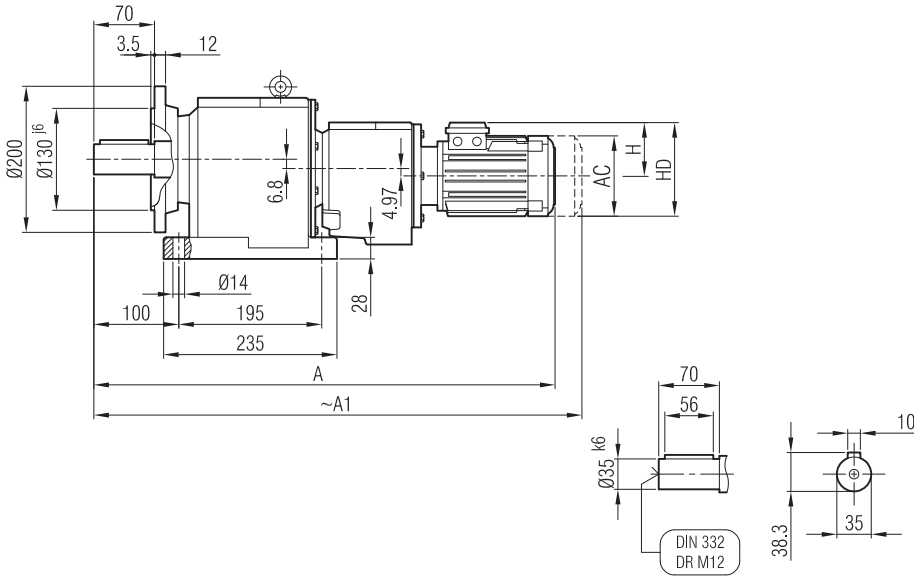
**İRF 721 İR 52 / İRF 721 İR 53**  
**İRF 731 İR 52 / İRF 731 İR 53**



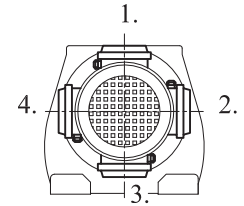
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAF71 İR 53**  
**İRAF731 İR 52**



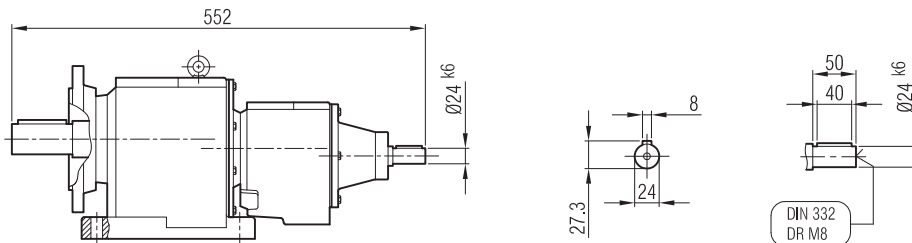
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	641	668				
A <sub>1</sub>	692	737				
H	111	118				
HD	182	198				
AC	138	156				

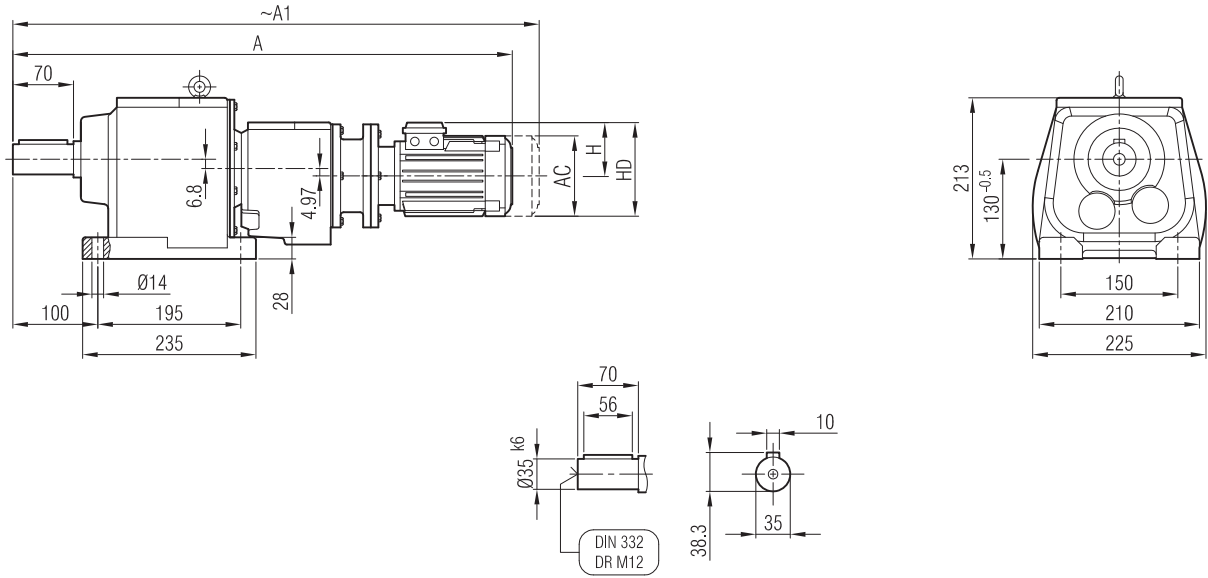
**İRAF 721 İR 52 / İRAF 721 İR 53**  
**İRAF 731 İR 52 / İRAF 731 İR 53**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

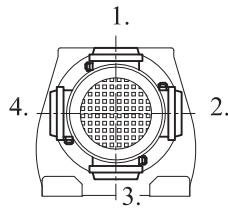




**İRAPM 721 İR 53**  
**İRAPM 731 İR 52**



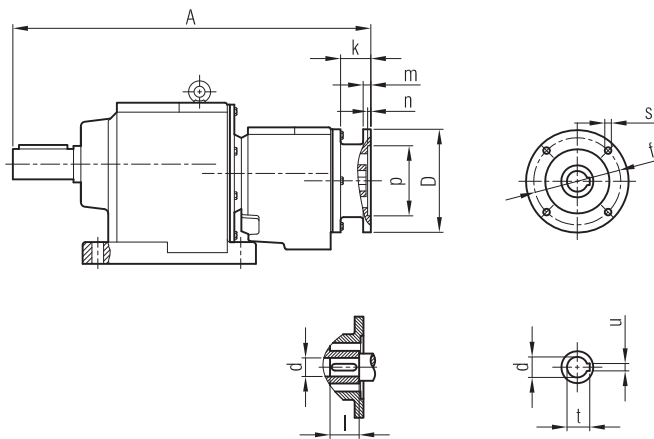
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	655	690	713		
A <sub>1</sub>	711	741	782		
H	97	111	118		
HD	160	182	198		
AC	121	138	156		

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

**İRAP 721 İR 52 / İRAP 721 İR 53**  
**İRAP 731 İR 52 / İRAP 731 İR 53**

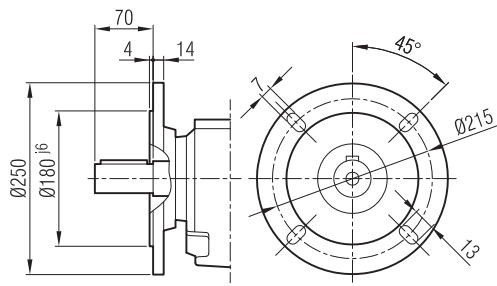
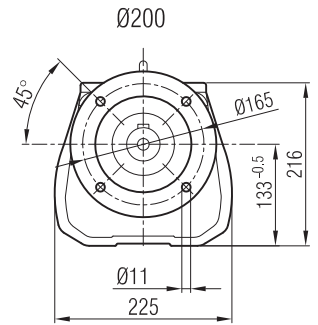
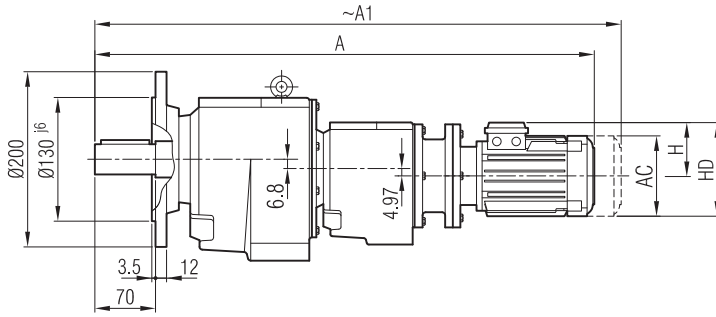


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	459	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	467	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	469	130	165	200	M10	46	12	5	19	40	21.8	6

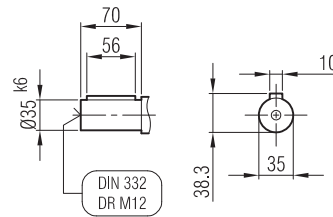




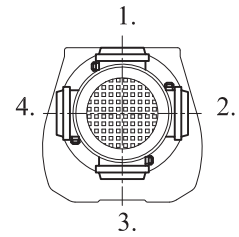
**İRFPM 721 İR 53**  
**İRFPM 731 İR 52**



Ø250  
**Opsiyonel / Option**



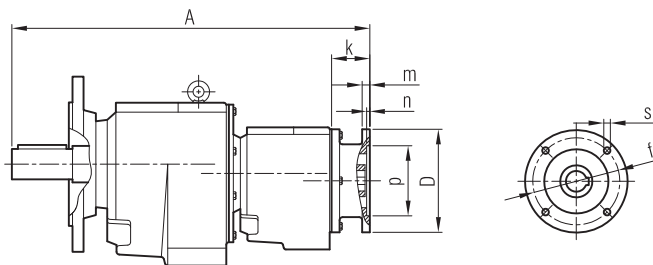
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	655	690	713		
A <sub>1</sub>	711	741	782		
H	97	111	118		
HD	160	182	198		
AC	121	138	156		

**İRFP 721 İR 52 / İRFP 721 İR 53**  
**İRFP 731 İR 52 / İRFP 731 İR 53**

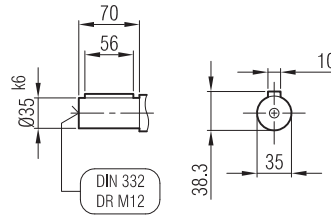
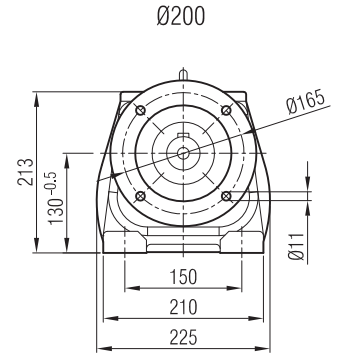
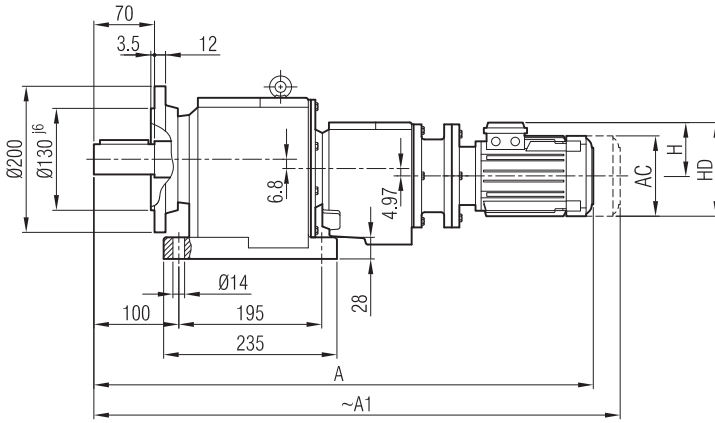
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



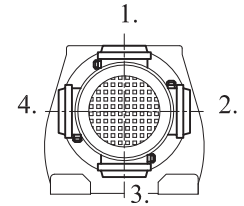
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	459	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	467	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	469	130	165	200	M10	46	12	5	19	40	21.8	6



**İRAFPM 721 İR 53**  
**İRAFPM 731 İR 52**



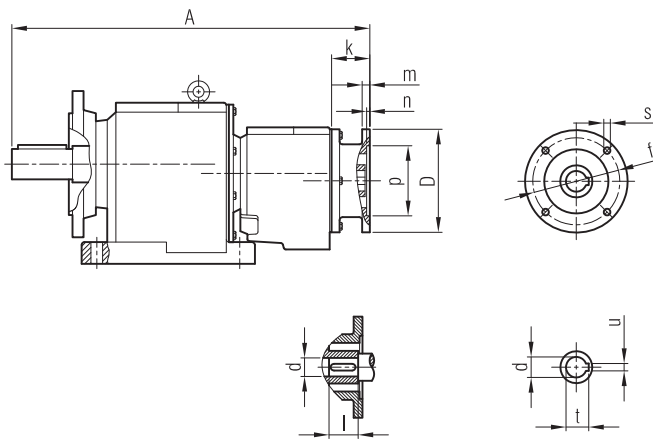
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	655	690	713		
A <sub>1</sub>	711	741	782		
H	97	111	118		
HD	160	182	198		
AC	121	138	156		

**İRAFP 721 İR 52 / İRAFP 721 İR 53**  
**İRAFP 731 İR 52 / İRAFP 731 İR 53**

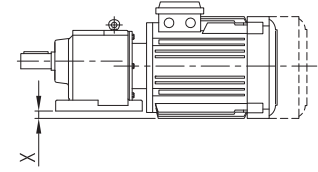
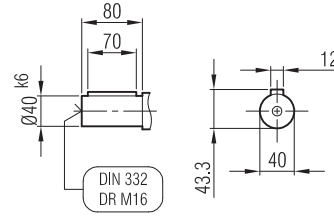
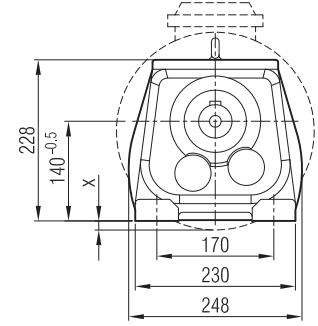
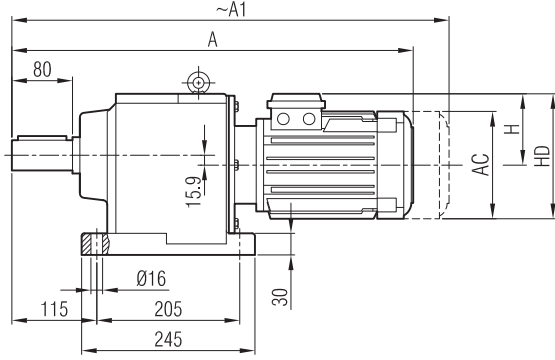
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



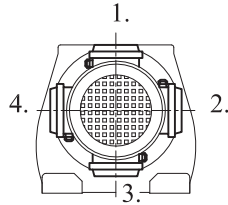
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	459	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	467	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	469	130	165	200	M10	46	12	5	19	40	21.8	6



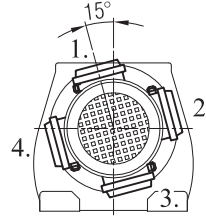
**İRAM 72**  
**İRAM 73**



**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



71-90-100-112-132  
**Tip/Type/Tipo**

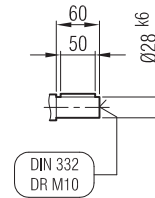
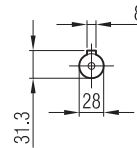
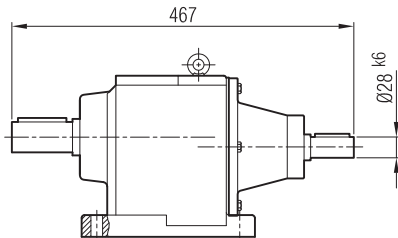


80  
**Tip/Type/Tipo**

	71	80	90 S	90 L	100	112	132 S	132 M	160 M
A	505	535	565	590	631	654	716	754	832
A <sub>1</sub>	556	604	631	656	709	737	816	854	947
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380
AC	138	156	176	176	194	218	257	257	310
x	-	-	-	-	-	-	5	5	31

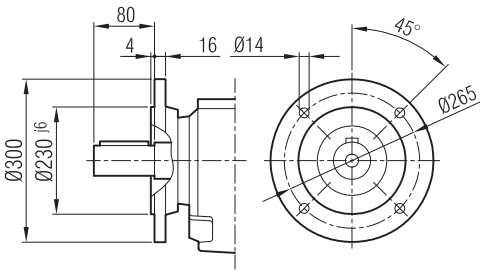
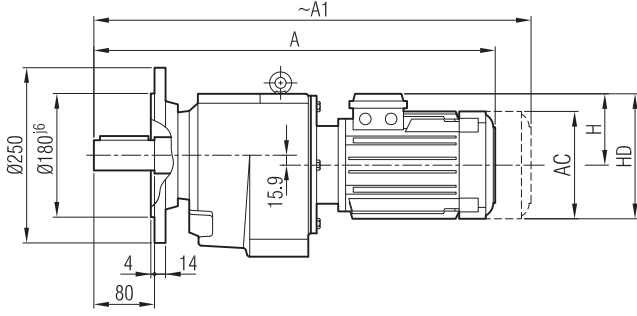
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 72**  
**İRA 73**

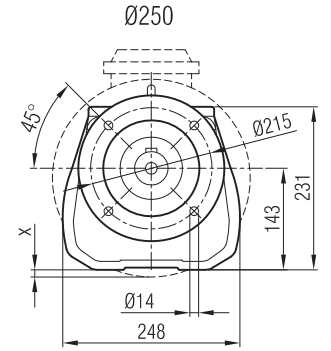
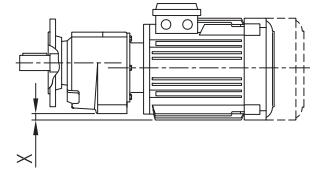
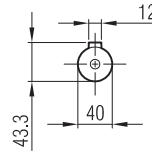
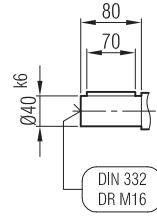




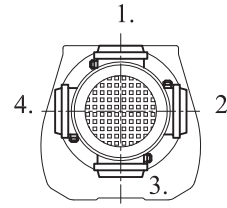
**İRFM 72**  
**İRFM 73**



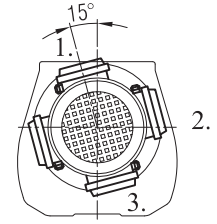
Ø300  
**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



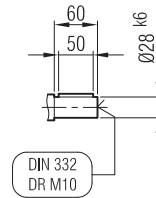
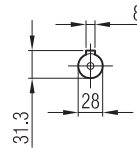
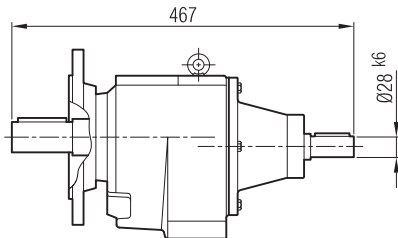
71-90-100-112-132  
**Tip/Type/Typo**



80  
**Tip/Type/Typo**

	71	80	90 S	90 L	100	112	132 S	132 M	160 M
A	505	535	565	590	631	654	716	754	832
A1	556	604	631	656	709	737	816	854	947
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380
AC	138	156	176	176	194	218	257	257	310
x	-	-	-	-	-	-	5	5	31

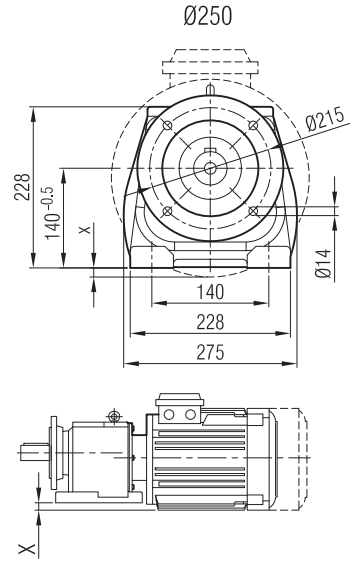
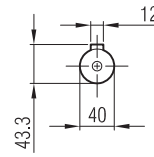
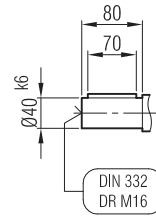
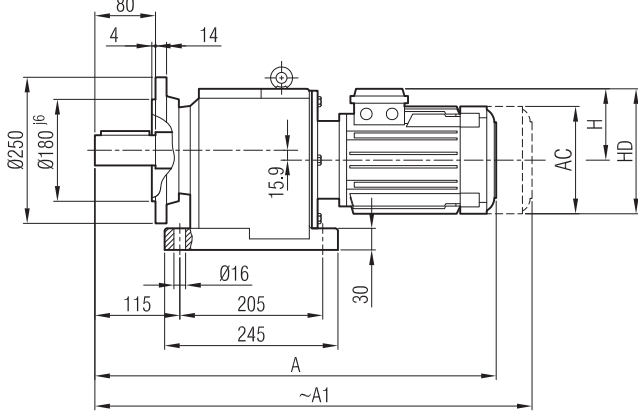
**İRF 72**  
**İRF 73**



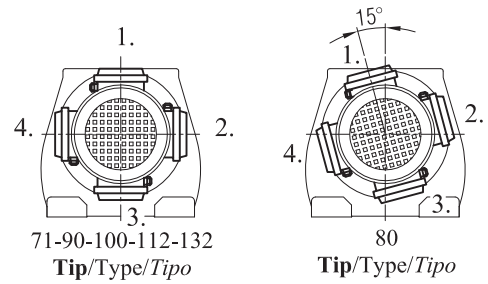
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.



**İRAF 72**  
**İRAF 73**



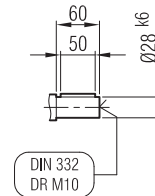
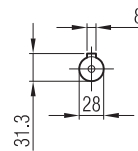
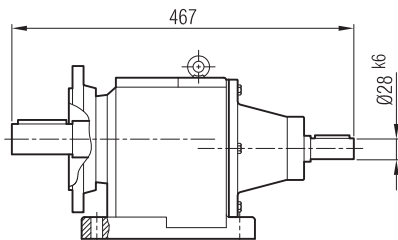
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S	132 M	160 M
A	505	535	565	590	631	654	716	754	832
A1	556	604	631	656	709	737	816	854	947
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380
AC	138	156	176	176	194	218	257	257	310
x	-	-	-	-	-	-	5	5	31

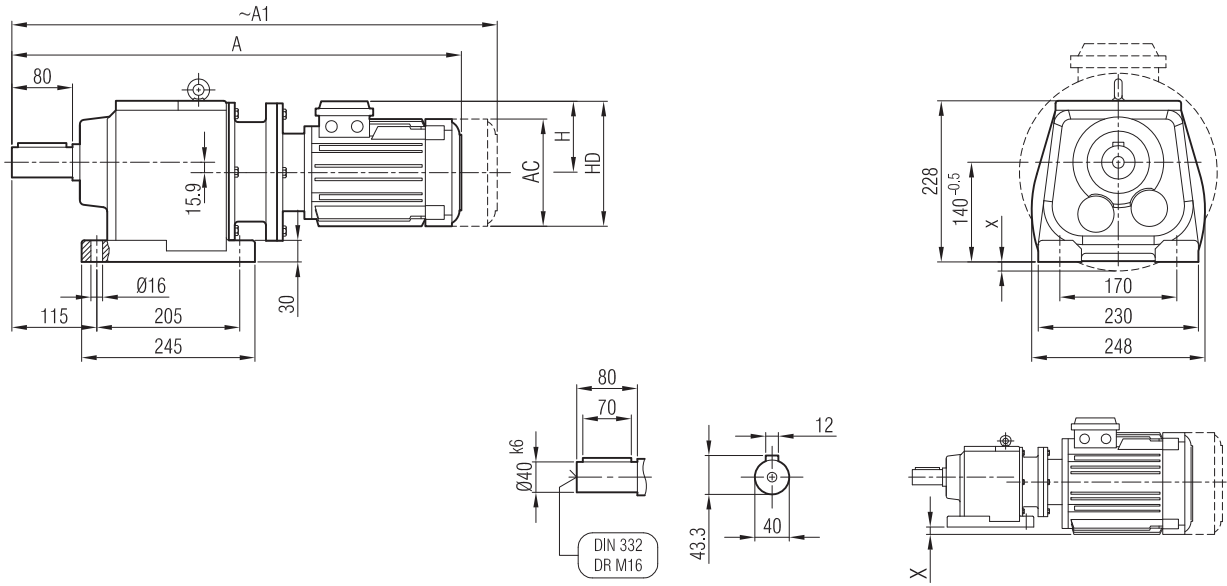
**İRAF 72**  
**İRAF 73**

"A1" Ölçüsü Frenli Motorlar içindir.  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.

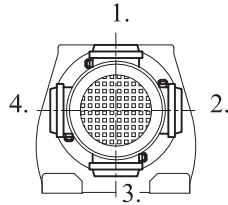




**İRAPM 72**  
**İRAPM 73**



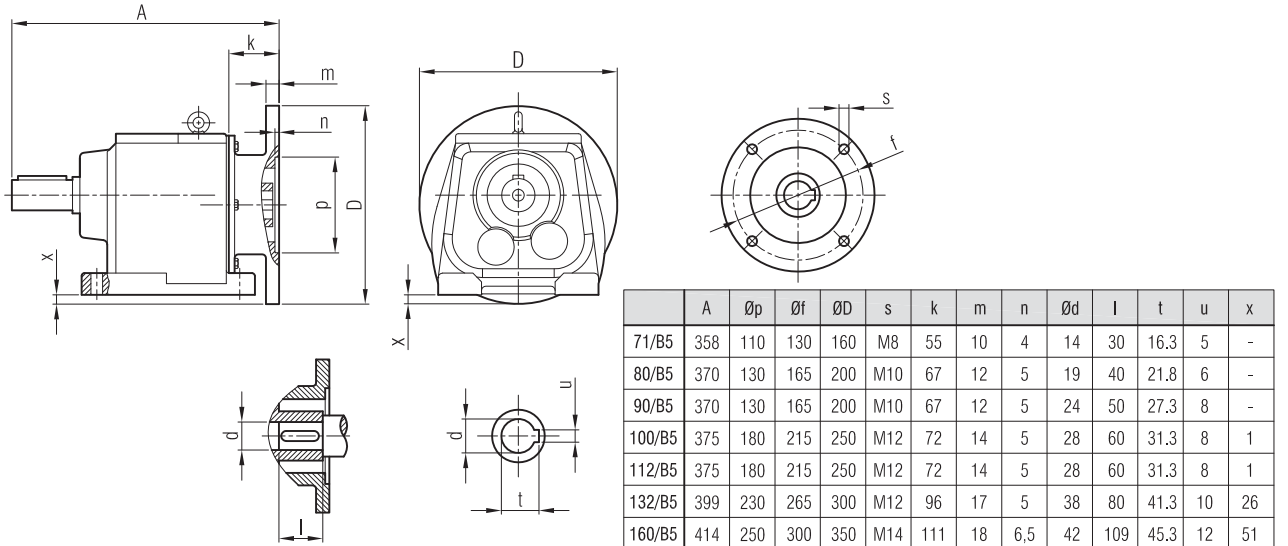
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	581	614	629	654	691	711	779	817	904
A1	632	683	695	720	769	794	879	917	1019
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380
AC	138	156	176	176	194	218	257	257	310
x	-	-	-	-	-	-	5	5	31

**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
*Le dimensions "A1" correspond aux moteurs équipés de freins.*

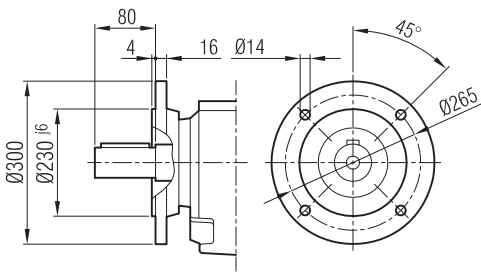
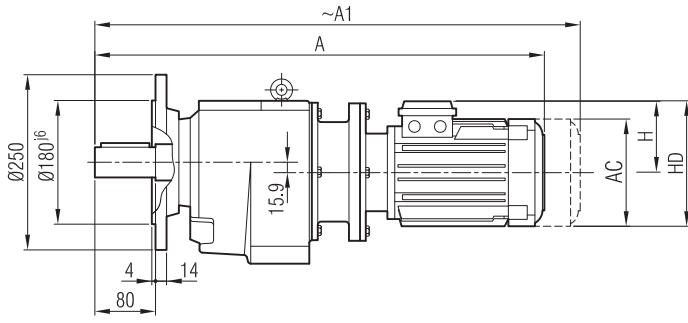
**İRAP 72**  
**İRAP 73**



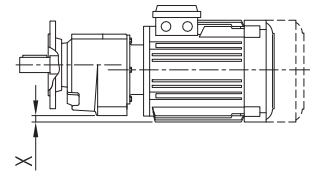
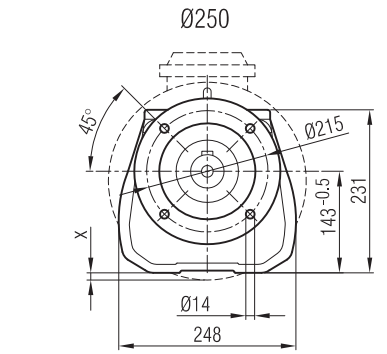
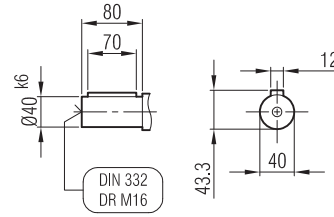
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
71/B5	358	110	130	160	M8	55	10	4	14	30	16.3	5	-
80/B5	370	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	370	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	375	180	215	250	M12	72	14	5	28	60	31.3	8	1
112/B5	375	180	215	250	M12	72	14	5	28	60	31.3	8	1
132/B5	399	230	265	300	M12	96	17	5	38	80	41.3	10	26
160/B5	414	250	300	350	M14	111	18	6.5	42	109	45.3	12	51



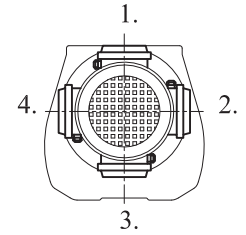
**İRFPM 72**  
**İRFPM 73**



Ø300  
**Opsiyonel / Option**

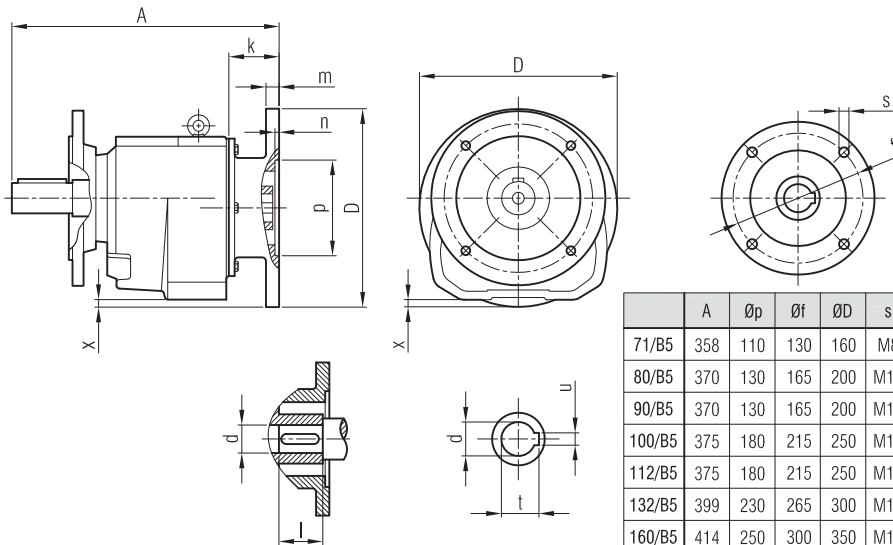


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	581	614	629	654	691	711	779	817	904
A <sub>1</sub>	632	683	695	720	769	794	879	917	1019
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380
AC	138	156	176	176	194	218	257	257	310
x	-	-	-	-	-	-	5	5	31

**İRFP 72**  
**İRFP 73**

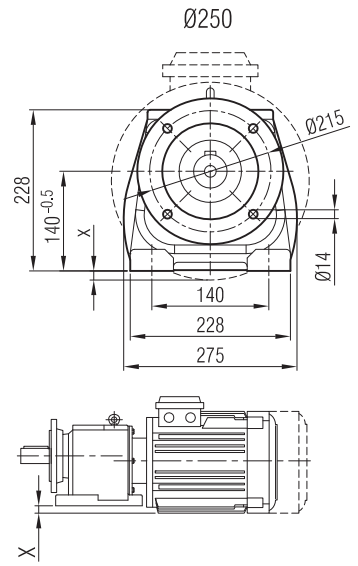
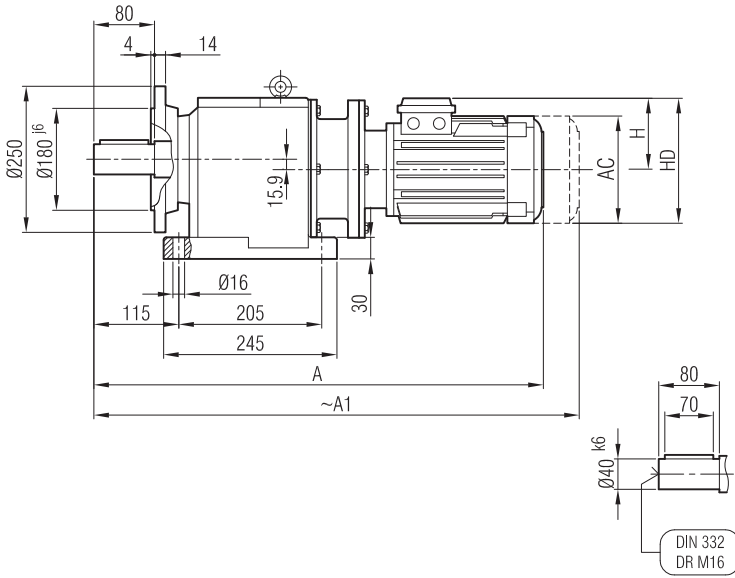


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

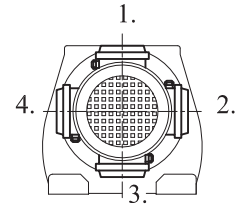
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
71/B5	358	110	130	160	M8	55	10	4	14	30	16.3	5	-
80/B5	370	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	370	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	375	180	215	250	M12	72	14	5	28	60	31.3	8	1
112/B5	375	180	215	250	M12	72	14	5	28	60	31.3	8	1
132/B5	399	230	265	300	M12	96	17	5	38	80	41.3	10	26
160/B5	414	250	300	350	M14	111	18	6.5	42	109	45.3	12	51



**İRAFPM 72**  
**İRAFPM 73**

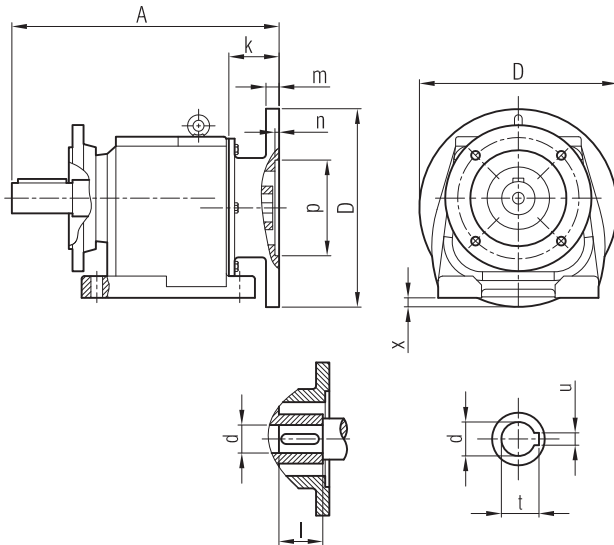


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	581	614	629	654	691	711	779	817	904
A <sub>1</sub>	632	683	695	720	769	794	879	917	1019
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380
AC	138	156	176	176	194	218	257	257	310
x	-	-	-	-	-	-	5	5	31

**İRAFP 72**  
**İRAFP 73**



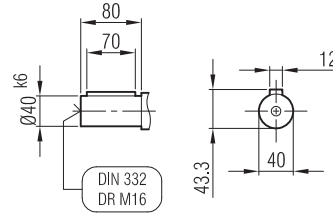
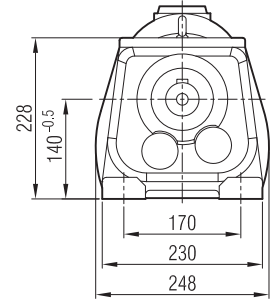
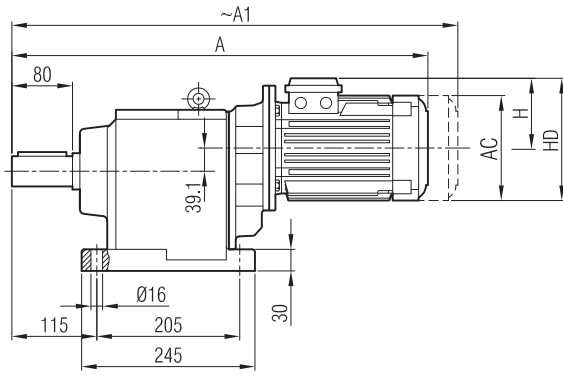
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
71/B5	358	110	130	160	M8	55	10	4	14	30	16.3	5	-
80/B5	370	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	370	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	375	180	215	250	M12	72	14	5	28	60	31.3	8	1
112/B5	375	180	215	250	M12	72	14	5	28	60	31.3	8	1
132/B5	399	230	265	300	M12	96	17	5	38	80	41.3	10	26
160/B5	414	250	300	350	M14	111	18	6.5	42	109	45.3	12	51

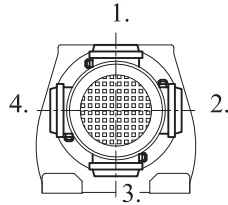




**İRAM 74**



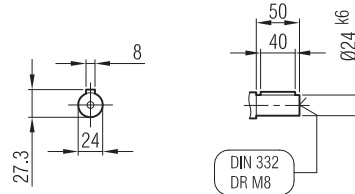
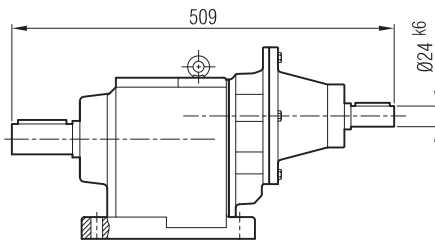
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80				
A	577	606				
A <sub>1</sub>	628	675				
H	111	118				
HD	182	198				
AC	138	156				

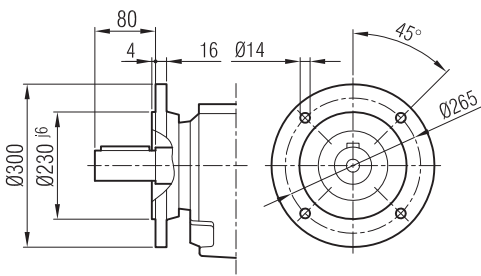
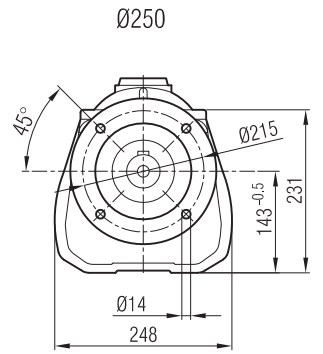
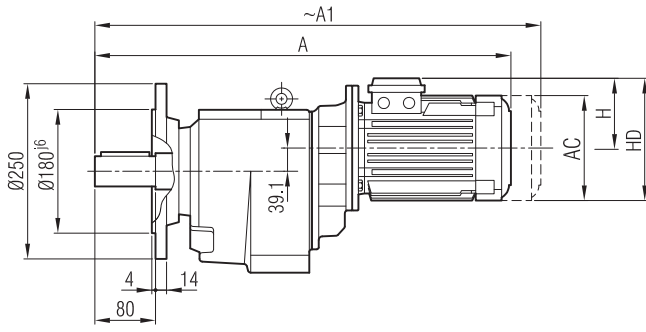
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRA 74**

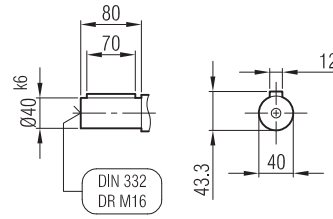




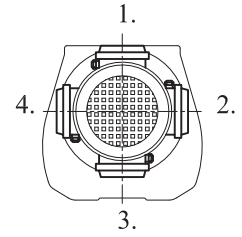
**İRFM 74**



**Ø300**  
**Opsiyonel / Option**



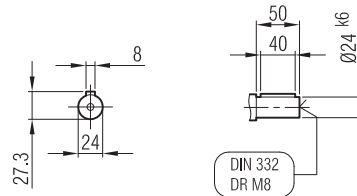
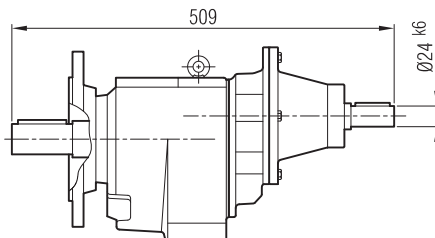
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	577	606				
A <sub>1</sub>	628	675				
H	111	118				
HD	182	198				
AC	138	156				

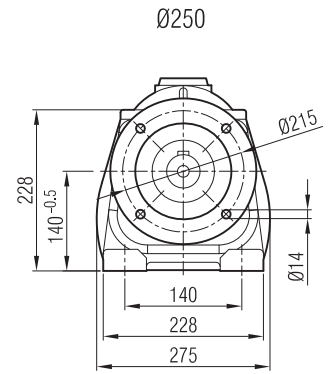
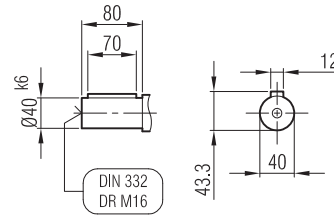
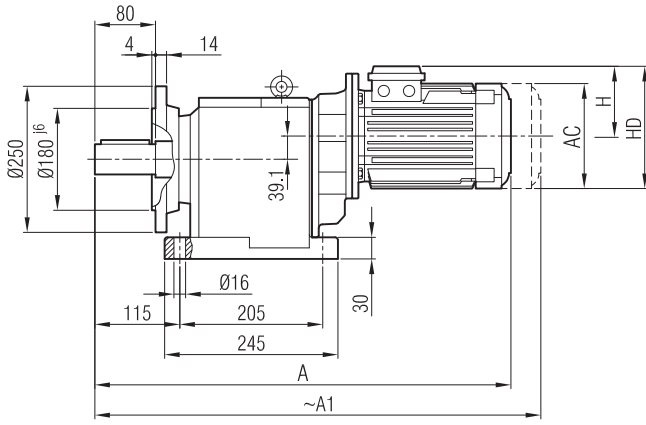
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 74**

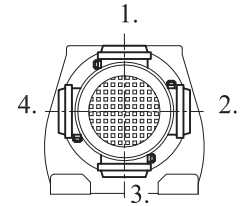




**İRAF 74**



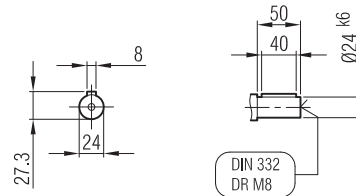
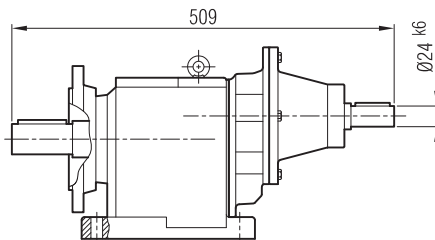
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	577	606				
A <sub>1</sub>	628	675				
H	111	118				
HD	182	198				
AC	138	156				

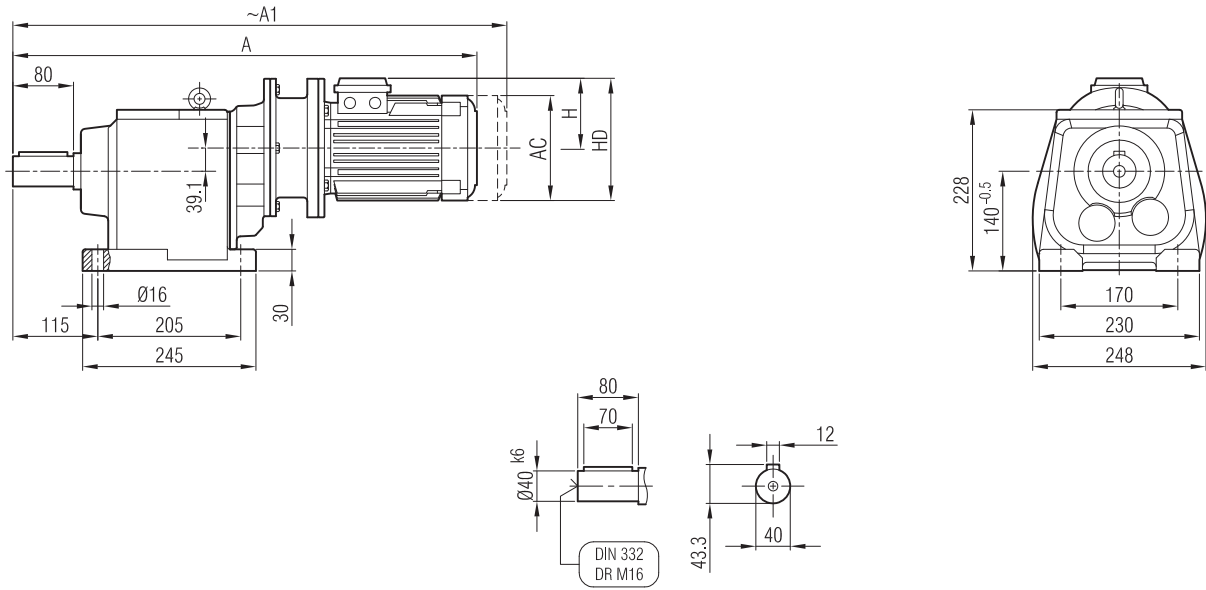
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 74**

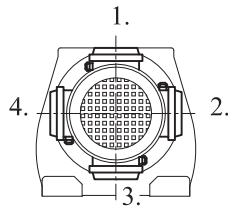




**İRAPM 74**



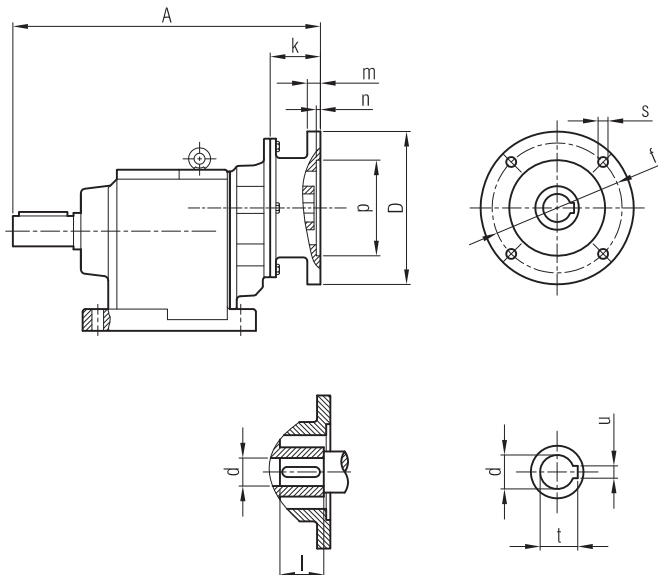
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5	80/B5		
A	598	634	660		
A <sub>1</sub>	654	685	729		
H	111	118	126		
HD	182	198	216		
AC	138	156	176		

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

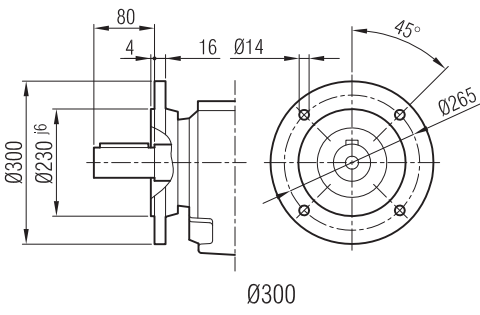
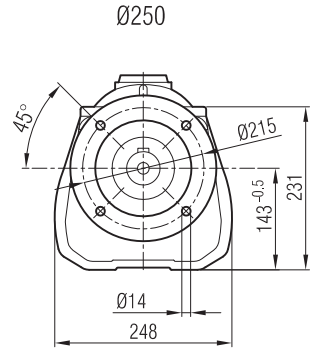
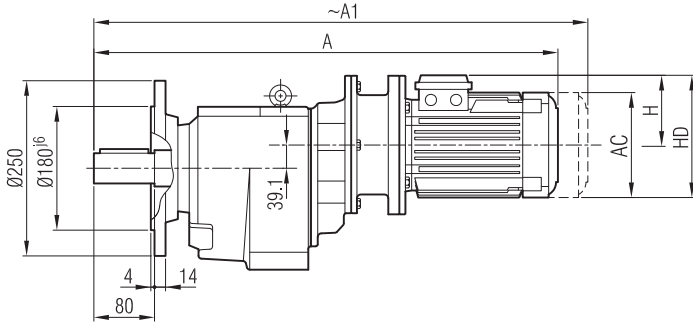
**İRAP 74**



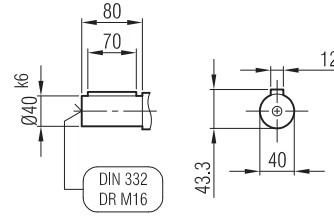
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6



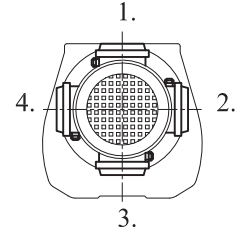
**İRFPM 74**



**Ø300**  
**Opsiyonel / Option**

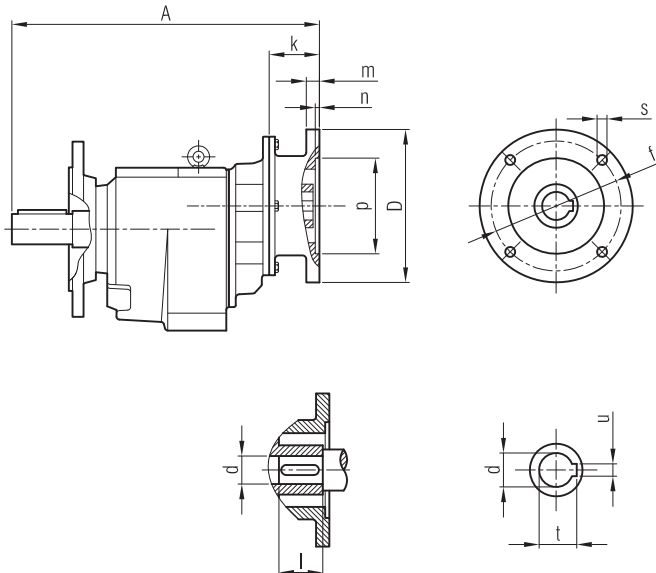


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	598	634	660		
A <sub>1</sub>	654	685	729		
H	111	118	126		
HD	182	198	216		
AC	138	156	176		

**İRFP 74**

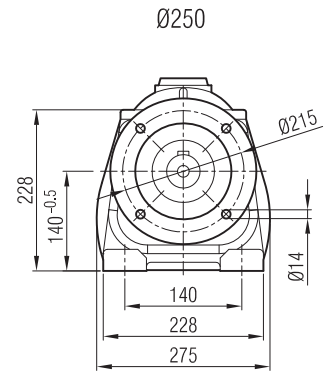
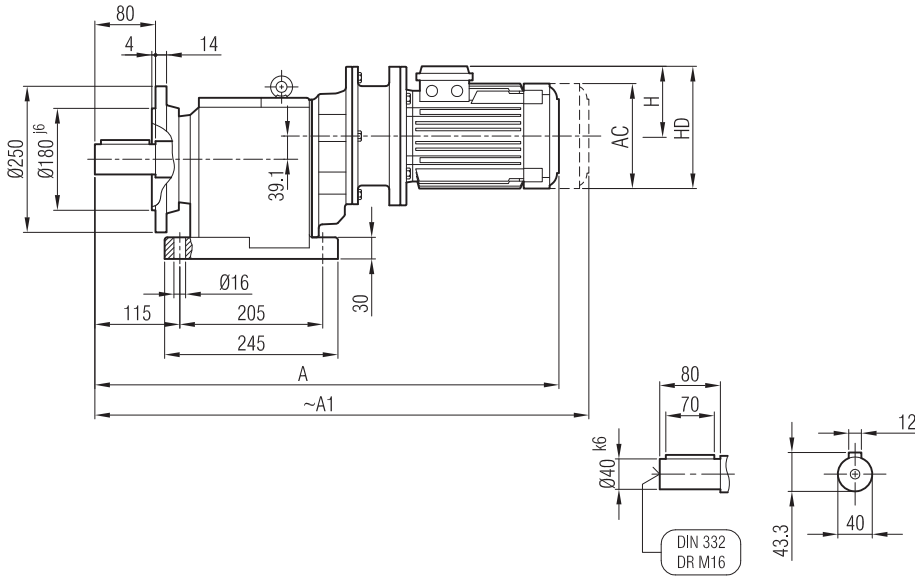


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

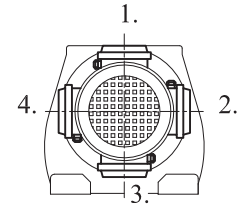
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6



**İRAFPM 74**

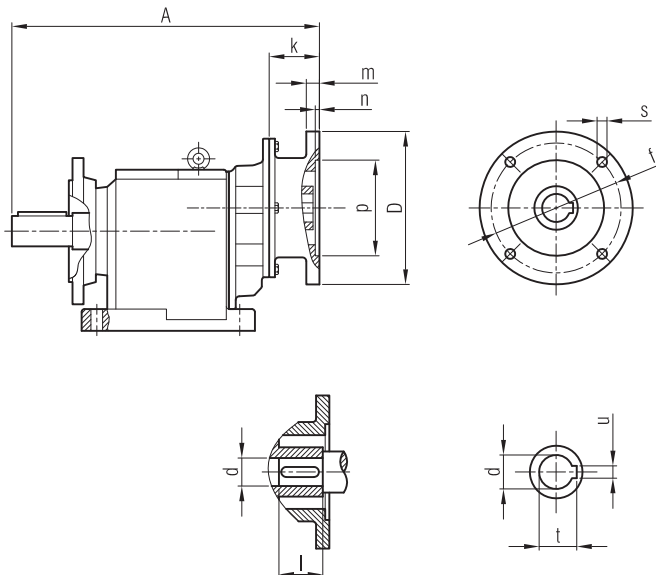


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	598	634	660		
A <sub>1</sub>	654	685	729		
H	111	118	126		
HD	182	198	216		
AC	138	156	176		

**İRAFP 74**

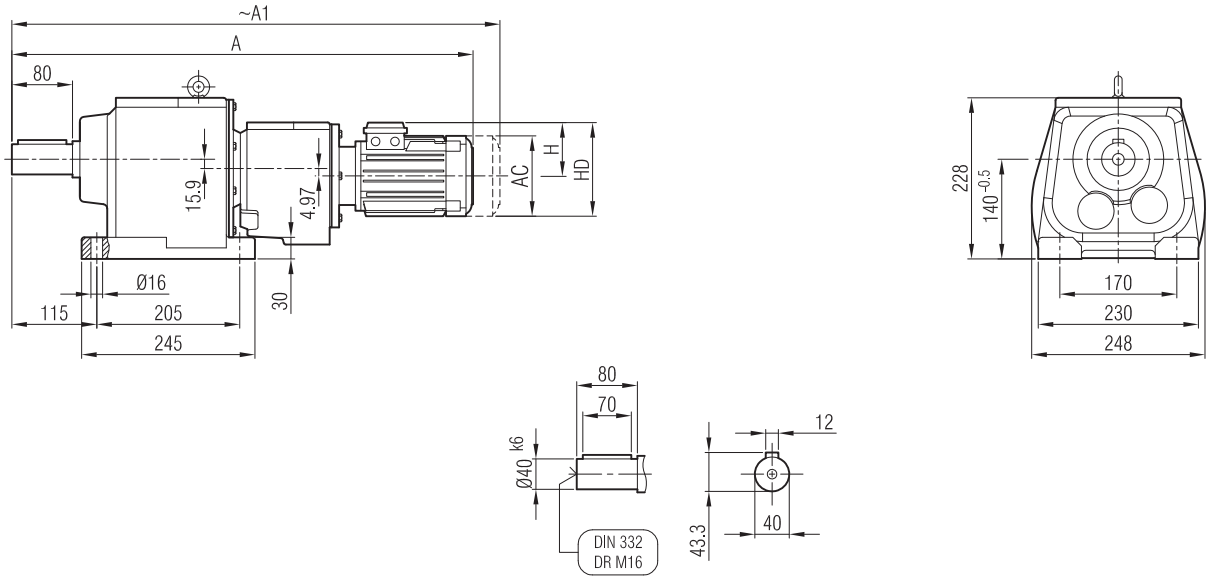


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

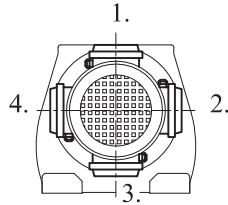
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	286	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	296	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	301	130	165	200	M10	50	12	5	19	40	21.8	6



**İRAM 72 İR 52**  
**İRAM 73 İR 52**



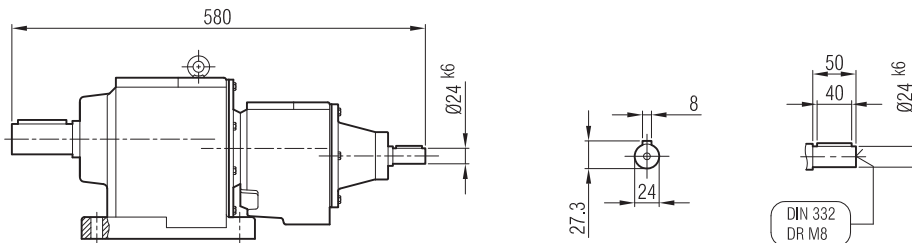
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80				
A	669	696				
A <sub>1</sub>	720	765				
H	111	118				
HD	182	198				
AC	138	156				

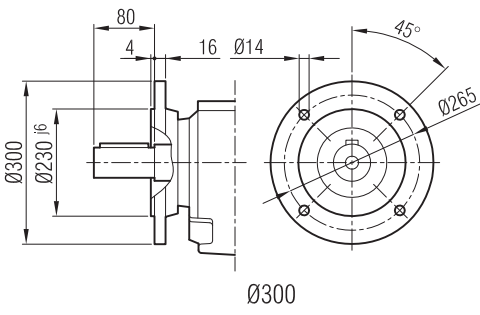
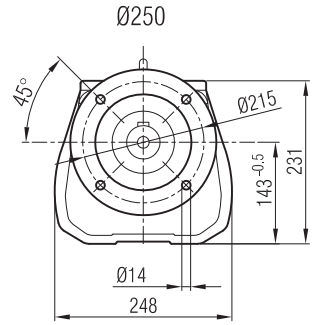
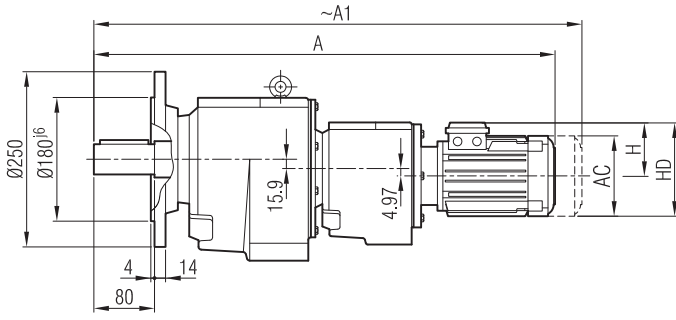
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 72 İR 52 / İRA 72 İR 53**  
**İRA 73 İR 52 / İRA 73 İR 53**

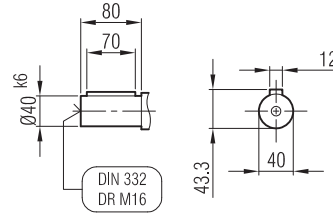




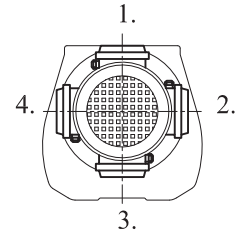
**İRFM 72 İR 52**  
**İRFM 73 İR 52**



**Ø300**  
**Opsiyonel / Option**

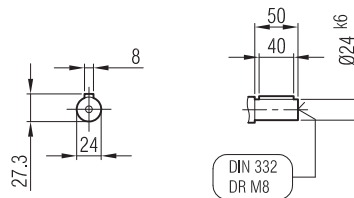
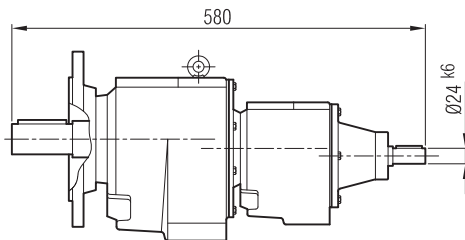


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	669	696				
A <sub>1</sub>	720	765				
H	111	118				
HD	182	198				
AC	138	156				

**İRF 72 İR 52 / İRF 72 İR 53**  
**İRF 73 İR 52 / İRF 73 İR 53**

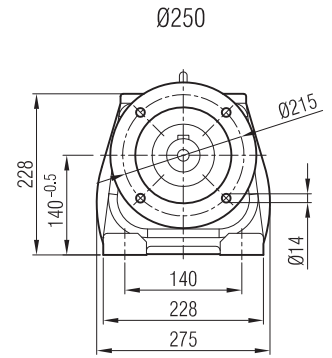
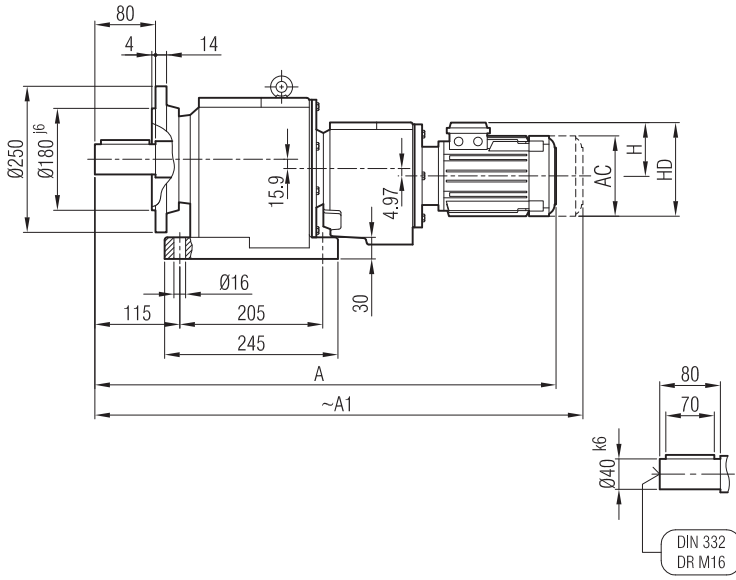


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

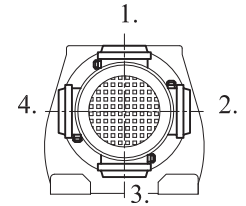




**İRAF 72 İR 52**  
**İRAF 73 İR 52**



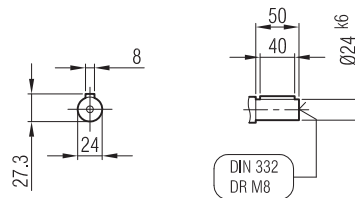
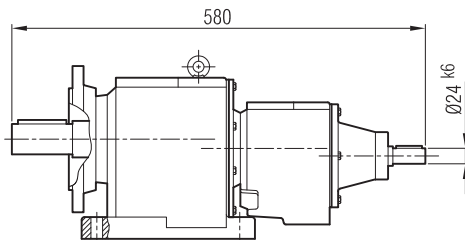
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80				
A	669	696				
A <sub>1</sub>	720	765				
H	111	118				
HD	182	198				
AC	138	156				

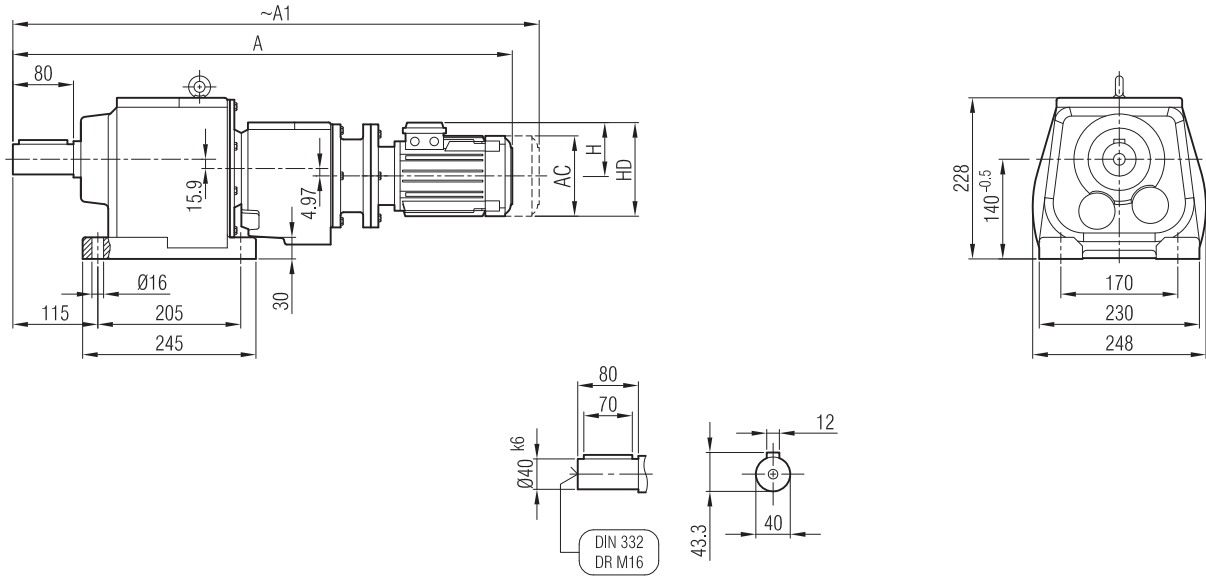
**İRAF 72 İR 52 / İRAF 72 İR 53**  
**İRAF 73 İR 52 / İRAF 73 İR 53**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

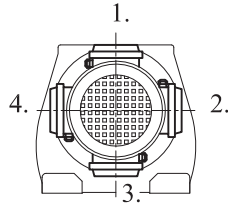




**İRAPM 72 İR 52**  
**İRAPM 73 İR 52**



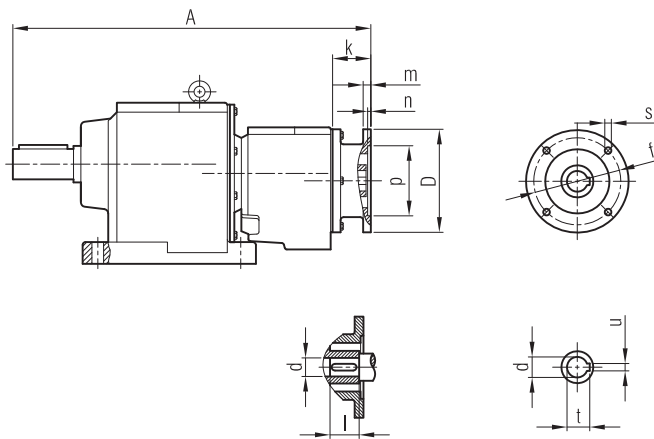
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5	80/B5		
A	683	718	741		
A <sub>1</sub>	739	769	810		
H	97	111	118		
HD	160	182	198		
AC	121	138	156		

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

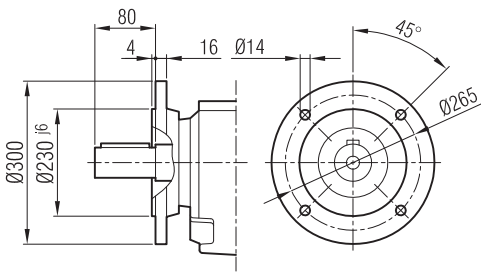
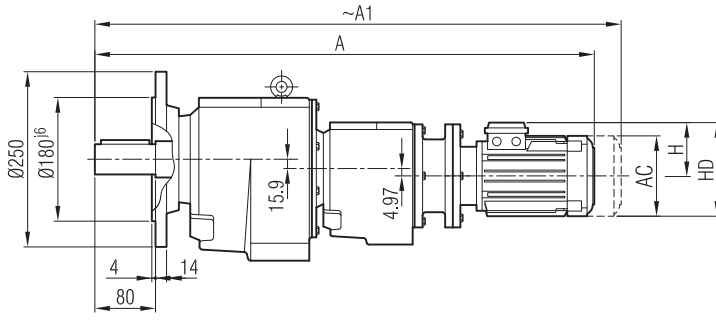
**İRAP 72 İR 52 / İRAP 72 İR 53**  
**İRAP 73 İR 52 / İRAP 73 İR 53**



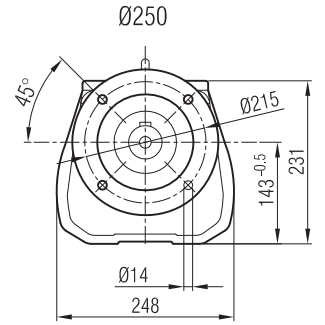
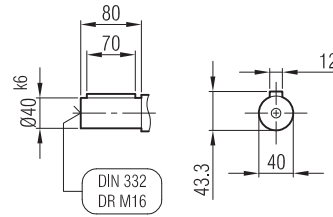
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	487	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	495	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	497	130	165	200	M10	46	12	5	19	40	21.8	6



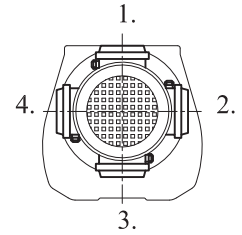
**İRFPM 72 İR 52**  
**İRFPM 73 İR 52**



Ø300  
**Opsiyonel / Option**

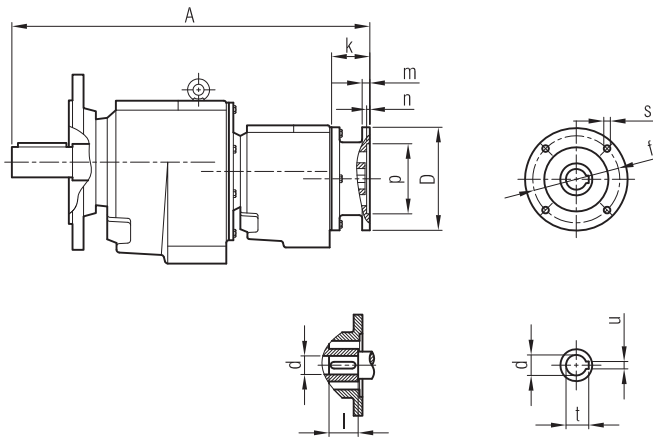


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	683	718	741		
A <sub>1</sub>	739	769	810		
H	97	111	118		
HD	160	182	198		
AC	121	138	156		

**İRFP 72 İR 52 / İRFP 72 İR 53**  
**İRFP 73 İR 52 / İRFP 73 İR 53**

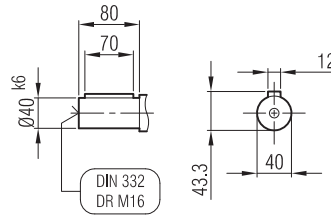
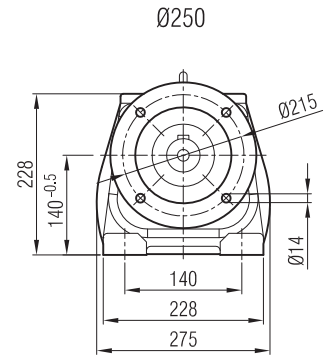
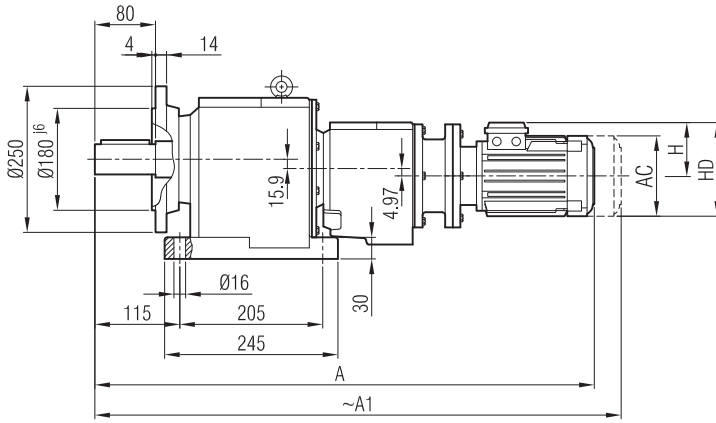


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	487	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	495	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	497	130	165	200	M10	46	12	5	19	40	21.8	6

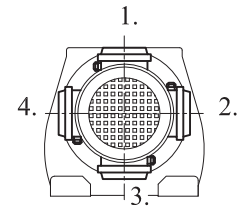
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAFPM 72 İR 52**  
**İRAFPM 73 İR 52**



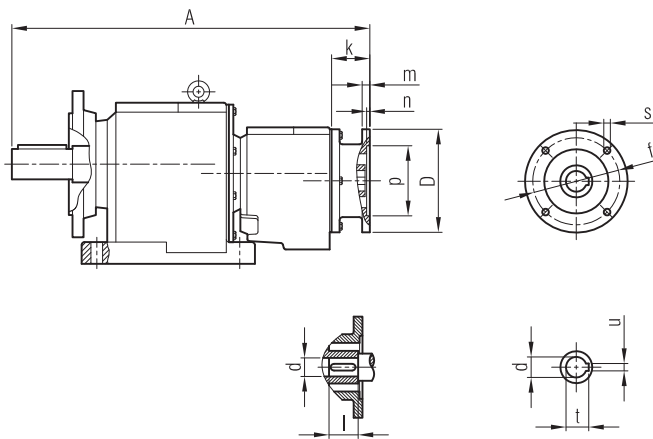
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5		
A	683	718	741		
A <sub>1</sub>	739	769	810		
H	97	111	118		
HD	160	182	198		
AC	121	138	156		

**İRAFP 72 İR 52 / İRAFP 72 İR 53**  
**İRAFP 73 İR 52 / İRAFP 73 İR 53**

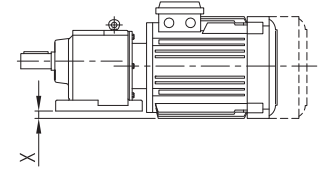
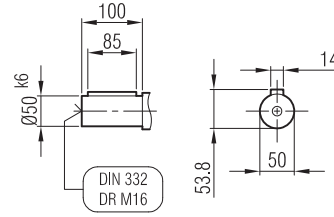
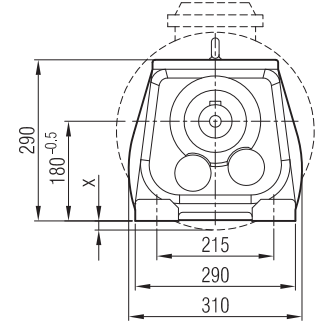
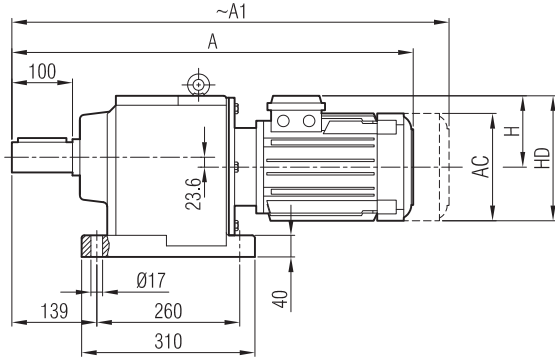
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



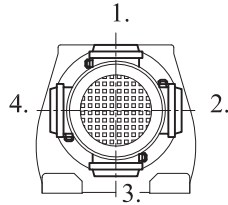
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	487	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	495	110	130	160	M8	44	9	4	14	30	16.3	5
80/B5	497	130	165	200	M10	46	12	5	19	40	21.8	6



**İRAM 82**  
**İRAM 83**



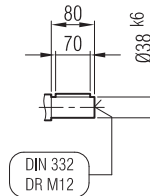
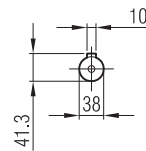
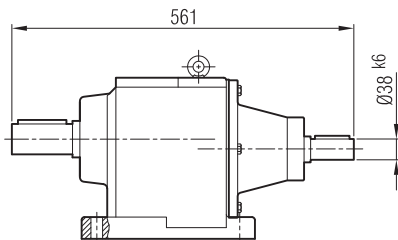
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	80	90 S	90 L	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	604	632	657	697	719	781	819	921	965	978	1016
A <sub>1</sub>	673	698	723	775	802	881	919	1036	1080	1098	1136
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421
AC	156	176	176	194	218	257	257	310	310	348	348
x	-	-	-	-	-	-	-	-	-	18	18

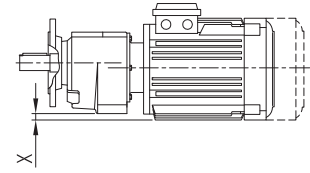
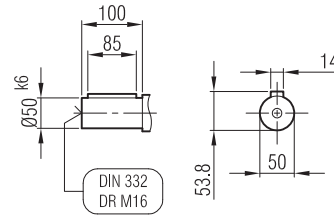
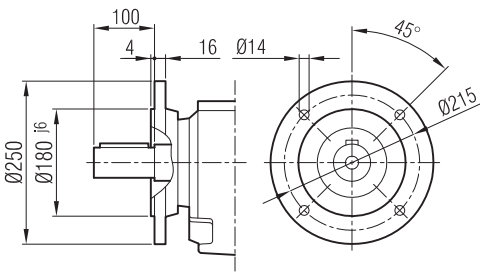
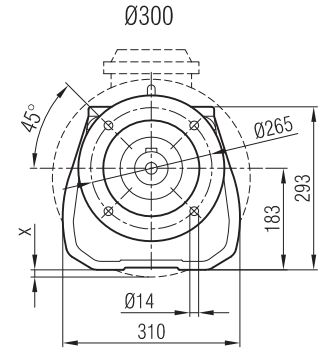
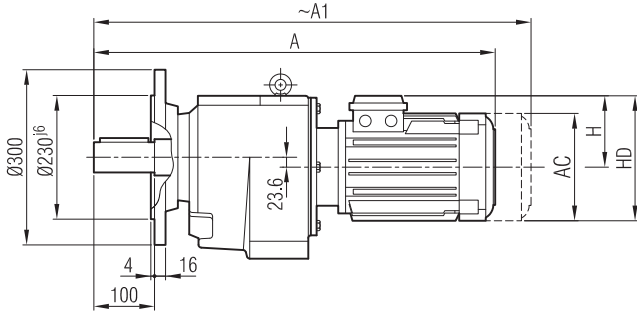
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 82**  
**İRA 83**

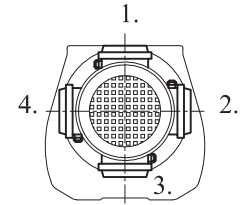




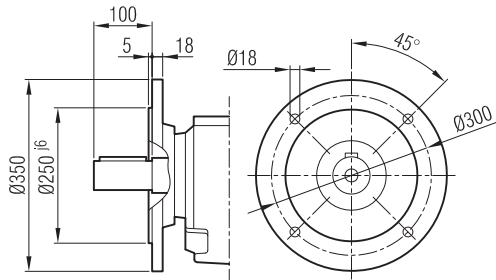
**İRFM 82**  
**İRFM 83**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



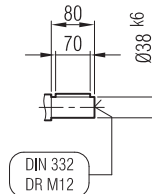
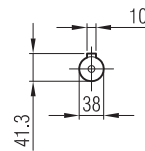
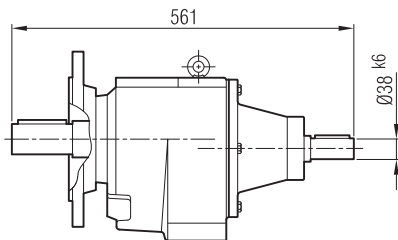
**Ø250**  
**Opsiyonel / Option**



**Ø350**  
**Opsiyonel / Option**

	80	90 S	90 L	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	604	632	657	697	719	781	819	921	965	978	1016
A <sub>1</sub>	673	698	723	775	802	881	919	1036	1080	1098	1136
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421
AC	156	176	176	194	218	257	257	310	310	348	348
x	-	-	-	-	-	-	-	-	-	18	18

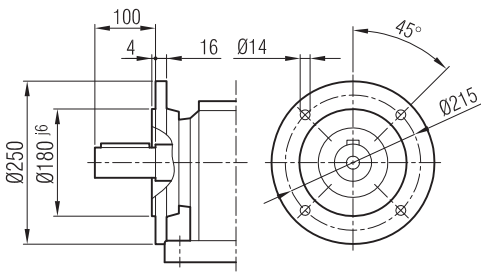
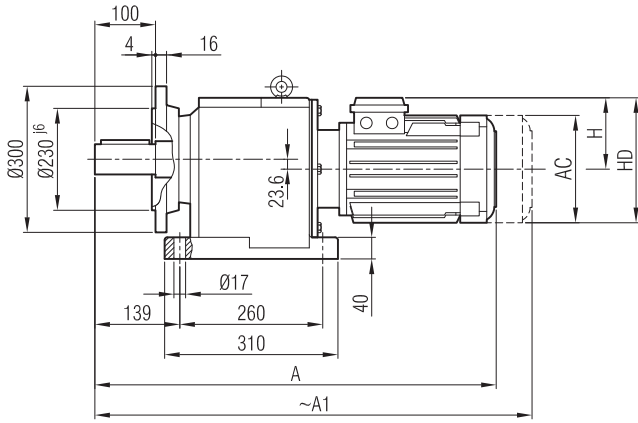
**İRF 82**  
**İRF 83**



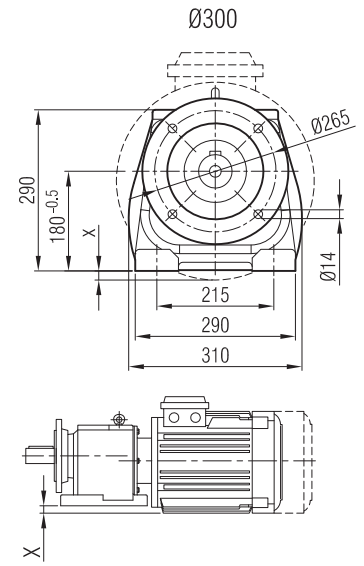
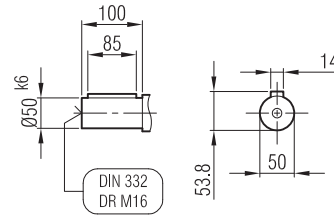
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



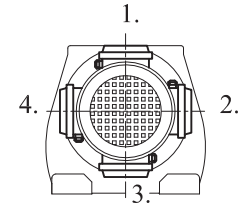
**İRAF 82**  
**İRAF 83**



Ø250  
**Opsiyonel / Option**

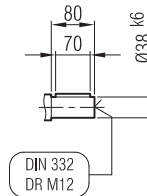
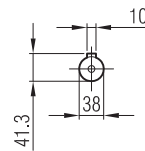
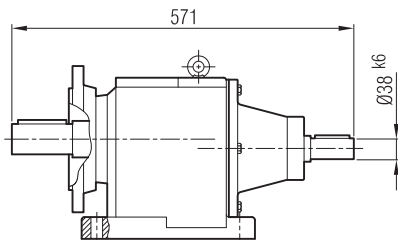


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80	90 S	90 L	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	604	632	657	697	719	781	819	921	965	978	1016
A <sub>1</sub>	673	698	723	775	802	881	919	1036	1080	1098	1136
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421
AC	156	176	176	194	218	257	257	310	310	348	348
x	-	-	-	-	-	-	-	-	-	18	18

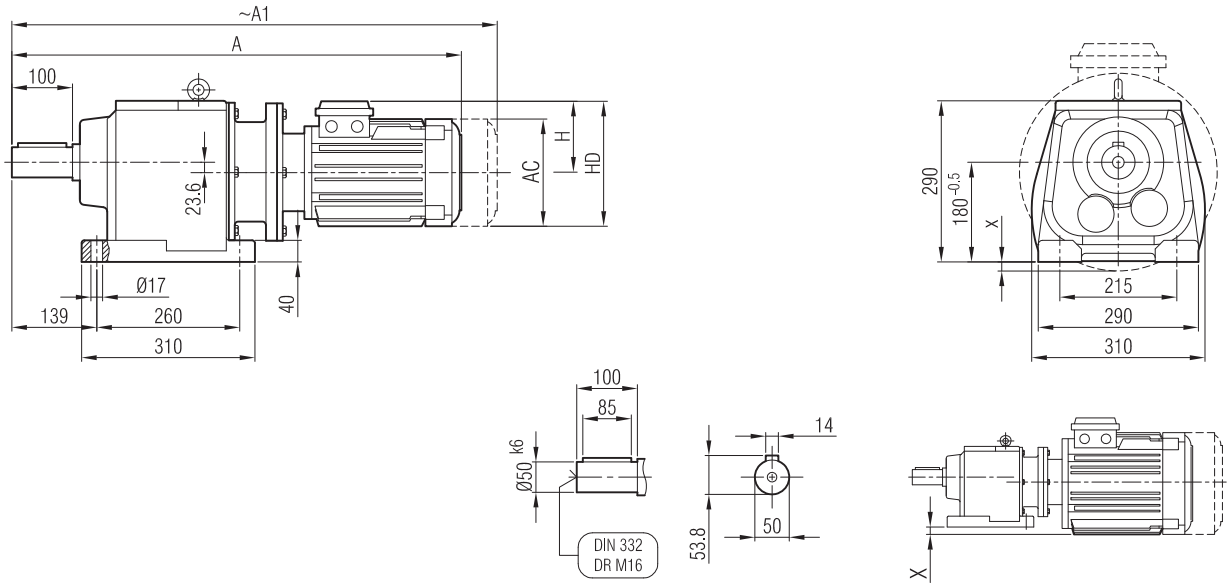
**İRAF 82**  
**İRAF 83**



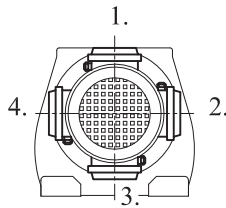
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 82**  
**İRAPM 83**



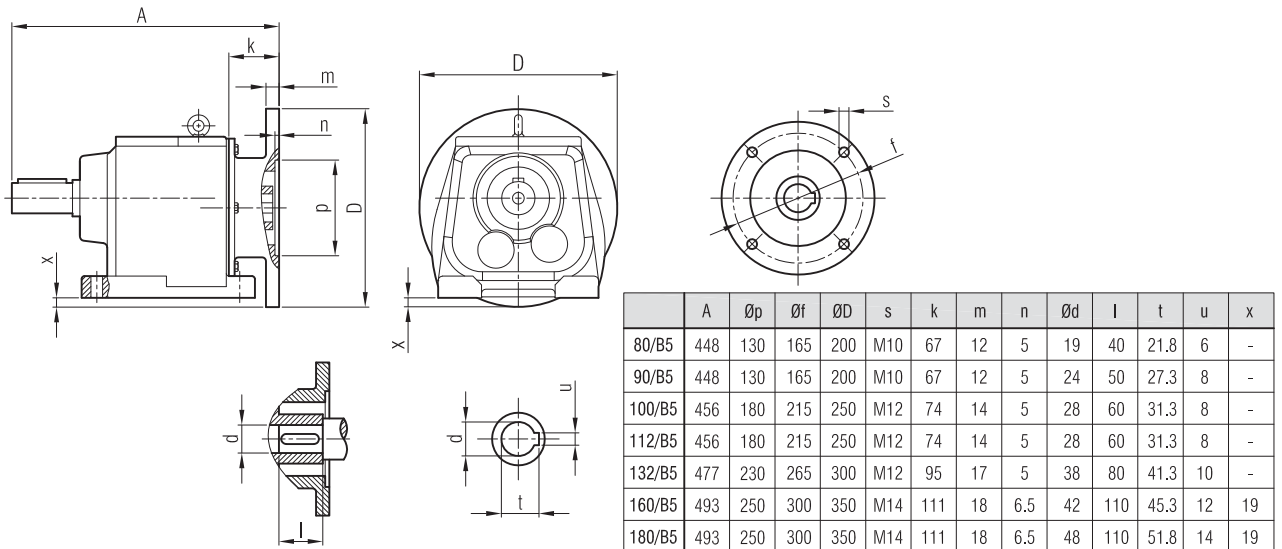
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5
A	692	707	732	772	792	857	895	983	1027	1040	1078
A <sub>1</sub>	761	773	798	850	875	957	995	1098	1142	1160	1198
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421
AC	156	176	176	194	218	257	257	310	310	348	348
x	-	-	-	-	-	-	-	-	-	18	18

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

**İRAP 82**  
**İRAP 83**

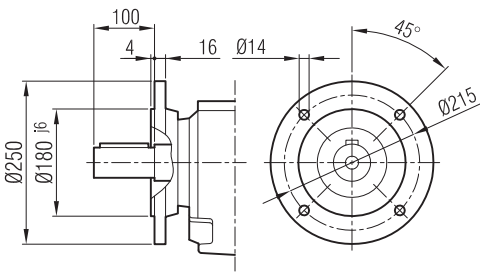
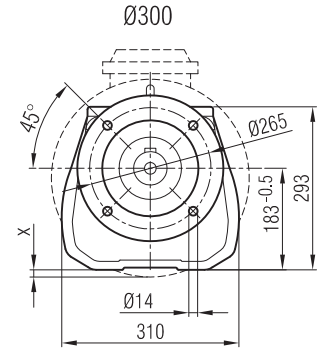
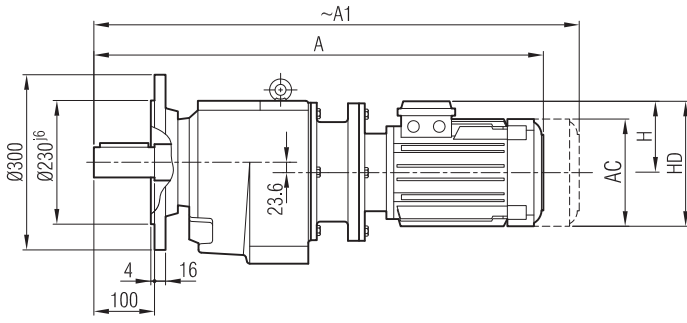


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8	-
112/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8	-
132/B5	477	230	265	300	M12	95	17	5	38	80	41.3	10	-
160/B5	493	250	300	350	M14	111	18	6.5	42	110	45.3	12	19
180/B5	493	250	300	350	M14	111	18	6.5	48	110	51.8	14	19

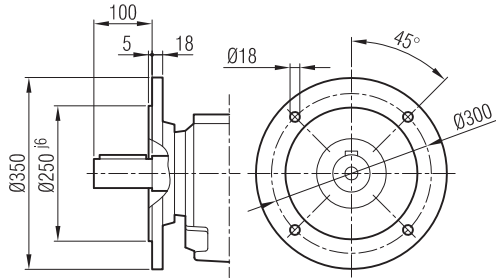




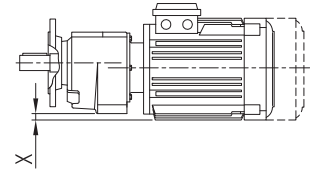
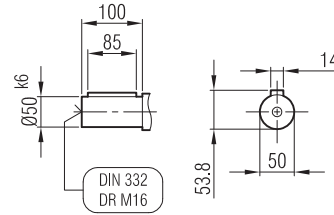
**İRFPM 82**  
**İRFPM 83**



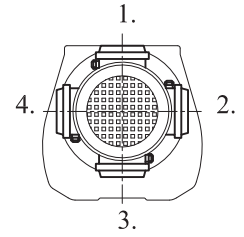
**Ø250**  
**Opsiyonel / Option**



**Ø350**  
**Opsiyonel / Option**

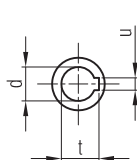
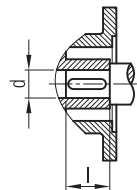
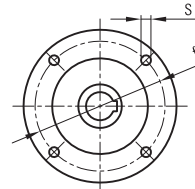
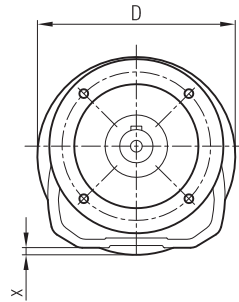
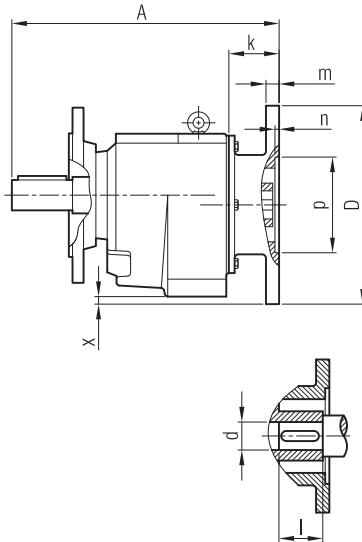


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5
A	692	707	732	772	792	857	895	983	1027	1040	1078
A <sub>1</sub>	761	773	798	850	875	957	995	1098	1142	1160	1198
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421
AC	156	176	176	194	218	257	257	310	310	348	348
x	-	-	-	-	-	-	-	-	-	18	18

**İRFP 82**  
**İRFP 83**

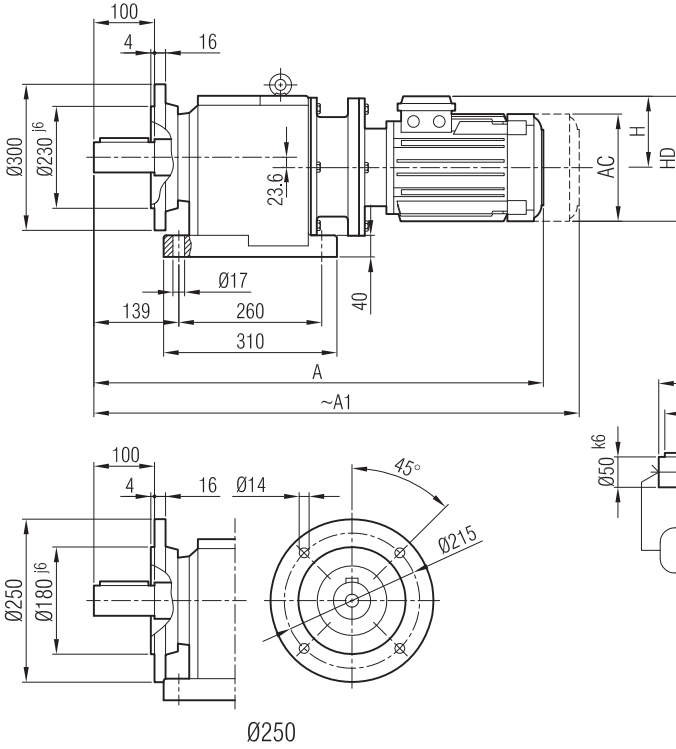


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8	-
112/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8	-
132/B5	477	230	265	300	M12	95	17	5	38	80	41.3	10	-
160/B5	493	250	300	350	M14	111	18	6.5	42	110	45.3	12	19
180/B5	493	250	300	350	M14	111	18	6.5	48	110	51.8	14	19

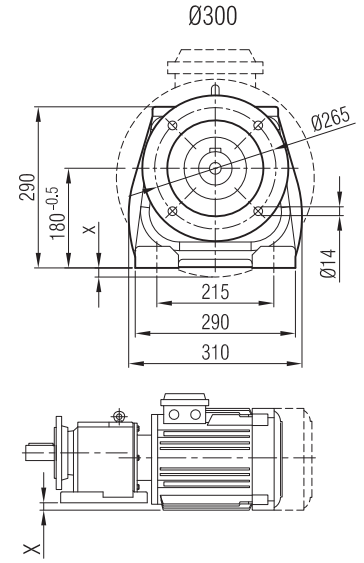
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



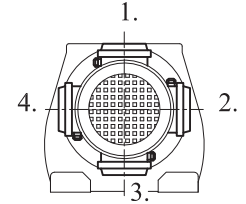
**İRAFPM 82**  
**İRAFPM 83**



**Ø250**  
**Opsiyonel / Option**



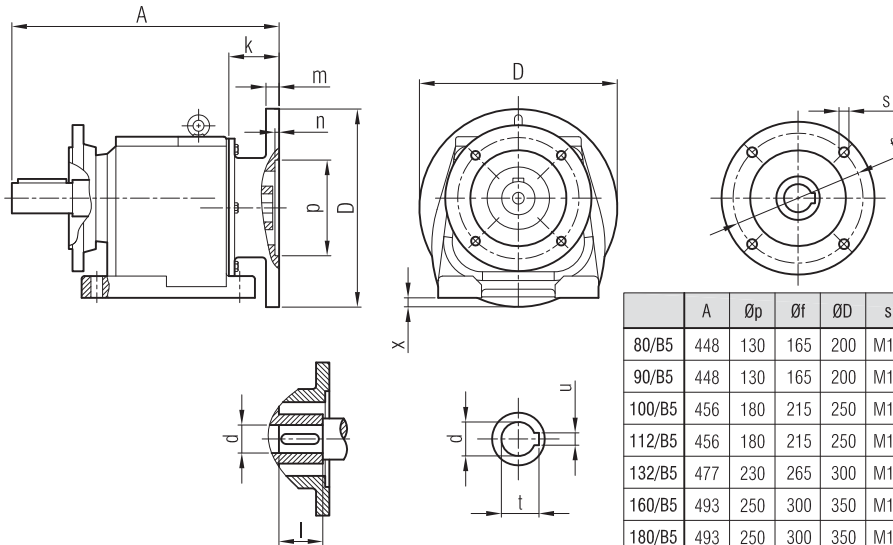
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5
A	692	707	732	772	792	857	895	983	1027	1040	1078
A1	761	773	798	850	875	957	995	1098	1142	1160	1198
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421
AC	156	176	176	194	218	257	257	310	310	348	348
x	-	-	-	-	-	-	-	-	-	18	18

**İRAFP 82**  
**İRAFP 83**

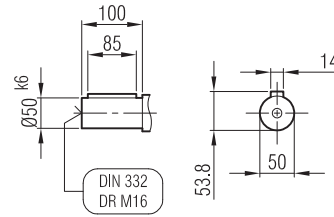
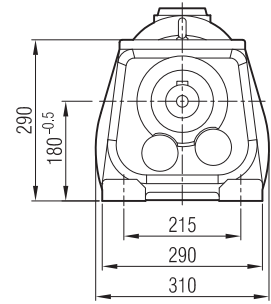
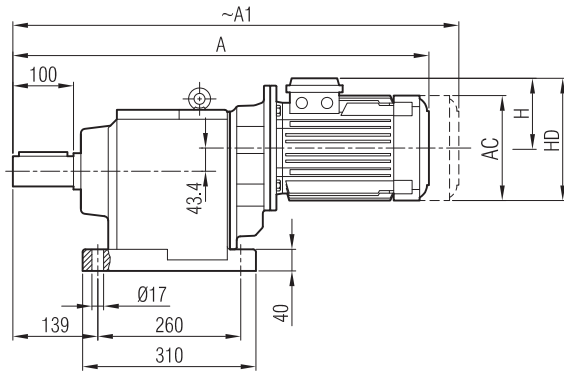
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspond aux moteurs équipés de freins.



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6	-
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8	-
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8	-
112/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8	-
132/B5	477	230	265	300	M12	95	17	5	38	80	41.3	10	-
160/B5	493	250	300	350	M14	111	18	6.5	42	110	45.3	12	19
180/B5	493	250	300	350	M14	111	18	6.5	48	110	51.8	14	19

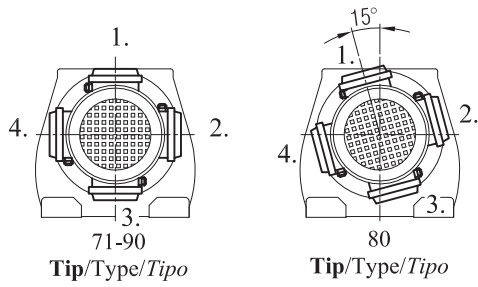


**İRAM 84**



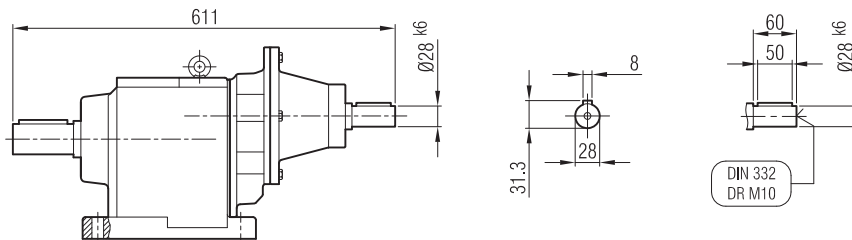
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*

	71	80	90 S	90 L		
A	648	678	709	734		
A <sub>1</sub>	699	747	775	800		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		



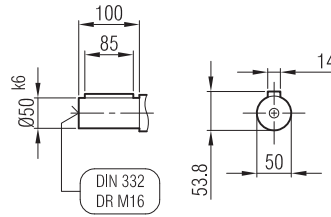
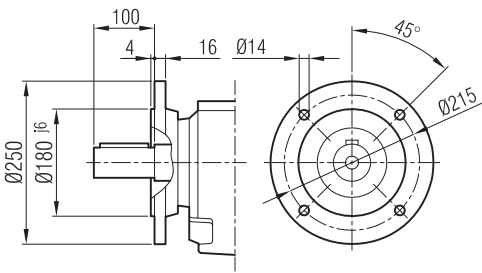
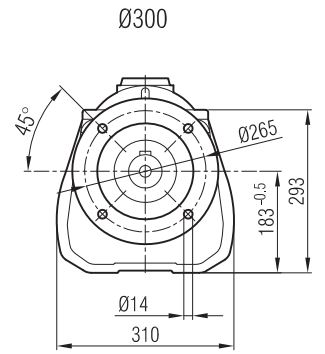
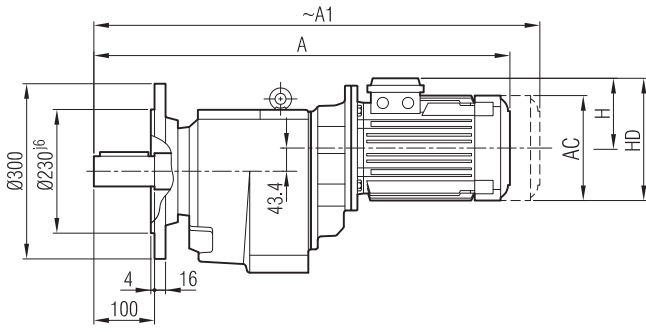
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 84**

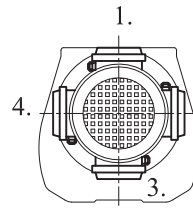




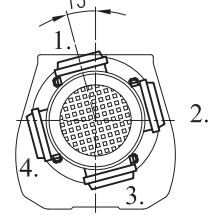
**İRFM 84**



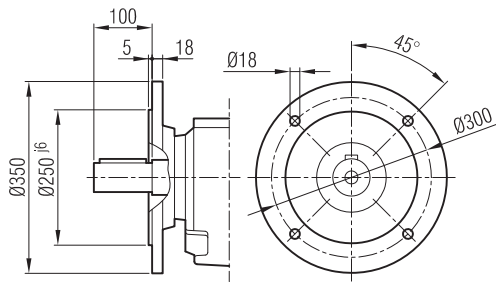
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



Tip/Type/Tipo



Tip/Type/Tipo

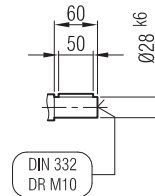
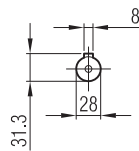
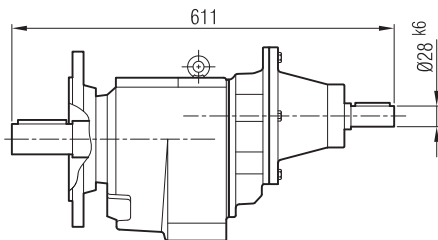


Ø350  
**Opsiyonel / Option**

	71	80	90 S	90 L		
A	648	678	709	734		
A <sub>1</sub>	699	747	775	800		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

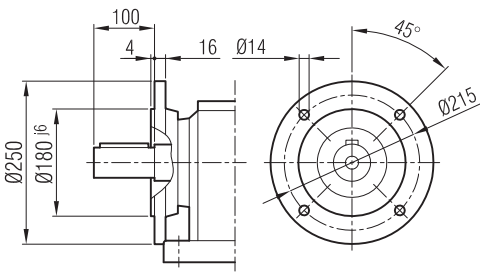
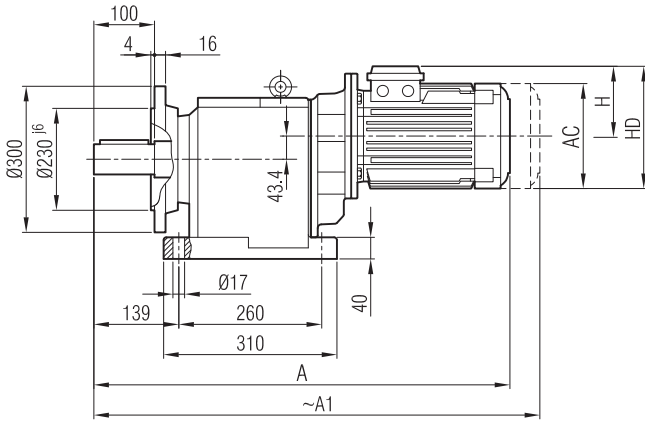
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 84**

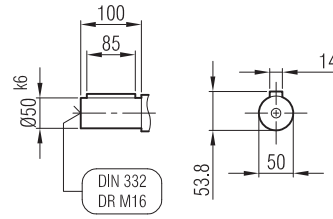




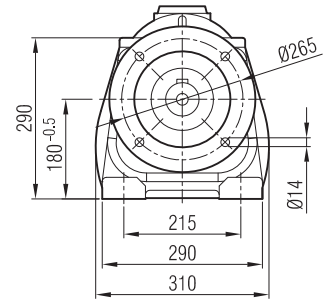
**İRAF 84**



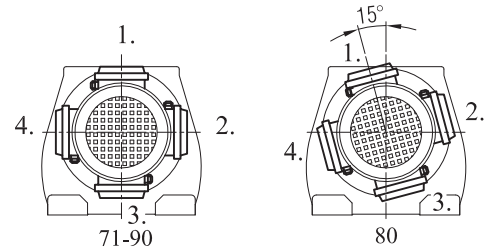
Ø250  
**Opsiyonel / Option**



Ø300



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



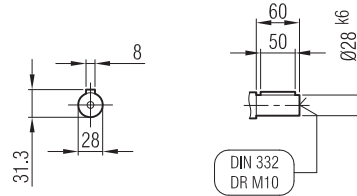
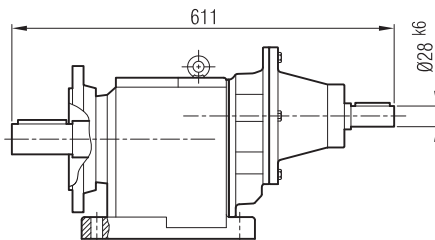
71-90  
**Tip/Type/Tipo**

80  
**Tip/Type/Tipo**

	71	80	90 S	90 L		
A	648	678	709	734		
A <sub>1</sub>	699	747	775	800		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

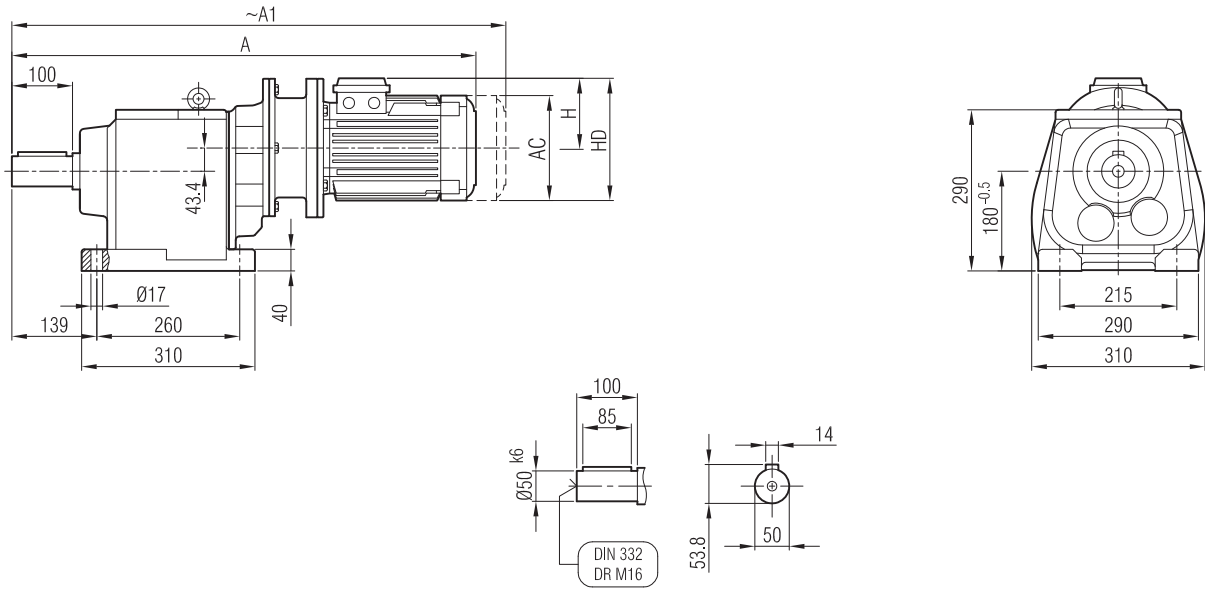
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 84**

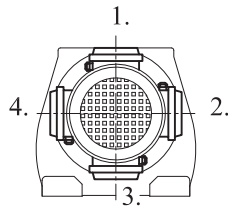




**İRAPM 84**



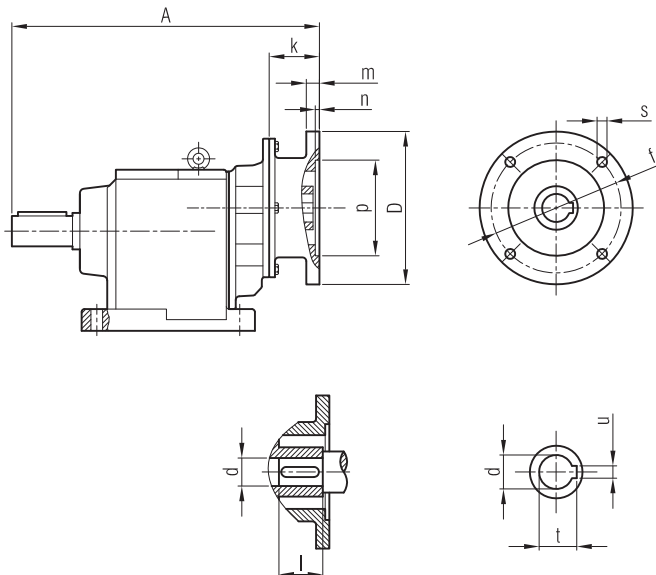
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71/B5	80/B5	90 S/B5	90 L/B5	
A	725	758	773	798	
A <sub>1</sub>	776	827	839	864	
H	118	126	126	134	
HD	198	216	216	234	
AC	156	176	176	194	

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

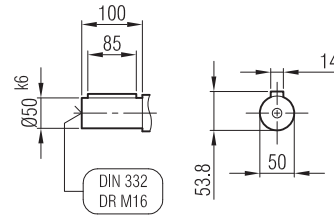
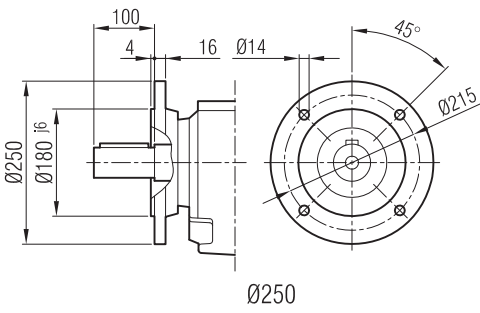
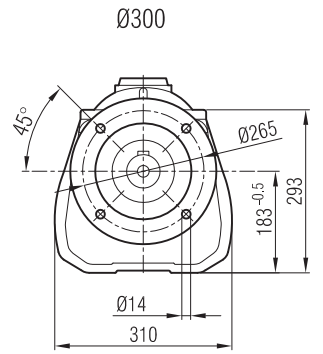
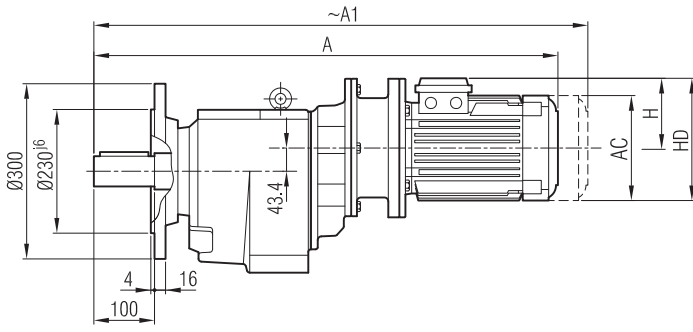
**İRAP 84**



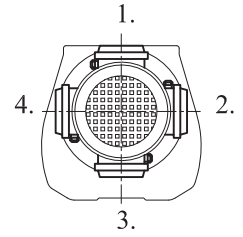
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	358	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	370	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	370	130	165	200	M10	67	12	5	24	50	27.3	8



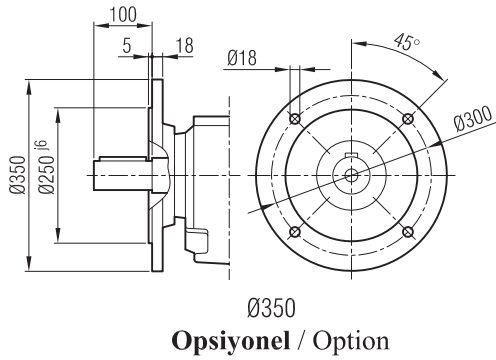
**İRFPM 84**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



**Ø250**  
Opsiyonel / Option

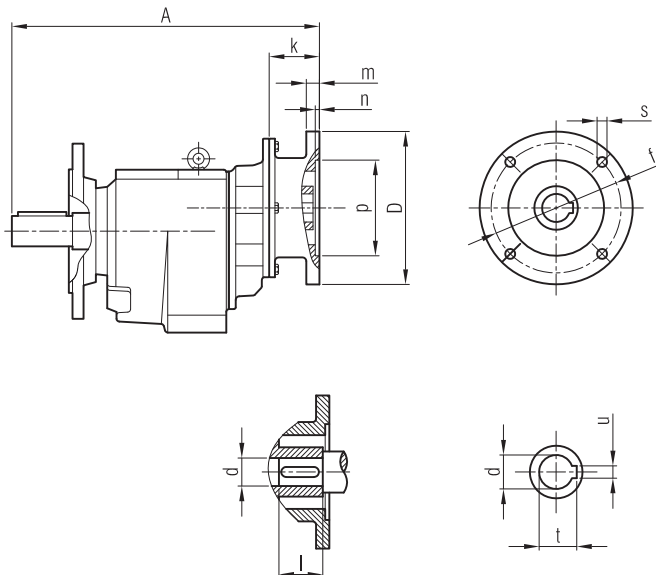


**Ø350**  
Opsiyonel / Option

	71/B5	80/B5	90 S/B5	90 L/B5
A	725	758	773	798
A <sub>1</sub>	776	827	839	864
H	118	126	126	134
HD	198	216	216	234
AC	156	176	176	194

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

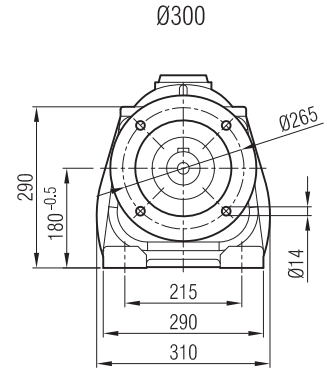
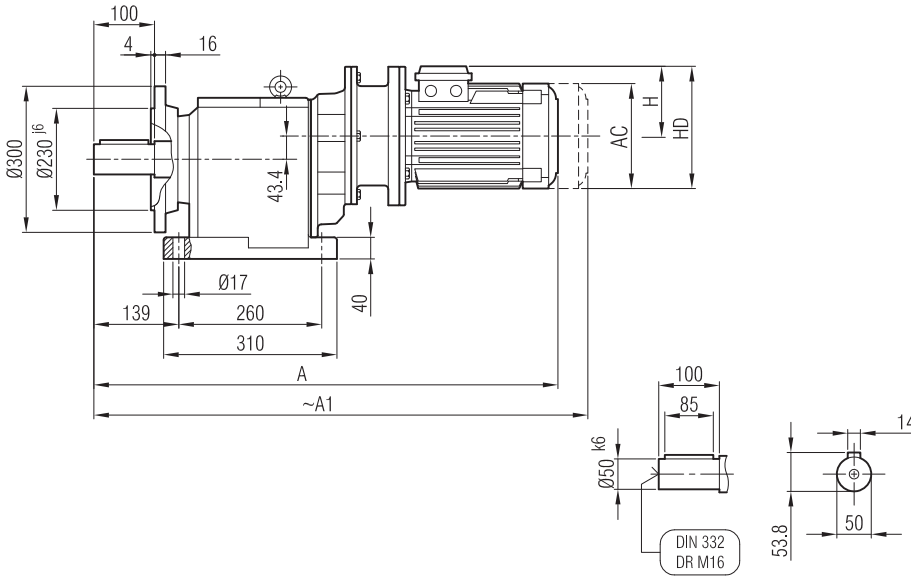
**İRFP 84**



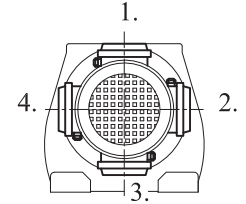
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	358	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	370	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	370	130	165	200	M10	67	12	5	24	50	27.3	8



**İRAFPM 84**

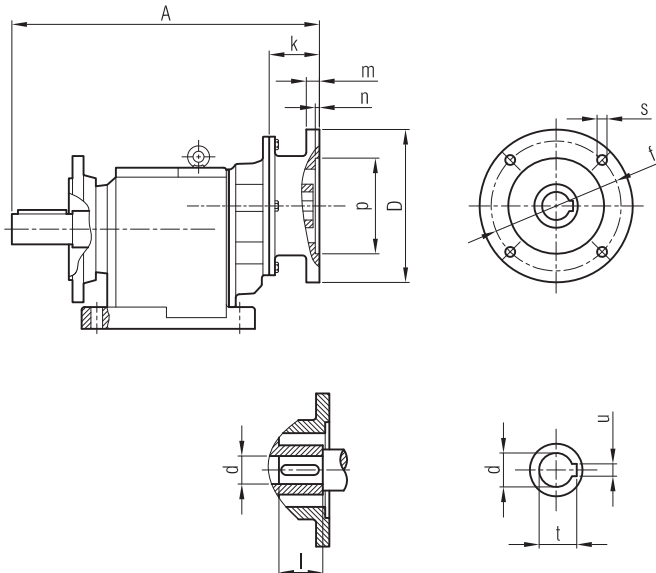


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5
A	725	758	773	798
A <sub>1</sub>	776	827	839	864
H	118	126	126	134
HD	198	216	216	234
AC	156	176	176	194

**İRAFP 84**



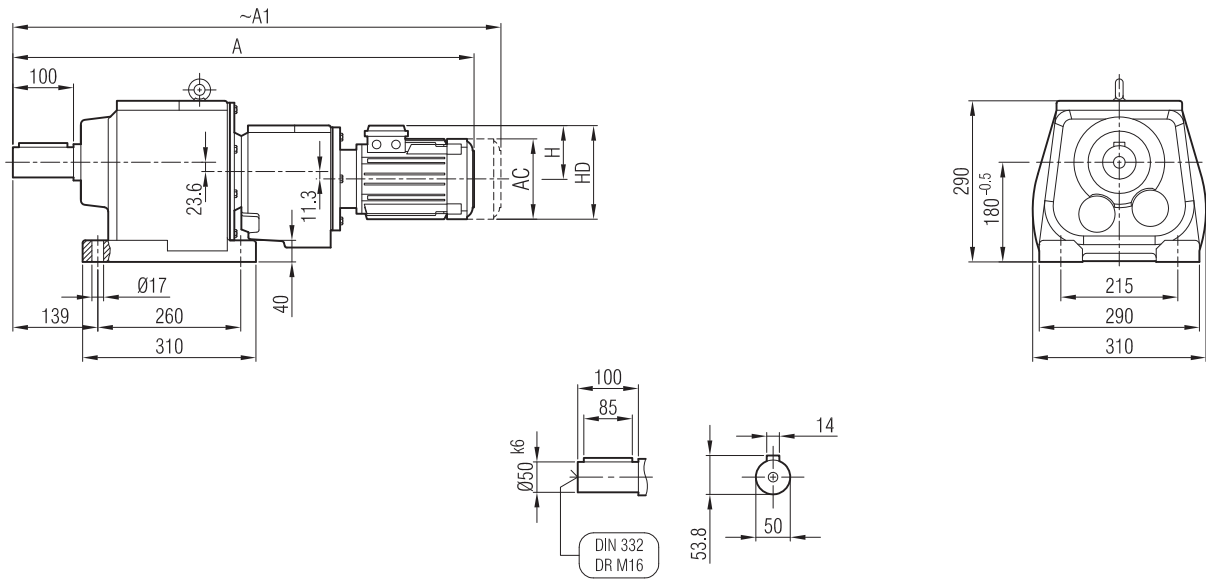
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	358	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	370	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	370	130	165	200	M10	67	12	5	24	50	27.3	8

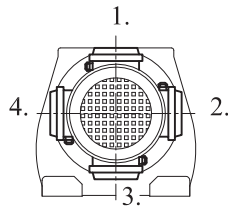




**İRAM 82 İR 63**  
**İRAM 83 İR 63**



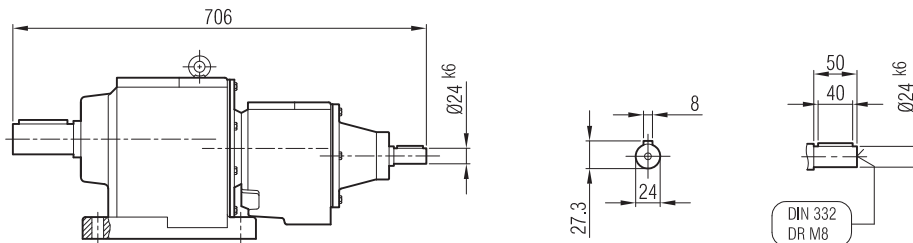
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80	90 S			
A	773	803	870			
A <sub>1</sub>	824	872	936			
H	111	118	126			
HD	182	198	216			
AC	138	156	176			

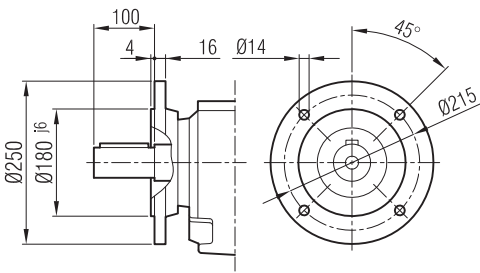
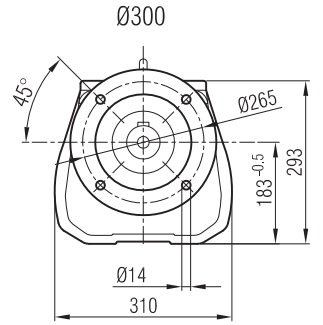
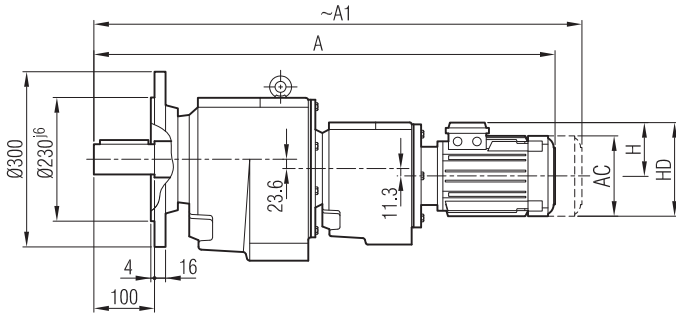
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 82 İR 62 / İRA 82 İR 63**  
**İRA 83 İR 62 / İRA 83 İR 63**



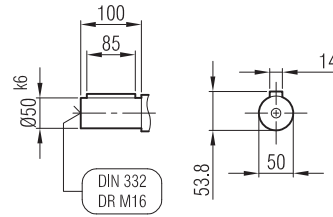


**İRFM 82 İR 63**  
**İRFM 83 İR 63**

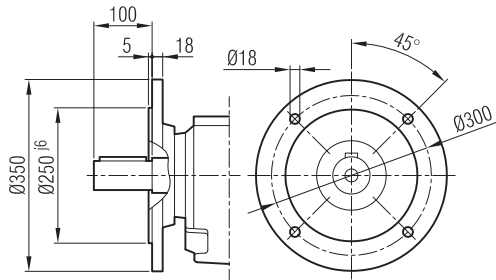
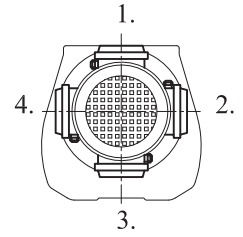


Ø250

**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

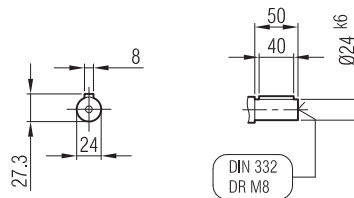
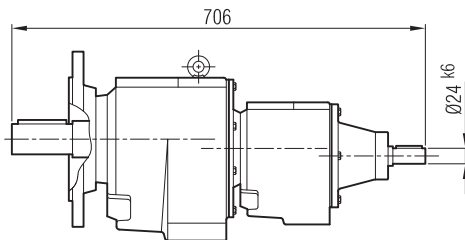


Ø350

**Opsiyonel / Option**

	71	80	90 S			
A	773	803	870			
A <sub>1</sub>	824	872	936			
H	111	118	126			
HD	182	198	216			
AC	138	156	176			

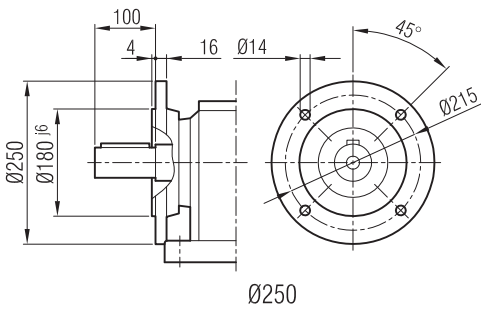
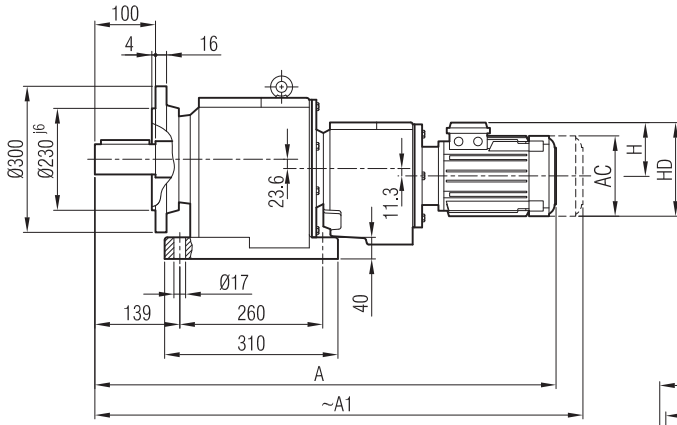
**İRF 82 İR 62 / İRF 82 İR 63**  
**İRF 83 İR 62 / İRF 83 İR 63**



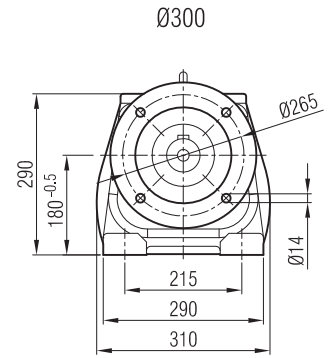
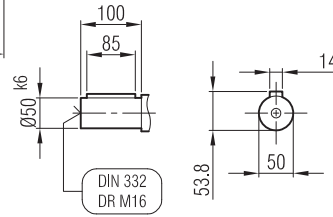
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



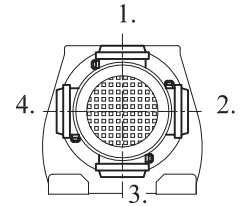
**İRAF 82 İR 63**  
**İRAF 83 İR 63**



**Opsiyonel / Option**

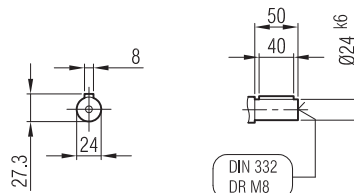
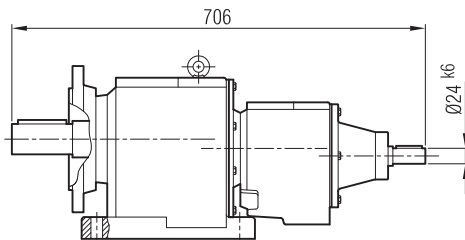


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



A	773	803	870			
A <sub>1</sub>	824	872	936			
H	111	118	126			
HD	182	198	216			
AC	138	156	176			

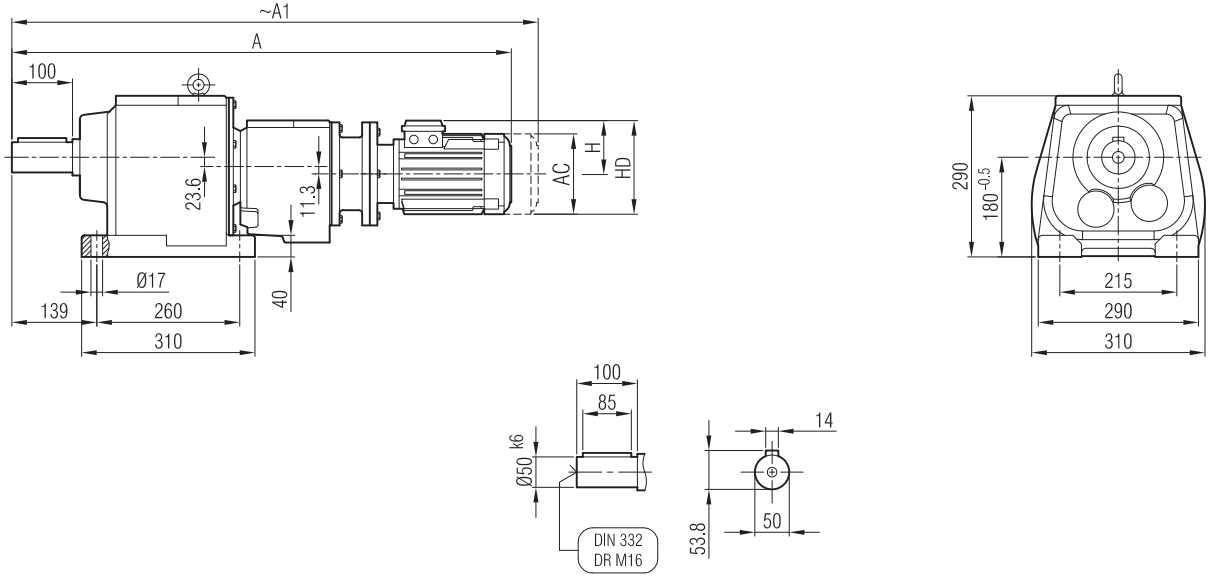
**İRAF 82 İR 62 / İRAF 82 İR 63**  
**İRAF 83 İR 62 / İRAF 83 İR 63**



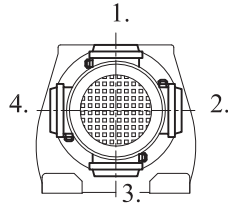
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 82 İR 63**  
**İRAPM 83 İR 63**



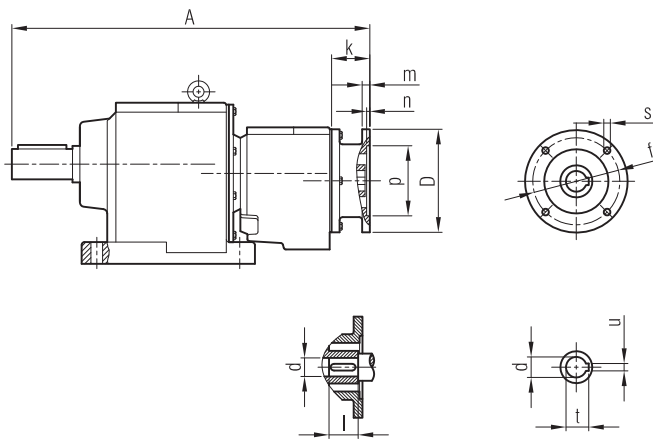
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	63/B5	71/B5	80/B5	90 S/B5
A	795	830	856	872
A <sub>1</sub>	851	881	925	938
H	97	111	118	126
HD	160	182	198	216
AC	121	138	156	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

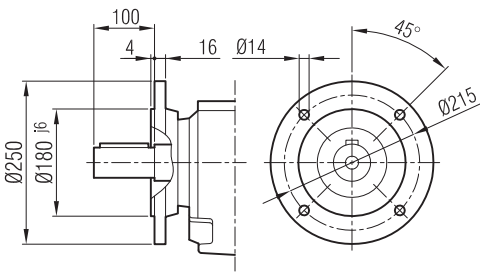
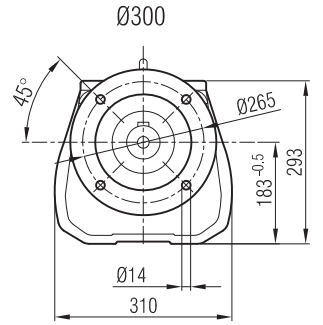
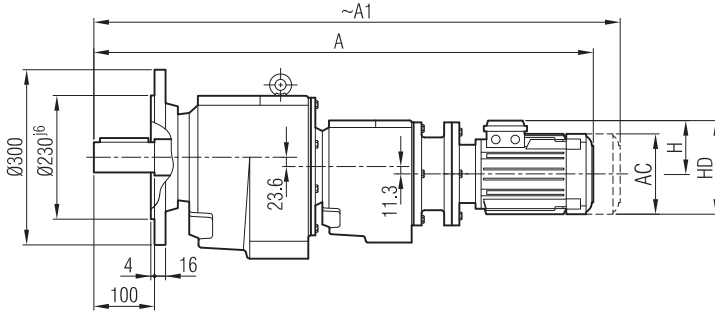
**İRAP 82 İR 62 / İRAP 82 İR 63**  
**İRAP 83 İR 62 / İRAP 83 İR 63**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	598	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	608	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	613	130	165	200	M10	50	12	5	19	40	21.8	6
90/B5	613	130	165	200	M10	50	12	5	24	50	27.3	8

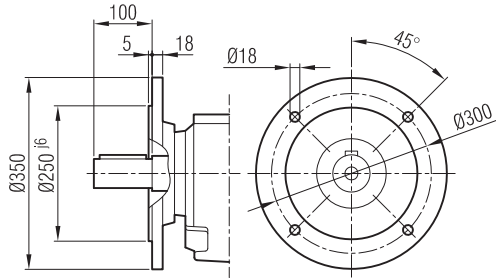
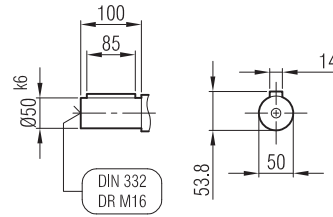


**İRFPM 82 İR 63**  
**İRFPM 83 İR 63**



Ø250

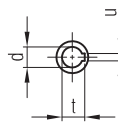
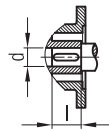
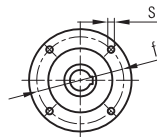
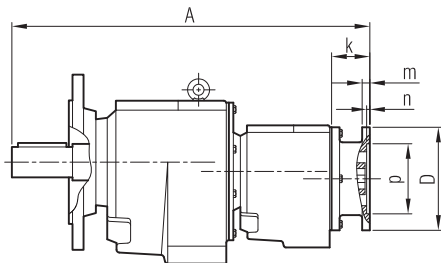
**Opsiyonel / Option**



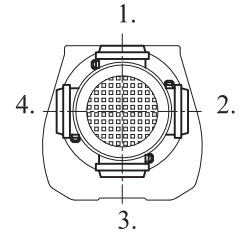
Ø350

**Opsiyonel / Option**

**İRFP 82 İR 62 / İRFP 82 İR 63**  
**İRFP 83 İR 62 / İRFP 83 İR 63**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



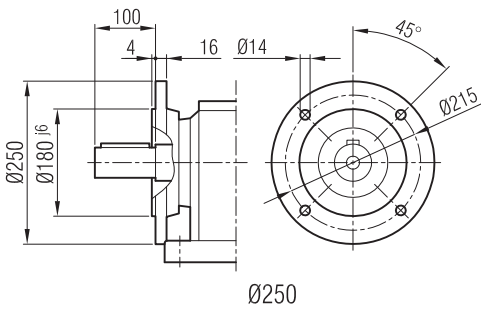
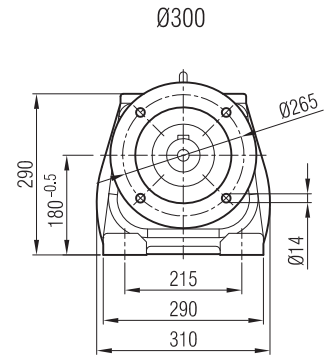
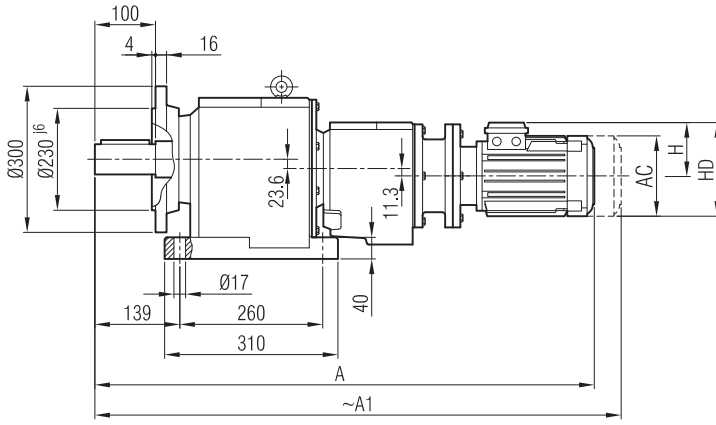
	63/B5	71/B5	80/B5	90 S/B5
A	795	830	856	872
A <sub>1</sub>	851	881	925	938
H	97	111	118	126
HD	160	182	198	216
AC	121	138	156	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

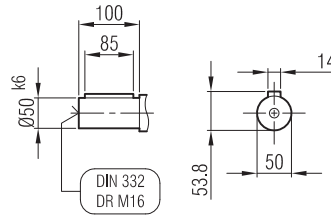
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	598	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	608	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	613	130	165	200	M10	50	12	5	19	40	21.8	6
90/B5	613	130	165	200	M10	50	12	5	24	50	27.3	8



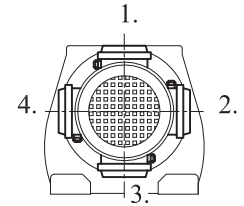
**İRAFPM 82 İR 63**  
**İRAFPM 83 İR 63**



**Ø250**  
**Opsiyonel / Option**

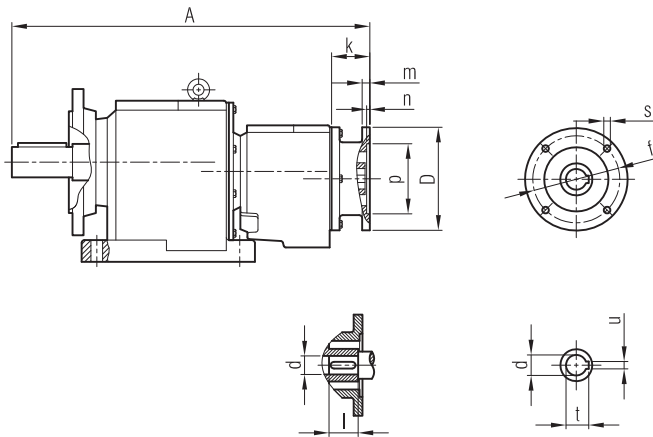


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5
A	795	830	856	872
A <sub>1</sub>	851	881	925	938
H	97	111	118	126
HD	160	182	198	216
AC	121	138	156	176

**İRAFP 82 İR 62 / İRAFP 82 İR 63**  
**İRAFP 83 İR 62 / İRAFP 83 İR 63**

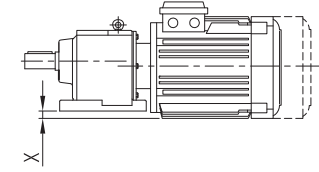
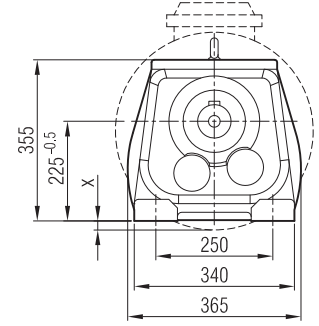
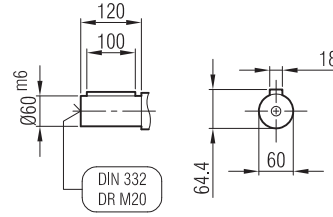
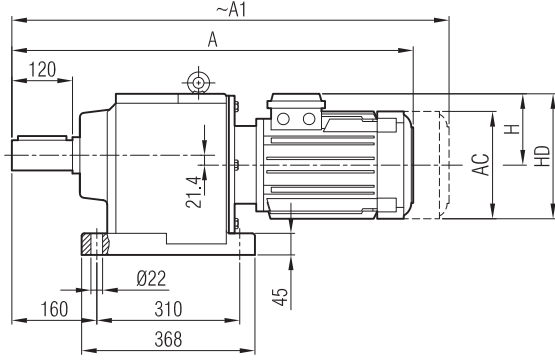


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

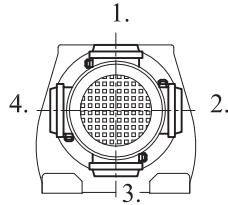
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	598	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	608	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	613	130	165	200	M10	50	12	5	19	40	21.8	6
90/B5	613	130	165	200	M10	50	12	5	24	50	27.3	8



**İRAM 92**  
**İRAM 93**



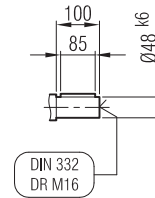
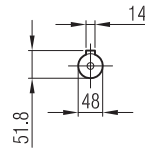
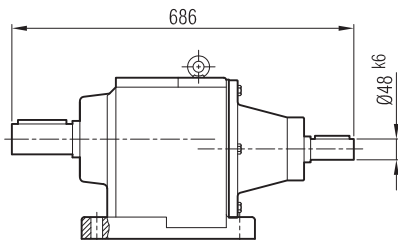
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200
A	757	780	832	870	960	1004	1017	1055	1096
A <sub>1</sub>	835	863	932	970	1075	1119	1137	1175	1216
H	134	145	168	168	220	220	241	241	277
HD	234	257	300	300	380	380	421	421	477
AC	194	218	257	257	310	310	348	348	390
x	-	-	-	-	-	-	-	-	-

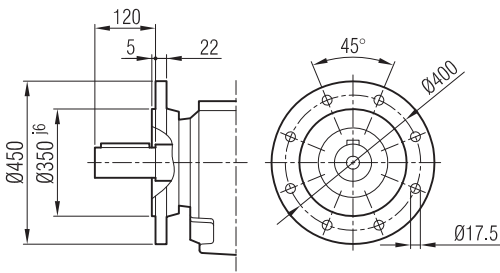
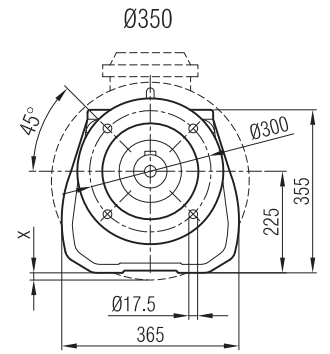
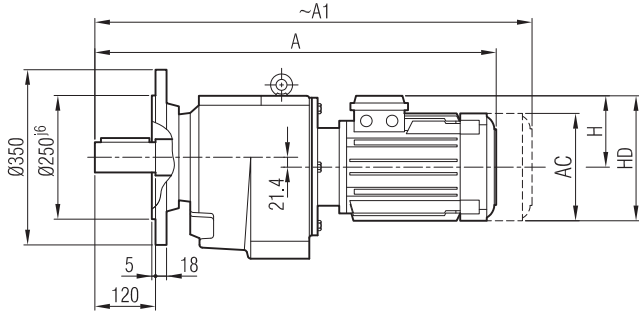
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

**İRA 92**  
**İRA 93**

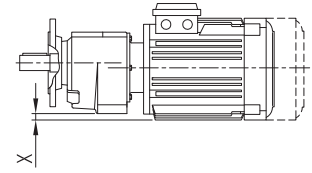
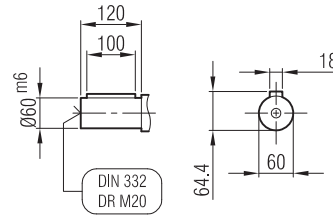




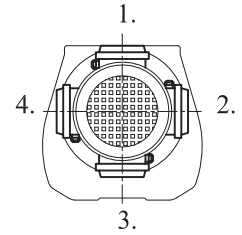
**İRFM 92**  
**İRFM 93**



**Ø450**  
**Opsiyonel / Option**

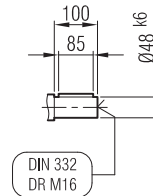
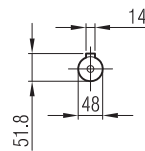
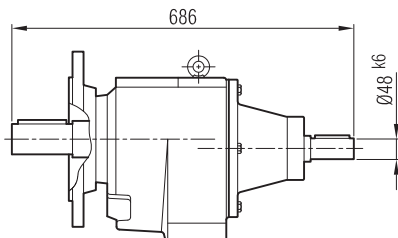


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200
A	757	780	832	870	960	1004	1017	1055	1096
A1	835	863	932	970	1075	1119	1137	1175	1216
H	134	145	168	168	220	220	241	241	277
HD	234	257	300	300	380	380	421	421	477
AC	194	218	257	257	310	310	348	348	390
X	-	-	-	-	-	-	-	-	-

**İRF 92**  
**İRF 93**

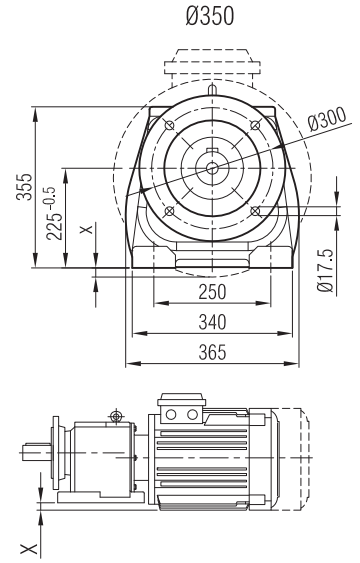
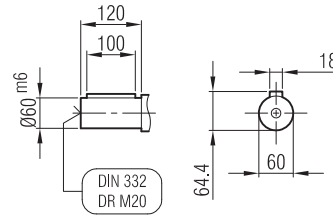
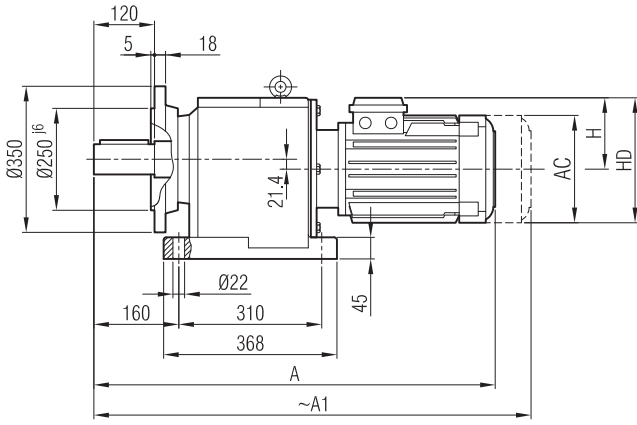


**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.

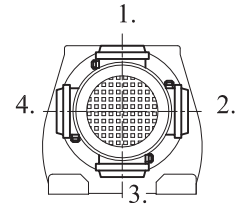




**İRAF 92**  
**İRAF 93**

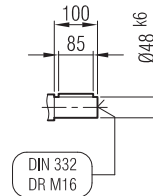
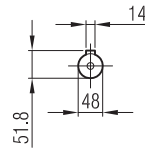
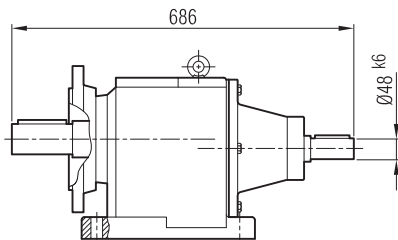


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200
A	757	780	832	870	960	1004	1017	1055	1096
A <sub>1</sub>	835	863	932	970	1075	1119	1137	1175	1216
H	134	145	168	168	220	220	241	241	277
HD	234	257	300	300	380	380	421	421	477
AC	194	218	257	257	310	310	348	348	390
X	-	-	-	-	-	-	-	-	-

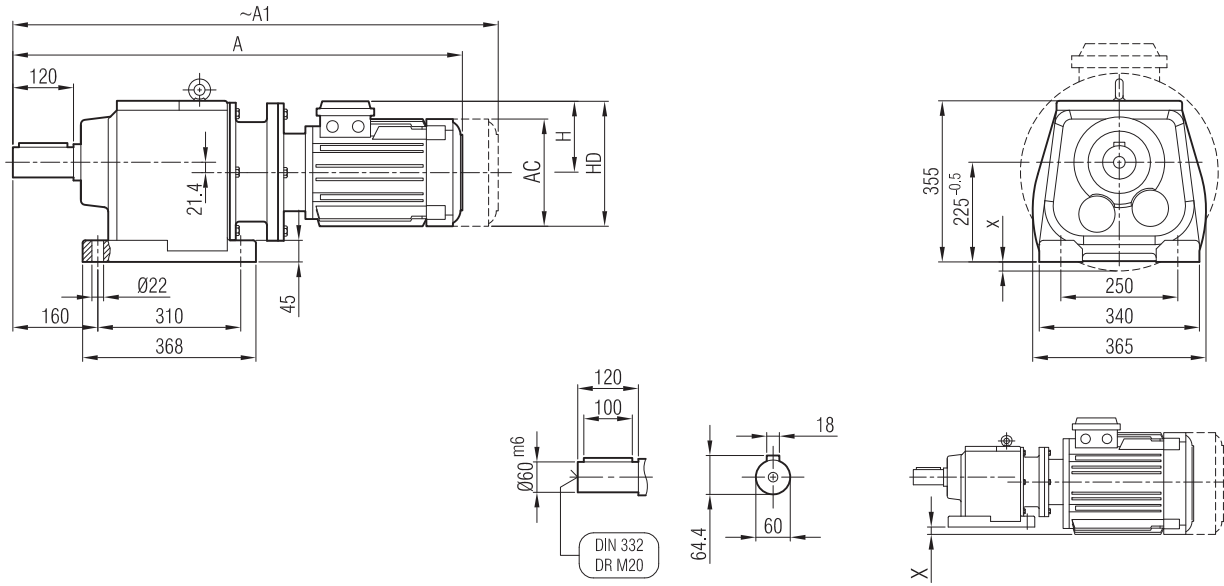
**İRAF 92**  
**İRAF 93**



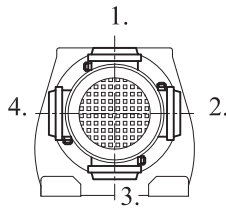
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 92**  
**İRAPM 93**



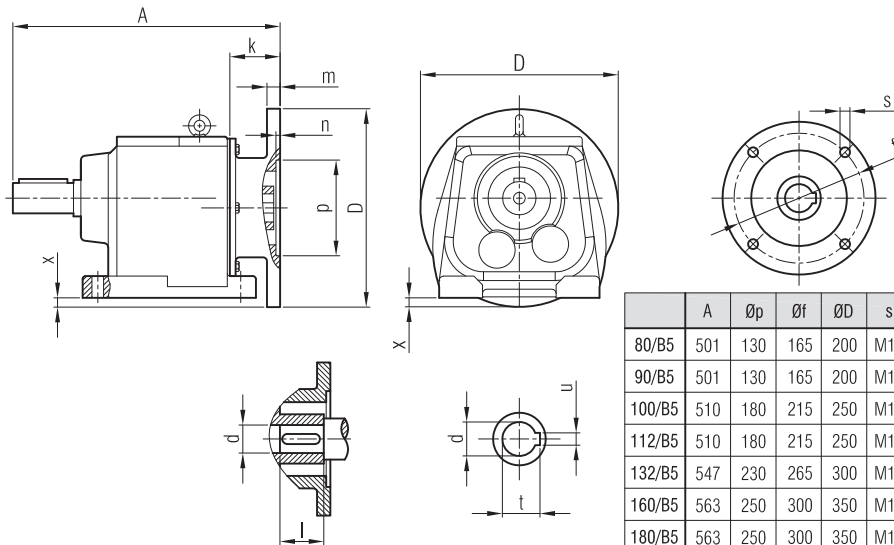
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5
A	745	760	785	826	846	927	965	1053	1097	1110	1148	1248
A <sub>1</sub>	814	826	851	904	929	1027	1065	1168	1212	1230	1268	1368
H	118	126	126	134	145	168	168	220	220	241	241	241
HD	198	216	216	234	257	300	300	380	380	421	421	421
AC	156	176	176	194	218	257	257	310	310	348	348	348
x	-	-	-	-	-	-	-	-	-	-	-	-

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

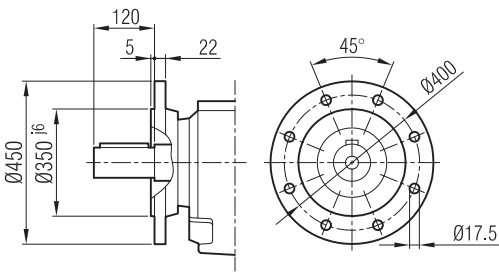
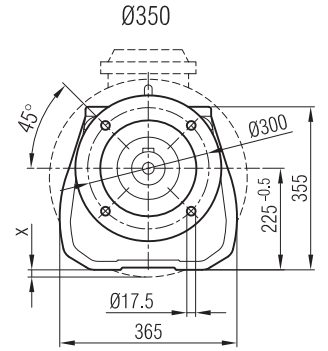
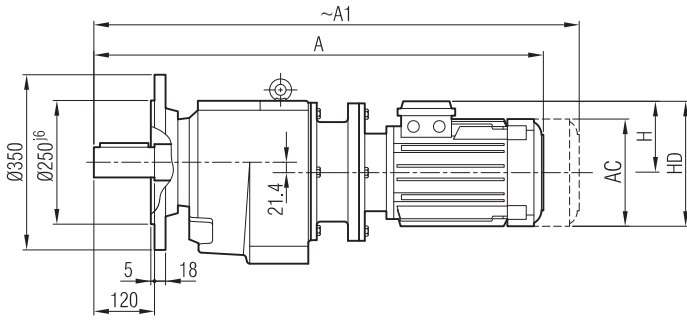
**İRAP 92**  
**İRAP 93**



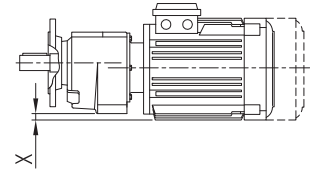
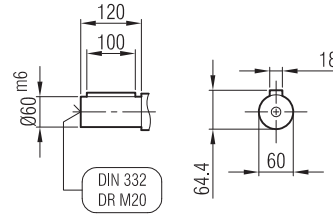
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
80/B5	501	130	165	200	M10	49	12	5	19	40	21.8	6	-
90/B5	501	130	165	200	M10	49	12	5	24	50	27.3	8	-
100/B5	510	180	215	250	M12	58	14	5	28	60	31.3	8	-
112/B5	510	180	215	250	M12	58	14	5	28	60	31.3	8	-
132/B5	547	230	265	300	M12	95	17	6	38	80	41.3	10	-
160/B5	563	250	300	350	M14	111	18	6.5	42	110	45.3	12	-
180/B5	563	250	300	350	M14	111	18	6.5	48	110	51.8	14	-
200/B5	611	300	350	400	M16	159	20	6.5	55	110	59.3	16	-



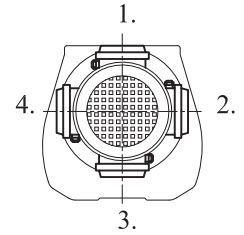
**İRFPM 92**  
**İRFPM 93**



**Ø450**  
**Opsiyonel / Option**

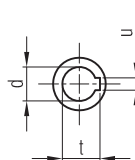
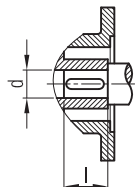
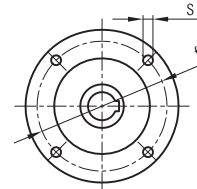
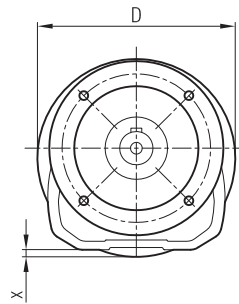
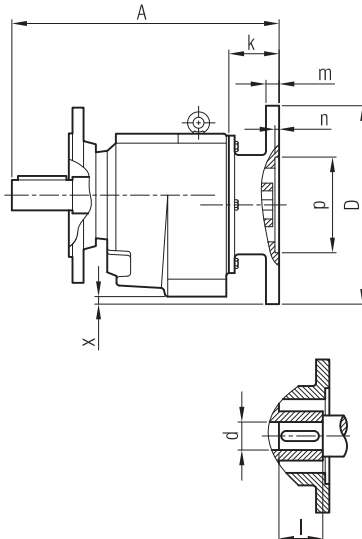


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5
A	745	760	785	826	846	927	965	1053	1097	1110	1148	1248
A <sub>1</sub>	814	826	851	904	929	1027	1065	1168	1212	1230	1268	1368
H	118	126	126	134	145	168	168	220	220	241	241	241
HD	198	216	216	234	257	300	300	380	380	421	421	421
AC	156	176	176	194	218	257	257	310	310	348	348	348
x	-	-	-	-	-	-	-	-	-	-	-	-

**İRFP 92**  
**İRFP 93**

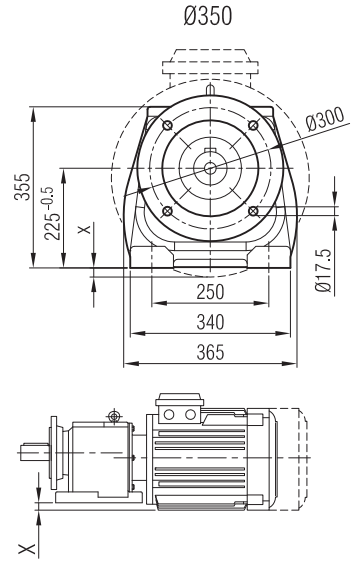
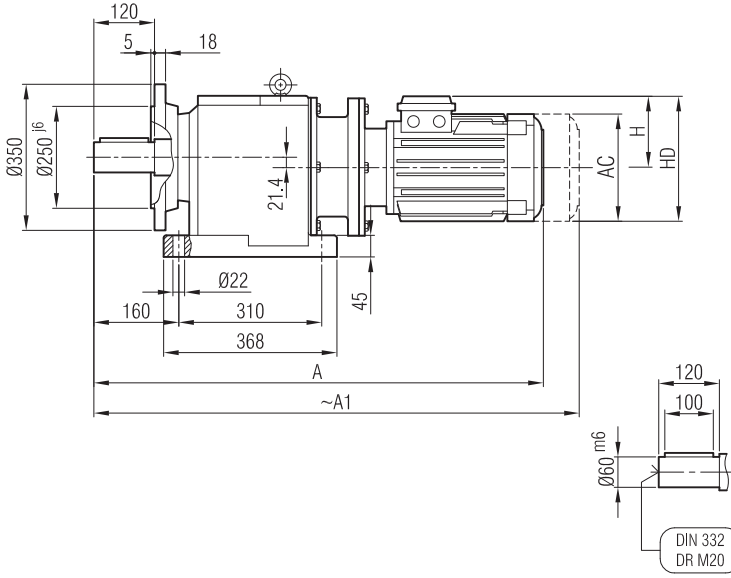


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

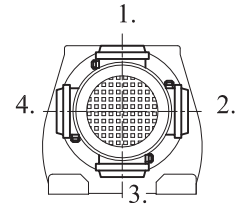
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
80/B5	501	130	165	200	M10	49	12	5	19	40	21.8	6	-
90/B5	501	130	165	200	M10	49	12	5	24	50	27.3	8	-
100/B5	510	180	215	250	M12	58	14	5	28	60	31.3	8	-
112/B5	510	180	215	250	M12	58	14	5	28	60	31.3	8	-
132/B5	547	230	265	300	M12	95	17	6	38	80	41.3	10	-
160/B5	563	250	300	350	M14	111	18	6.5	42	110	45.3	12	-
180/B5	563	250	300	350	M14	111	18	6.5	48	110	51.8	14	-
200/B5	611	300	350	400	M16	159	20	6.5	55	110	59.3	16	-



**İRAFPM 92**  
**İRAFPM 93**

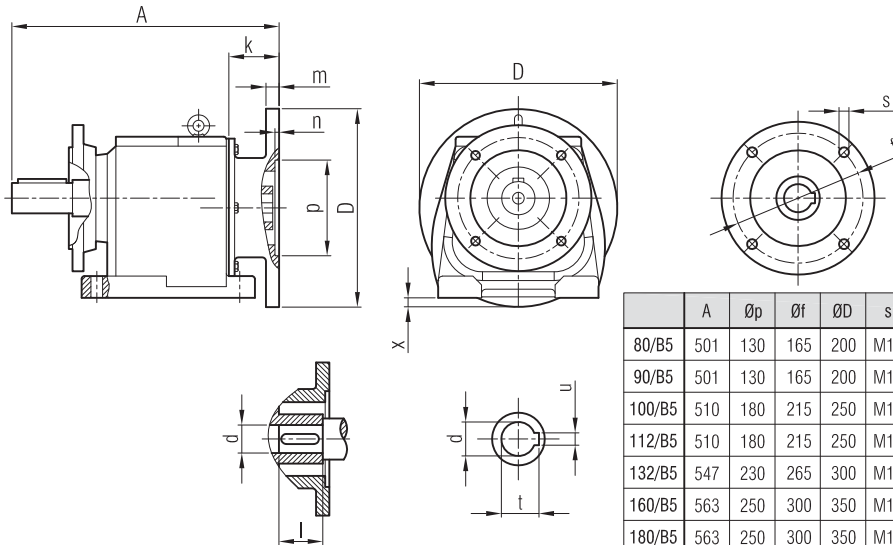


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5
A	745	760	785	826	846	927	965	1053	1097	1110	1148	1248
A <sub>1</sub>	814	826	851	904	929	1027	1065	1168	1212	1230	1268	1368
H	118	126	126	134	145	168	168	220	220	241	241	241
HD	198	216	216	234	257	300	300	380	380	421	421	421
AC	156	176	176	194	218	257	257	310	310	348	348	348
x	-	-	-	-	-	-	-	-	-	-	-	-

**İRAFP 92**  
**İRAFP 93**

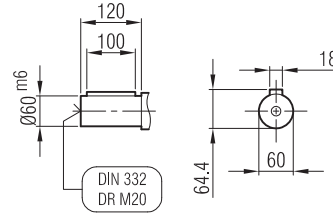
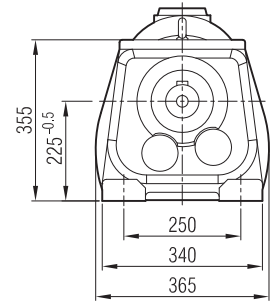
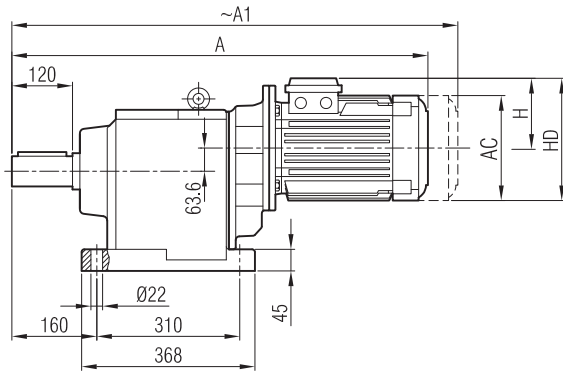


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

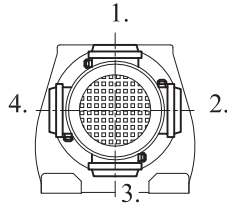
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
80/B5	501	130	165	200	M10	49	12	5	19	40	21.8	6	-
90/B5	501	130	165	200	M10	49	12	5	24	50	27.3	8	-
100/B5	510	180	215	250	M12	58	14	5	28	60	31.3	8	-
112/B5	510	180	215	250	M12	58	14	5	28	60	31.3	8	-
132/B5	547	230	265	300	M12	95	17	6	38	80	41.3	10	-
160/B5	563	250	300	350	M14	111	18	6.5	42	110	45.3	12	-
180/B5	563	250	300	350	M14	111	18	6.5	48	110	51.8	14	-
200/B5	611	300	350	400	M16	159	20	6.5	55	110	59.3	16	-



**İRAM 94**



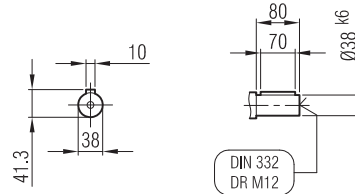
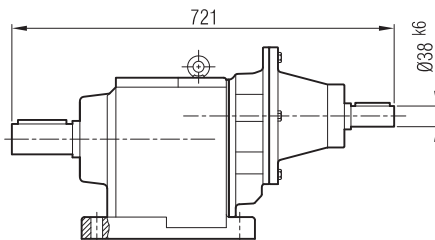
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	80	90 S	90 L	100		
A	754	782	807	847		
A <sub>1</sub>	823	848	873	925		
H	118	126	126	134		
HD	198	216	216	234		
AC	156	176	176	194		

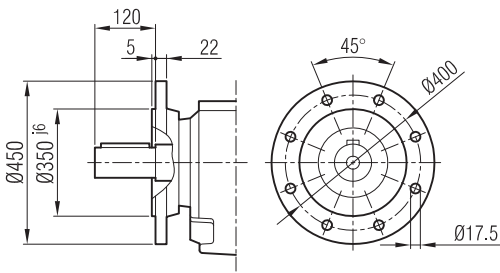
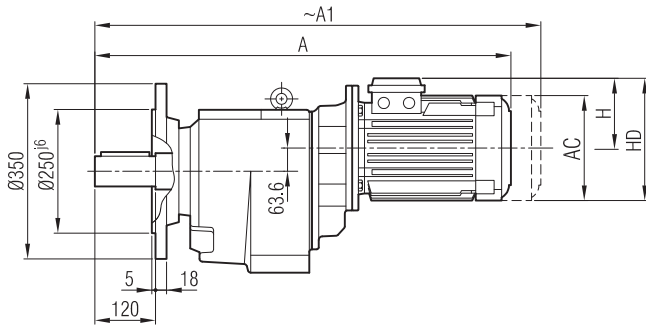
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 94**

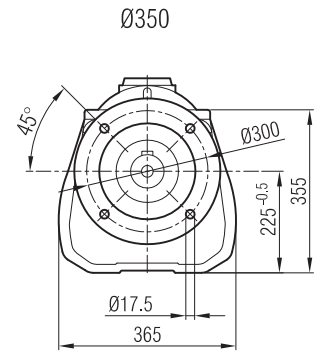
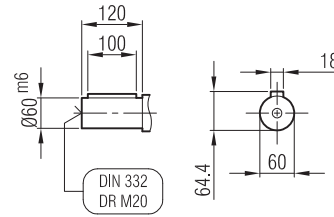




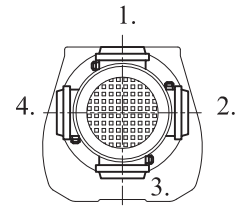
**İRFM 94**



Ø450  
**Opsiyonel / Option**



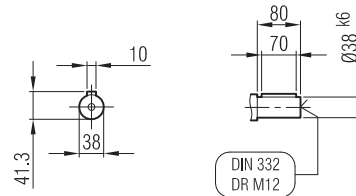
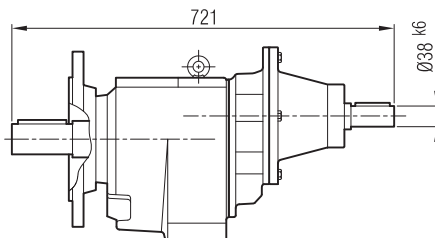
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80	90 S	90 L	100		
A	754	782	807	847		
A <sub>1</sub>	823	848	873	925		
H	118	126	126	134		
HD	198	216	216	234		
AC	156	176	176	194		

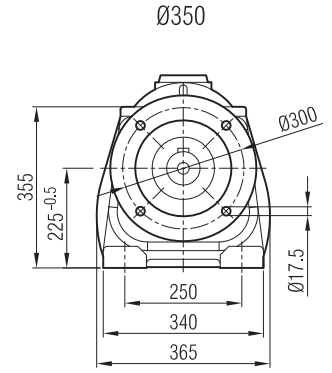
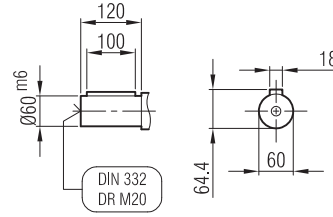
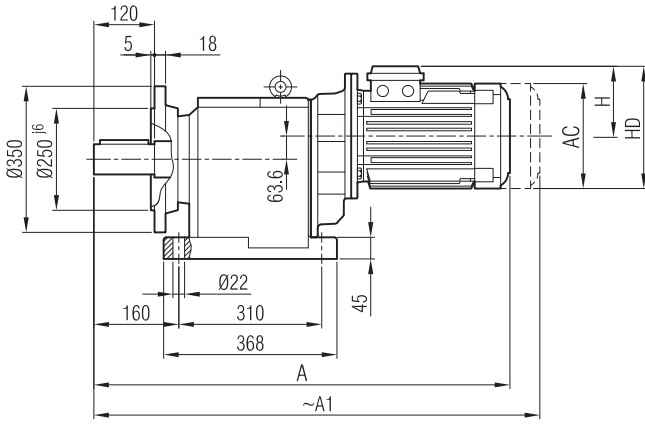
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 94**

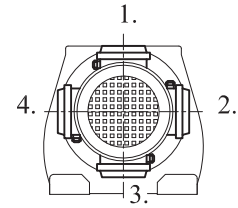




**İRAF 94**



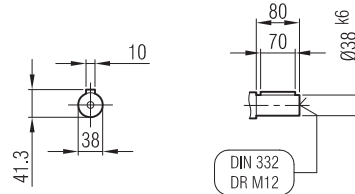
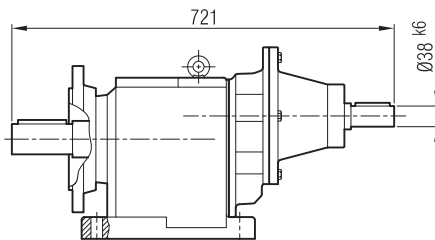
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80	90 S	90 L	100		
A	754	782	807	847		
A <sub>1</sub>	823	848	873	925		
H	118	126	126	134		
HD	198	216	216	234		
AC	156	176	176	194		

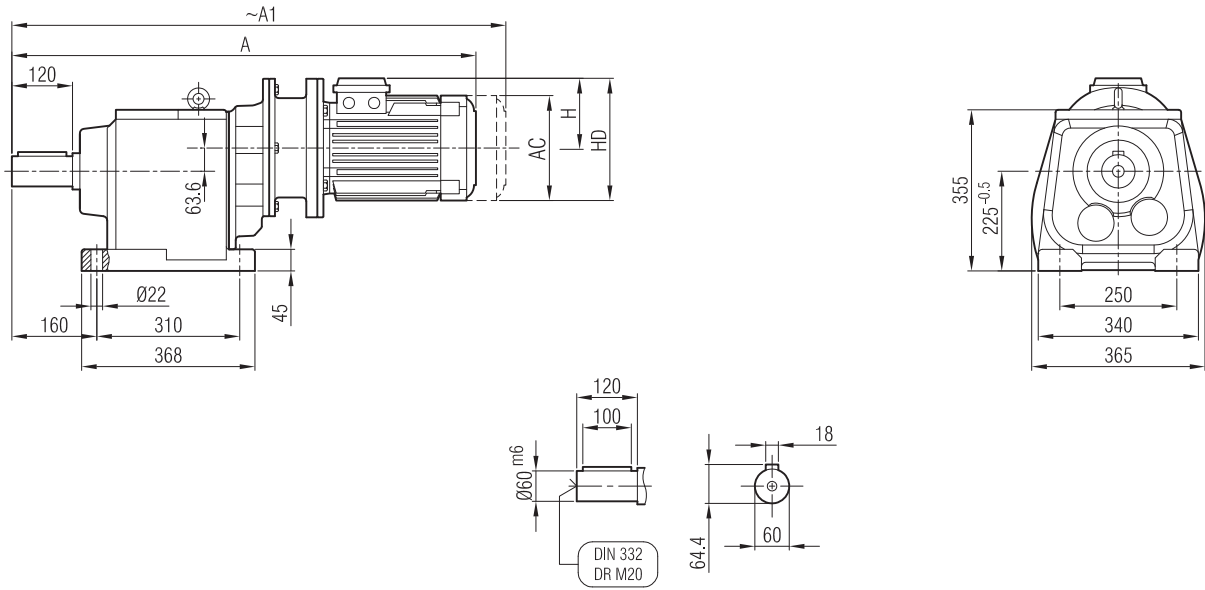
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 94**

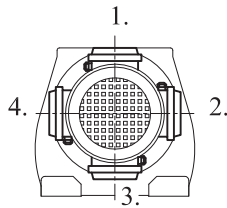




**İRAPM 94**



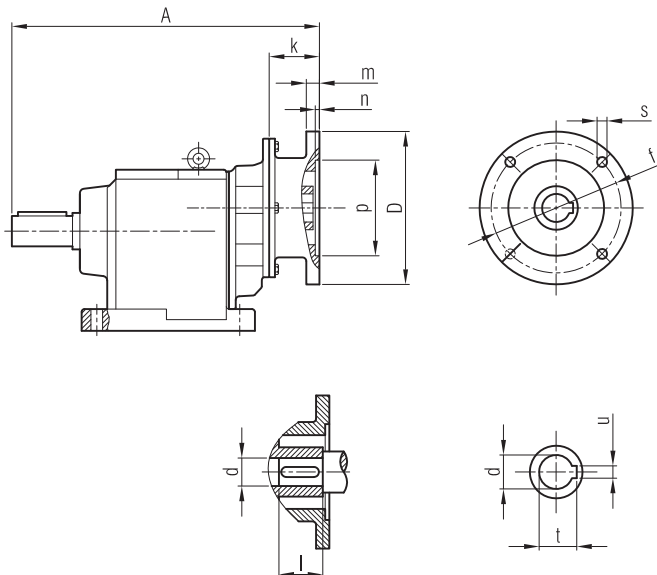
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	80/B5	90 S/B5	90 L/B5	100/B5
A	842	857	882	922
A <sub>1</sub>	911	923	948	1000
H	118	126	126	134
HD	198	216	216	234
AC	156	176	176	194

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRAP 94**

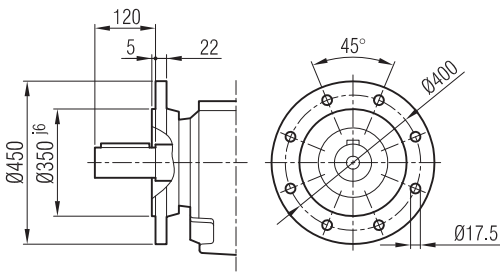
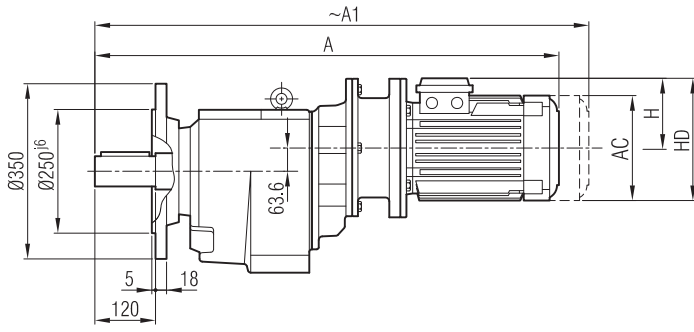


	A	$\phi p$	$\phi f$	$\phi D$	s	k	m	n	$\phi d$	l	t	u
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8

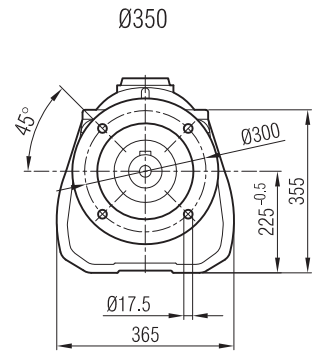
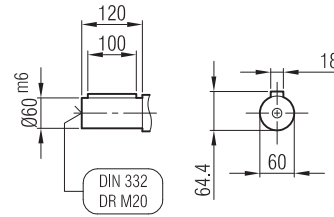




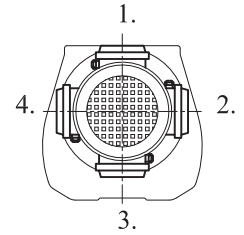
**İRFPM 94**



Ø450  
**Opsiyonel / Option**

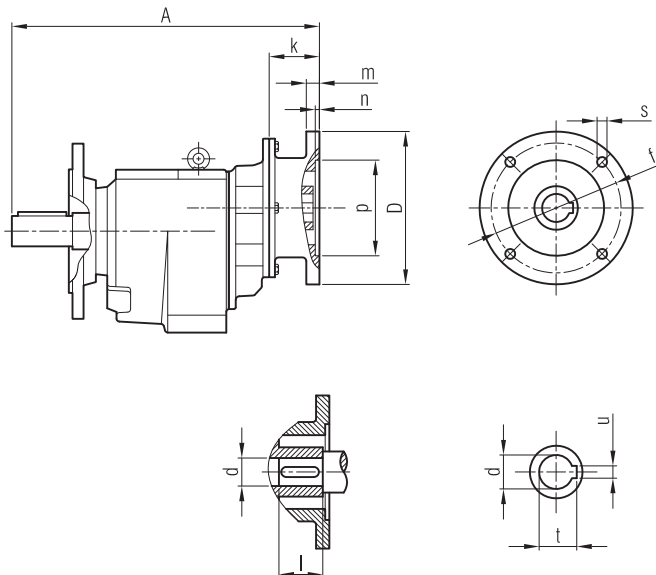


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5
A	842	857	882	922
A <sub>1</sub>	911	923	948	1000
H	118	126	126	134
HD	198	216	216	234
AC	156	176	176	194

**İRFP 94**

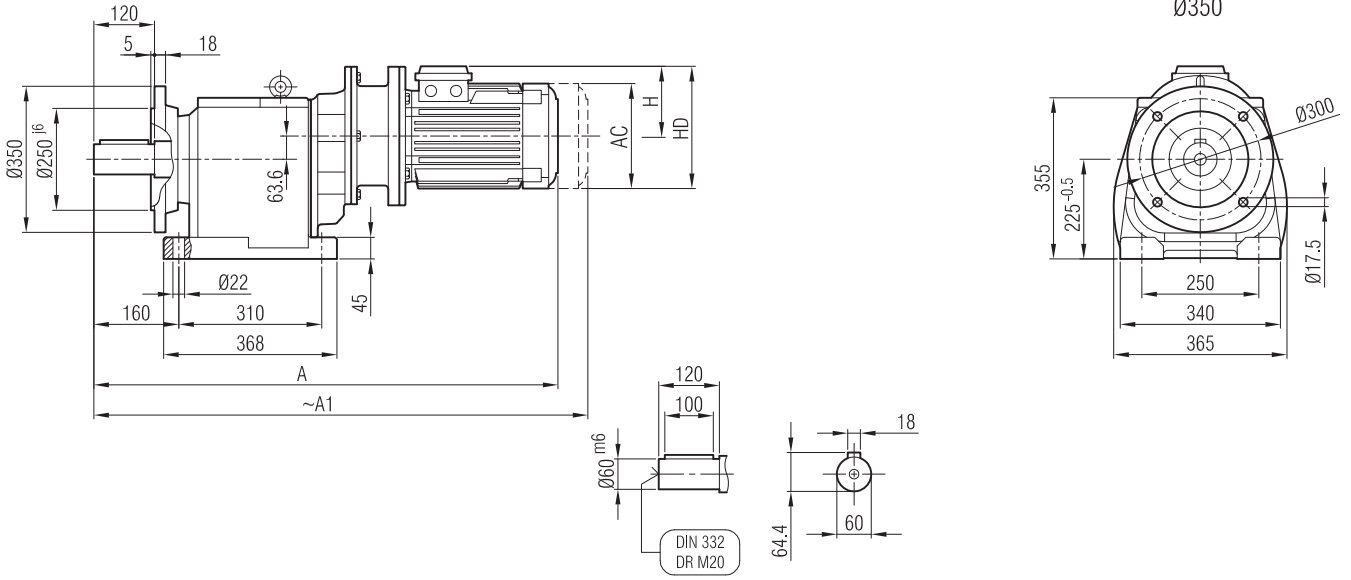


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

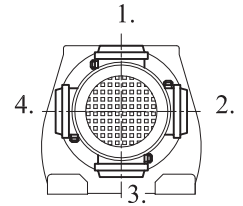
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8



**İRAFPM 94**

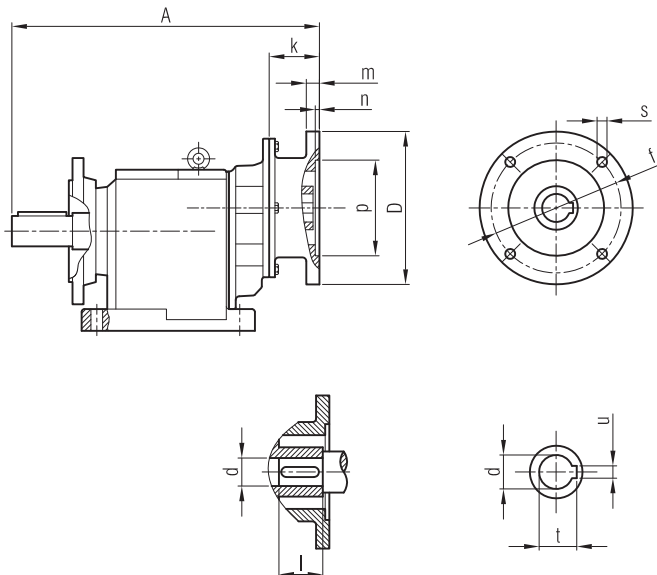


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5
A	842	857	882	922
A <sub>1</sub>	911	923	948	1000
H	118	126	126	134
HD	198	216	216	234
AC	156	176	176	194

**İRAFP 94**

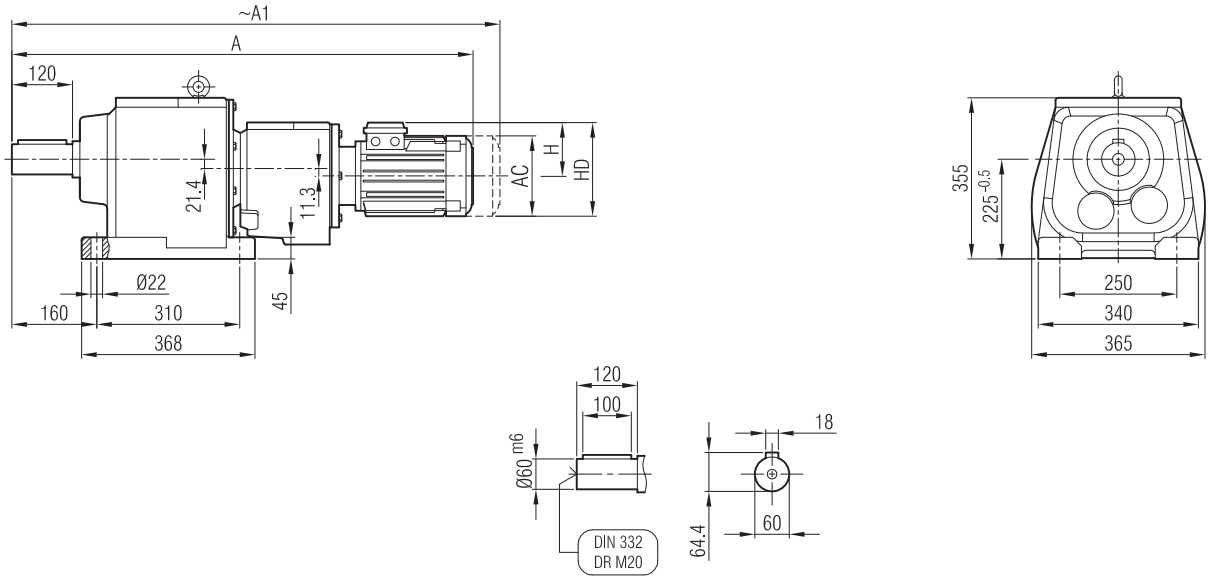


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

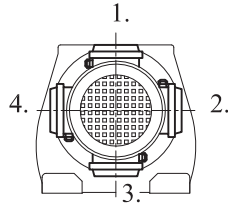
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8



**İRAM 92 İR 62 / İRAM 92 İR 63**  
**İRAM 93 İR 62 / İRAM 93 İR 63**



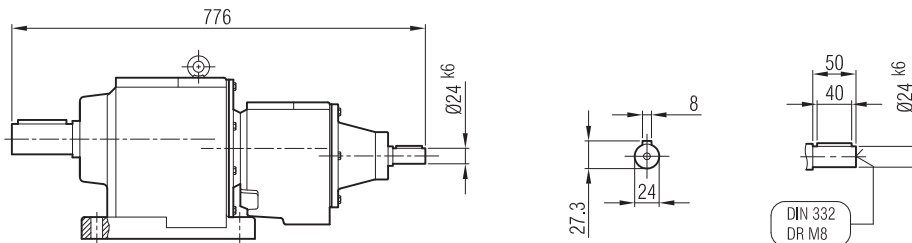
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80	90 S	90 L		
A	843	873	903	928		
A <sub>1</sub>	894	942	969	994		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

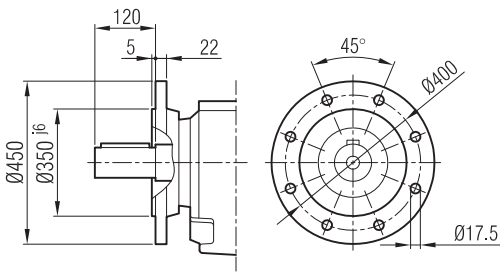
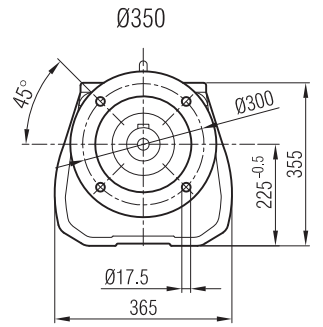
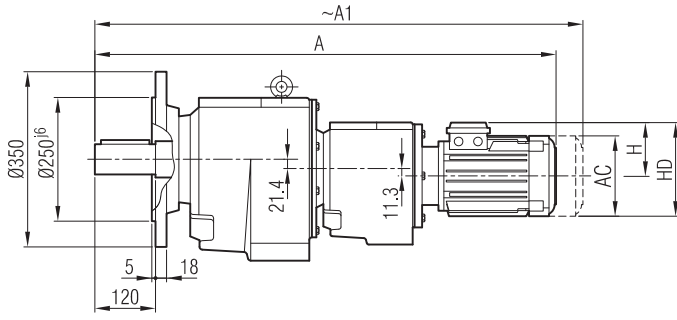
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 92 İR 62 / İRA 92 İR 63**  
**İRA 93 İR 62 / İRA 93 İR 63**

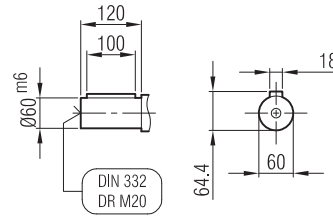




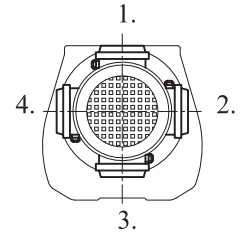
**İRFM 92 İR 62 / İRFM 92 İR 63**  
**İRFM 93 İR 62 / İRFM 93 İR 63**



Ø450  
**Opsiyonel / Option**

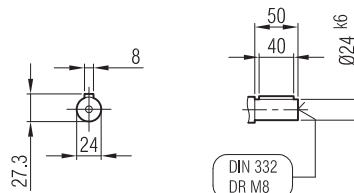
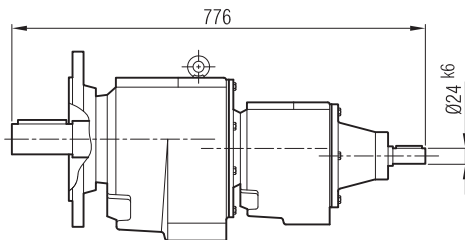


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L		
A	843	873	903	928		
A <sub>1</sub>	894	942	969	994		
H	111	118	126	126		
HD	182	198	216	216		
AC	138	156	176	176		

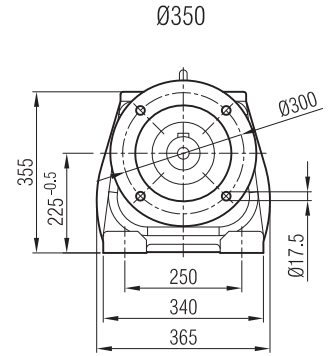
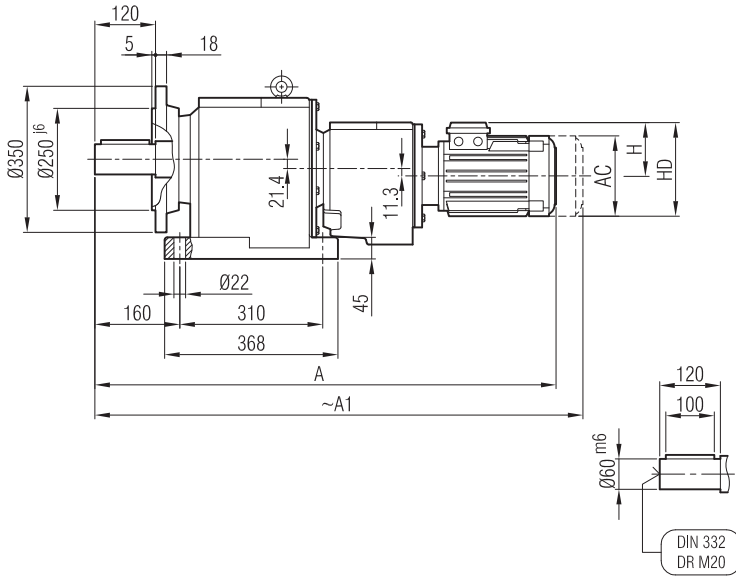
**İRF 92 İR 62 / İRF 92 İR 63**  
**İRF 93 İR 62 / İRF 93 İR 63**



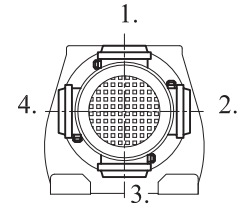
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAFM 92 İR 62 / İRAFM 92 İR 63**  
**İRAFM 93 İR 62 / İRAFM 93 İR 63**



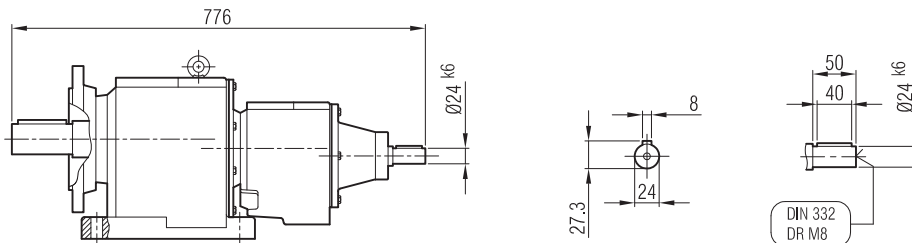
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80	90 S			
A	843	873	903	928	
A <sub>1</sub>	894	942	969	994	
H	111	118	126	126	
HD	182	198	216	216	
AC	138	156	176	176	

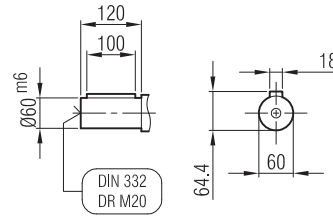
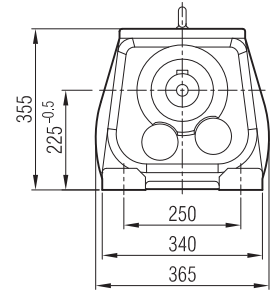
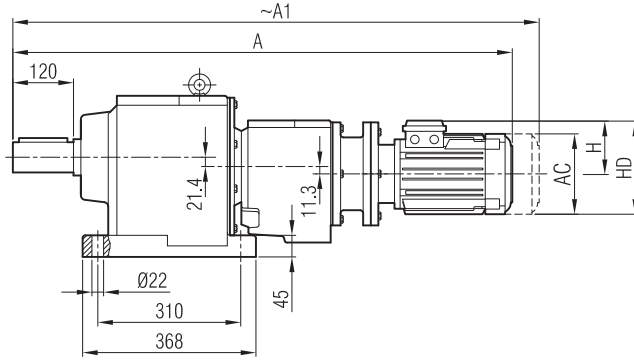
**İRAF 92 İR 62 / İRAF 92 İR 63**  
**İRAF 93 İR 62 / İRAF 93 İR 63**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

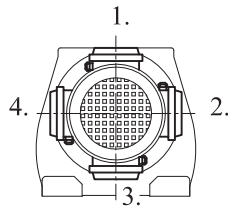




**İRAPM 92 İR 62 / İRAPM 92 İR 63**  
**İRAPM 93 İR 62 / İRAPM 93 İR 63**



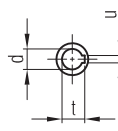
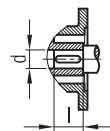
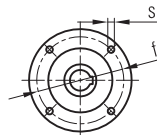
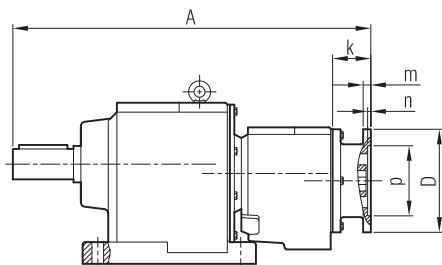
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	865	900	926	942	967
A <sub>1</sub>	921	951	995	1008	1033
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

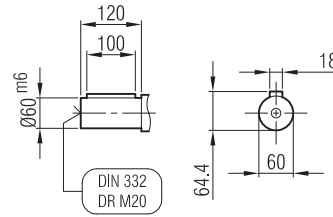
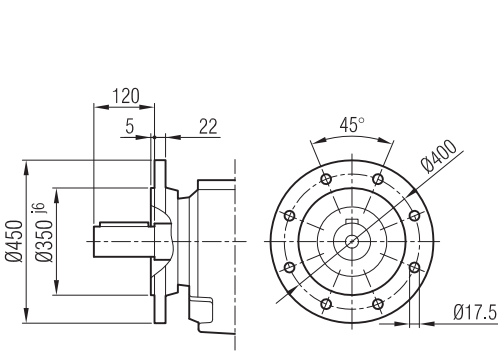
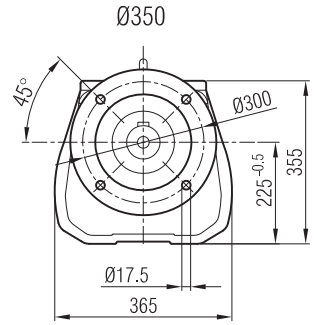
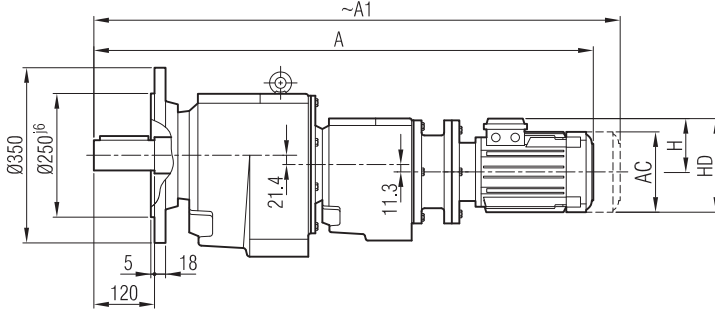
**İRAP 92 İR 62 / İRAP 92 İR 63**  
**İRAP 93 İR 62 / İRAP 93 İR 63**



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	668	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	678	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	683	130	165	200	M10	50	12	5	19	40	21.8	6
90/B5	683	130	165	200	M10	50	12	5	24	50	27.3	8

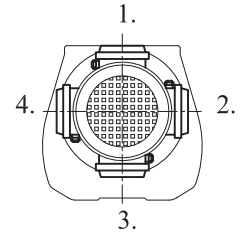


**İRFPM 92 İR 62 / İRFPM 92 İR 63**  
**İRFPM 93 İR 62 / İRFPM 93 İR 63**



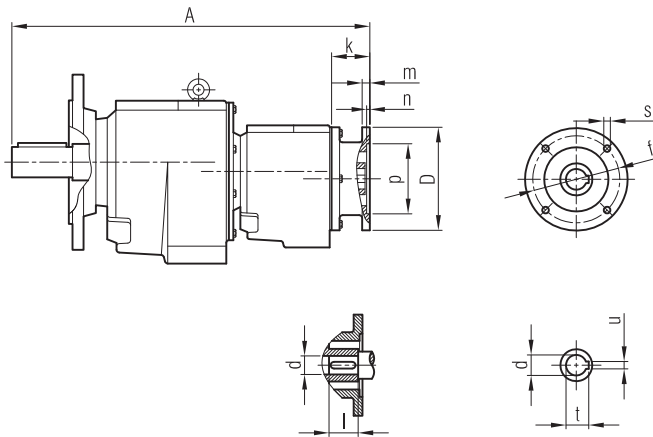
Ø450  
**Opsiyonel / Option**

**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	865	900	926	942	967
A <sub>1</sub>	921	951	995	1008	1033
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**İRFP 92 İR 62 / İRF 92 İR 63**  
**İRFP 93 İR 62 / İRF 93 İR 63**

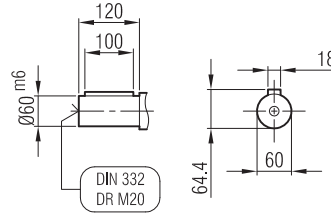
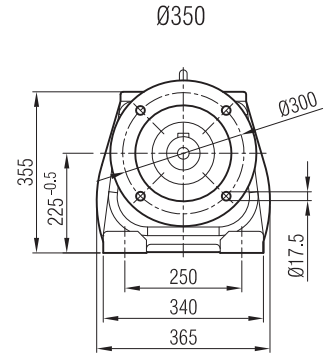
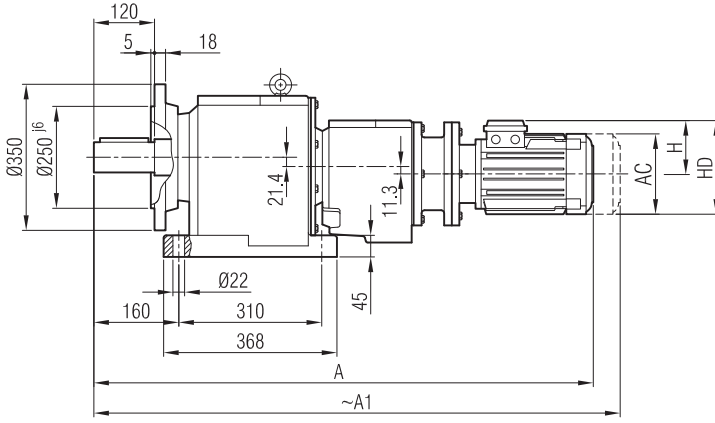


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	668	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	678	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	683	130	165	200	M10	50	12	5	19	40	21.8	6
90/B5	683	130	165	200	M10	50	12	5	24	50	27.3	8

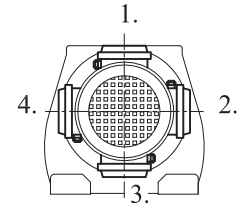
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAFPM 92 İR 62 / İRAFPM 92 İR 63**  
**İRAFPM 93 İR 62 / İRAFPM 93 İR 63**



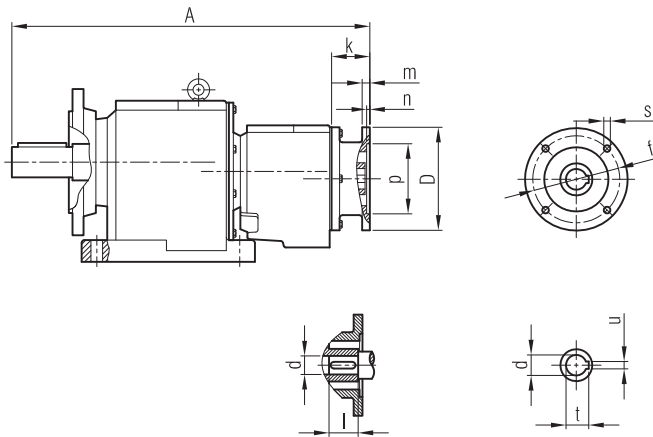
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	63/B5	71/B5	80/B5	90 S/B5	90 L/B5
A	865	900	926	942	967
A <sub>1</sub>	921	951	995	1008	1033
H	97	111	118	126	126
HD	160	182	198	216	216
AC	121	138	156	176	176

**İRAFP 92 İR 62 / İRAFP 92 İR 63**  
**İRAFP 93 İR 62 / İRAFP 93 İR 63**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

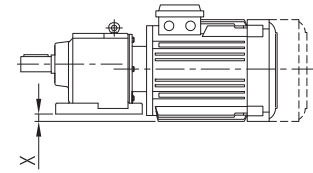
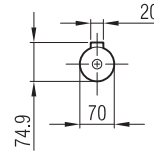
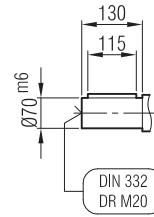
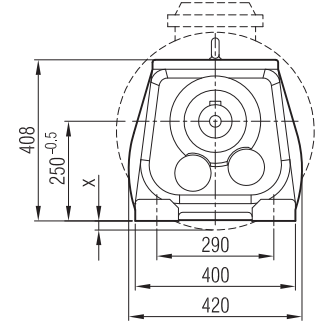
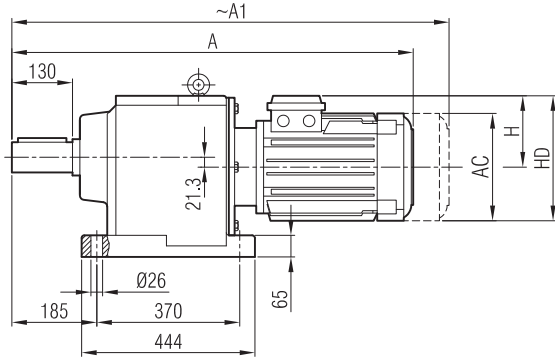


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
63/B5	668	95	115	140	M8	35.5	8	4	11	23	12.8	4
71/B5	678	110	130	160	M8	45	9	4	14	30	16.3	5
80/B5	683	130	165	200	M10	50	12	5	19	40	21.8	6
90/B5	683	130	165	200	M10	50	12	5	24	50	27.3	8

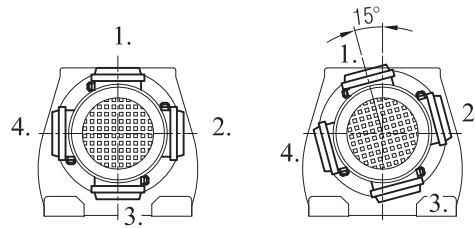




**İRAM 102**  
**İRAM 103**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



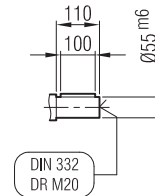
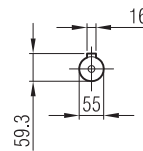
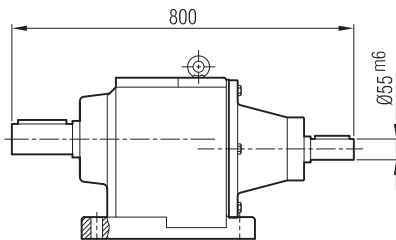
100-112-132-180-200-225  
**Tip/Type/Tipo**

160  
**Tip/Type/Tipo**

	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M
A	841	861	902	940	1012	1056	1084	1122	1176	1210	1235
A <sub>1</sub>	919	944	1002	1040	1127	1171	1204	1242	1296	1330	1355
H	134	145	168	168	220	220	241	241	277	285	285
HD	234	257	300	300	380	380	421	421	477	510	510
AC	194	218	257	257	310	310	348	348	390	434	434
X	-	-	-	-	-	-	-	-	-	-	-

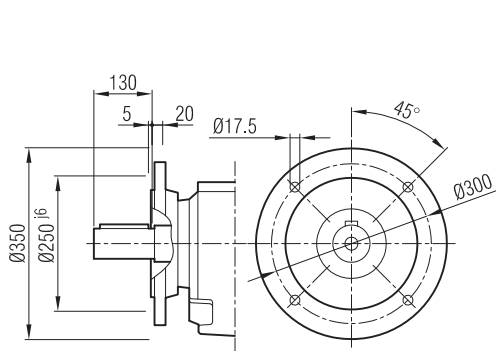
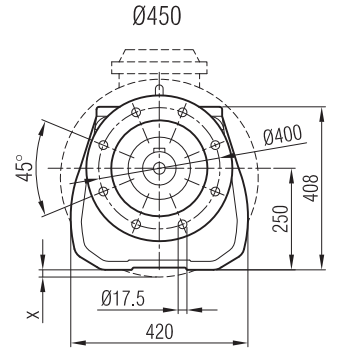
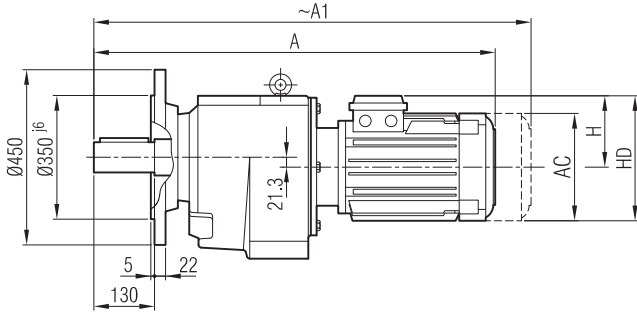
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

**İRA 102**  
**İRA 103**

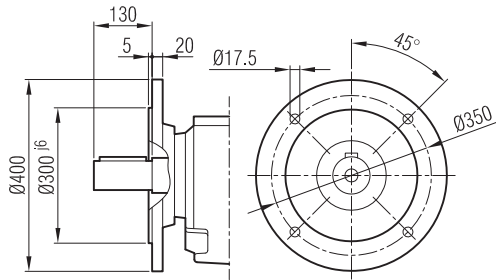




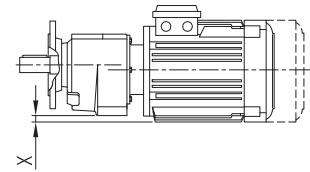
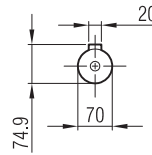
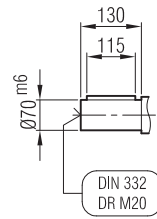
**İRFM 102**  
**İRFM 103**



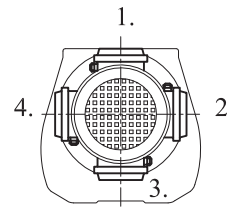
**Ø350**  
**Opsiyonel / Option**



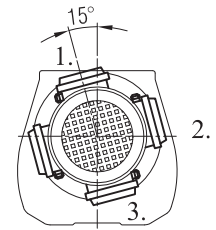
**Ø400**  
**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



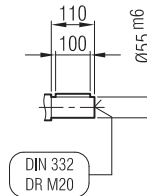
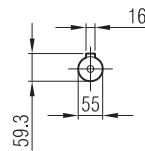
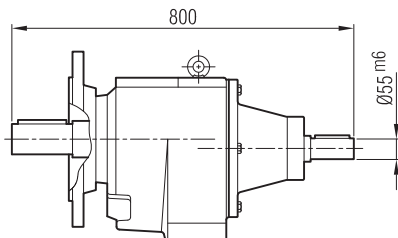
**100-112-132-180-200-225**  
**Tip/Type/Tipo**



**160**  
**Tip/Type/Tipo**

	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M
A	841	861	902	940	1012	1056	1084	1122	1176	1210	1235
A <sub>1</sub>	919	944	1002	1040	1127	1171	1204	1242	1296	1330	1355
H	134	145	168	168	220	220	241	241	277	285	285
HD	234	257	300	300	380	380	421	421	477	510	510
AC	194	218	257	257	310	310	348	348	390	434	434
X	-	-	-	-	-	-	-	-	-	-	-

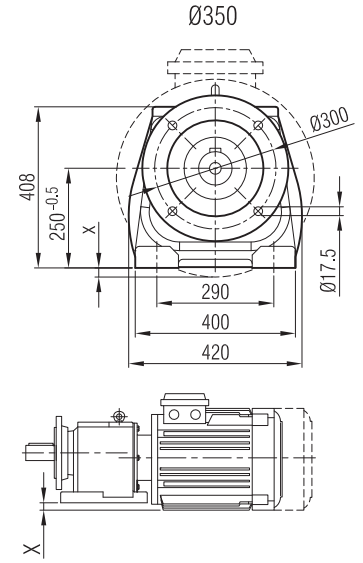
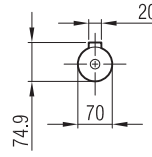
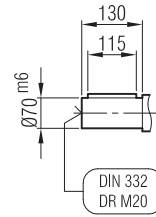
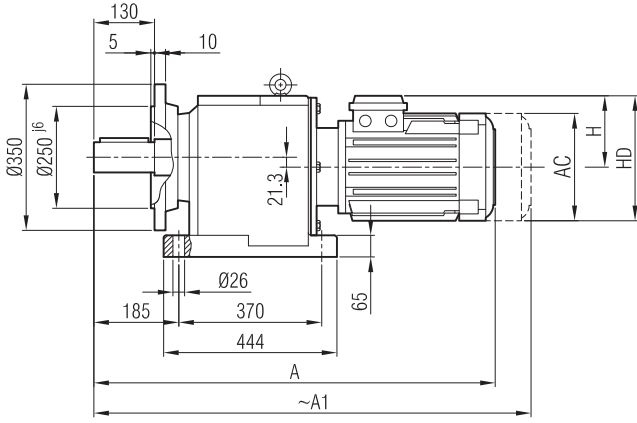
**İRF 102**  
**İRF 103**



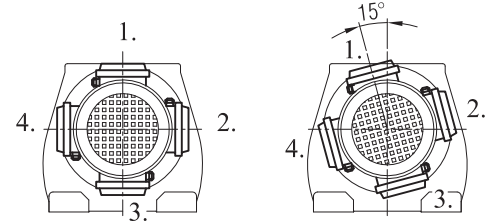
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAF M 102**  
**İRAF M 103**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

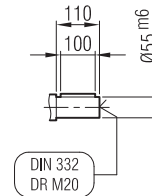
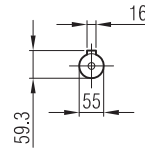
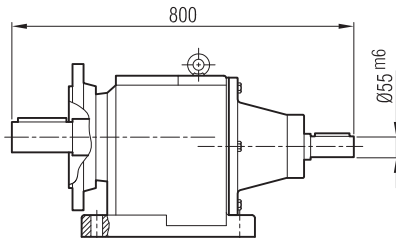


100-112-132-180-200-225  
Tip/Type/Tipo

160  
Tip/Type/Tipo

	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M
A	841	861	902	940	1012	1056	1084	1122	1176	1210	1235
A <sub>1</sub>	919	944	1002	1040	1127	1171	1204	1242	1296	1330	1355
H	134	145	168	168	220	220	241	241	277	285	285
HD	234	257	300	300	380	380	421	421	477	510	510
AC	194	218	257	257	310	310	348	348	390	434	434
x	-	-	-	-	-	-	-	-	-	-	-

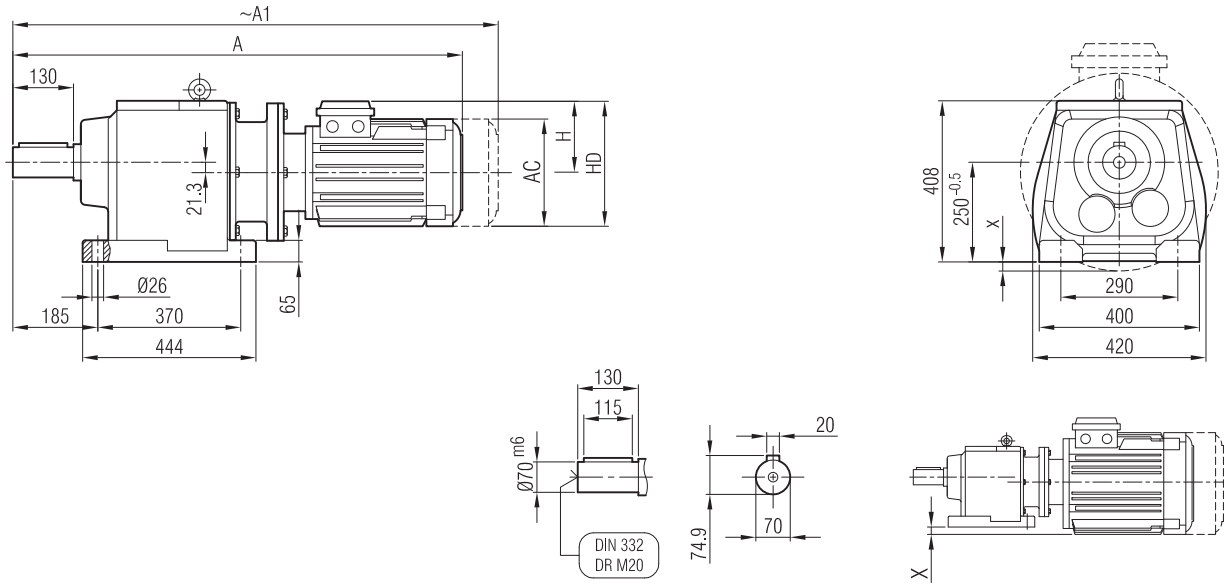
**İRAF 102**  
**İRAF 103**



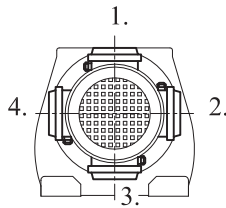
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 102**  
**İRAPM 103**



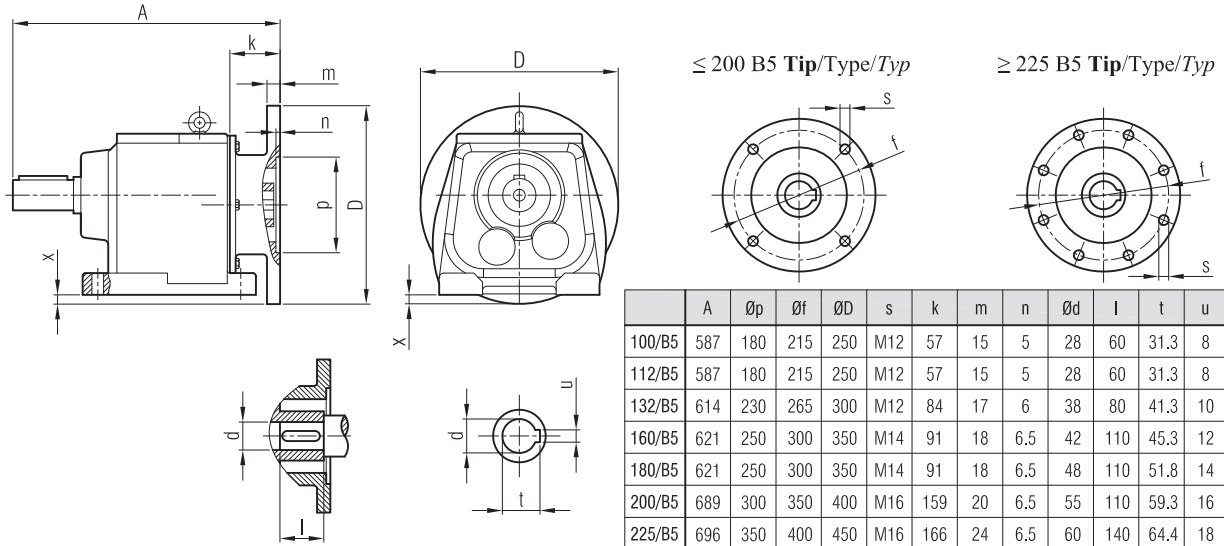
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5
A	903	923	994	1032	1111	1155	1168	1206	1326	1351	1376
A <sub>1</sub>	981	1006	1094	1132	1226	1270	1288	1326	1446	1471	1496
H	134	145	168	168	220	220	241	241	241	285	285
HD	234	257	300	300	380	380	421	421	421	510	510
AC	194	218	257	257	310	310	348	348	348	434	434
x	-	-	-	-	-	-	-	-	-	-	-

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

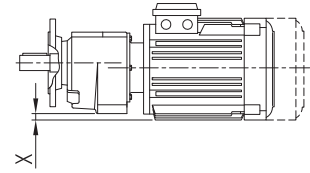
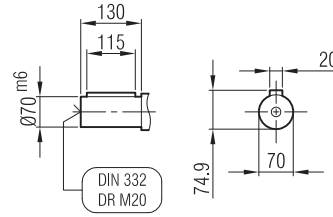
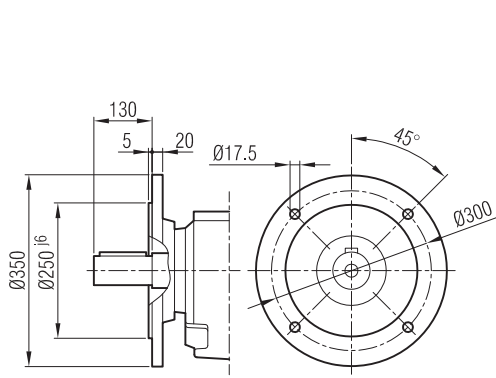
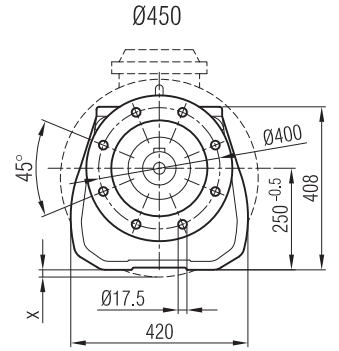
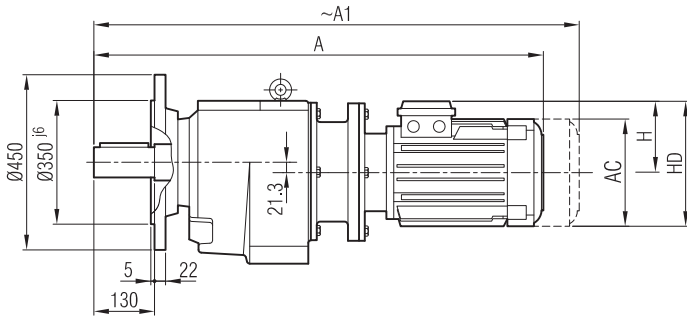
**İRAP 102**  
**İRAP 103**



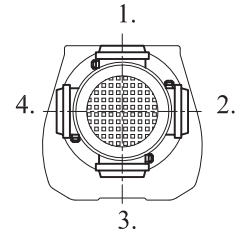
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8	-
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8	-
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10	-
160/B5	621	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	621	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	689	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	696	350	400	450	M16	166	24	6.5	60	140	64.4	18	-



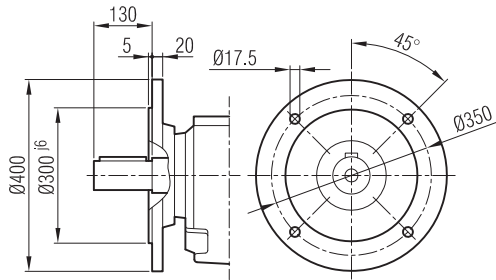
**İRFPM 102**  
**İRFPM 103**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



**Ø350**  
**Opsiyonel / Option**

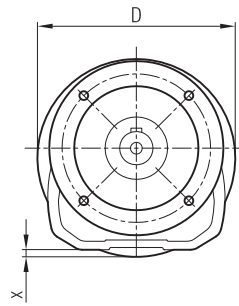
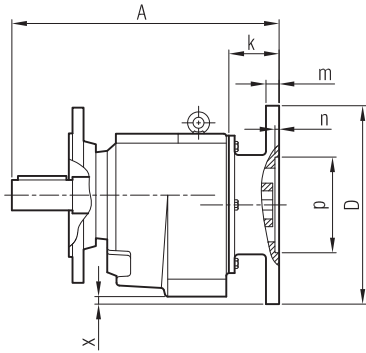


**Ø400**  
**Opsiyonel / Option**

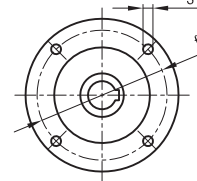
	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5
A	903	923	994	1032	1111	1155	1168	1206	1326	1351	1376
A1	981	1006	1094	1132	1226	1270	1288	1326	1446	1471	1496
H	134	145	168	168	220	220	241	241	241	285	285
HD	234	257	300	300	380	380	421	421	421	510	510
AC	194	218	257	257	310	310	348	348	348	434	434
X	-	-	-	-	-	-	-	-	-	-	-

**İRFP 102**  
**İRFP 103**

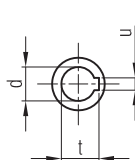
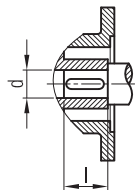
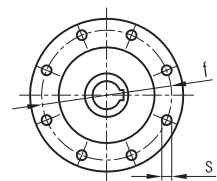
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.



≤ 200 B5 Tip/Type/Typ



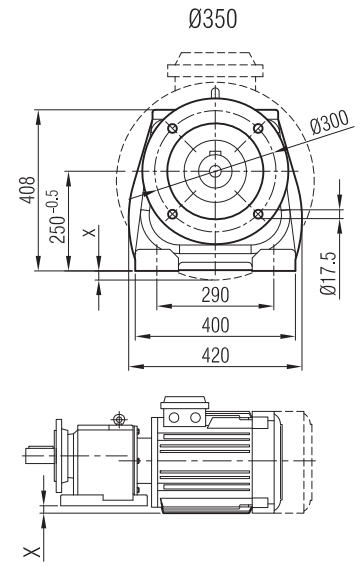
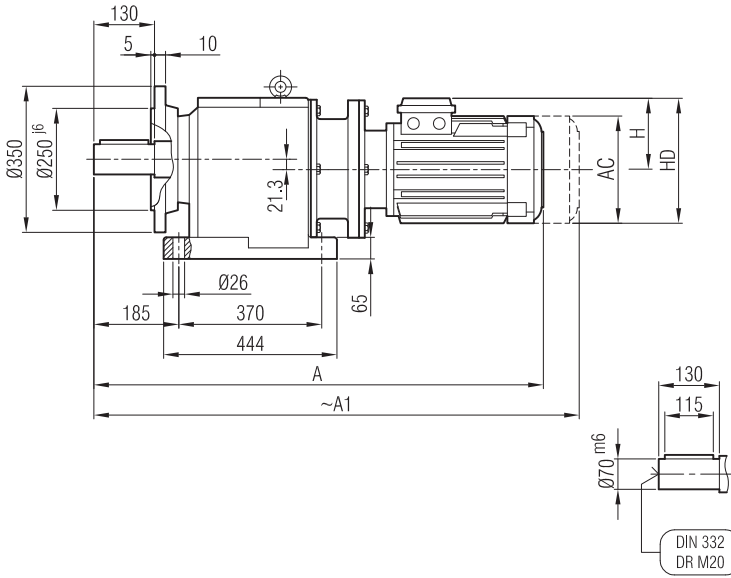
≥ 225 B5 Tip/Type/Typ



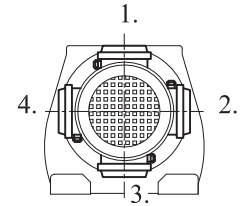
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8	-
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8	-
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10	-
160/B5	621	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	621	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	689	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	696	350	400	450	M16	166	24	6.5	60	140	64.4	18	-



**İRAFPM 102**  
**İRAFPM 103**

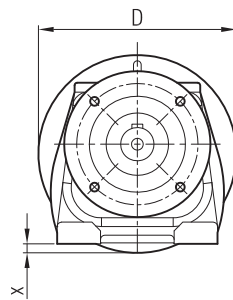
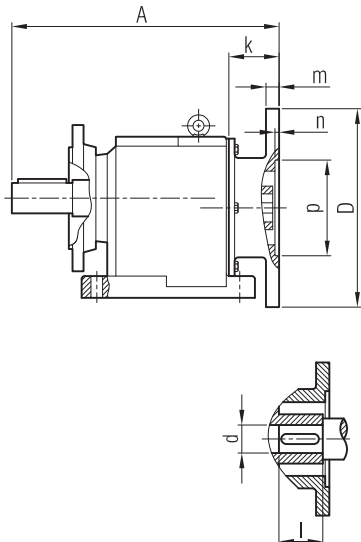


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

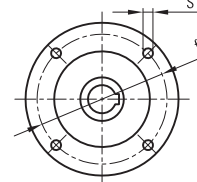


	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5
A	903	923	994	1032	1111	1155	1168	1206	1326	1351	1376
A <sub>1</sub>	981	1006	1094	1132	1226	1270	1288	1326	1446	1471	1496
H	134	145	168	168	220	220	241	241	241	285	285
HD	234	257	300	300	380	380	421	421	421	510	510
AC	194	218	257	257	310	310	348	348	348	434	434
x	-	-	-	-	-	-	-	-	-	-	-

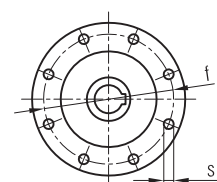
**İRAFP 102**  
**İRAFP 103**



≤ 200 B5 Tip/Type/Typ



≥ 225 B5 Tip/Type/Typ

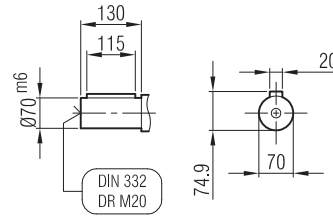
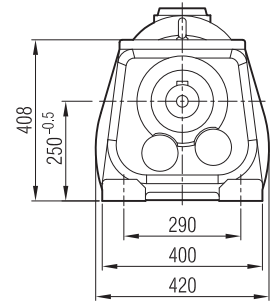
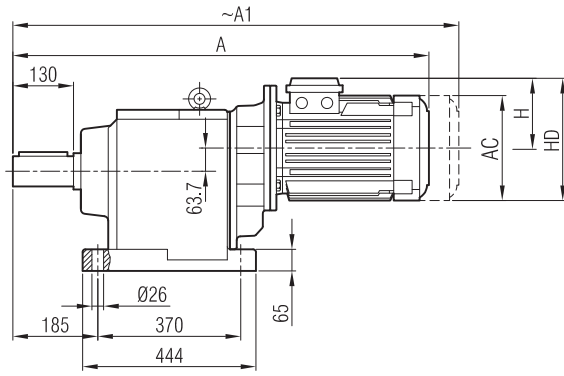


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8	-
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8	-
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10	-
160/B5	621	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	621	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	689	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	696	350	400	450	M16	166	24	6.5	60	140	64.4	18	-

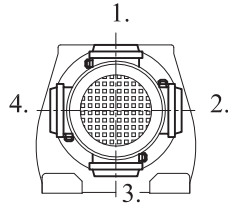
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAM 104**



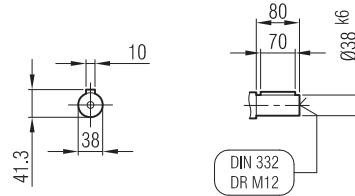
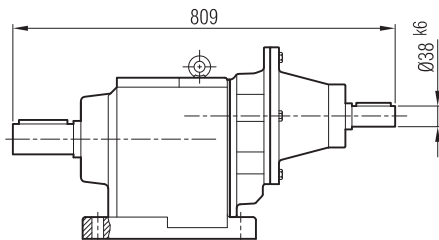
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80	90 S	90 L	100		
A	842	870	895	935		
A <sub>1</sub>	911	936	961	1013		
H	118	126	126	134		
HD	198	216	216	234		
AC	156	176	176	194		

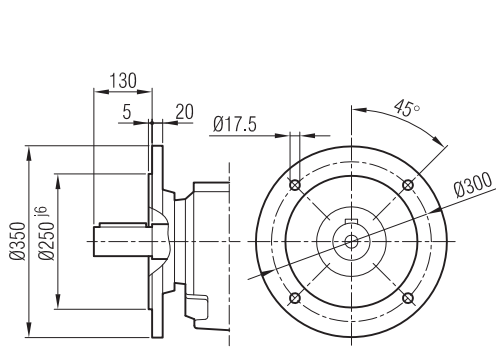
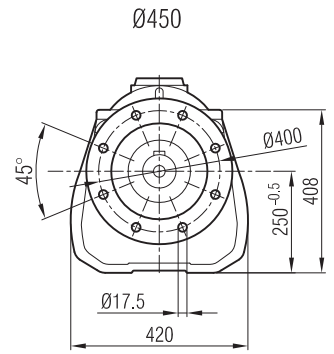
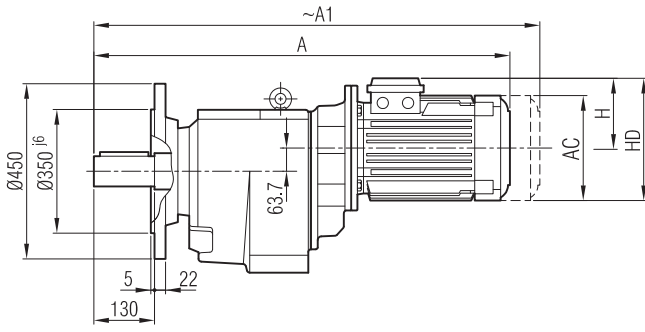
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRA 104**

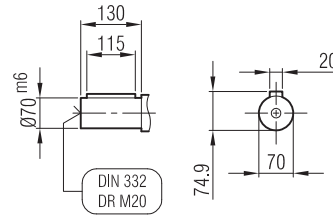




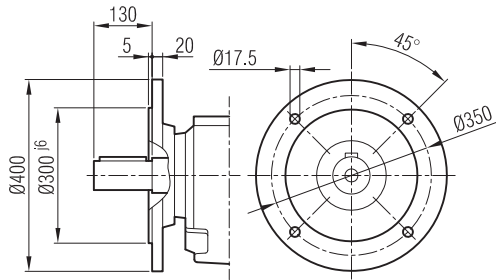
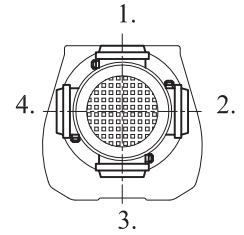
**İRFM 104**



**Ø350**  
Opsiyonel / Option



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

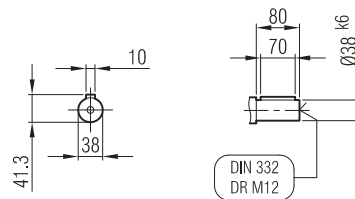
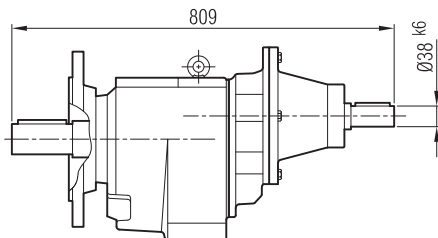


**Ø400**  
Opsiyonel / Option

	80	90 S	90 L	100		
A	842	870	895	935		
A <sub>1</sub>	911	936	961	1013		
H	118	126	126	134		
HD	198	216	216	234		
AC	156	176	176	194		

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

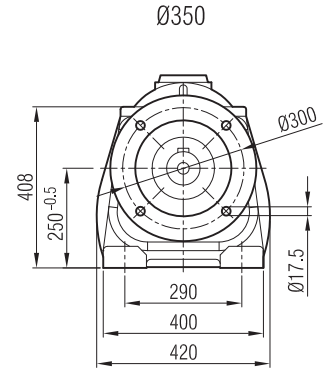
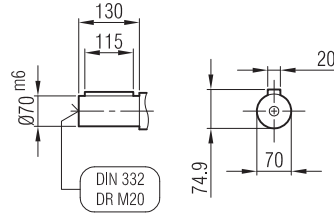
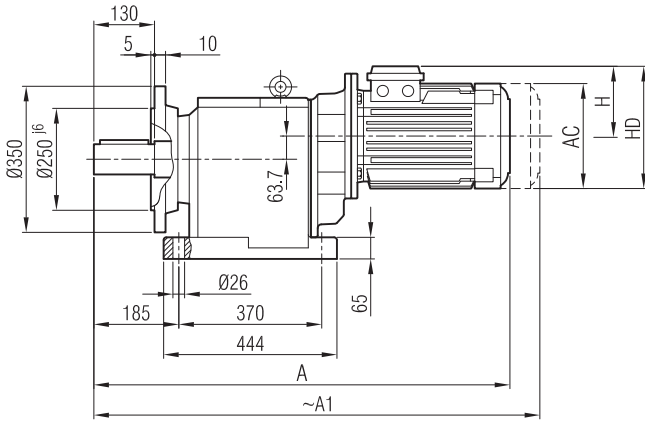
**İRF 104**



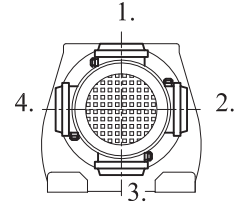




**İRAFEM 104**



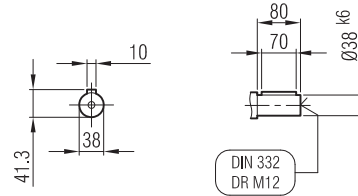
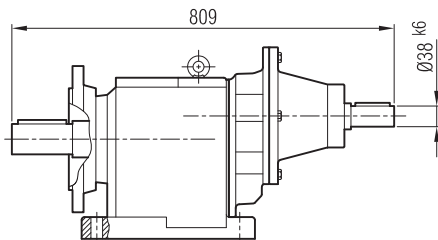
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80	90 S	90 L	100		
A	842	870	895	935		
A <sub>1</sub>	911	936	961	1013		
H	118	126	126	134		
HD	198	216	216	234		
AC	156	176	176	194		

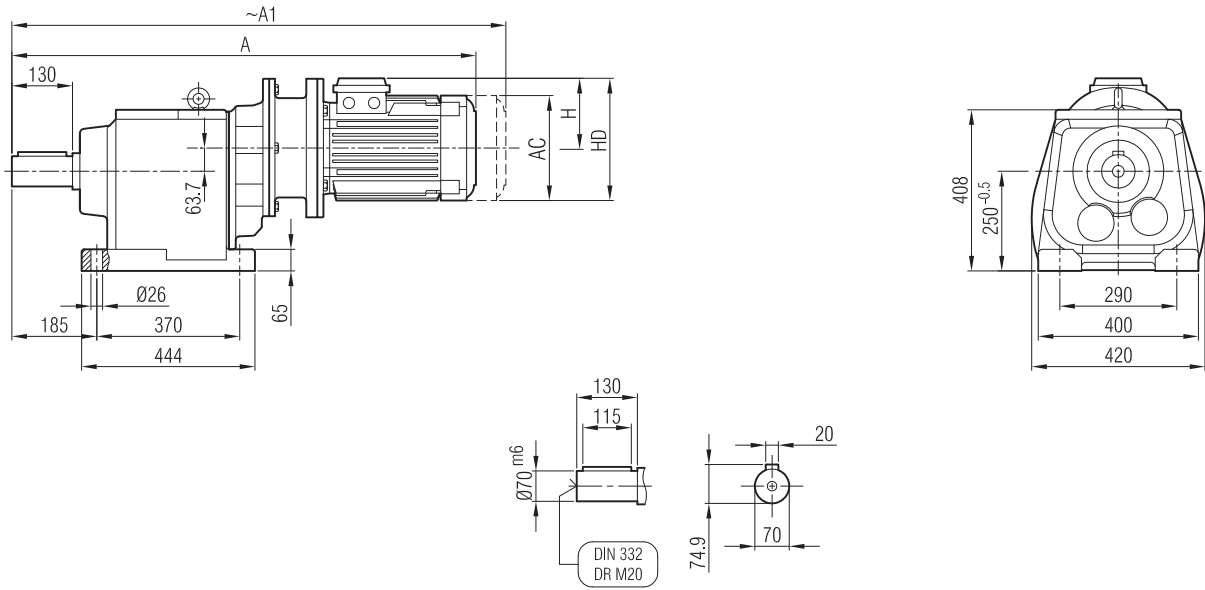
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 104**

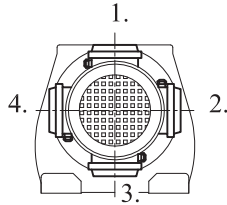




**İRAPM 104**



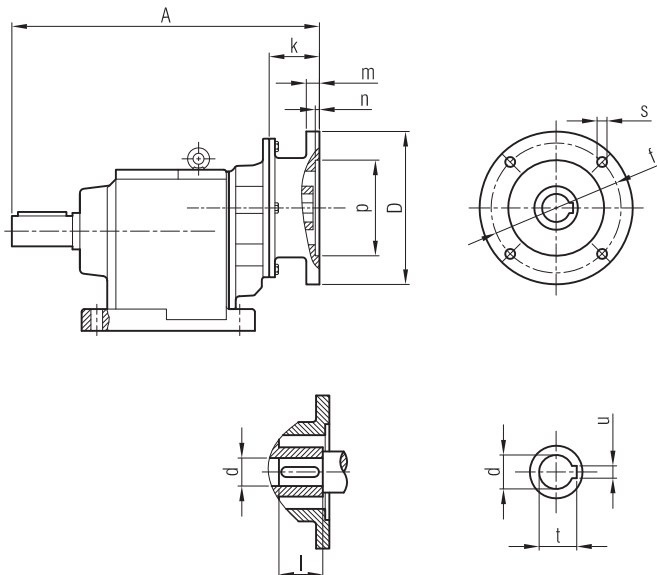
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	80/B5	90 S/B5	90 L/B5	100/B5
A	913	928	953	994
A <sub>1</sub>	982	994	1019	1072
H	134	145	168	168
HD	234	257	300	300
AC	194	218	257	257

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

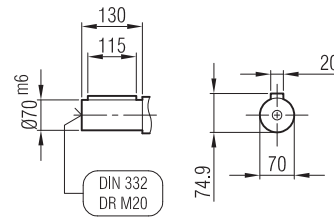
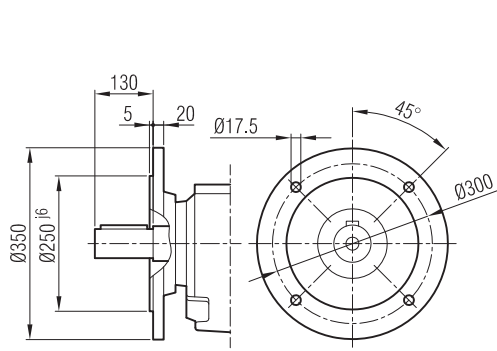
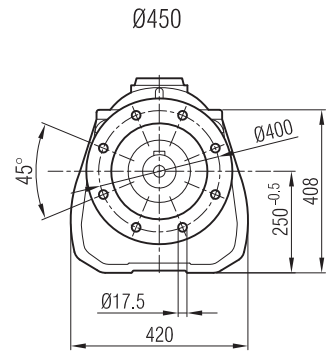
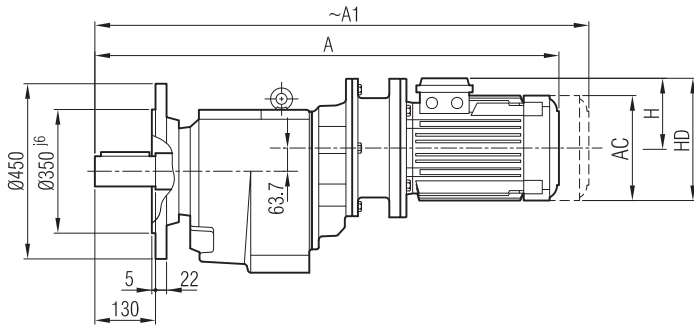
**İRAP 104**



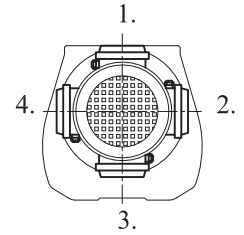
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8



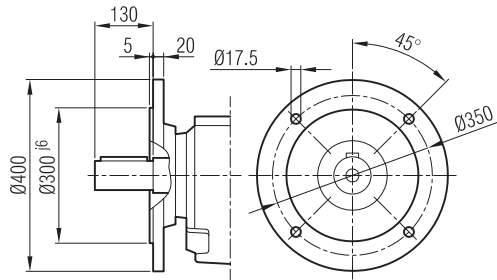
**İRFPM 104**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



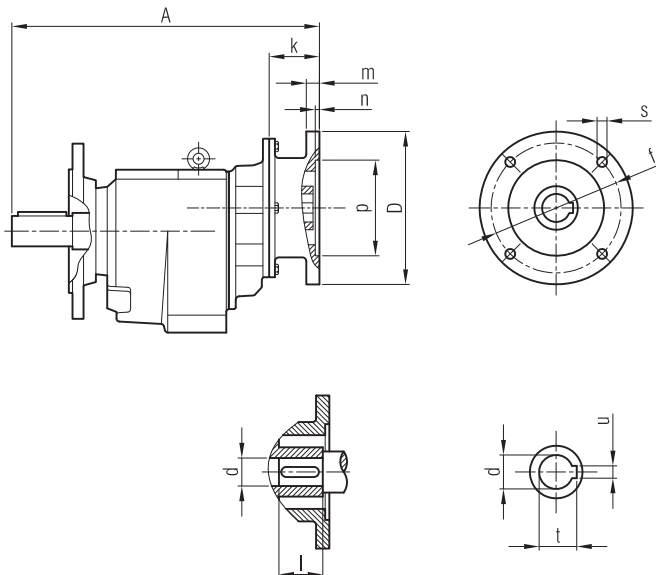
Ø350  
**Opsiyonel / Option**



Ø400  
**Opsiyonel / Option**

	80/B5	90 S/B5	90 L/B5	100/B5
A	913	928	953	994
A <sub>1</sub>	982	994	1019	1072
H	134	145	168	168
HD	234	257	300	300
AC	194	218	257	257

**İRFP 104**

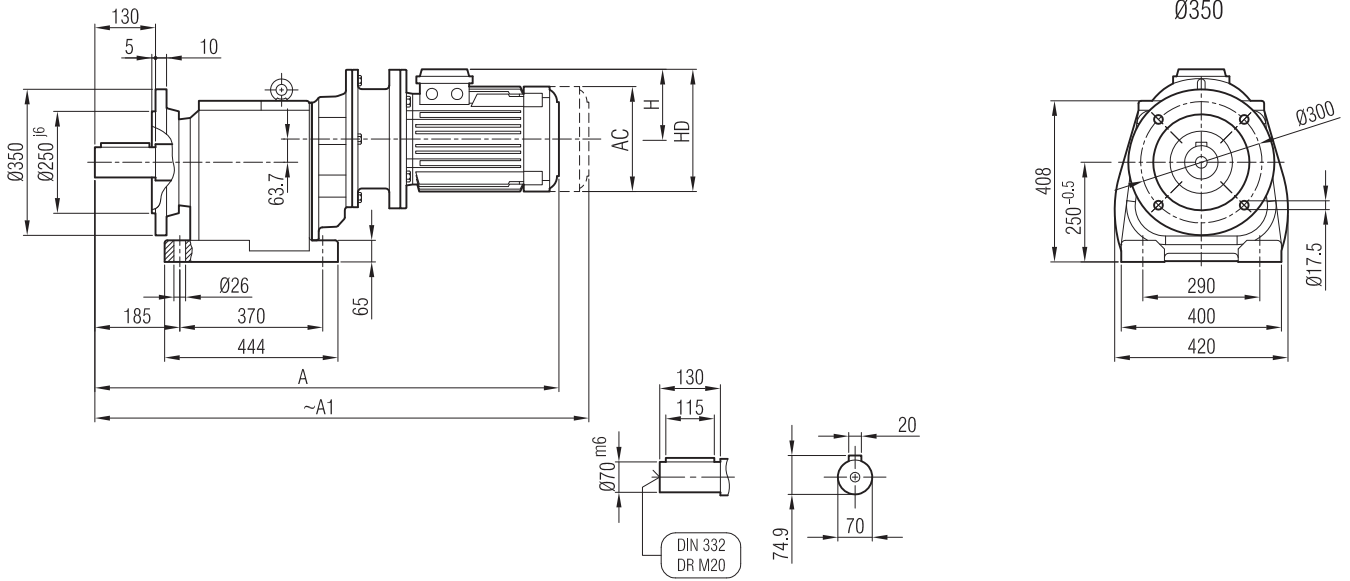


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

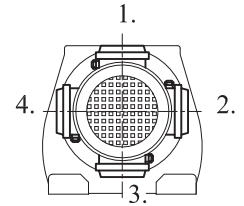
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8



**İRAFPM 104**

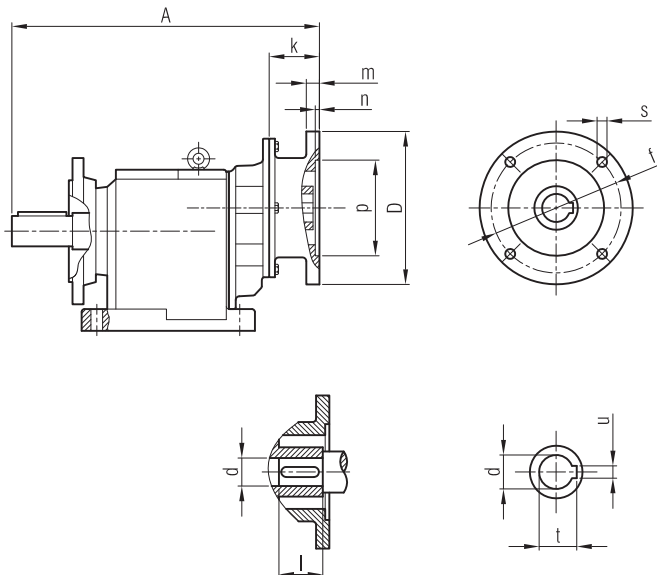


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5
A	913	928	953	994
A <sub>1</sub>	982	994	1019	1072
H	134	145	168	168
HD	234	257	300	300
AC	194	218	257	257

**İRAFP 104**

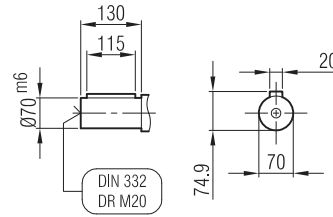
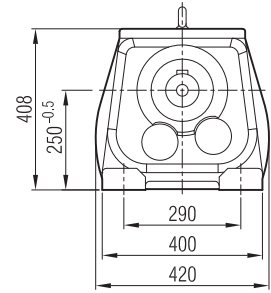
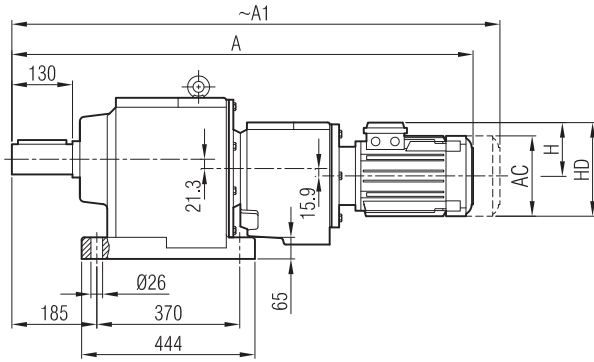


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

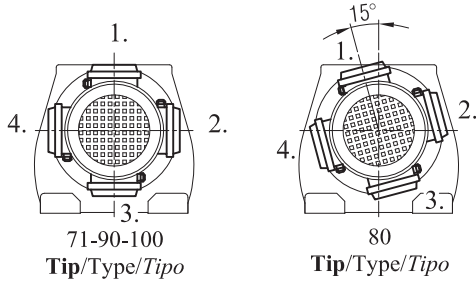
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	448	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	448	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	456	180	215	250	M12	74	14	5	28	60	31.3	8



**İRAM 102 İR 72 / İRAM 102 İR 73**  
**İRAM 103 İR 72 / İRAM 103 İR 73**



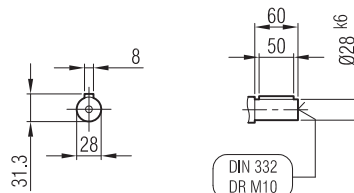
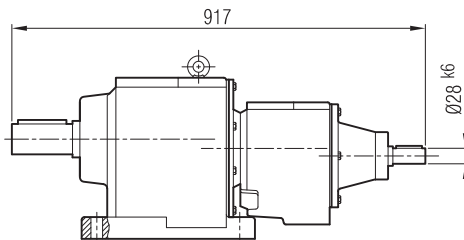
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	71	80	90 S	90 L	100		
A	955	985	1015	1040	1081		
A <sub>1</sub>	1006	1054	1081	1106	1159		
H	111	118	126	126	134		
HD	182	198	216	216	234		
AC	138	156	176	176	194		

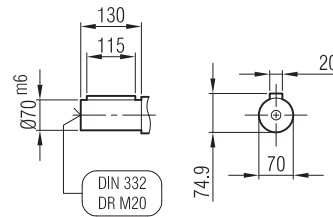
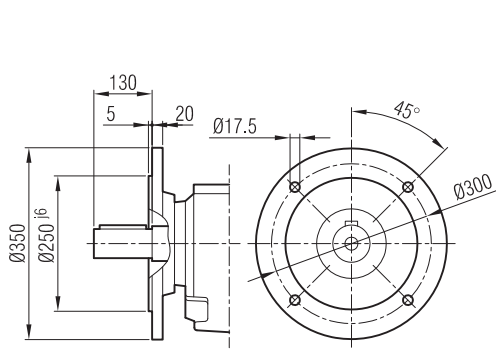
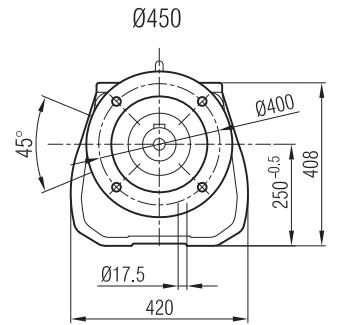
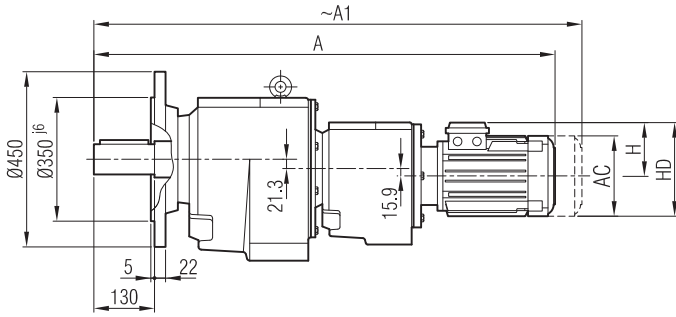
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRA 102 İR 72 / İRA 102 İR 73**  
**İRA 103 İR 72 / İRA 103 İR 73**



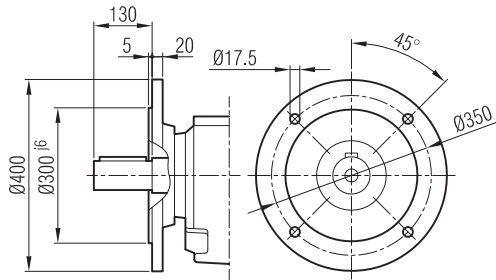


**İRFM 102 İR 72 / İRFM 102 İR 73**  
**İRFM 103 İR 72 / İRFM 103 İR 73**



Ø350

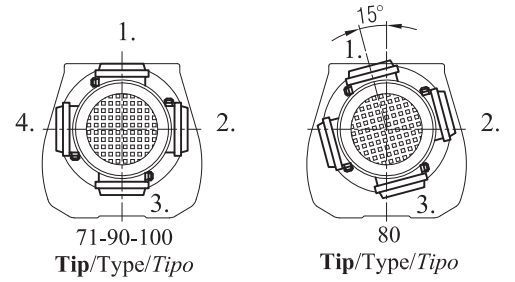
**Opsiyonel / Option**



Ø400

**Opsiyonel / Option**

**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

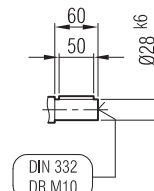
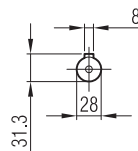
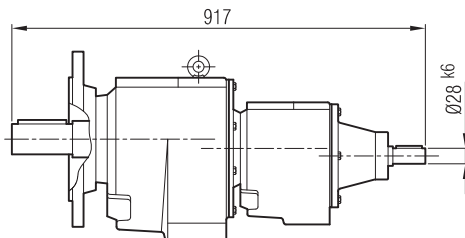


71-90-100  
**Tip/Type/Tipo**

80  
**Tip/Type/Tipo**

	71	80	90 S	90 L	100		
A	955	985	1015	1040	1081		
A <sub>1</sub>	1006	1054	1081	1106	1159		
H	111	118	126	126	134		
HD	182	198	216	216	234		
AC	138	156	176	176	194		

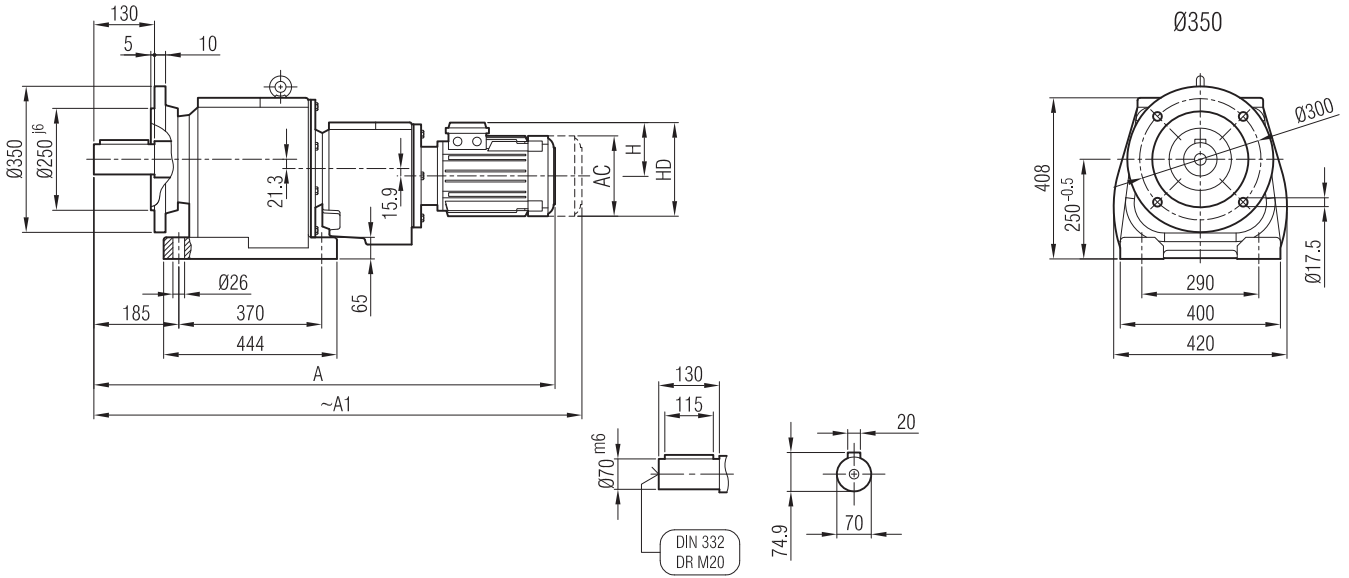
**İRF 102 İR 72 / İRF 102 İR 73**  
**İRF 103 İR 72 / İRF 103 İR 73**



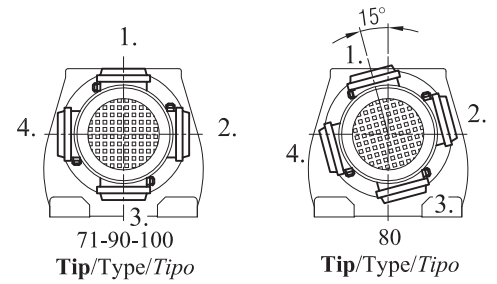
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAFM 102 İR 72 / İRAFM 102 İR 73**  
**İRAFM 103 İR 72 / İRAFM 103 İR 73**



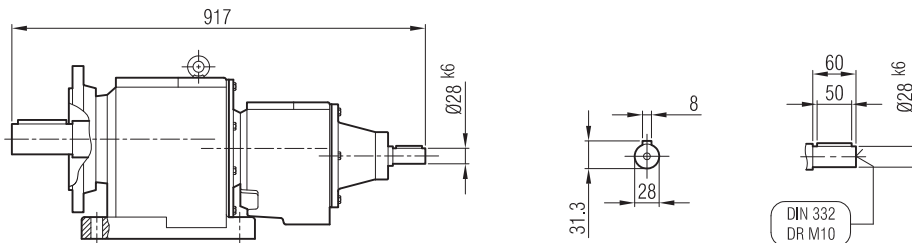
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100		
A	955	985	1015	1040	1081		
A <sub>1</sub>	1006	1054	1081	1106	1159		
H	111	118	126	126	134		
HD	182	198	216	216	234		
AC	138	156	176	176	194		

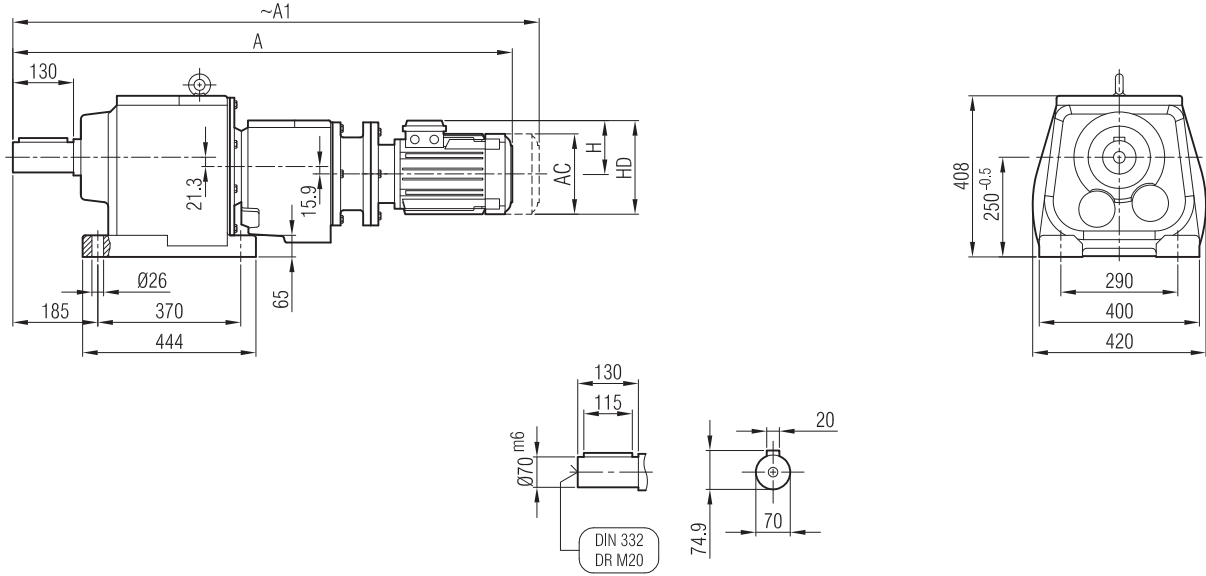
**İRAF 102 İR 72 / İRAF 102 İR 73**  
**İRAF 103 İR 72 / İRAF 103 İR 73**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

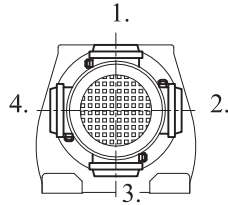




**İRAPM 102 İR 72 / İRAPM 102 İR 73**  
**İRAPM 103 İR 72 / İRAPM 103 İR 73**



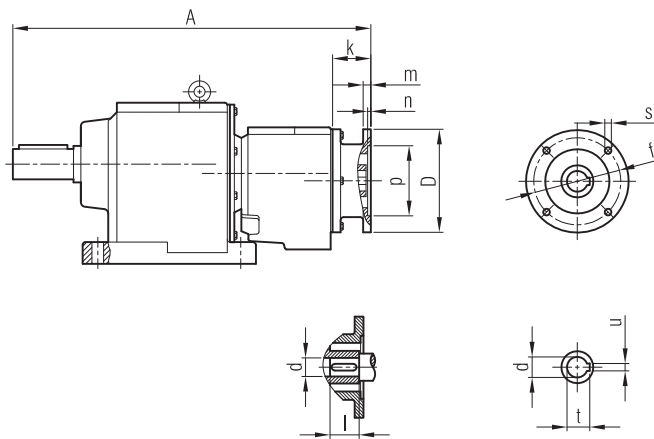
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5
A	1031	1064	1079	1104	1141
A <sub>1</sub>	1082	1133	1145	1170	1219
H	111	118	126	126	134
HD	182	198	216	216	234
AC	138	156	176	176	194

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAP 102 İR 72 / İRAP 102 İR 73**  
**İRAP 103 İR 72 / İRAP 103 İR 73**

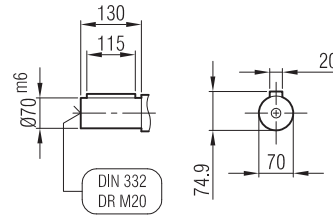
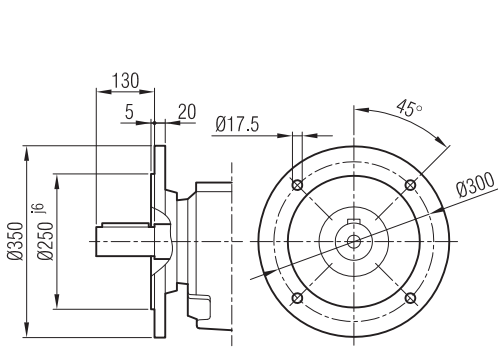
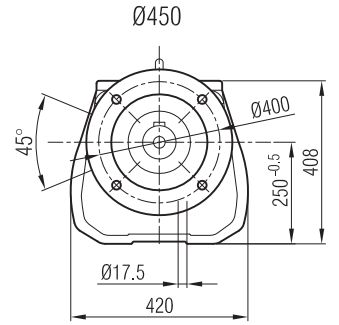
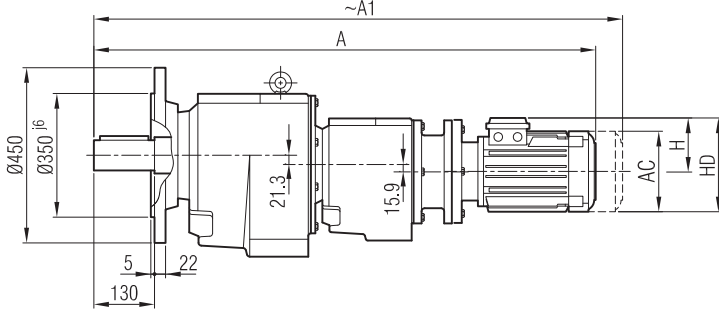


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	808	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	820	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	820	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	825	180	215	250	M12	72	14	5	28	60	31.3	8

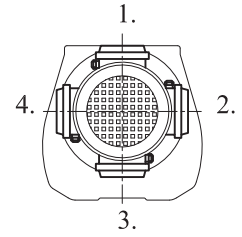




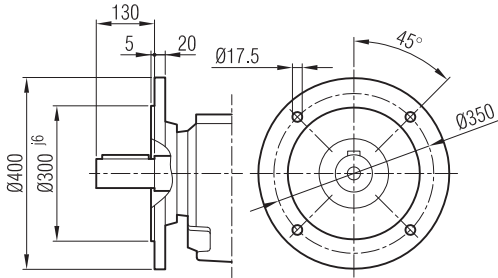
**İRFPM 102 İR 72 / İRFPM 102 İR 73**  
**İRFPM 103 İR 72 / İRFPM 103 İR 73**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



Ø350  
**Opsiyonel / Option**

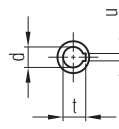
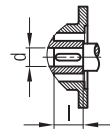
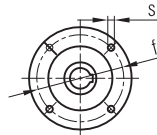
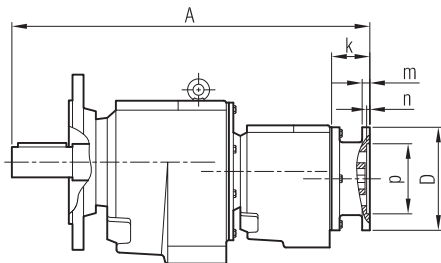


Ø400  
**Opsiyonel / Option**

	71/B5	80/B5	90 S/B5	90 L/B5	100/B5
A	1031	1064	1079	1104	1141
A <sub>1</sub>	1082	1133	1145	1170	1219
H	111	118	126	126	134
HD	182	198	216	216	234
AC	138	156	176	176	194

**İRFP 102 İR 72 / İRFP 102 İR 73**  
**İRFP 103 İR 72 / İRFP 103 İR 73**

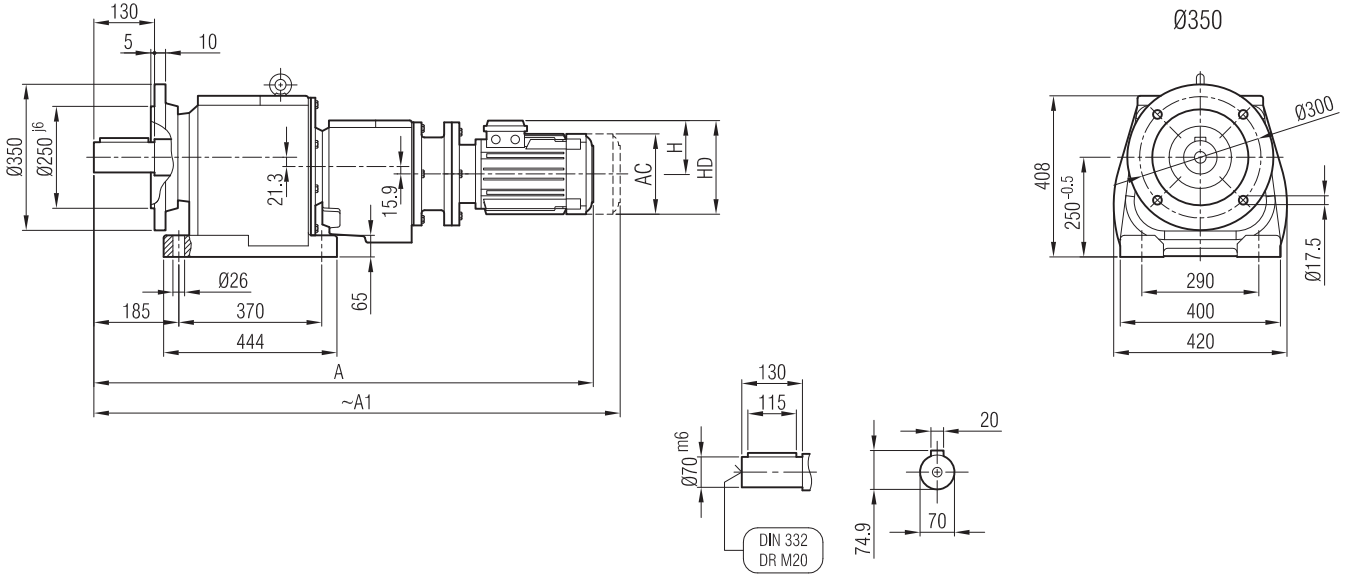
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



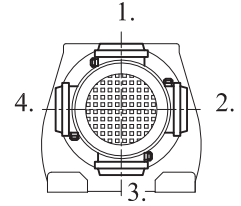
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	808	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	820	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	820	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	825	180	215	250	M12	72	14	5	28	60	31.3	8



**İRAFPM 102 İR 72 / İRAFPM 102 İR 73**  
**İRAFPM 103 İR 72 / İRAFPM 103 İR 73**



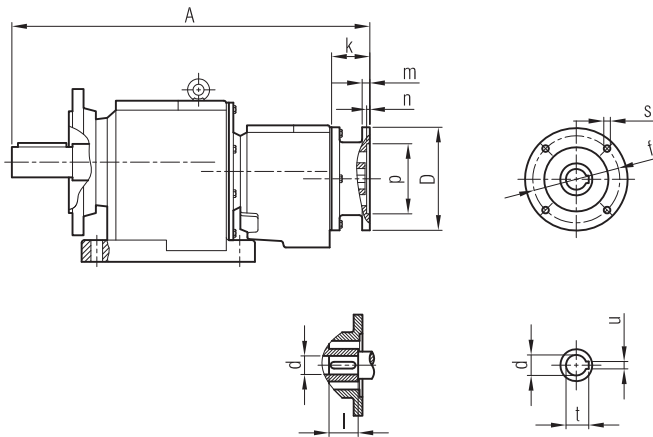
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5
A	1031	1064	1079	1104	1141
A <sub>1</sub>	1082	1133	1145	1170	1219
H	111	118	126	126	134
HD	182	198	216	216	234
AC	138	156	176	176	194

**İRAFP 102 İR 72 / İRAFP 102 İR 73**  
**İRAFP 103 İR 72 / İRAFP 103 İR 73**

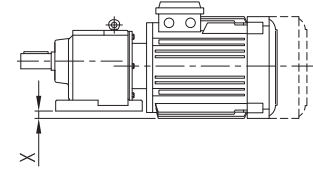
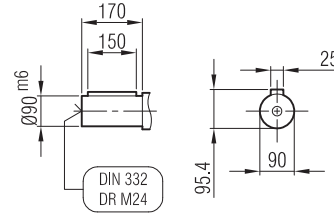
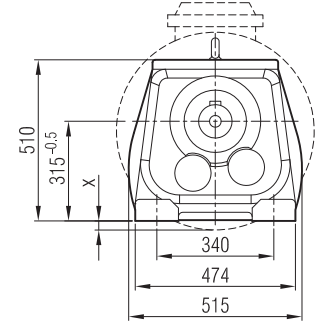
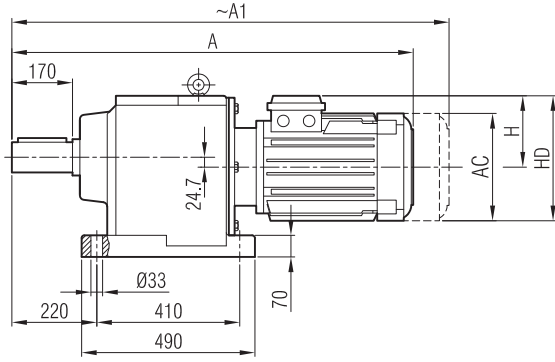
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



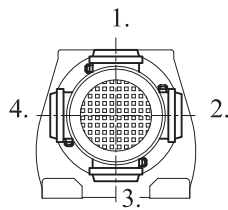
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	808	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	820	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	820	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	825	180	215	250	M12	72	14	5	28	60	31.3	8



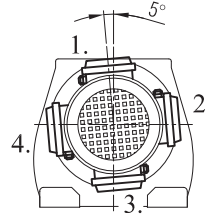
**İRAM 122**  
**İRAM 123**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



132-160-180-225-250  
**Tip/Type/Tipo**

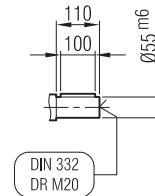
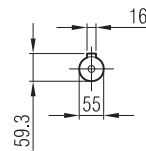
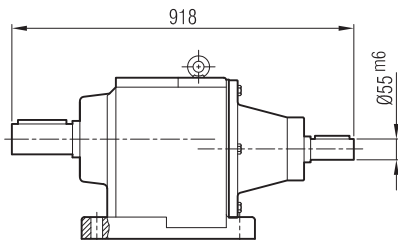


200  
**Tip/Type/Tipo**

	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M
A	962	1000	1080	1124	1139	1177	1228	1261	1286	1364
A <sub>1</sub>	1062	1100	1195	1239	1259	1297	1348	1381	1406	1484
H	168	168	220	220	241	241	277	285	285	322
HD	300	300	380	380	421	421	477	510	510	572
AC	257	257	310	310	348	348	390	434	434	480
x	-	-	-	-	-	-	-	-	-	-

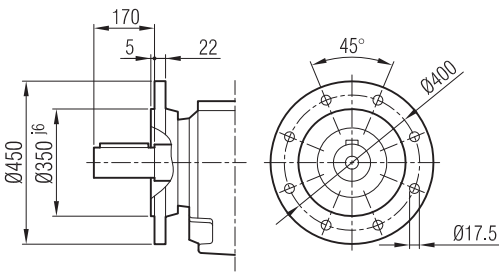
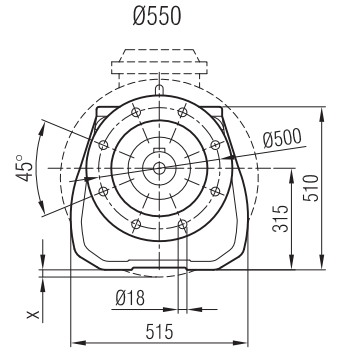
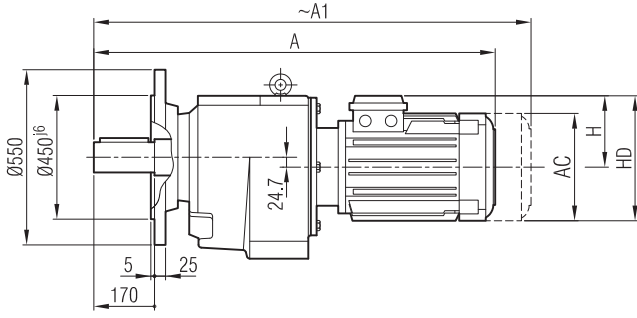
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRA 122**  
**İRA 123**

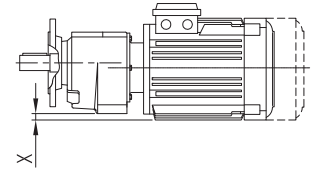
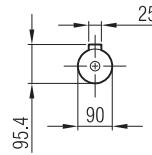
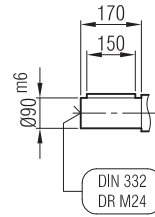




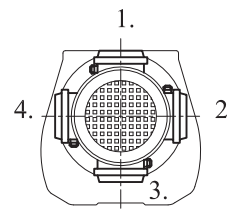
**İRFM 122**  
**İRFM 123**



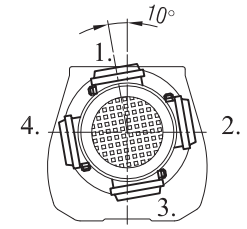
Ø450  
**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



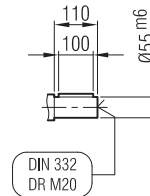
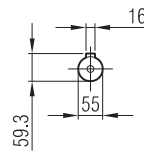
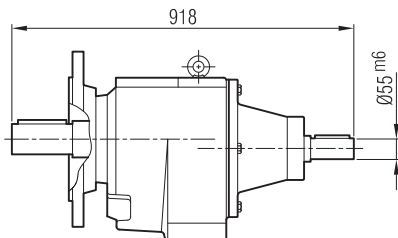
132-160-180-225-250  
**Tip/Type/Tipo**



200  
**Tip/Type/Tipo**

	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M
A	962	1000	1080	1124	1139	1177	1228	1261	1286	1364
A <sub>1</sub>	1062	1100	1195	1239	1259	1297	1348	1381	1406	1484
H	168	168	220	220	241	241	277	285	285	322
HD	300	300	380	380	421	421	477	510	510	572
AC	257	257	310	310	348	348	390	434	434	480
X	-	-	-	-	-	-	-	-	-	-

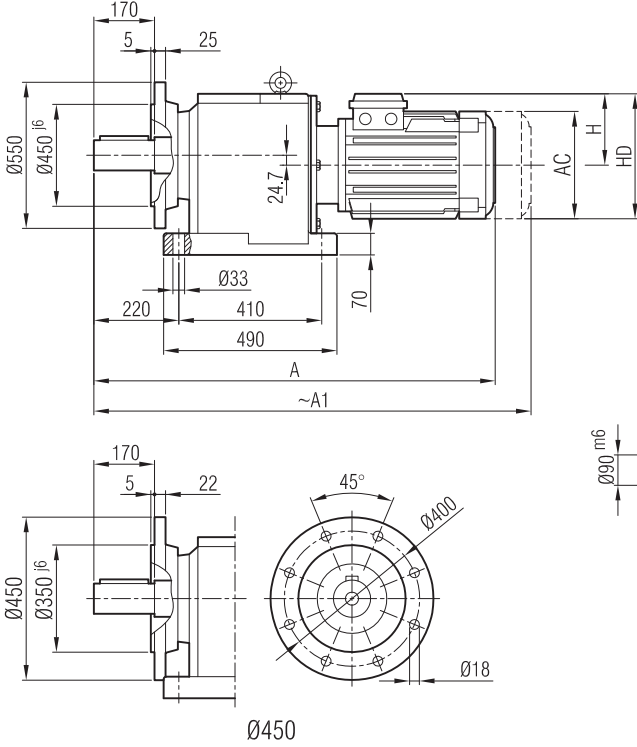
**İRF 122**  
**İRF 123**



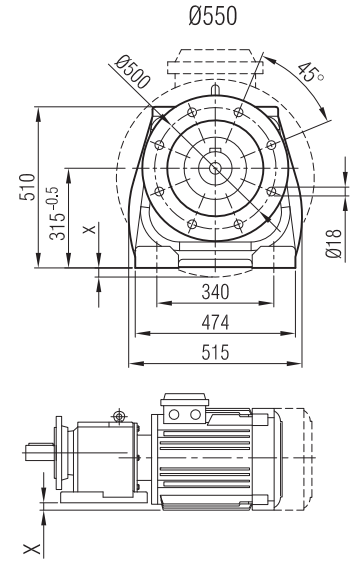
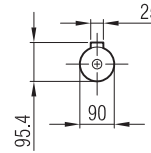
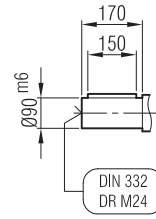
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



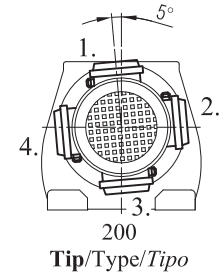
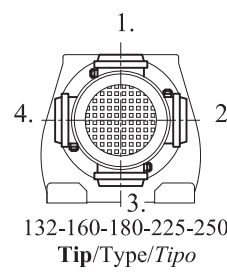
**İRAF 122**  
**İRAF 123**



Ø450  
**Opsiyonel / Option**

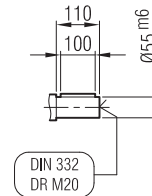
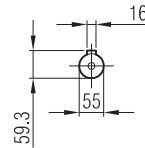
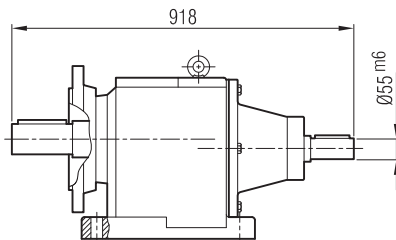


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M
A	962	1000	1080	1124	1139	1177	1228	1261	1286	1364
A <sub>1</sub>	1062	1100	1195	1239	1259	1297	1348	1381	1406	1484
H	168	168	220	220	241	241	277	285	285	322
HD	300	300	380	380	421	421	477	510	510	572
AC	257	257	310	310	348	348	390	434	434	480
X	-	-	-	-	-	-	-	-	-	-

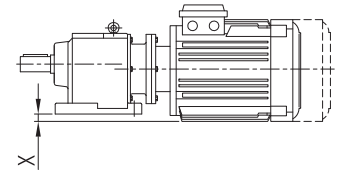
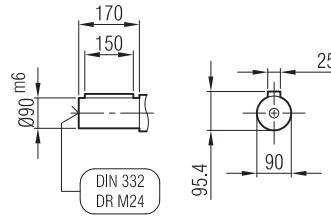
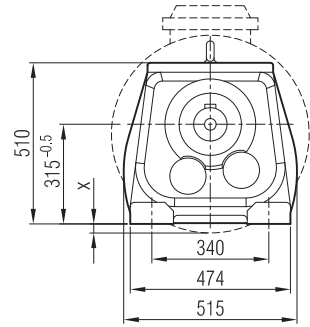
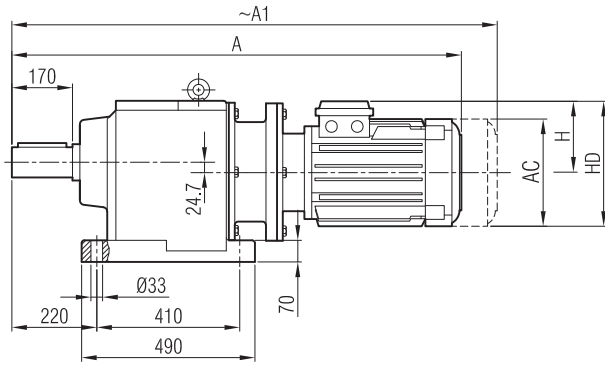
**İRAF 122**  
**İRAF 123**



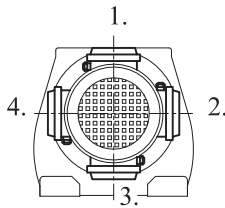
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAPM 122**  
**İRAPM 123**



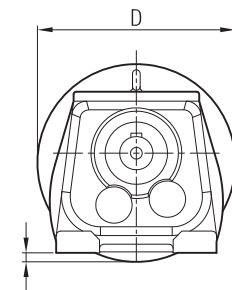
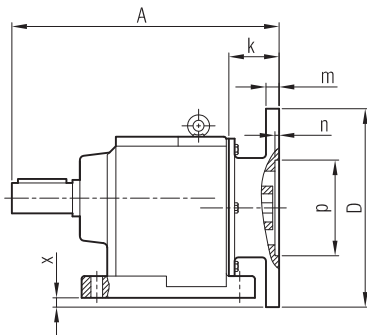
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5
A	1048	1086	1183	1227	1240	1278	1398	1425	1450	1526
A <sub>1</sub>	1148	1186	1298	1342	1360	1398	1518	1545	1570	1646
H	168	168	220	220	241	241	241	285	285	322
HD	300	300	380	380	421	421	421	510	510	572
AC	257	257	310	310	348	348	348	434	434	480
x	-	-	-	-	-	-	-	-	-	-

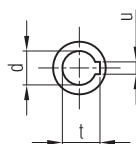
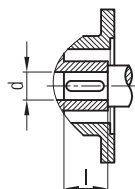
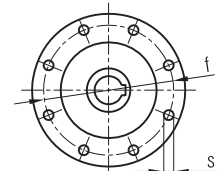
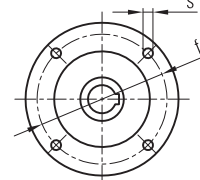
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAP 122**  
**İRAP 123**



≤ 200 B5 Tip/Type/Typ

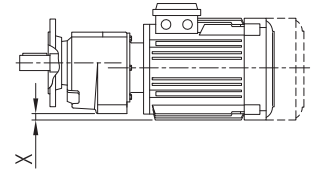
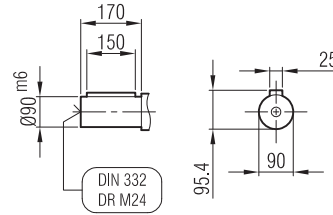
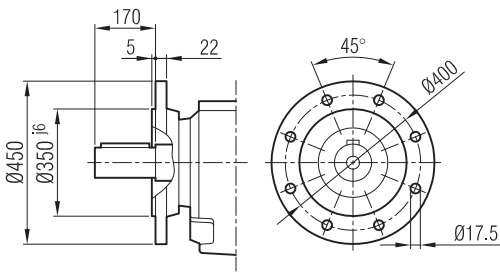
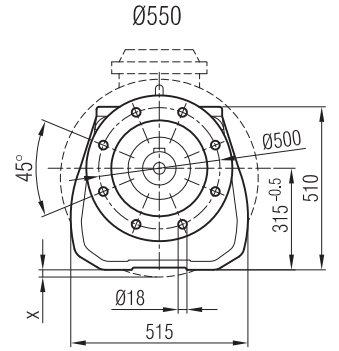
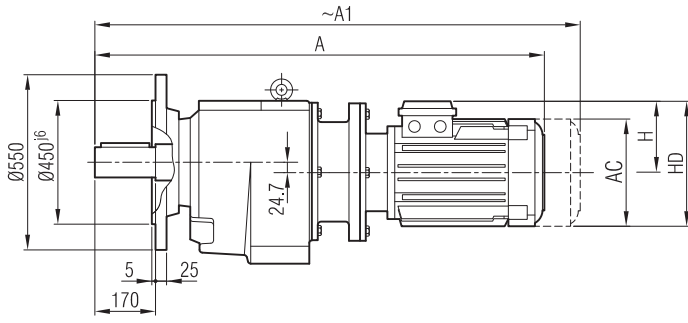
≥ 225 B5 Tip/Type/Typ



	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
132/B5	668	230	265	300	M14	61	17	6	38	80	41.3	10	-
160/B5	693	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	693	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	761	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	770	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	770	450	500	550	M16	168	22	6.5	65	140	69.4	18	-

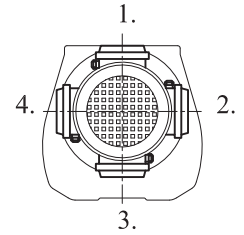


**İRFPM 122**  
**İRFPM 123**



Ø450  
**Opsiyonel / Option**

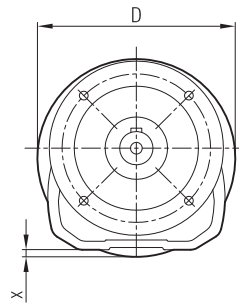
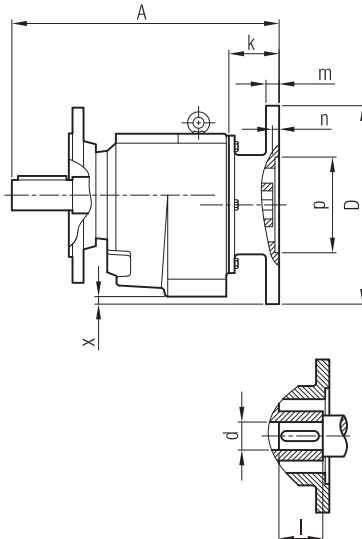
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



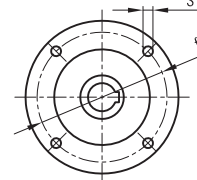
	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5
A	1048	1086	1183	1227	1240	1278	1398	1425	1450	1526
A <sub>1</sub>	1148	1186	1298	1342	1360	1398	1518	1545	1570	1646
H	168	168	220	220	241	241	241	285	285	322
HD	300	300	380	380	421	421	421	510	510	572
AC	257	257	310	310	348	348	348	434	434	480
x	-	-	-	-	-	-	-	-	-	-

**İRFP 122**  
**İRFP 123**

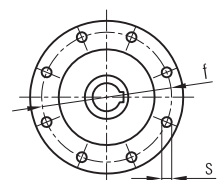
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



≤ 200 B5 Tip/Type/Typ



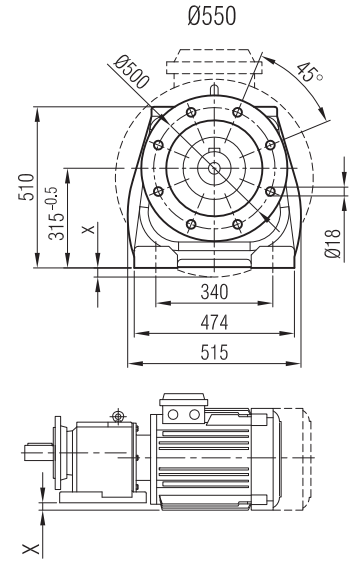
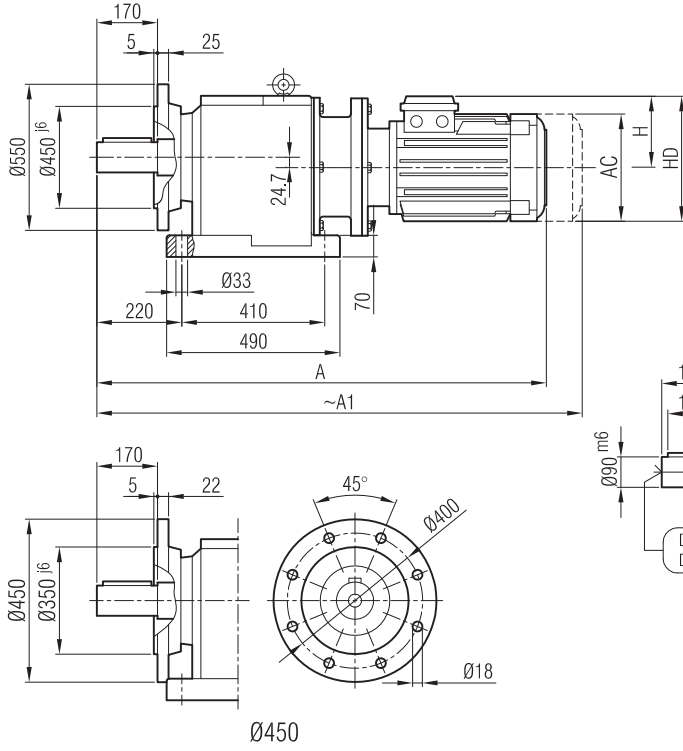
≥ 225 B5 Tip/Type/Typ



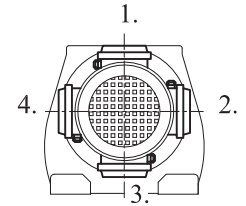
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
132/B5	668	230	265	300	M14	61	17	6	38	80	41.3	10	-
160/B5	693	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	693	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	761	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	770	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	770	450	500	550	M16	168	22	6.5	65	140	69.4	18	-



**İRAFPM 122**  
**İRAFPM 123**



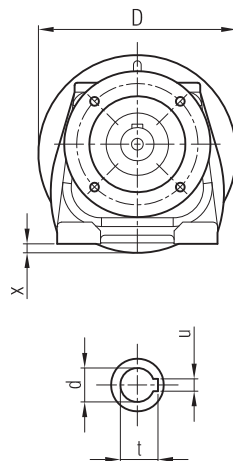
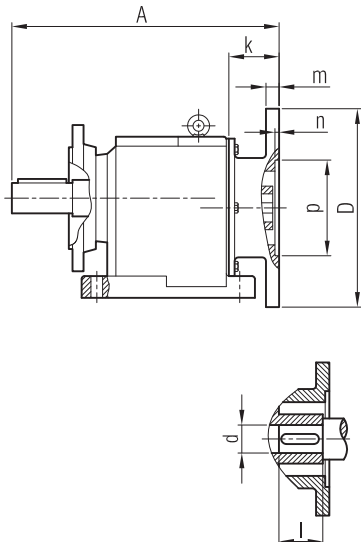
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



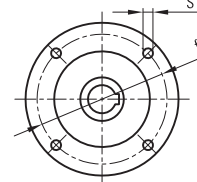
	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5
A	1048	1086	1183	1227	1240	1278	1398	1425	1450	1526
A <sub>1</sub>	1148	1186	1298	1342	1360	1398	1518	1545	1570	1646
H	168	168	220	220	241	241	241	285	285	322
HD	300	300	380	380	421	421	421	510	510	572
AC	257	257	310	310	348	348	348	434	434	480
x	-	-	-	-	-	-	-	-	-	-

**İRAFP 122**  
**İRAFP 123**

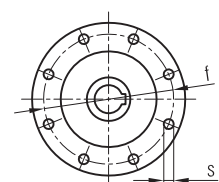
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



≤ 200 B5 Tip/Type/Typ



≥ 225 B5 Tip/Type/Typ

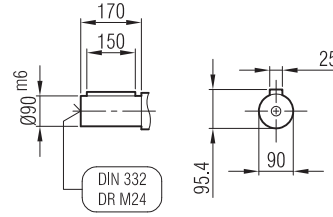
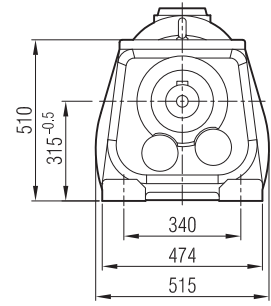
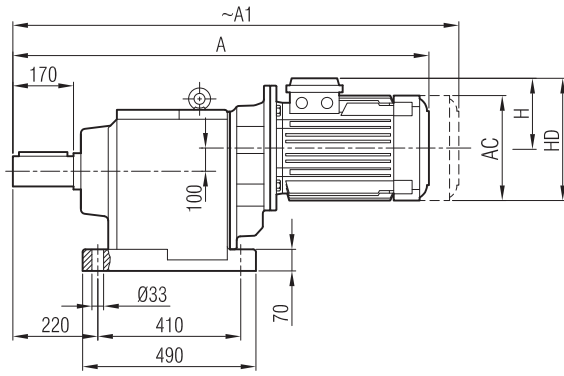


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
132/B5	668	230	265	300	M14	61	17	6	38	80	41.3	10	-
160/B5	693	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	693	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	761	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	770	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	770	450	500	550	M16	168	22	6.5	65	140	69.4	18	-

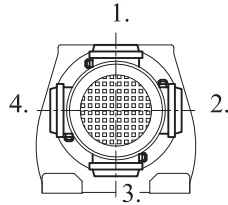




**İRAM 124**



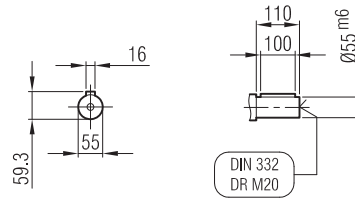
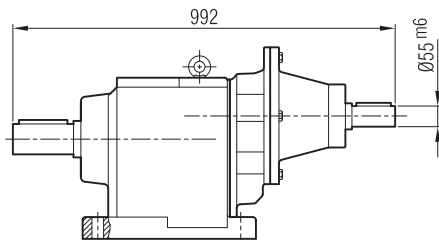
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100	112	132 S	132 M		
A	1033	1053	1094	1132		
A <sub>1</sub>	1111	1136	1194	1232		
H	134	145	168	168		
HD	234	257	300	300		
AC	194	218	257	257		

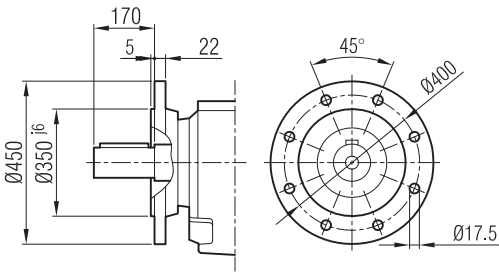
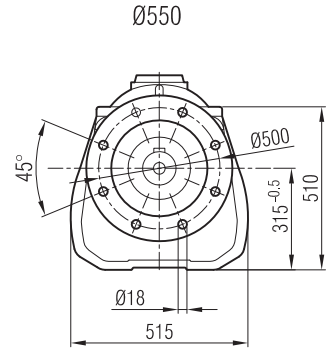
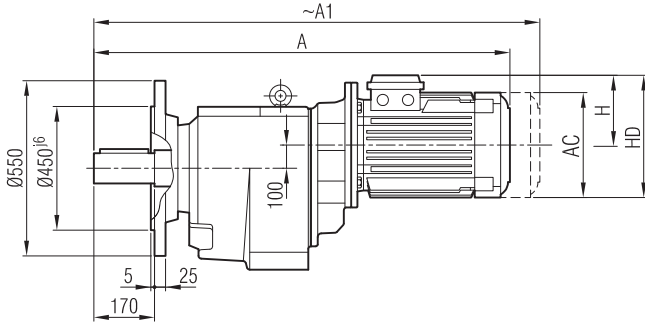
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 124**

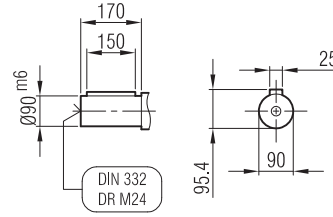




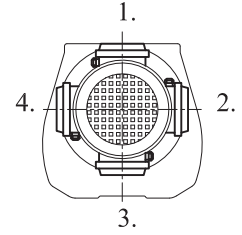
**İRFM 124**



**Ø450**  
**Opsiyonel / Option**



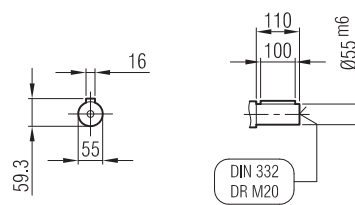
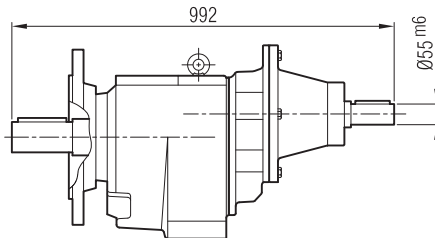
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M		
A	1033	1053	1094	1132		
A <sub>1</sub>	1111	1136	1194	1232		
H	134	145	168	168		
HD	234	257	300	300		
AC	194	218	257	257		

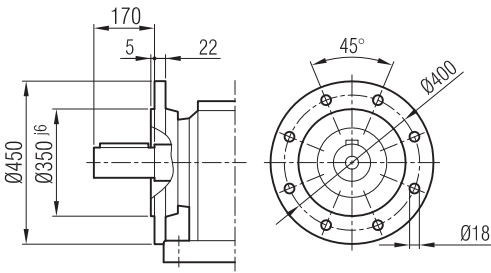
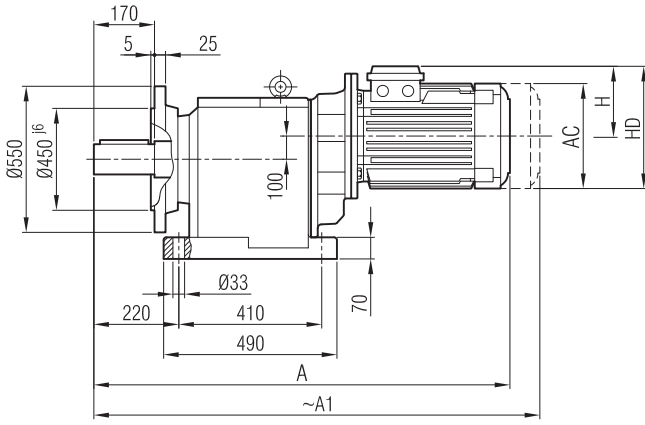
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 124**

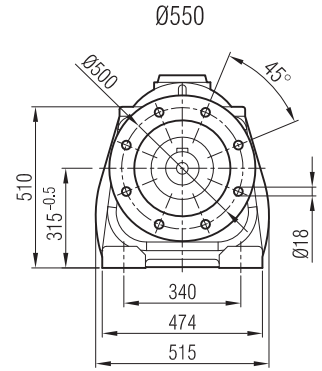
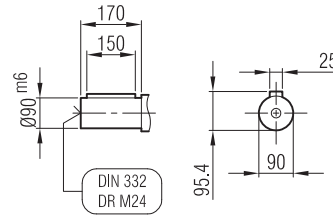




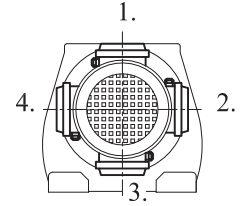
**İRAFEM 124**



**Ø450**  
**Opsiyonel / Option**



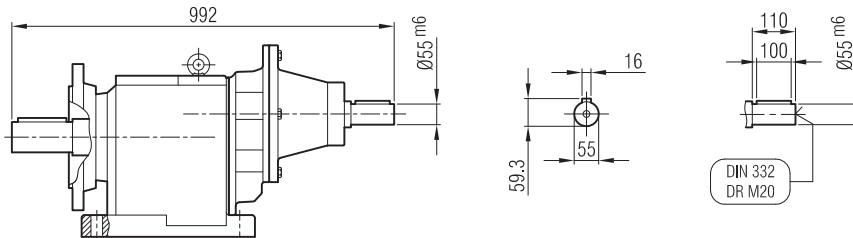
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M		
A	1033	1053	1094	1132		
A <sub>1</sub>	1111	1136	1194	1232		
H	134	145	168	168		
HD	234	257	300	300		
AC	194	218	257	257		

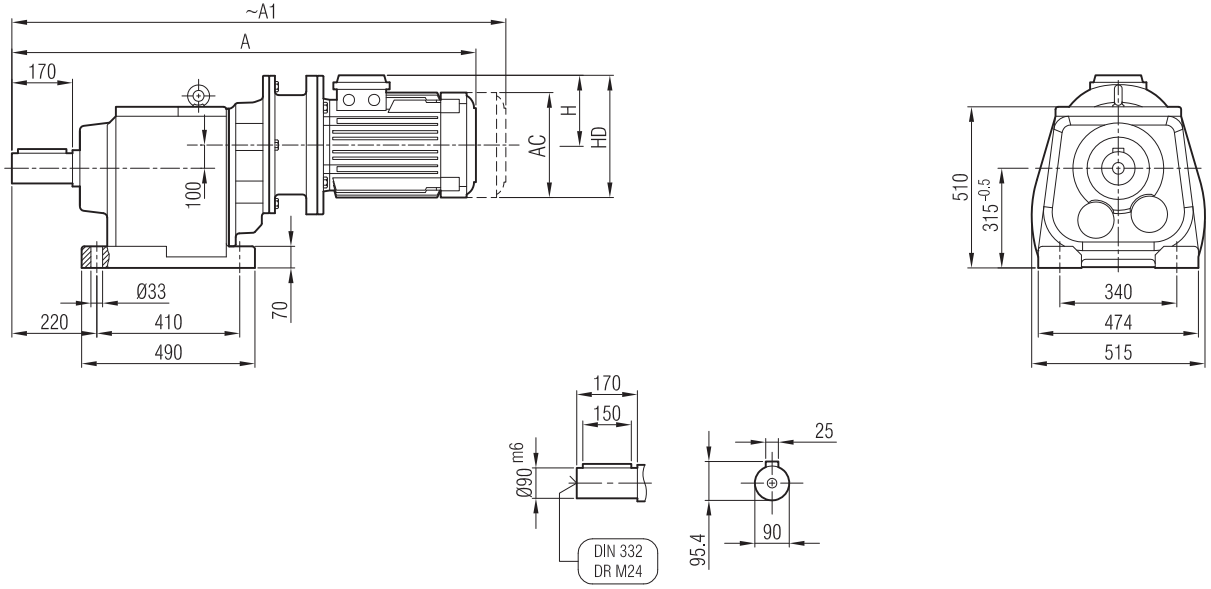
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 124**

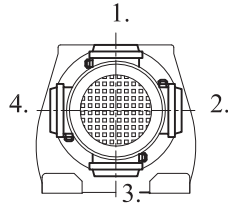




**İRAPM 124**



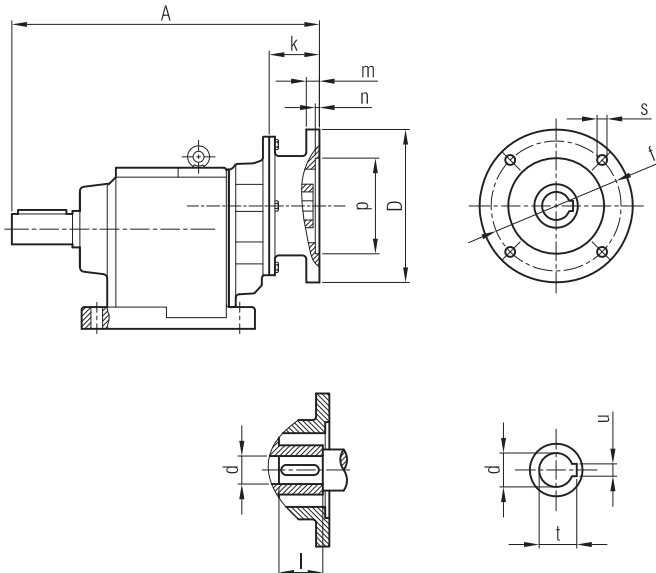
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5
A	1033	1058	1095	1115	1186	1224
A <sub>1</sub>	1099	1124	1173	1198	1286	1324
H	145	168	220	220	241	241
HD	257	300	380	380	421	421
AC	218	257	310	310	348	348

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar İçindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

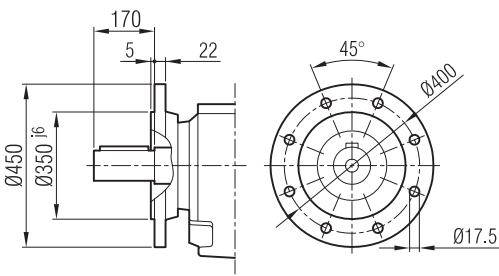
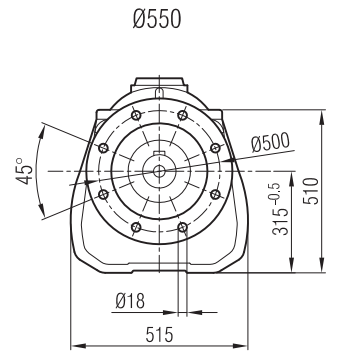
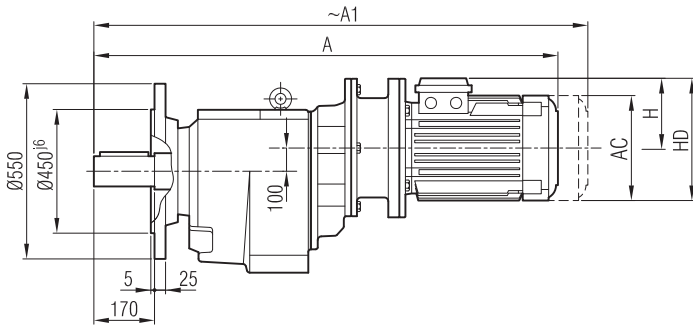
**İRAP 124**



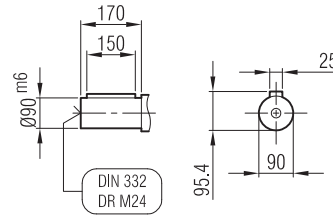
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
90/B5	587	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10



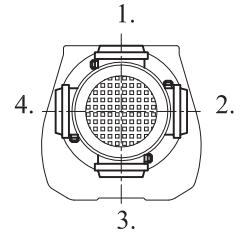
**İRFPM 124**



Ø450  
**Opsiyonel / Option**

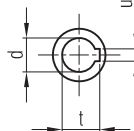
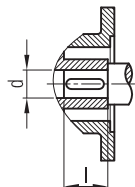
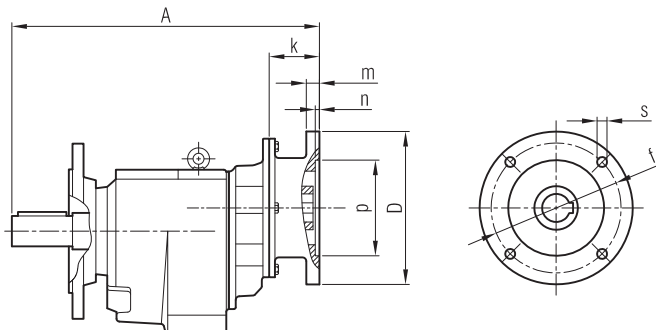


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5
A	1033	1058	1095	1115	1186	1224
A <sub>1</sub>	1099	1124	1173	1198	1286	1324
H	145	168	220	220	241	241
HD	257	300	380	380	421	421
AC	218	257	310	310	348	348

**İRFP 124**

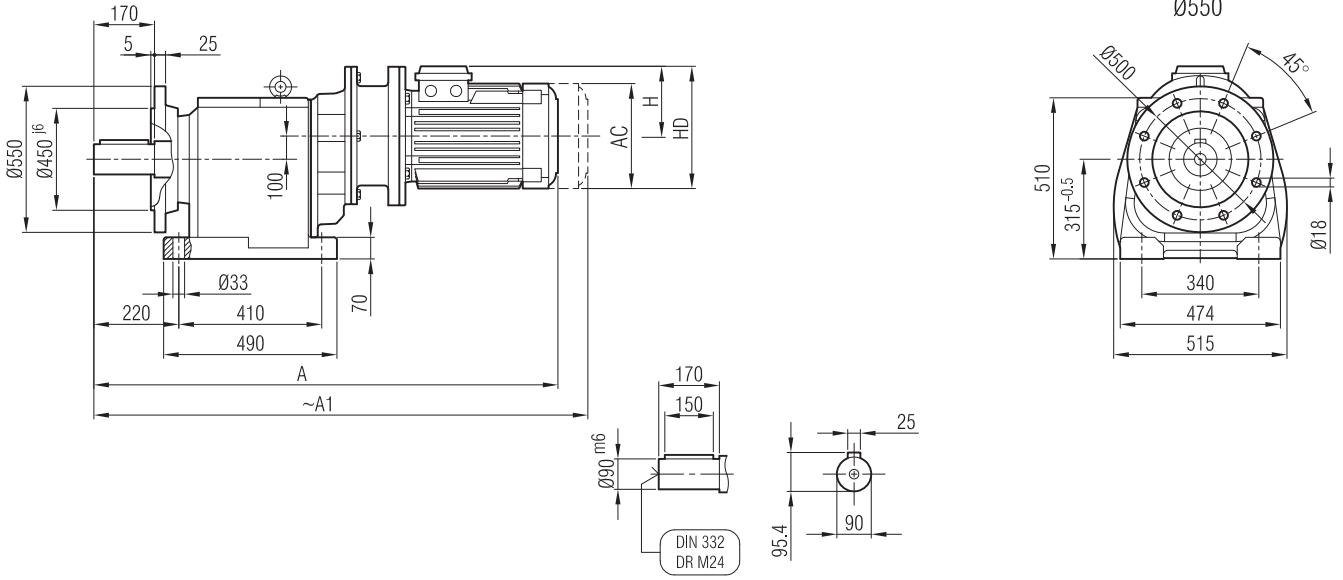


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
90/B5	587	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10

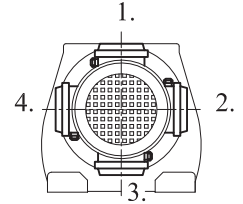
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAFPM 124**

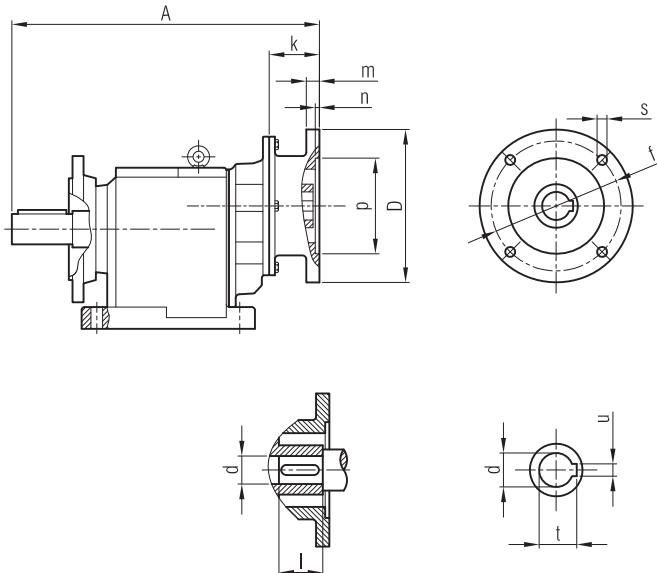


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5
A	1033	1058	1095	1115	1186	1224
A1	1099	1124	1173	1198	1286	1324
H	145	168	220	220	241	241
HD	257	300	380	380	421	421
AC	218	257	310	310	348	348

**İRAFP 124**

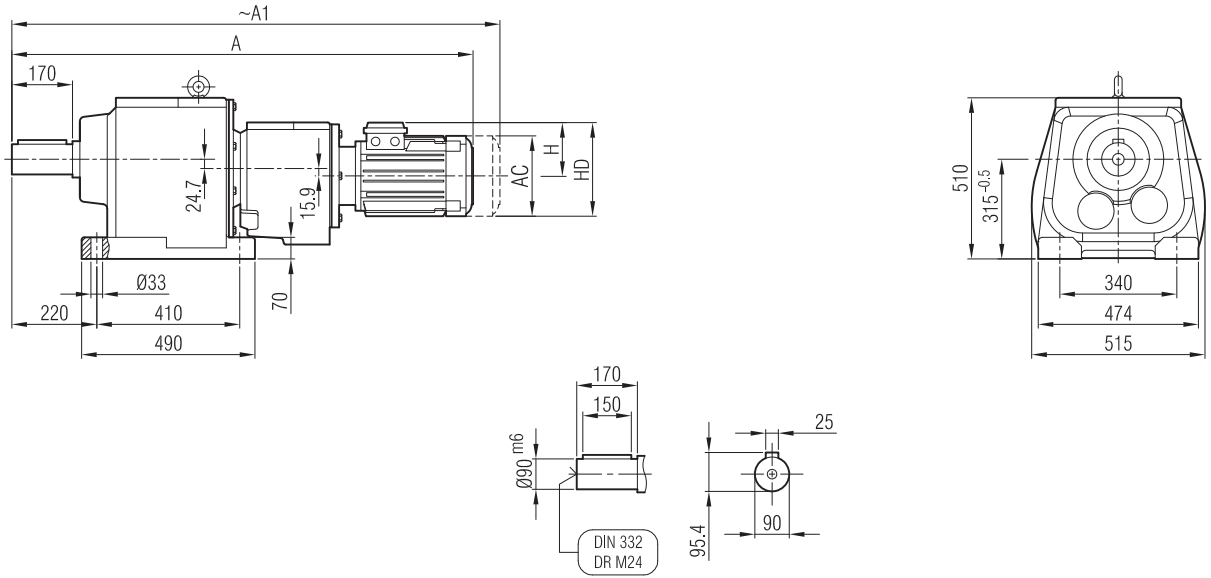


**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspond aux moteurs équipés de freins.

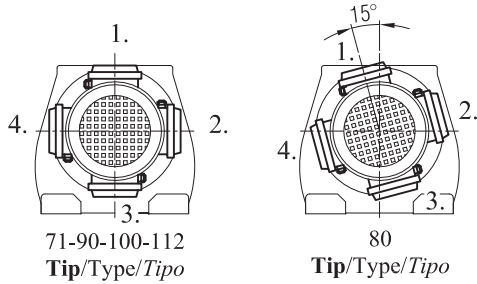
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
90/B5	587	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10



**İRAM 122 İR 73**  
**İRAM 123 İR 72 / İRAM 123 İR 73**



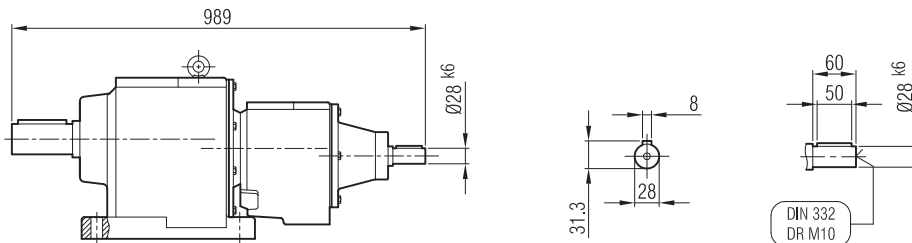
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112
A	1027	1057	1087	1112	1153	1176
A <sub>1</sub>	1078	1126	1153	1178	1231	1259
H	111	118	126	126	134	145
HD	182	198	216	216	234	257
AC	138	156	176	176	194	218

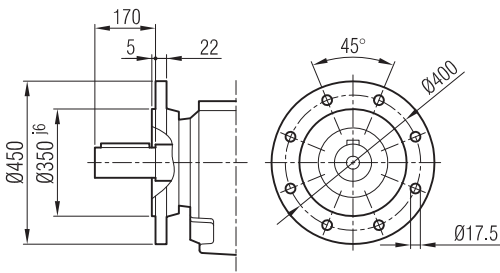
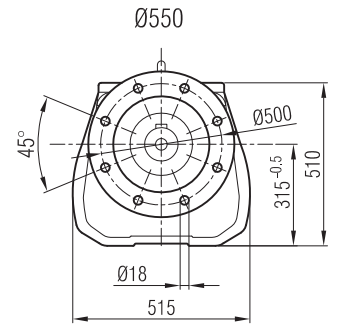
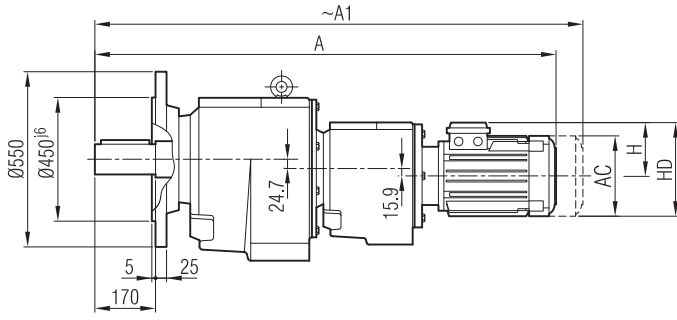
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRA 122 İR 72 / İRA 122 İR 73**  
**İRA 123 İR 72 / İRA 123 İR 73**

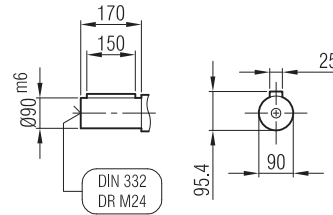




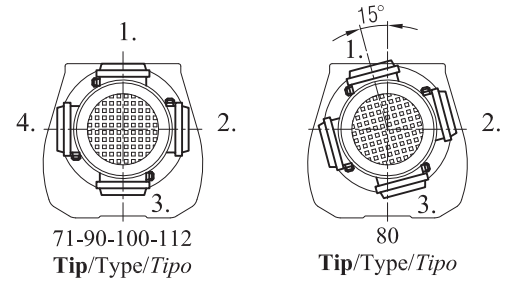
**İRFM 122 İR 73**  
**İRFM 123 İR 72 / İRFM 123 İR 73**



Ø450  
**Opsiyonel / Option**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

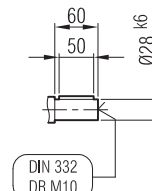
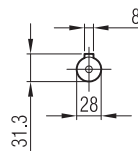
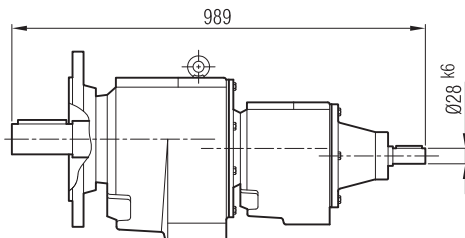


71-90-100-112  
**Tip/Type/Tipa**

80  
**Tip/Type/Tipa**

	71	80	90 S	90 L	100	112
A	1027	1057	1087	1112	1153	1176
A <sub>1</sub>	1078	1126	1153	1178	1231	1259
H	111	118	126	126	134	145
HD	182	198	216	216	234	257
AC	138	156	176	176	194	218

**İRF 122 İR 72 / İRF 122 İR 73**  
**İRF 123 İR 72 / İRF 123 İR 73**

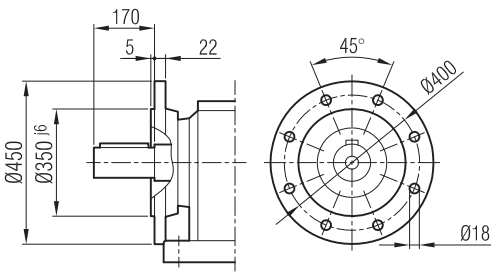
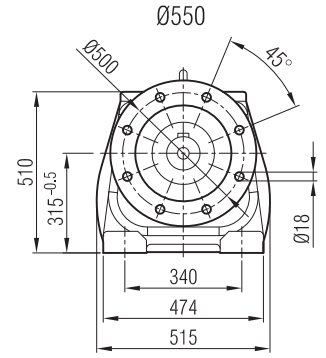
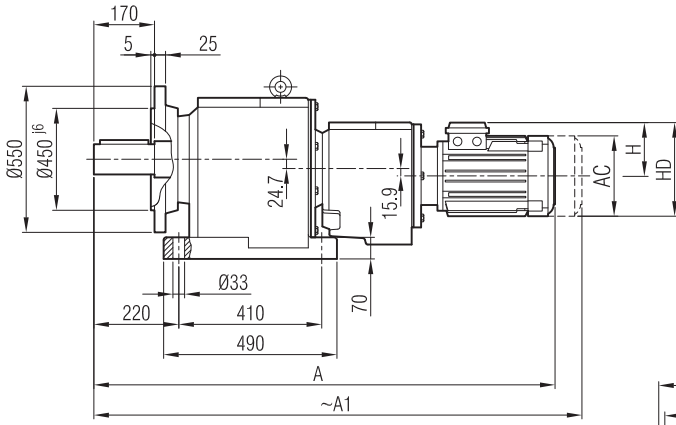


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

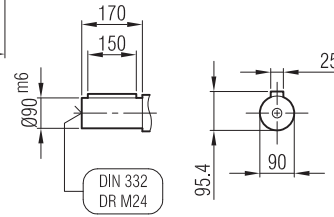




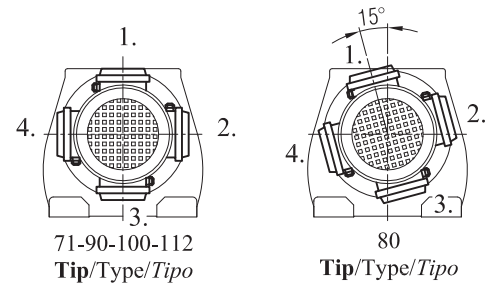
**İRAFM 122 İR 73**  
**İRAFM 123 İR 72 / İRAFM 123 İR 73**



Ø450  
**Opsiyonel / Option**

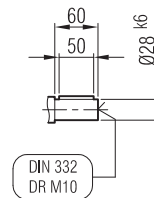
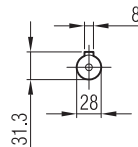
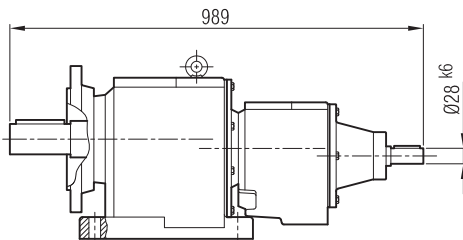


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112
A	1027	1057	1087	1112	1153	1176
A <sub>1</sub>	1078	1126	1153	1178	1231	1259
H	111	118	126	126	134	145
HD	182	198	216	216	234	257
AC	138	156	176	176	194	218

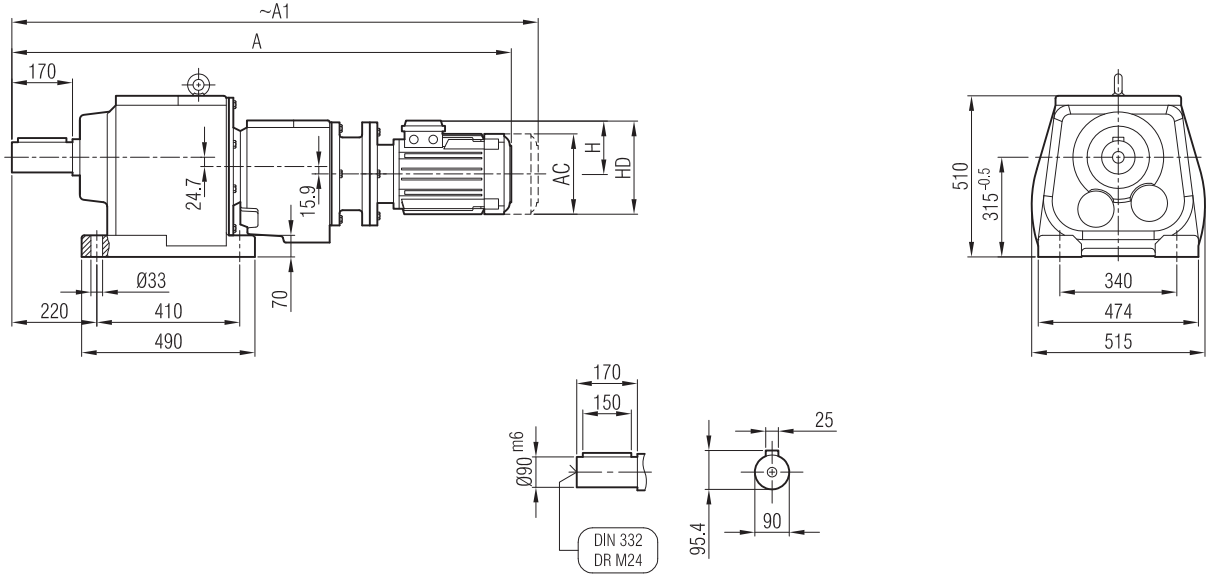
**İRAF 122 İR 72 / İRAF 122 İR 73**  
**İRAF 123 İR 72 / İRAF 123 İR 73**



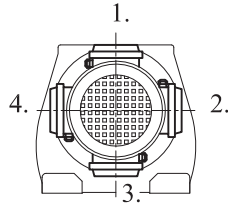
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 122 İR 73**  
**İRAPM 123 İR 72 / İRAPM 123 İR 73**



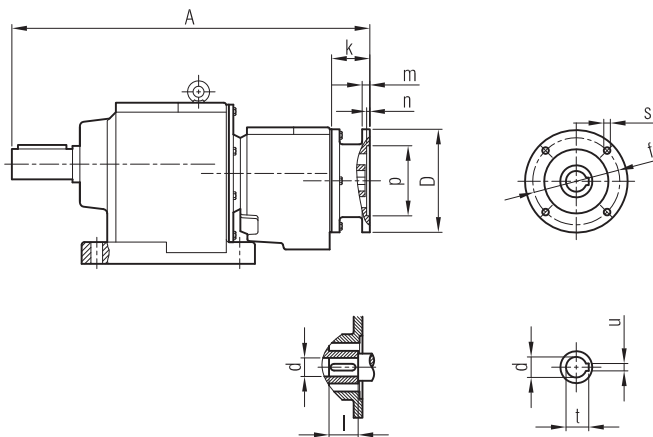
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5
A	1103	1136	1151	1176	1213	1233
A <sub>1</sub>	1154	1205	1217	1242	1291	1316
H	111	118	126	126	134	145
HD	182	198	216	216	234	257
AC	138	156	176	176	194	218

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

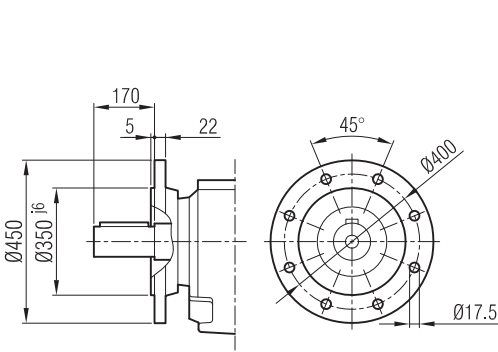
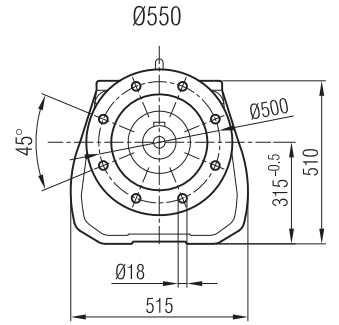
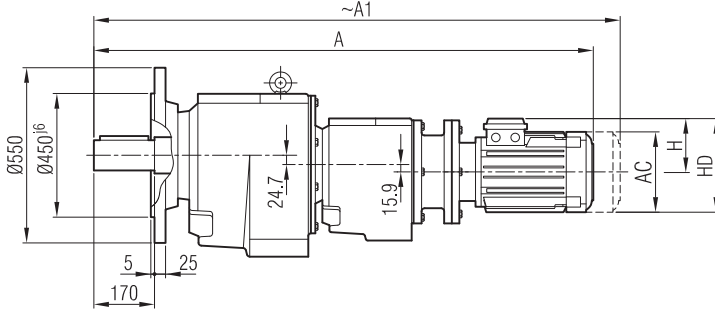
**İRAP 122 İR 72 / İRAP 122 İR 73**  
**İRAP 123 İR 72 / İRAP 123 İR 73**



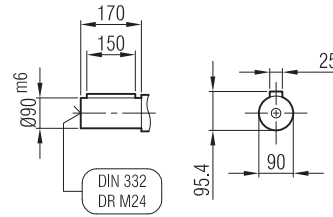
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	880	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	892	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	892	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	897	180	215	250	M12	72	14	5	28	60	31.3	8
112/B5	897	180	215	250	M12	72	14	5	28	60	31.3	8



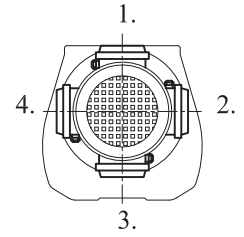
**İRFPM 122 İR 73**  
**İRFPM 123 İR 72 / İRFPM 123 İR 73**



Ø450  
**Opsiyonel / Option**



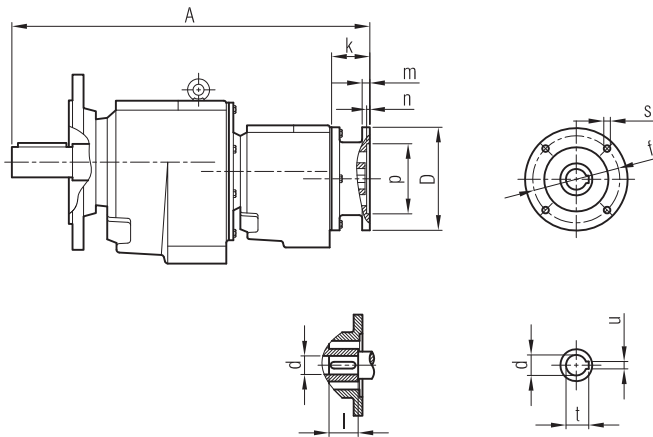
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5
A	1103	1136	1151	1176	1213	1233
A1	1154	1205	1217	1242	1291	1316
H	111	118	126	126	134	145
HD	182	198	216	216	234	257
AC	138	156	176	176	194	218

**İRFP 122 İR 72 / İRFP 122 İR 73**  
**İRFP 123 İR 72 / İRFP 123 İR 73**

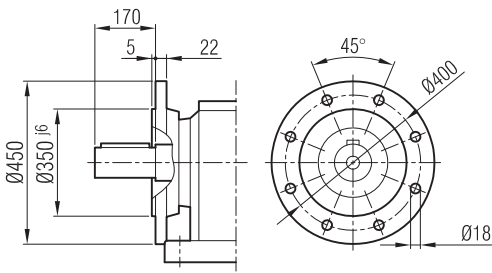
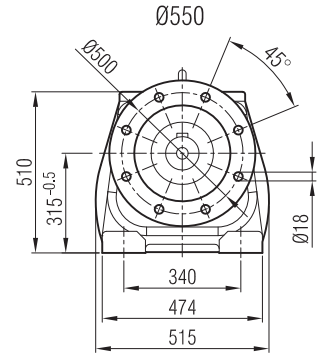
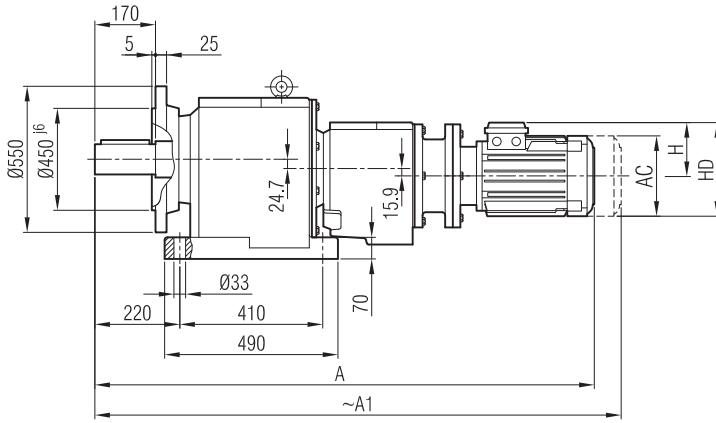
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspond aux moteurs équipés de freins.



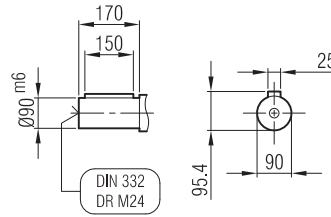
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	880	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	892	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	892	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	897	180	215	250	M12	72	14	5	28	60	31.3	8
112/B5	897	180	215	250	M12	72	14	5	28	60	31.3	8



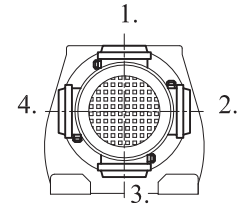
**İRAFPM 122 İR 73**  
**İRAFPM 123 İR 72 / İRAFPM 123 İR 73**



Ø450  
**Opsiyonel / Option**



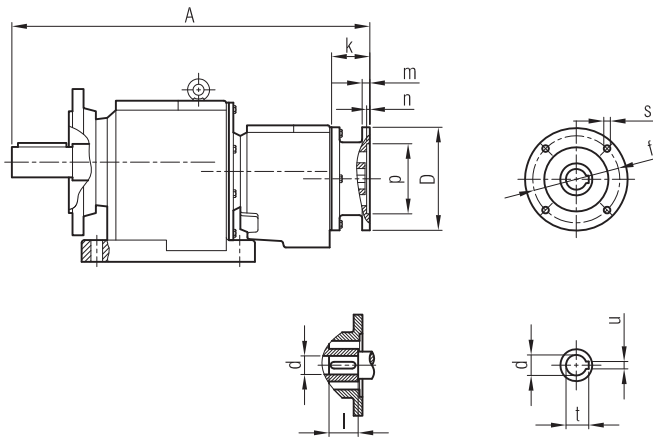
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5
A	1103	1136	1151	1176	1213	1233
A <sub>1</sub>	1154	1205	1217	1242	1291	1316
H	111	118	126	126	134	145
HD	182	198	216	216	234	257
AC	138	156	176	176	194	218

**İRAFP 122 İR 72 / İRAFP 122 İR 73**  
**İRAFP 123 İR 72 / İRAFP 123 İR 73**

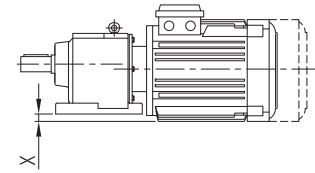
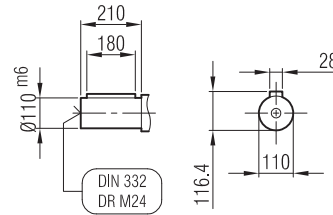
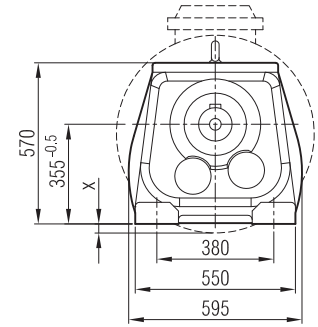
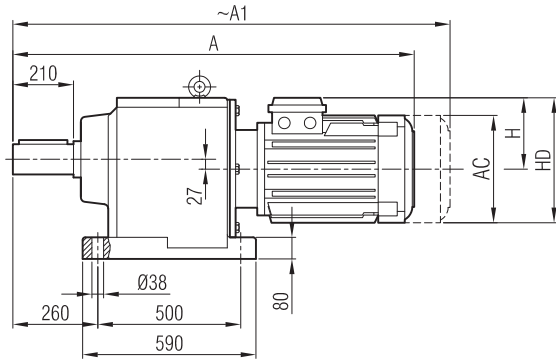
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



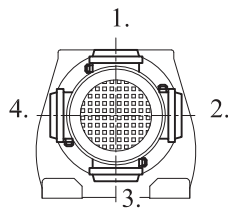
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	880	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	892	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	892	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	897	180	215	250	M12	72	14	5	28	60	31.3	8
112/B5	897	180	215	250	M12	72	14	5	28	60	31.3	8



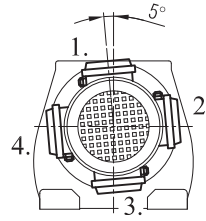
**İRAM 142**  
**İRAM 143**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



160-180-225-250-280  
Tip/Type/Tipo

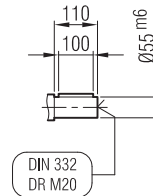
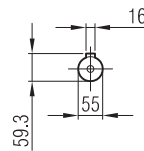
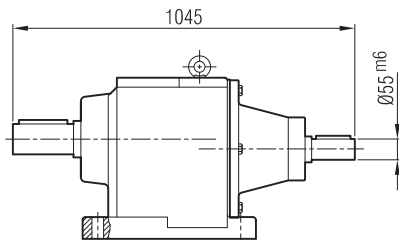


200  
Tip/Type/Tipo

	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M
A	1206	1250	1266	1304	1355	1388	1413	1491	1552	1552
A1	1321	1365	1386	1424	1475	1508	1533	1611	1672	1752
H	220	220	241	241	277	285	285	322	350	350
HD	380	380	421	421	477	510	510	572	630	630
AC	310	310	348	348	390	434	434	480	544	544
x	-	-	-	-	-	-	-	-	-	-

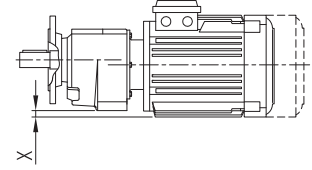
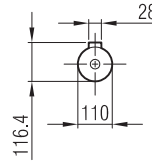
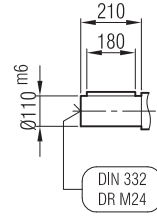
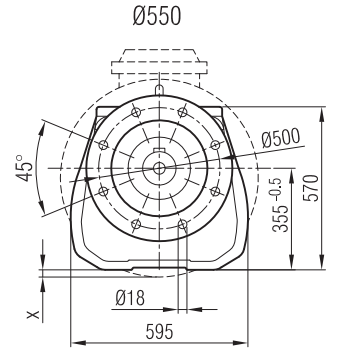
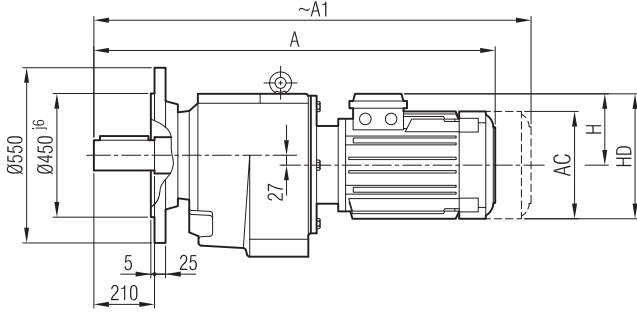
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.

**İRA 142**  
**İRA 143**

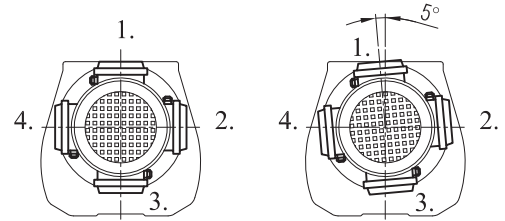




**İRFM 142**  
**İRFM 143**

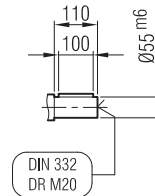
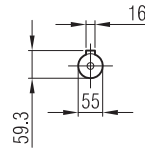
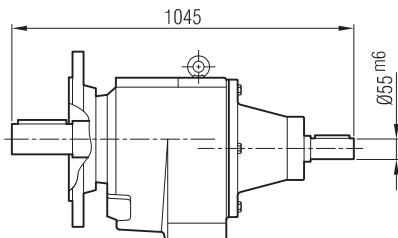


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M
A	1206	1250	1266	1304	1355	1388	1413	1491	1552	1552
A <sub>1</sub>	1321	1365	1386	1424	1475	1508	1533	1611	1672	1752
H	220	220	241	241	277	285	285	322	350	350
HD	380	380	421	421	477	510	510	572	630	630
AC	310	310	348	348	390	434	434	480	544	544
X	-	-	-	-	-	-	-	-	-	-

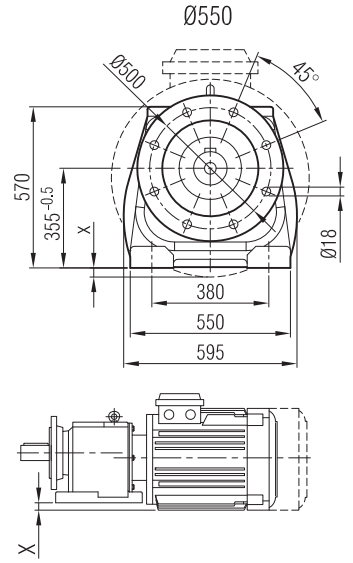
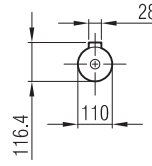
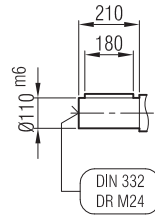
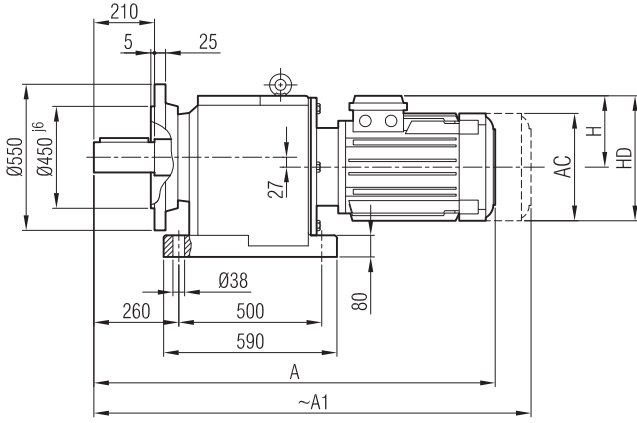
**İRF 142**  
**İRF 143**



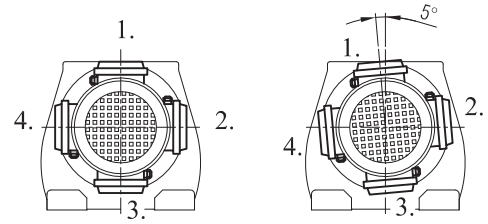
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAF 142**  
**İRAF 143**

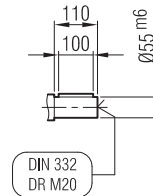
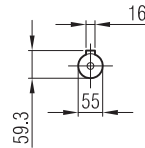
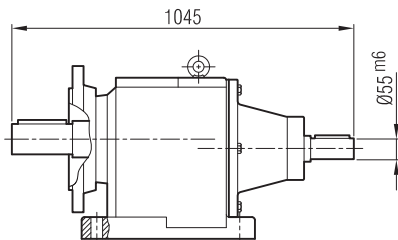


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M
A	1206	1250	1266	1304	1355	1388	1413	1491	1552	1552
A <sub>1</sub>	1321	1365	1386	1424	1475	1508	1533	1611	1672	1752
H	220	220	241	241	277	285	285	322	350	350
HD	380	380	421	421	477	510	510	572	630	630
AC	310	310	348	348	390	434	434	480	544	544
X	-	-	-	-	-	-	-	-	-	-

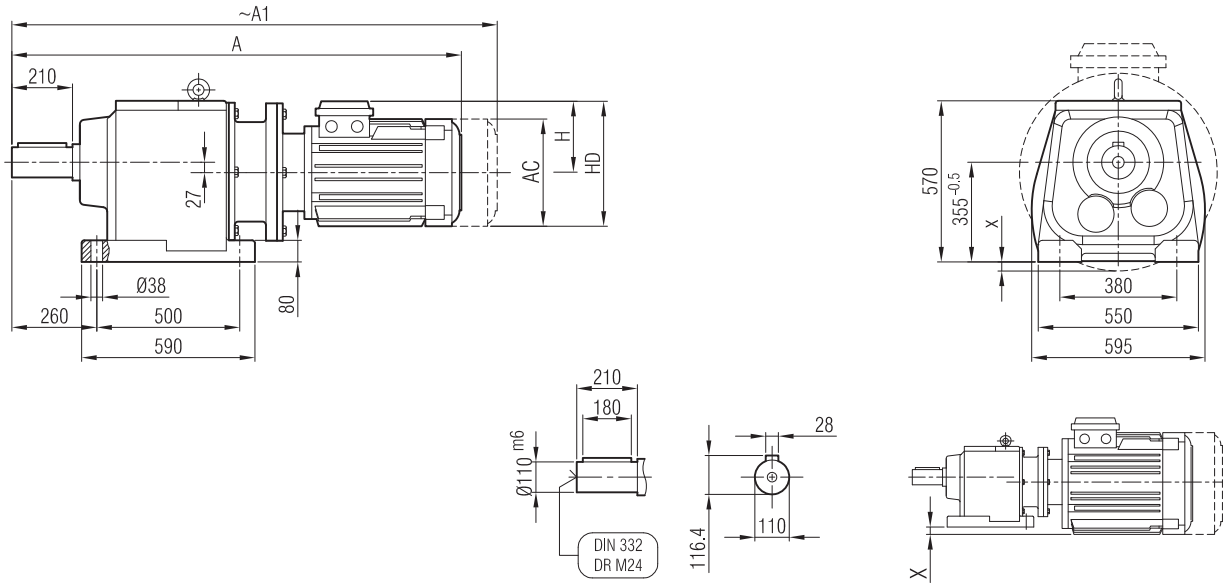
**İRAF 142**  
**İRAF 143**



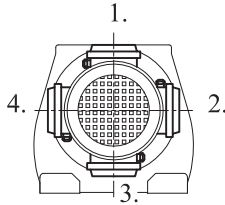
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAPM 142**  
**İRAPM 143**



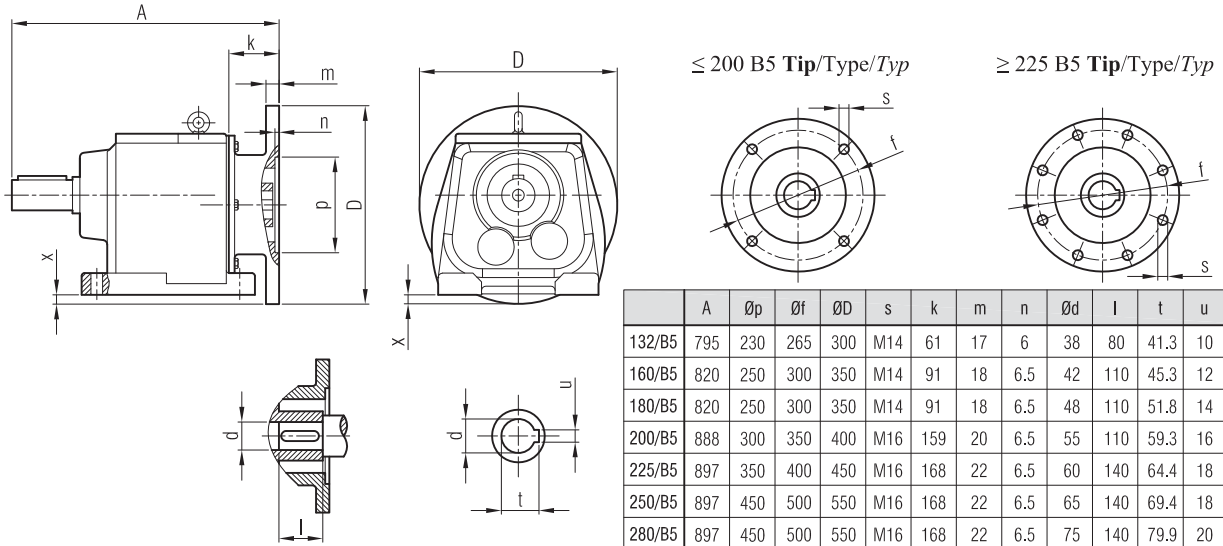
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5	280 S/B5	280 M/B5
A	1213	1310	1354	1367	1405	1525	1552	1577	1653	1715	1715
A <sub>1</sub>	1313	1425	1469	1487	1525	1645	1672	1697	1773	1835	1915
H	168	220	220	241	241	241	285	285	322	350	350
HD	300	380	380	421	421	421	510	510	572	630	630
AC	257	310	310	348	348	348	434	434	480	544	544
x	-	-	-	-	-	-	-	-	-	-	-

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRAP 142**  
**İRAP 143**

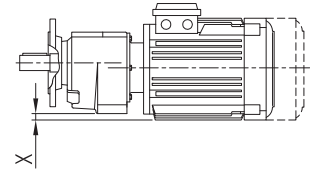
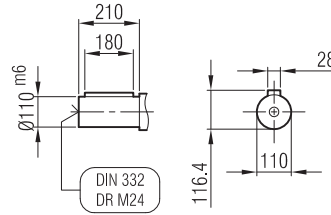
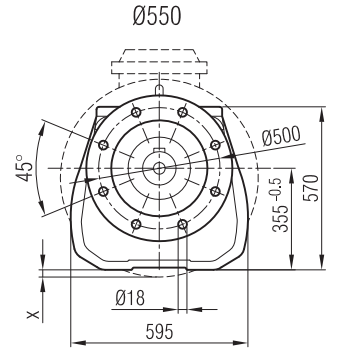
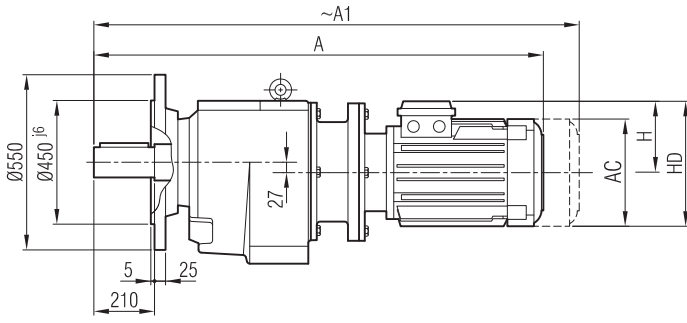


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
132/B5	795	230	265	300	M14	61	17	6	38	80	41.3	10	-
160/B5	820	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	820	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	888	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	897	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	897	450	500	550	M16	168	22	6.5	65	140	69.4	18	-
280/B5	897	450	500	550	M16	168	22	6.5	75	140	79.9	20	-

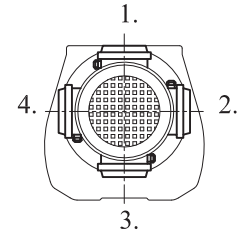




**İRFPM 142**  
**İRFPM 143**



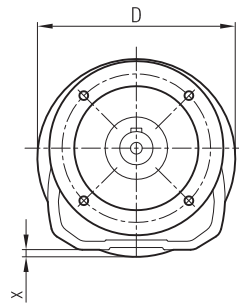
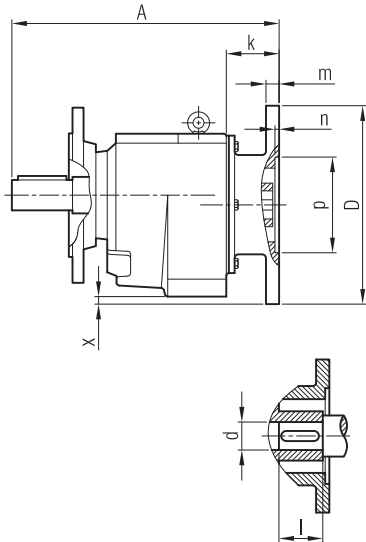
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



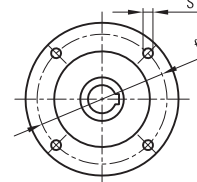
	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5	280 S/B5	280 M/B5
A	1213	1310	1354	1367	1405	1525	1552	1577	1653	1715	1715
A <sub>1</sub>	1313	1425	1469	1487	1525	1645	1672	1697	1773	1835	1915
H	168	220	220	241	241	241	285	285	322	350	350
HD	300	380	380	421	421	421	510	510	572	630	630
AC	257	310	310	348	348	348	434	434	480	544	544
x	-	-	-	-	-	-	-	-	-	-	-

**İRFP 142**  
**İRFP 143**

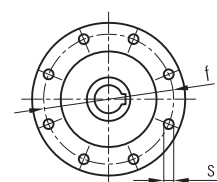
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



≤ 200 B5 Tip/Type/Typ



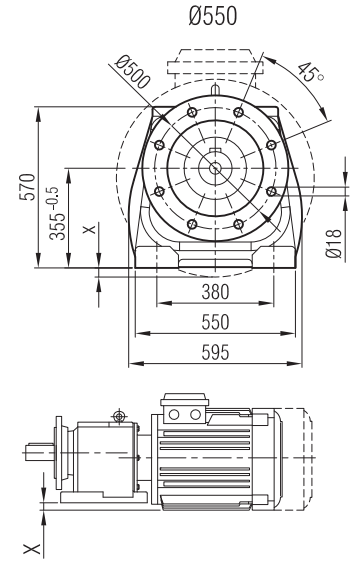
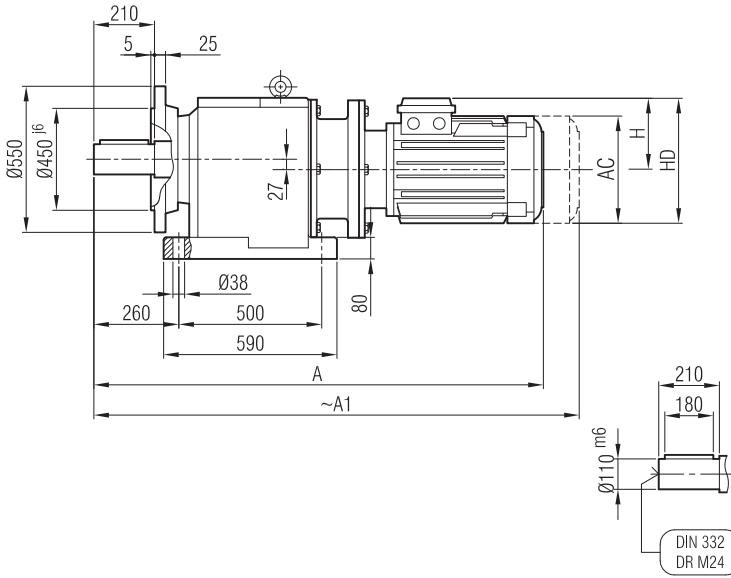
≥ 225 B5 Tip/Type/Typ



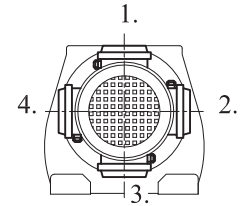
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
132/B5	795	230	265	300	M14	61	17	6	38	80	41.3	10	-
160/B5	820	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	820	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	888	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	897	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	897	450	500	550	M16	168	22	6.5	65	140	69.4	18	-
280/B5	897	450	500	550	M16	168	22	6.5	75	140	79.9	20	-



**İRAFPM 142**  
**İRAFPM 143**



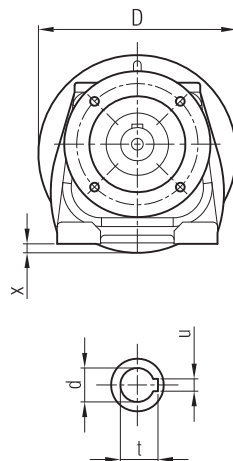
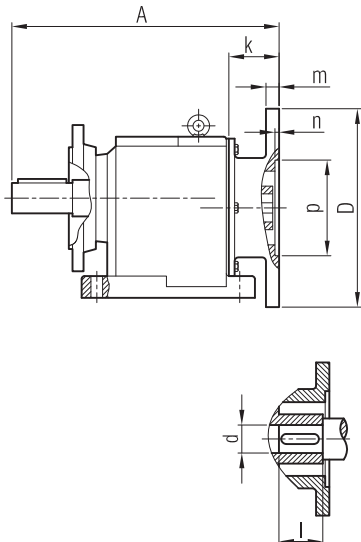
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



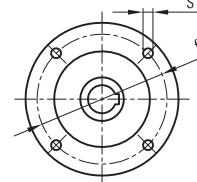
	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5	280 S/B5	280 M/B5
A	1213	1310	1354	1367	1405	1525	1552	1577	1653	1715	1715
A <sub>1</sub>	1313	1425	1469	1487	1525	1645	1672	1697	1773	1835	1915
H	168	220	220	241	241	241	285	285	322	350	350
HD	300	380	380	421	421	421	510	510	572	630	630
AC	257	310	310	348	348	348	434	434	480	544	544
x	-	-	-	-	-	-	-	-	-	-	-

**İRAFPM 142**  
**İRAFPM 143**

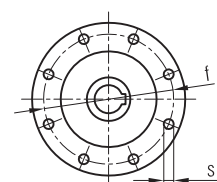
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



≤ 200 B5 Tip/Type/Typ



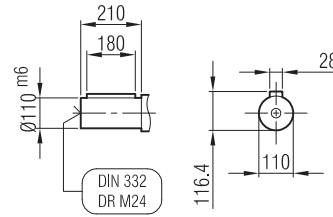
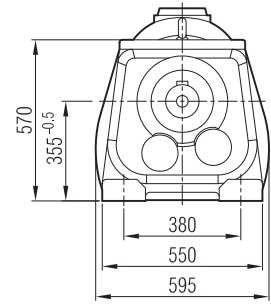
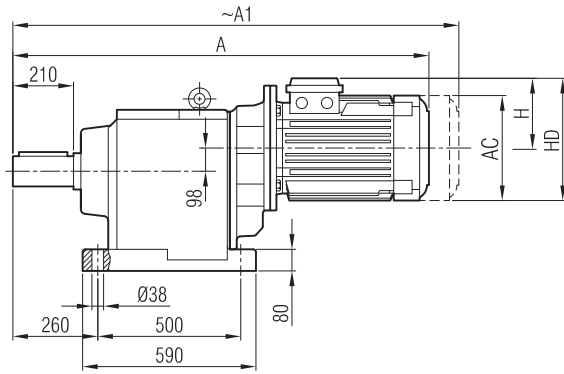
≥ 225 B5 Tip/Type/Typ



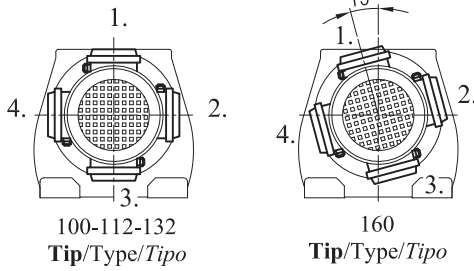
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
132/B5	795	230	265	300	M14	61	17	6	38	80	41.3	10	-
160/B5	820	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	820	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	888	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	897	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	897	450	500	550	M16	168	22	6.5	65	140	69.4	18	-
280/B5	897	450	500	550	M16	168	22	6.5	75	140	79.9	20	-



**İRAM 144**



**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



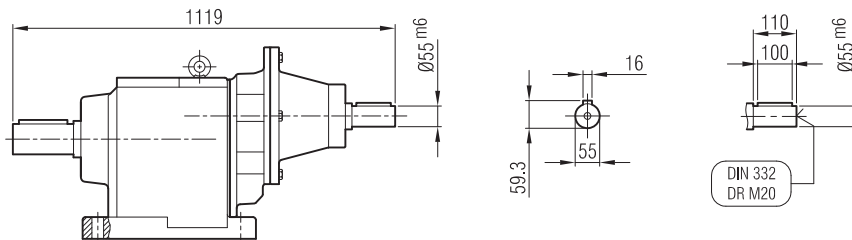
100-112-132  
Tip/Type/Tipo

160  
Tip/Type/Tipo

	100	112	132 S	132 M	160 M		
A	1160	1180	1221	1259	1331		
A <sub>1</sub>	1238	1263	1321	1359	1446		
H	134	145	168	168	220		
HD	234	257	300	300	380		
AC	194	218	257	257	310		

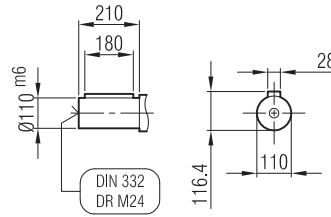
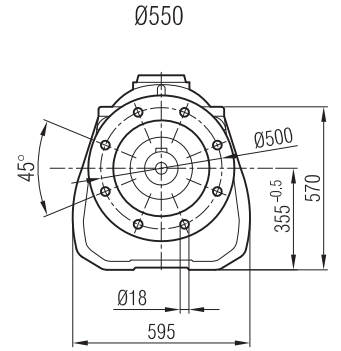
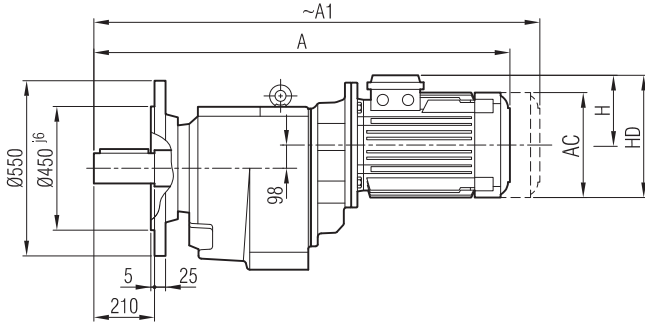
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 144**

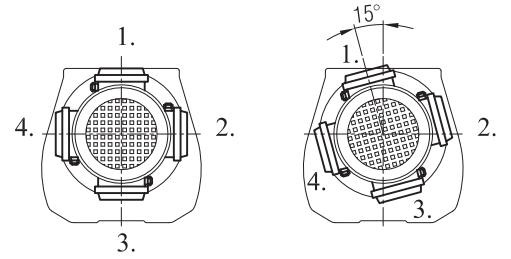




**İRFM 144**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



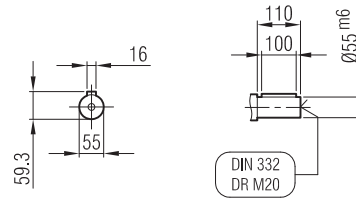
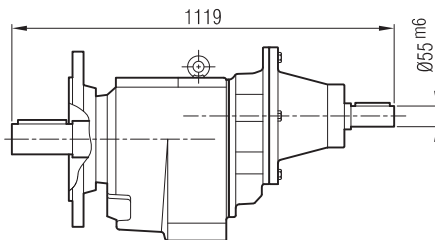
100-112-132  
**Tip/Type/Tipo**

160  
**Tip/Type/Tipo**

	100	112	132 S	132 M	160 M		
A	1160	1180	1221	1259	1331		
A <sub>1</sub>	1238	1263	1321	1359	1446		
H	134	145	168	168	220		
HD	234	257	300	300	380		
AC	194	218	257	257	310		

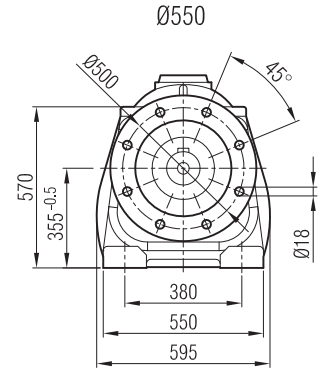
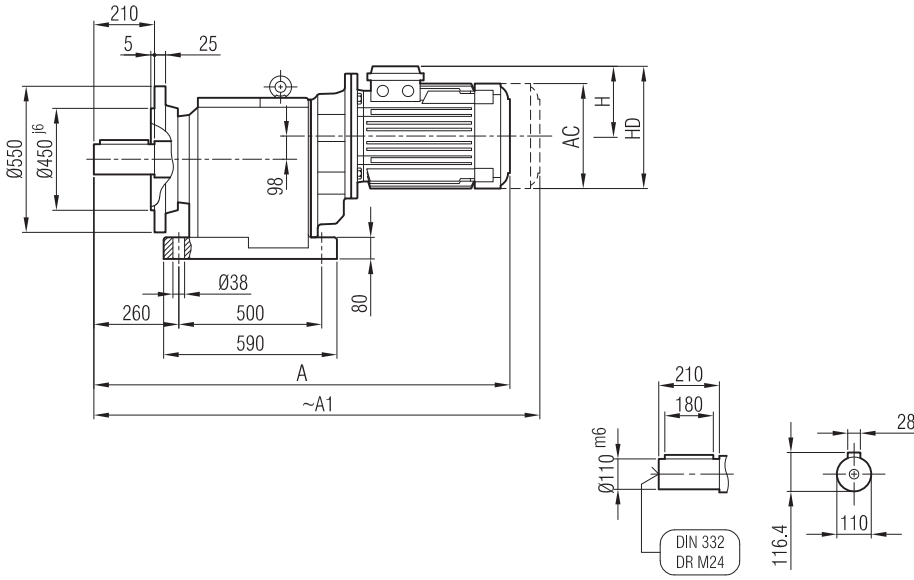
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 144**

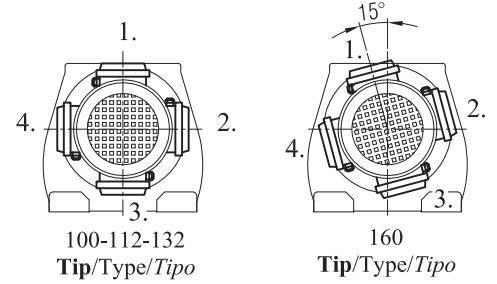




**İRAF 144**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



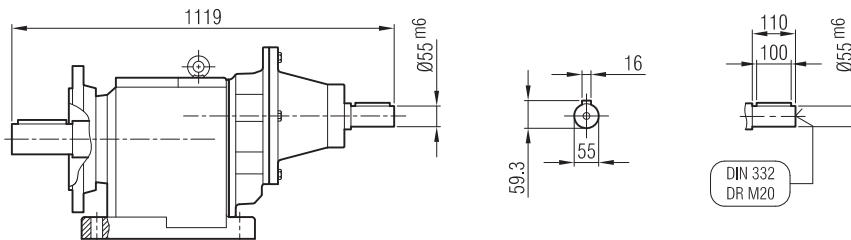
100-112-132  
**Tip/Type/Tipo**

160  
**Tip/Type/Tipo**

	100	112	132 S	132 M	160 M		
A	1160	1180	1221	1259	1331		
A <sub>1</sub>	1238	1263	1321	1359	1446		
H	134	145	168	168	220		
HD	234	257	300	300	380		
AC	194	218	257	257	310		

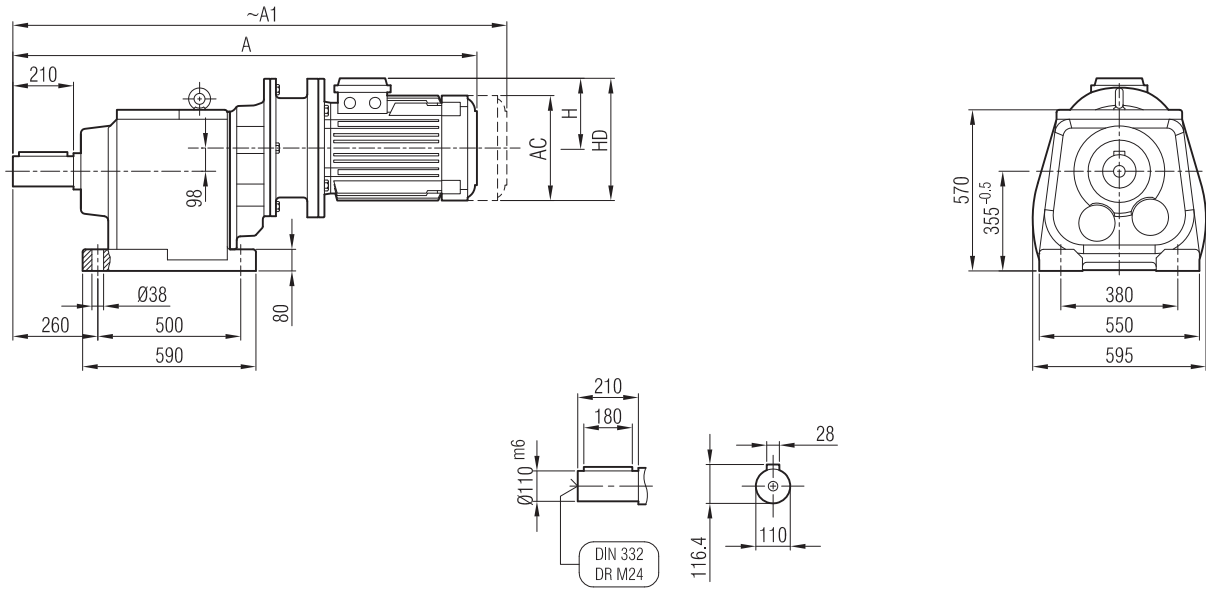
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRAF 144**

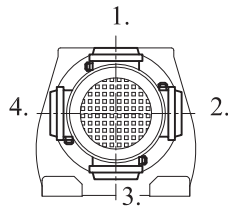




**İRAPM 144**



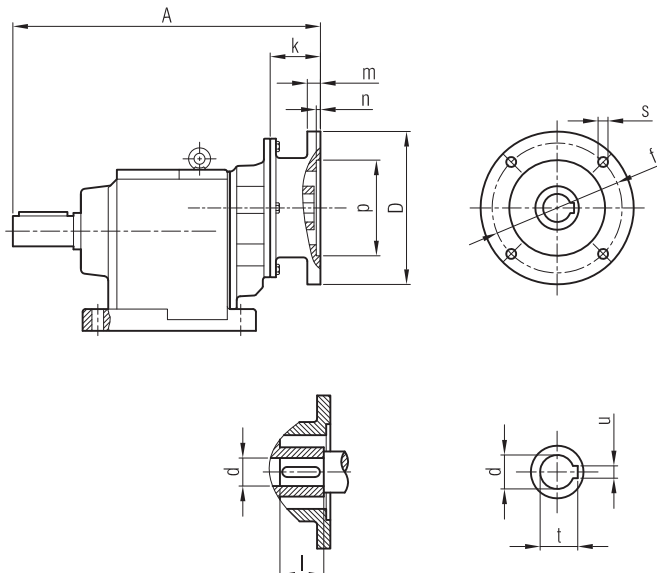
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1222	1242	1313	1351	1430
A <sub>1</sub>	1300	1325	1413	1451	1545
H	220	220	241	241	241
HD	380	380	421	421	421
AC	310	310	348	348	348

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

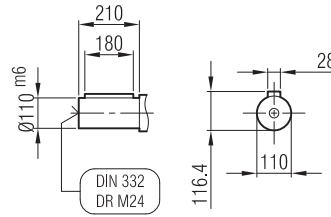
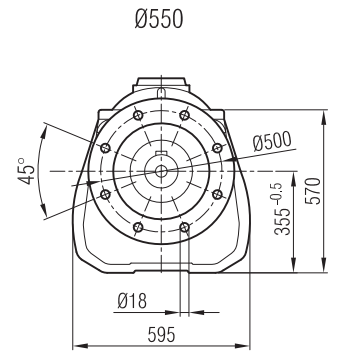
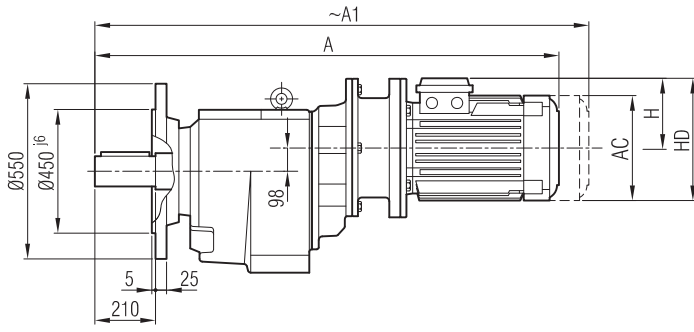
**İRAP 144**



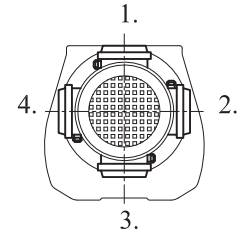
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	621	250	300	350	M14	91	18	6.5	42	110	45.3	12



**İRFPM 144**

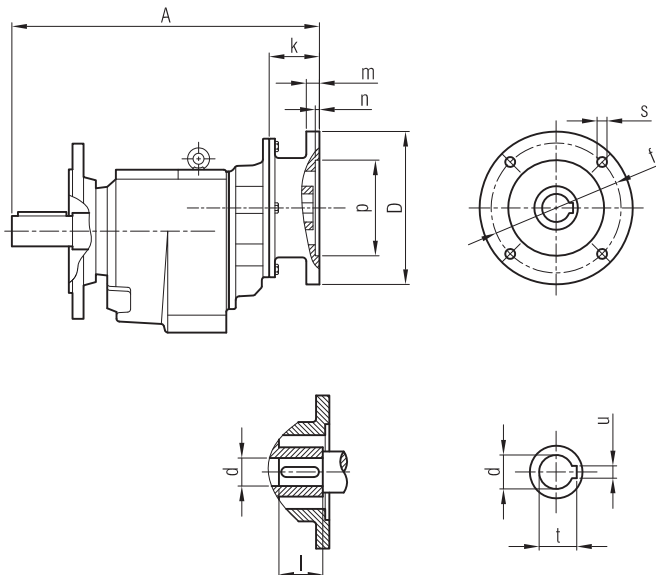


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1222	1242	1313	1351	1430
A <sub>1</sub>	1300	1325	1413	1451	1545
H	220	220	241	241	241
HD	380	380	421	421	421
AC	310	310	348	348	348

**İRFP 144**

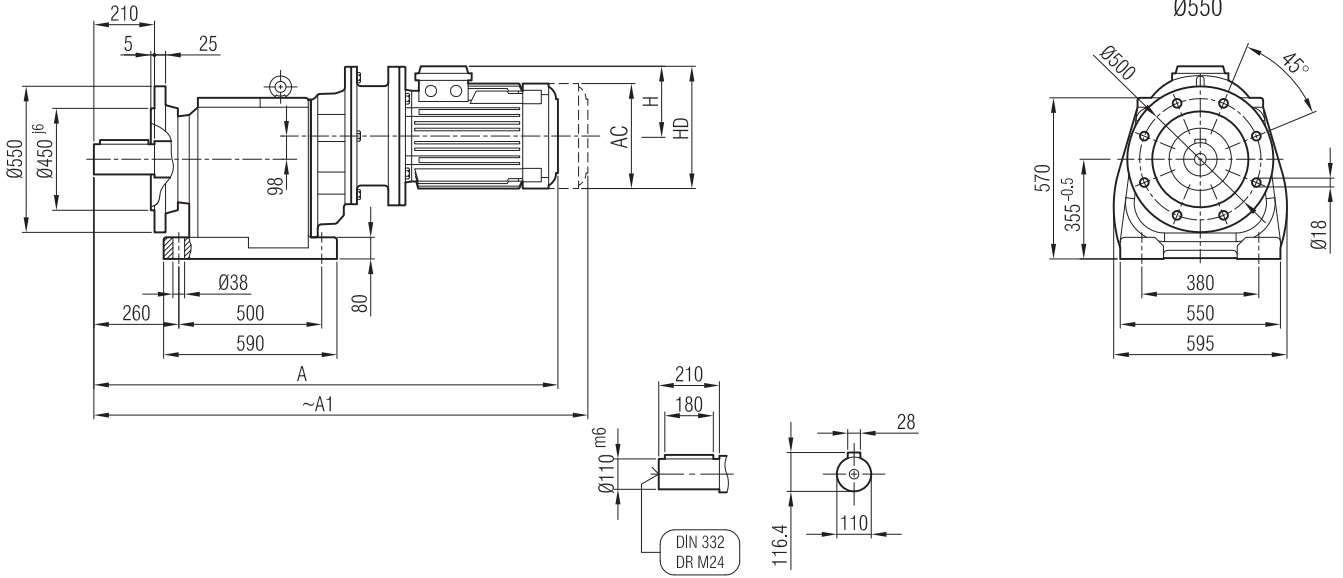


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

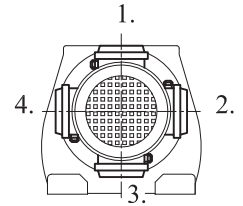
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	621	250	300	350	M14	91	18	6.5	42	110	45.3	12



**İRAFPM 144**

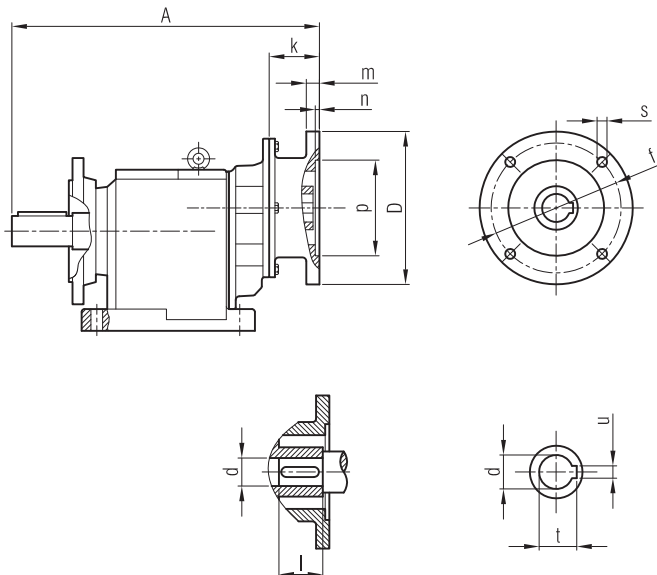


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1222	1242	1313	1351	1430
A <sub>1</sub>	1300	1325	1413	1451	1545
H	220	220	241	241	241
HD	380	380	421	421	421
AC	310	310	348	348	348

**İRAFP 144**



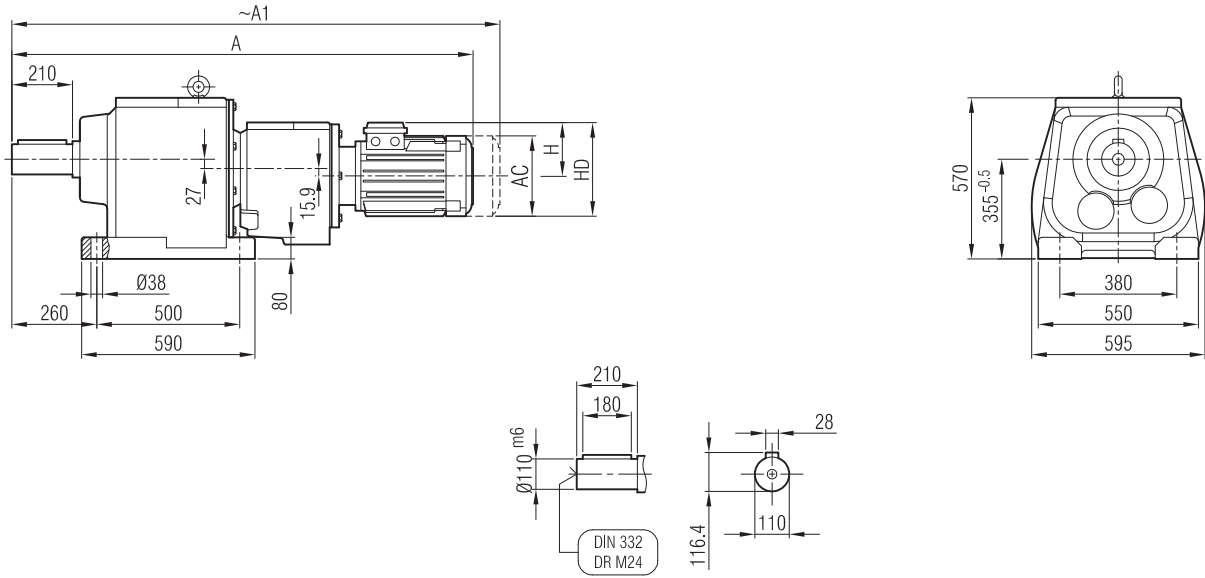
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	587	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	614	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	621	250	300	350	M14	91	18	6.5	42	110	45.3	12

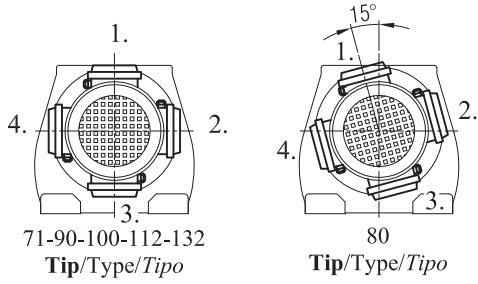




**İRAM 143 İR 72**  
**İRAM 143 İR 73**



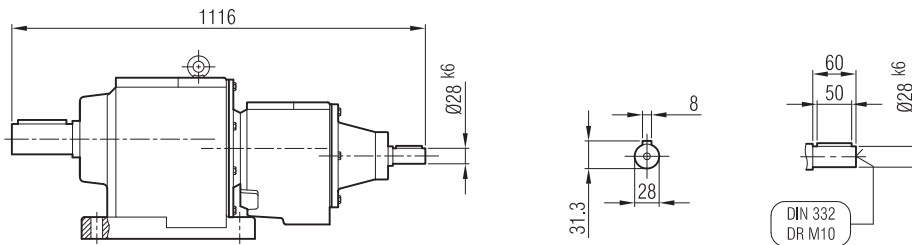
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S
A	1154	1184	1214	1239	1280	1303	1365
A <sub>1</sub>	1205	1253	1280	1305	1358	1386	1465
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257

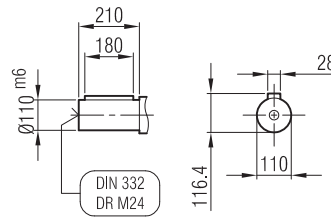
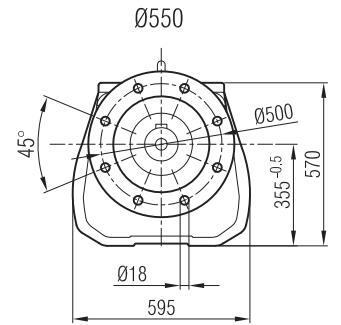
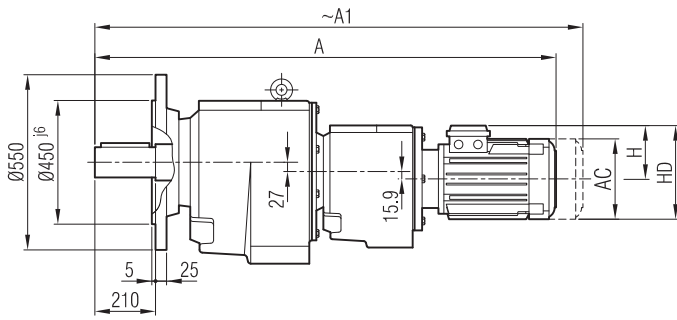
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRA 142 İR 72 / İRA 142 İR 73**  
**İRA 143 İR 72 / İRA 143 İR 73**

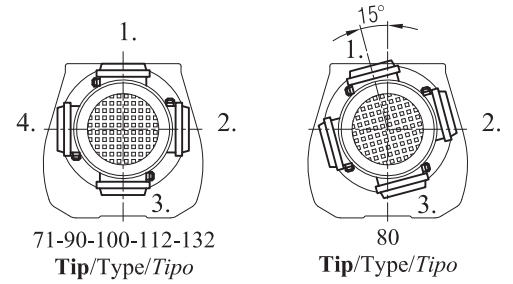




**İRFM 143 İR 72**  
**İRFM 143 İR 73**

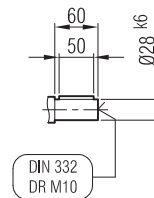
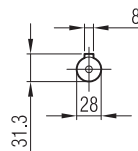
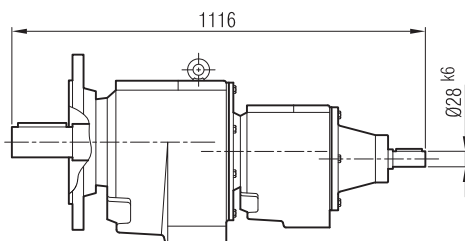


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S
A	1154	1184	1214	1239	1280	1303	1365
A <sub>1</sub>	1205	1253	1280	1305	1358	1386	1465
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257

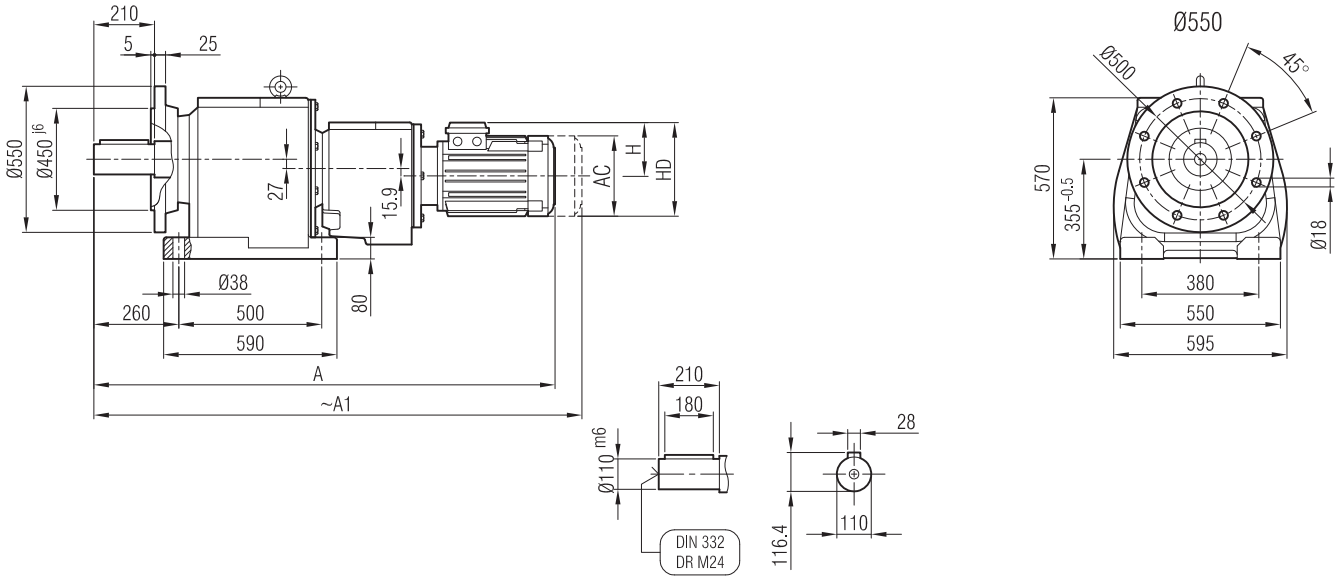
**İRF 142 İR 72 / İRF 143 İR 73**  
**İRF 143 İR 72 / İRF 143 İR 73**



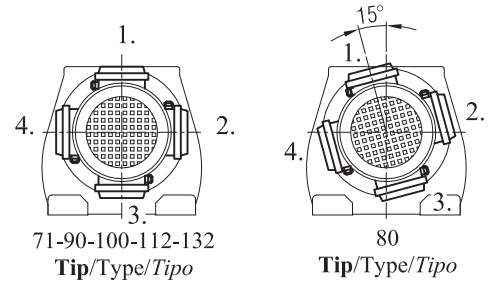
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAFM 143 İR 72**  
**İRAFM 143 İR 73**



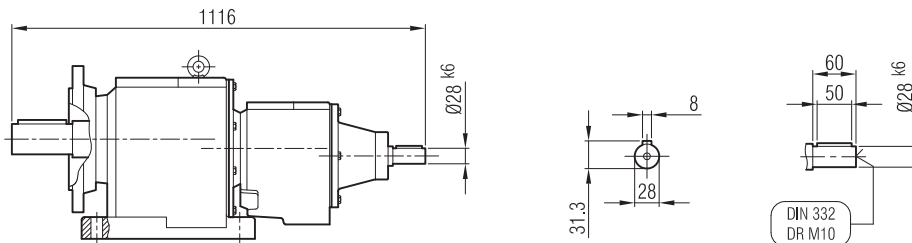
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71	80	90 S	90 L	100	112	132 S
A	1154	1184	1214	1239	1280	1303	1365
A <sub>1</sub>	1205	1253	1280	1305	1358	1386	1465
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257

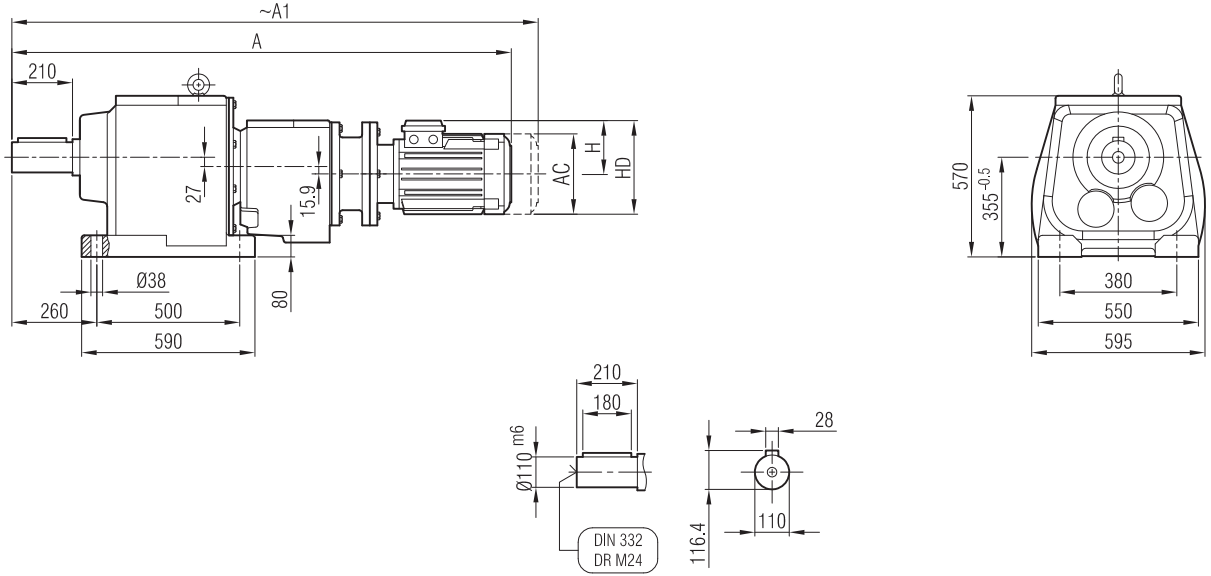
**İRAF 142 İR 72 / İRAF 142 İR 73**  
**İRAF 143 İR 72 / İRAF 143 İR 73**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

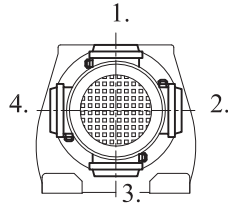




**İRAPM 143 İR 72**  
**İRAPM 143 İR 73**



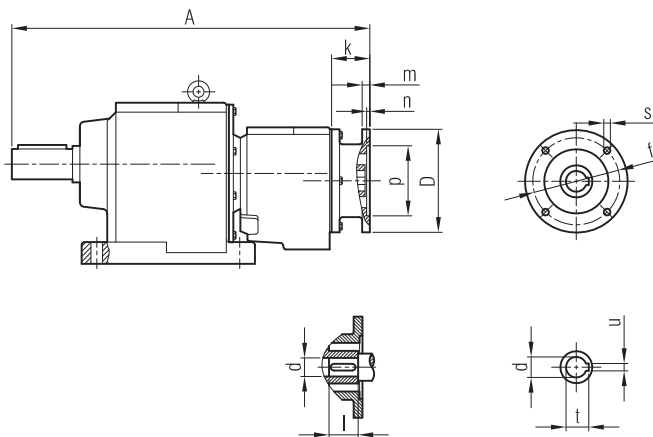
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	1230	1263	1278	1303	1340	1360	1428
A <sub>1</sub>	1281	1332	1344	1369	1418	1443	1528
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

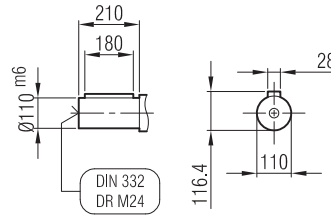
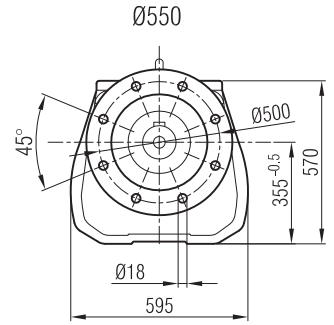
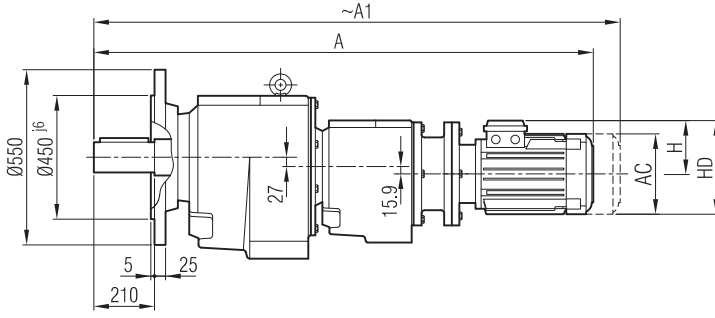
**İRAP 142 İR 72 / İRAP 142 İR 73**  
**İRAP 143 İR 72 / İRAP 143 İR 73**



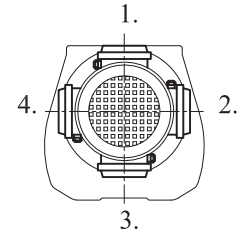
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	1007	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	1019	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	1019	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	1024	180	215	250	M12	72	14	5	28	60	31.3	8
112/B5	1024	180	215	250	M12	72	14	5	28	60	31.3	8
132/B5	1048	230	265	300	M12	96	17	5	38	80	41.3	10



**İRFPM 143 İR 72**  
**İRFPM 143 İR 73**



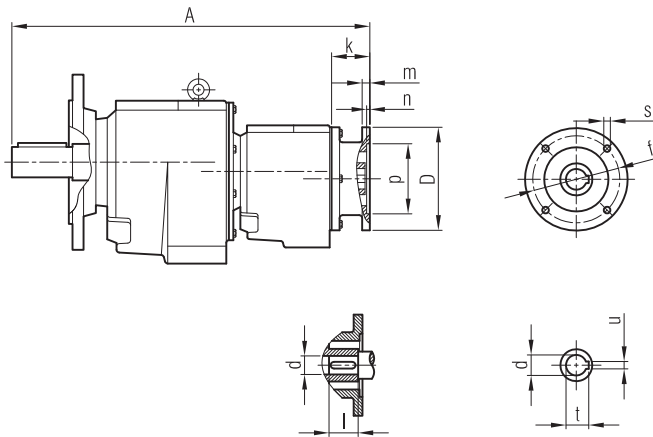
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	1230	1263	1278	1303	1340	1360	1428
A <sub>1</sub>	1281	1332	1344	1369	1418	1443	1528
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257

**İRFP 142 İR 72 / İRFP 143 İR 73**  
**İRFP 143 İR 72 / İRFP 143 İR 73**

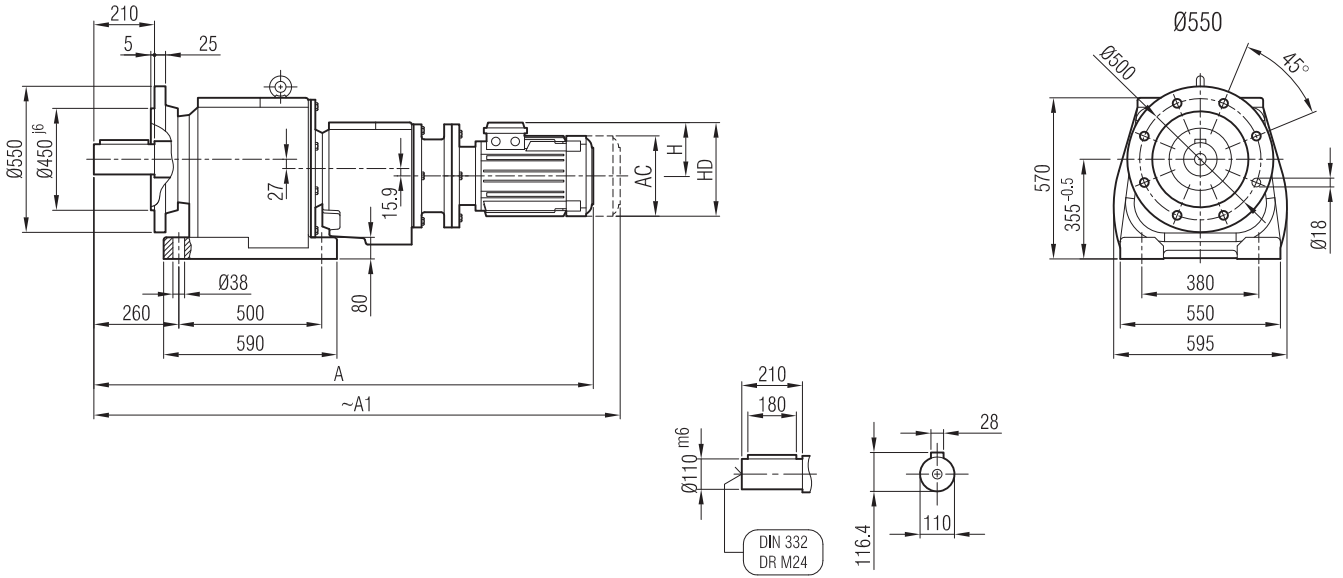
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



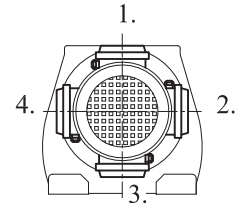
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	1007	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	1019	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	1019	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	1024	180	215	250	M12	72	14	5	28	60	31.3	8
112/B5	1024	180	215	250	M12	72	14	5	28	60	31.3	8
132/B5	1048	230	265	300	M12	96	17	5	38	80	41.3	10



**İRAFPM 143 İR 72**  
**İRAFPM 143 İR 73**



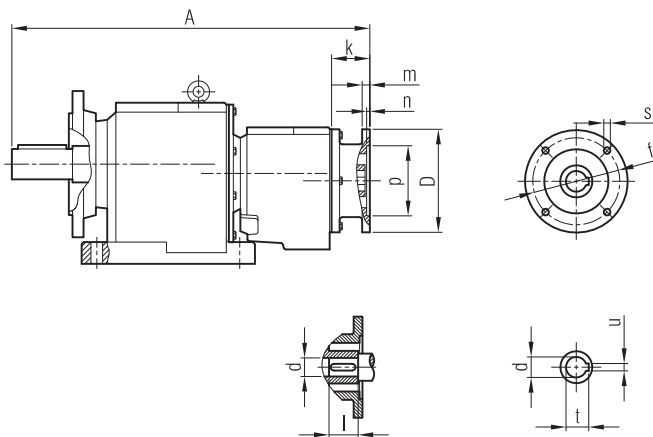
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	71/B5	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5
A	1230	1263	1278	1303	1340	1360	1428
A <sub>1</sub>	1281	1332	1344	1369	1418	1443	1528
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300
AC	138	156	176	176	194	218	257

**İRAFP 142 İR 72 / İRAFP 142 İR 73**  
**İRAFP 143 İR 72 / İRAFP 143 İR 73**

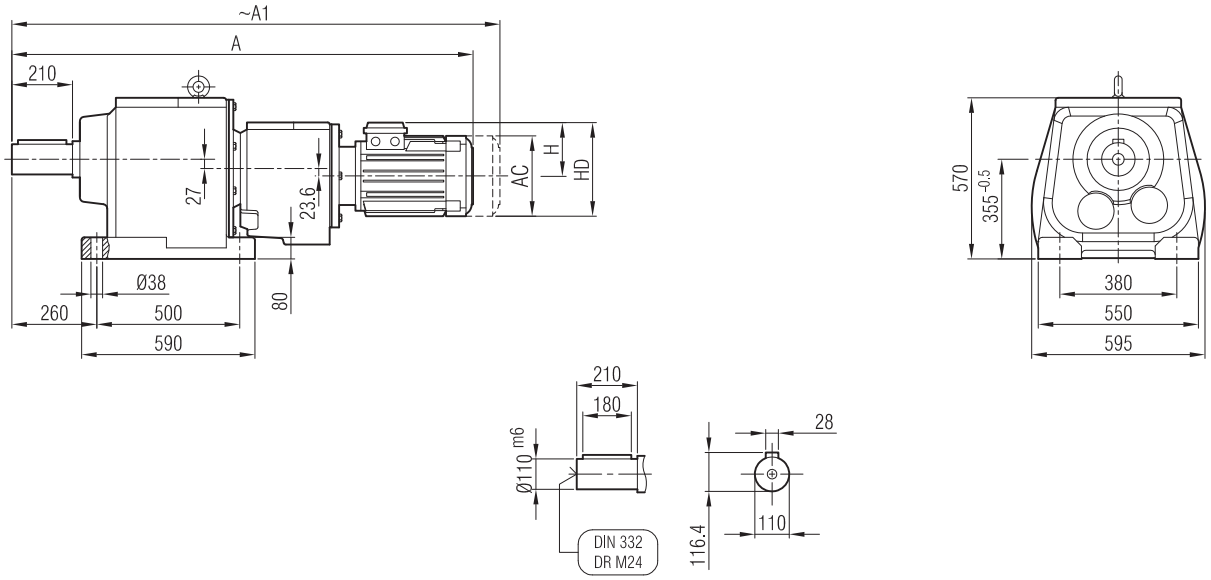
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



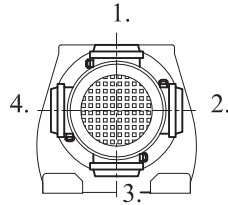
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
71/B5	1007	110	130	160	M8	55	10	4	14	30	16.3	5
80/B5	1019	130	165	200	M10	67	12	5	19	40	21.8	6
90/B5	1019	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	1024	180	215	250	M12	72	14	5	28	60	31.3	8
112/B5	1024	180	215	250	M12	72	14	5	28	60	31.3	8
132/B5	1048	230	265	300	M12	96	17	5	38	80	41.3	10



**İRAM 143 İR 82**



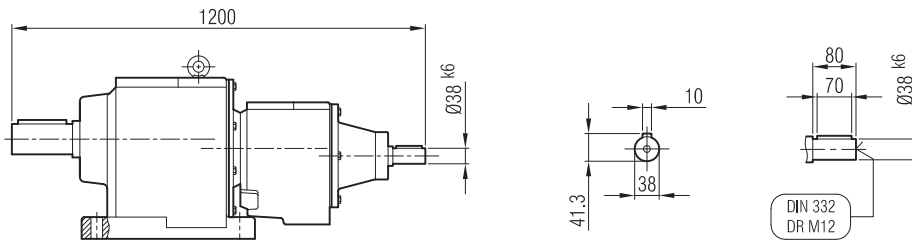
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	90 S	90 L	100	112	132 S	132 M	160 M
A	1233	1261	1286	1326	1348	1410	1448
A <sub>1</sub>	1302	1327	1352	1404	1431	1510	1548
H	126	126	134	145	168	168	220
HD	216	216	234	257	300	300	380
AC	176	176	194	218	257	257	310

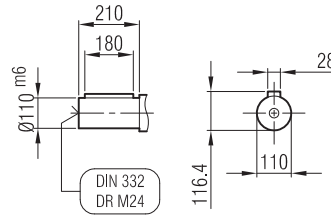
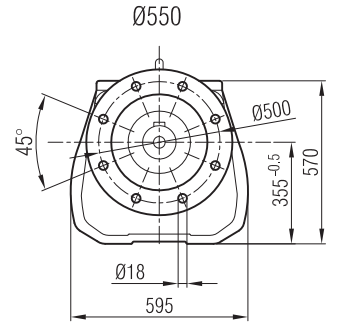
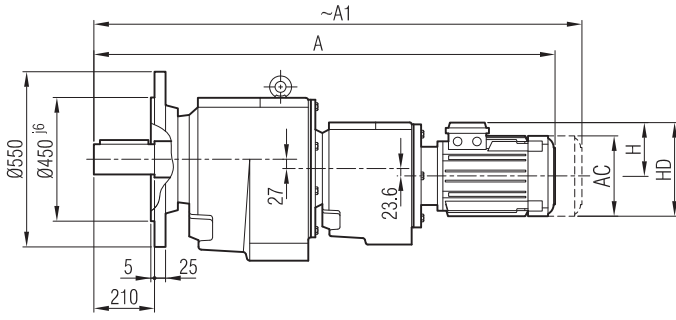
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 143 İR 82**

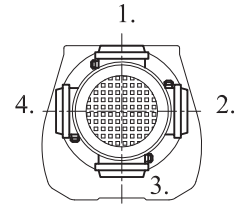




**İRFM 143 İR 82**



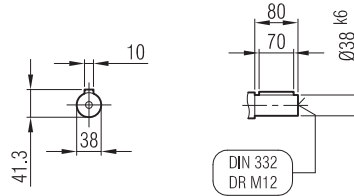
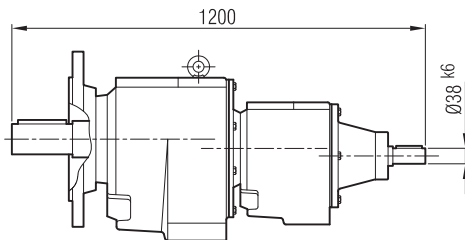
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	90 S	90 L	100	112	132 S	132 M	160 M
A	1233	1261	1286	1326	1348	1410	1448
A <sub>1</sub>	1302	1327	1352	1404	1431	1510	1548
H	126	126	134	145	168	168	220
HD	216	216	234	257	300	300	380
AC	176	176	194	218	257	257	310

**İRF 143 İR 82**

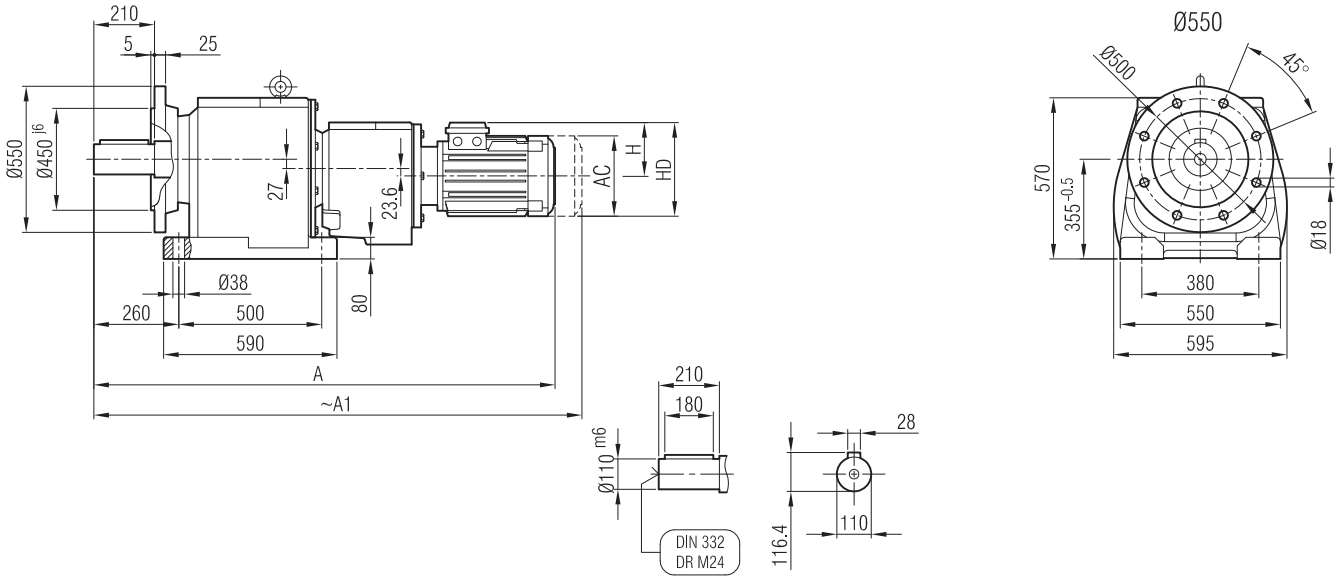
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



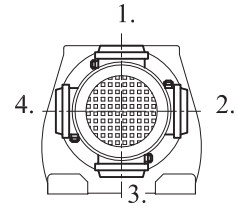




**İRAFEM 143 İR 82**



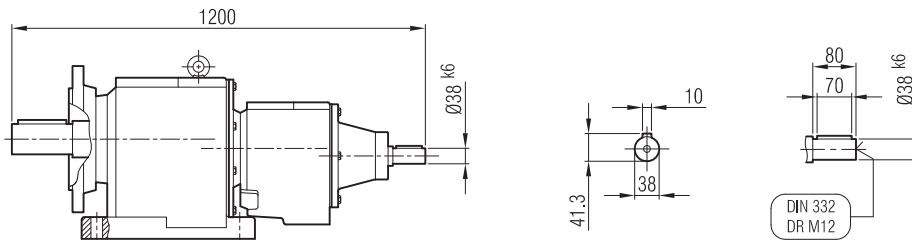
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	90 S	90 L	100	112	132 S	132 M	160 M
A	1233	1261	1286	1326	1348	1410	1448
A <sub>1</sub>	1302	1327	1352	1404	1431	1510	1548
H	126	126	134	145	168	168	220
HD	216	216	234	257	300	300	380
AC	176	176	194	218	257	257	310

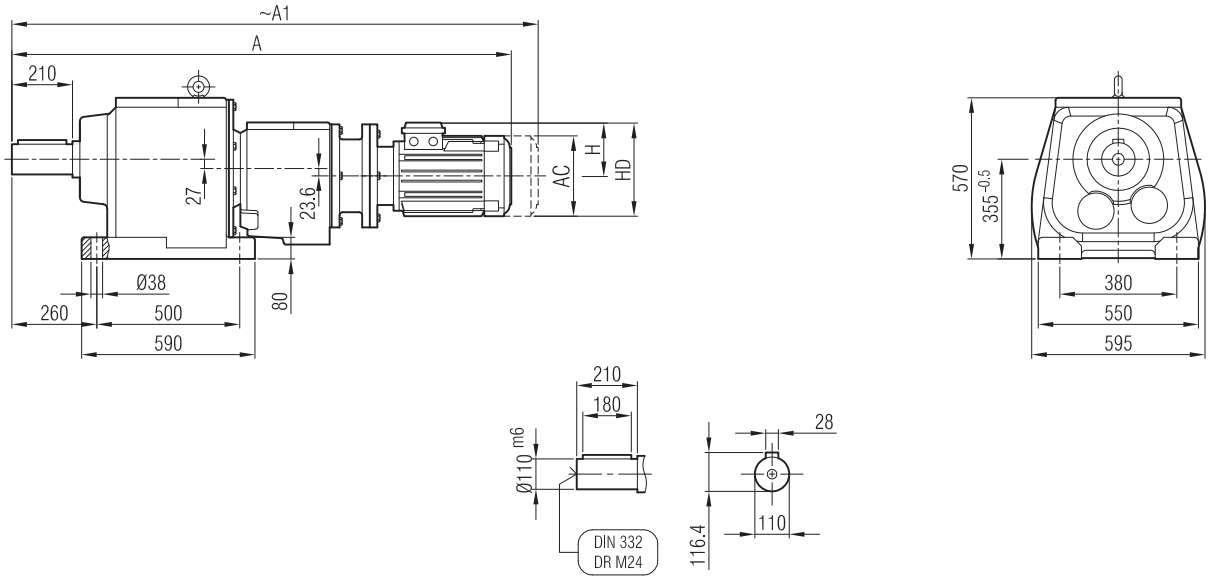
**İRAF 143 İR 82**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

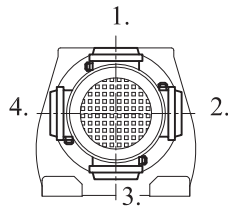




**İRAPM 143 İR 82**



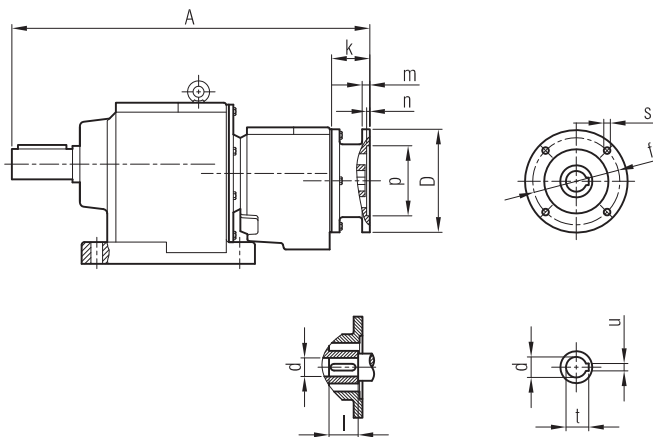
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1321	1336	1363	1401	1421	1486	1524
A <sub>1</sub>	1390	1402	1427	1479	1504	1586	1624
H	126	126	134	145	168	168	220
HD	216	216	234	257	300	300	380
AC	176	176	194	218	257	257	310

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

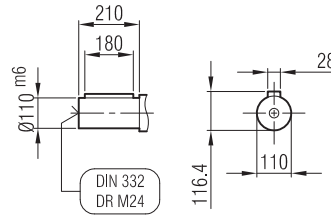
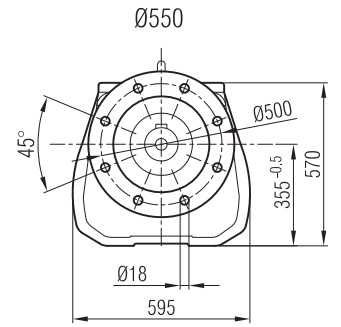
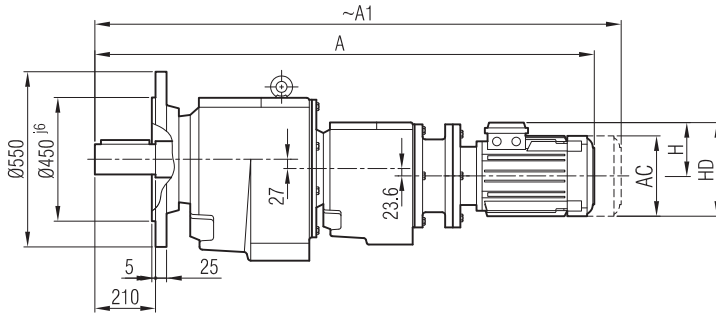
**İRAPM 143 İR 82**



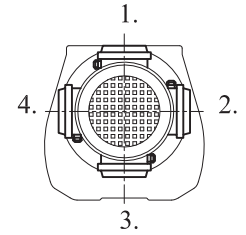
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
90/B5	1077	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	1085	180	215	250	M12	74	14	5	28	60	31.3	8
112/B5	1085	180	215	250	M12	74	14	5	28	60	31.3	8
132/B5	1106	230	265	300	M12	95	17	5	38	80	41.3	10
160/B5	1122	250	300	350	M14	111	18	6.5	42	110	45.3	12



**İRFPM 143 İR 82**



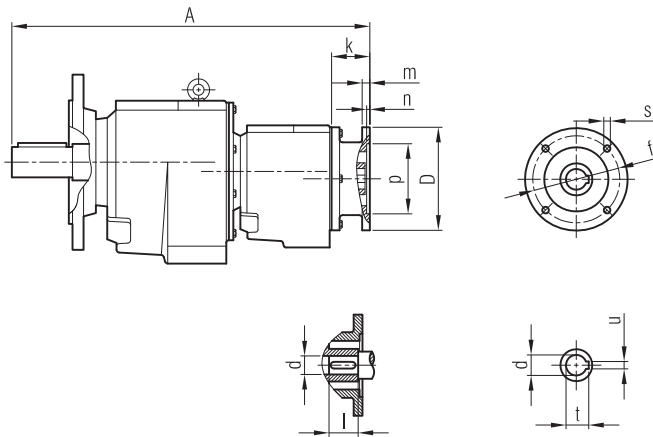
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1321	1336	1363	1401	1421	1486	1524
A <sub>1</sub>	1390	1402	1427	1479	1504	1586	1624
H	126	126	134	145	168	168	220
HD	216	216	234	257	300	300	380
AC	176	176	194	218	257	257	310

**İRFP 143 İR 82**

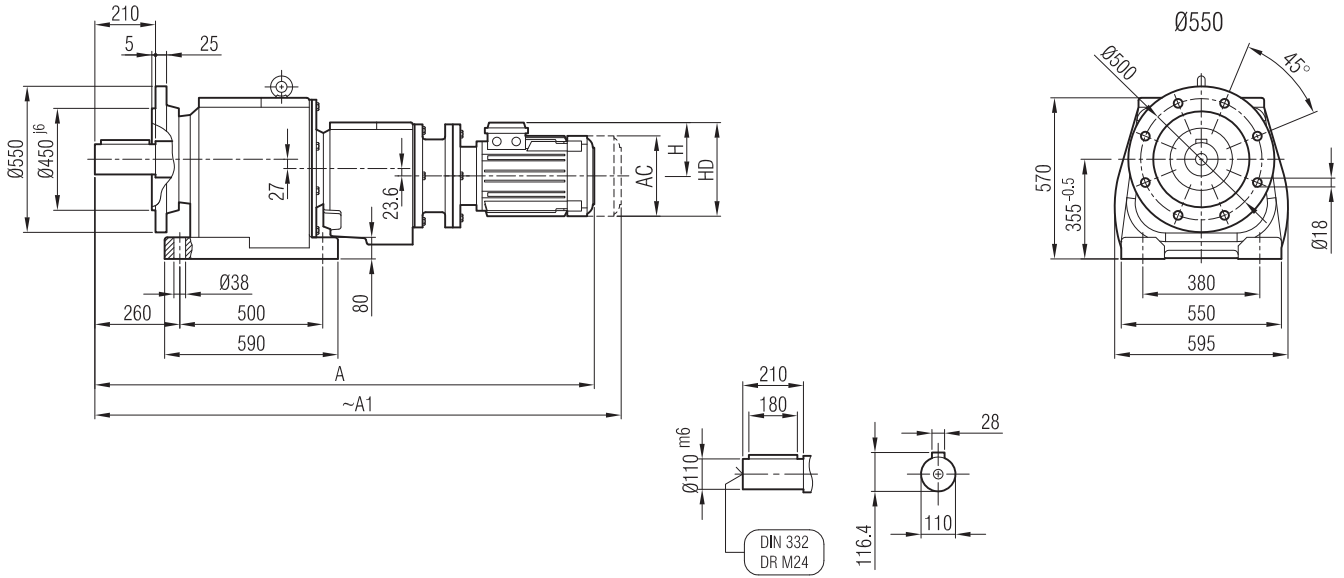
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



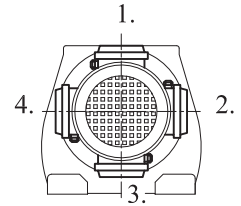
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
90/B5	1077	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	1085	180	215	250	M12	74	14	5	28	60	31.3	8
112/B5	1085	180	215	250	M12	74	14	5	28	60	31.3	8
132/B5	1106	230	265	300	M12	95	17	5	38	80	41.3	10
160/B5	1122	250	300	350	M14	111	18	6.5	42	110	45.3	12



**İRAFPM 143 İR 82**



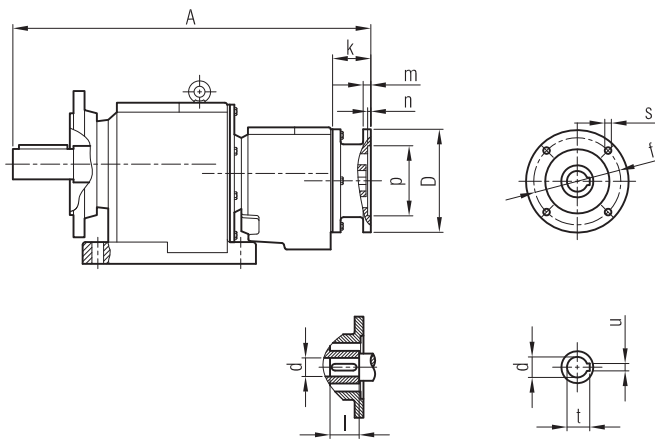
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1321	1336	1363	1401	1421	1486	1524
A <sub>1</sub>	1390	1402	1427	1479	1504	1586	1624
H	126	126	134	145	168	168	220
HD	216	216	234	257	300	300	380
AC	176	176	194	218	257	257	310

**İRAFP 143 İR 82**

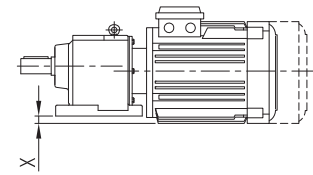
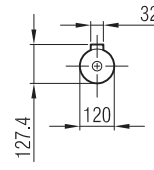
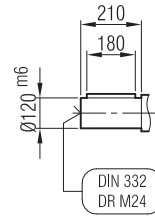
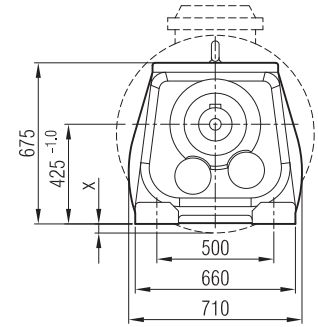
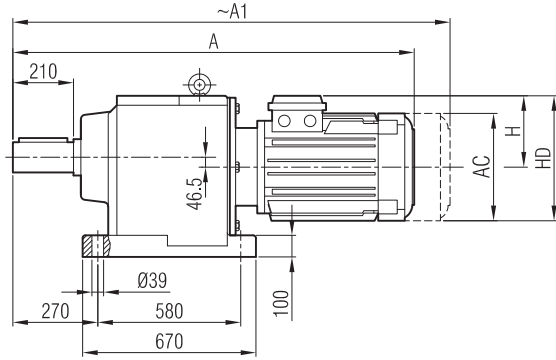
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



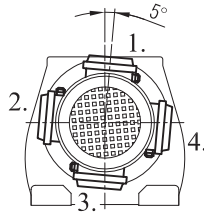
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
90/B5	1077	130	165	200	M10	67	12	5	24	50	27.3	8
100/B5	1085	180	215	250	M12	74	14	5	28	60	31.3	8
112/B5	1085	180	215	250	M12	74	14	5	28	60	31.3	8
132/B5	1106	230	265	300	M12	95	17	5	38	80	41.3	10
160/B5	1122	250	300	350	M14	111	18	6.5	42	110	45.3	12



**İRAM 152**  
**İRAM 153**



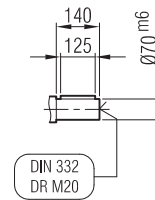
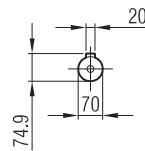
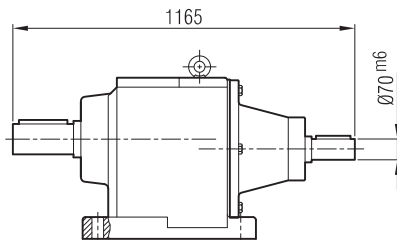
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M	315 S	315 M
A	1266	1310	1323	1361	1412	1445	1470	1548	1609	1609	1814	1814
A <sub>1</sub>	1381	1425	1443	1481	1532	1565	1590	1668	1729	1809	2014	2014
H	220	220	241	241	277	285	285	322	350	350	510	510
HD	380	380	421	421	477	510	510	572	630	630	825	825
AC	310	310	348	348	390	434	434	480	544	544	614	614
x	-	-	-	-	-	-	-	-	-	-	-	-

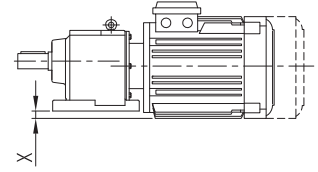
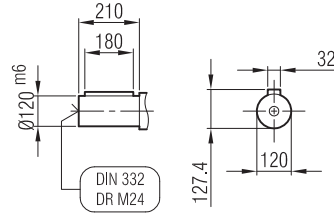
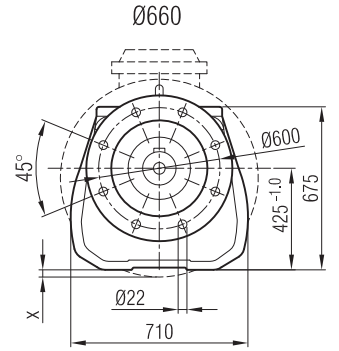
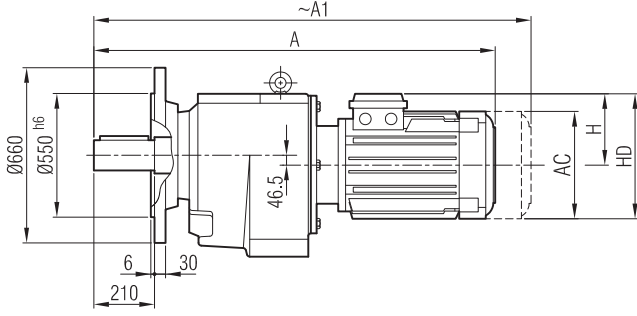
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 152**  
**İRA 153**

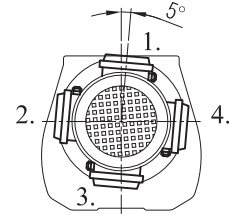




**İRFM 152**  
**İRFM 153**

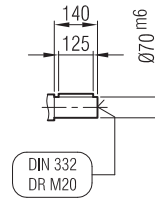
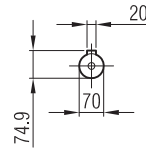
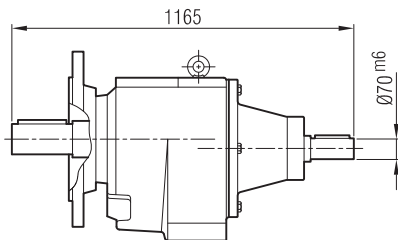


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M	315 S	315 M
A	1266	1310	1323	1361	1412	1445	1470	1548	1609	1609	1814	1814
A <sub>1</sub>	1381	1425	1443	1481	1532	1565	1590	1668	1729	1809	2014	2014
H	220	220	241	241	277	285	285	322	350	350	510	510
HD	380	380	421	421	477	510	510	572	630	630	825	825
AC	310	310	348	348	390	434	434	480	544	544	614	614
x	-	-	-	-	-	-	-	-	-	-	-	-

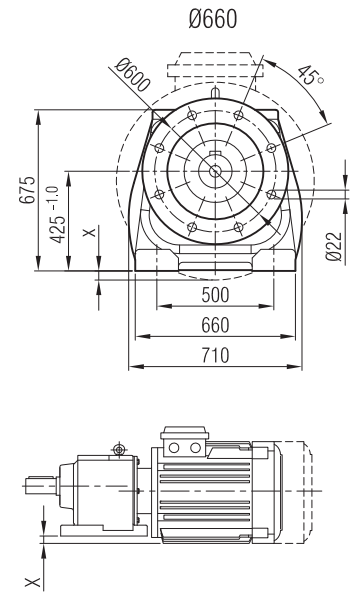
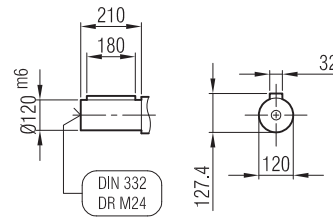
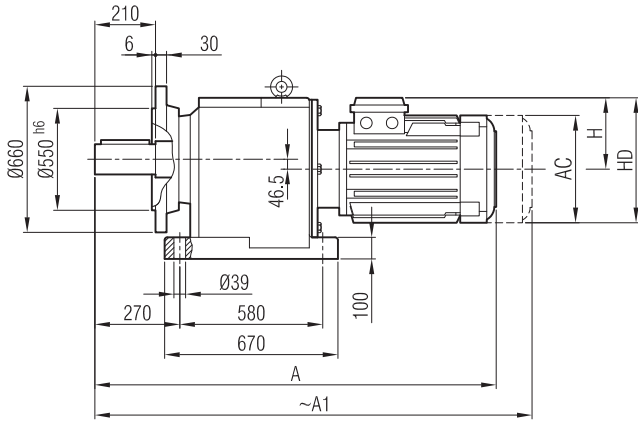
**İRF 152**  
**İRF 153**



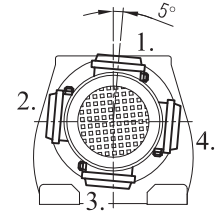
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAF 152**  
**İRAF 153**



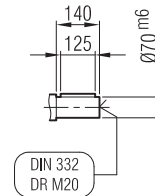
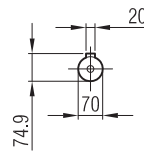
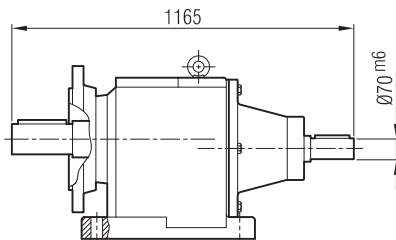
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M	315 S	315 M
A	1266	1310	1323	1361	1412	1445	1470	1548	1609	1609	1814	1814
A <sub>1</sub>	1381	1425	1443	1481	1532	1565	1590	1668	1729	1809	2014	2014
H	220	220	241	241	277	285	285	322	350	350	510	510
HD	380	380	421	421	477	510	510	572	630	630	825	825
AC	310	310	348	348	390	434	434	480	544	544	614	614
x	-	-	-	-	-	-	-	-	-	-	-	-

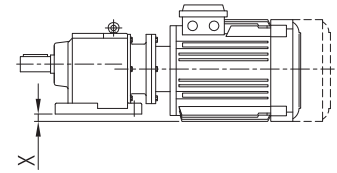
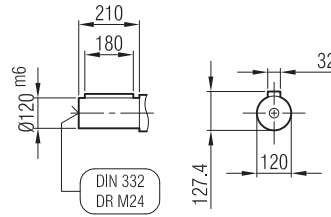
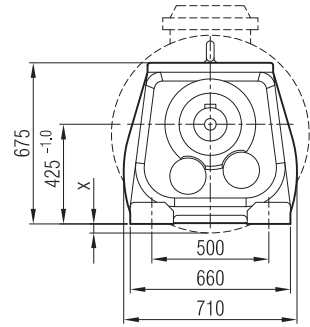
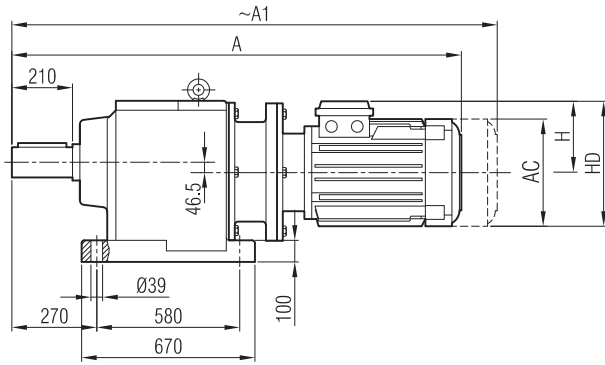
**İRAF 152**  
**İRAF 153**

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

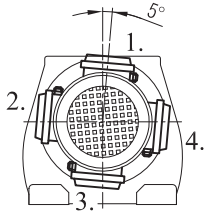




**İRAPM 152**  
**İRAPM 153**



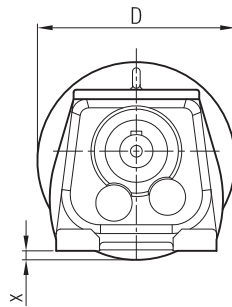
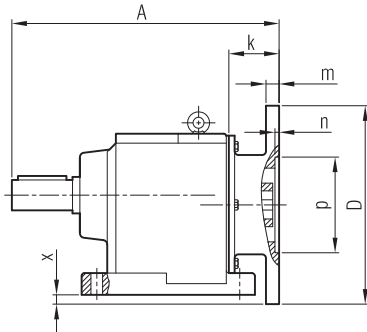
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



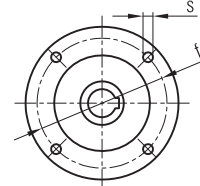
	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5	280 S/B5	280 M/B5	315 S/B5	315 M/B5
A	1367	1411	1424	1462	1582	1609	1634	1710	1772	1772	2004	2004
A <sub>1</sub>	1482	1526	1544	1582	1702	1729	1754	1830	1892	1972	2204	2204
H	220	220	241	241	241	285	285	322	350	350	510	510
HD	380	380	421	421	421	510	510	572	630	630	825	825
AC	310	310	348	348	348	434	434	480	544	544	614	614
X	-	-	-	-	-	-	-	-	-	-	-	-

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

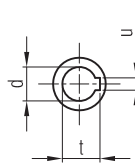
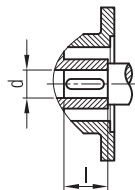
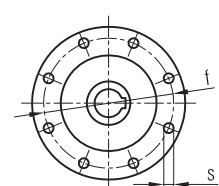
**İRAP 152**  
**İRAP 153**



≤ 200 B5 Tip/Type/Typ



≥ 225 B5 Tip/Type/Typ

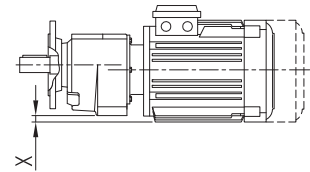
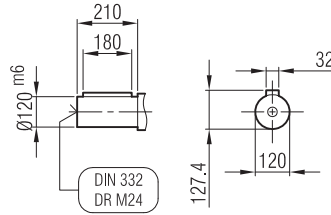
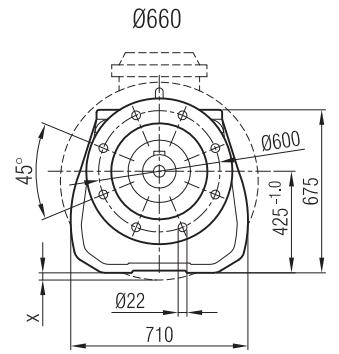
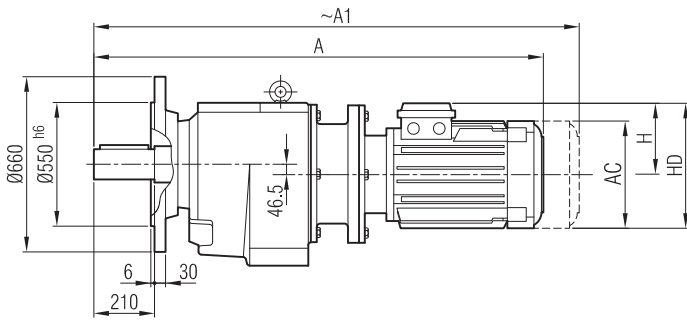


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
160/B5	877	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	877	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	945	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	954	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	954	450	500	550	M16	168	22	6.5	65	140	69.4	18	-
280/B5	954	450	500	550	M16	168	22	6.5	75	140	79.9	20	-
315/B5	1024	550	600	660	M24	238	24	7.5	85	170	90.4	22	-

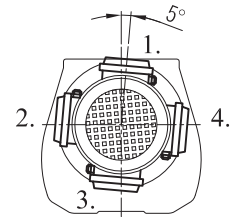




**İRFPM 152**  
**İRFPM 153**

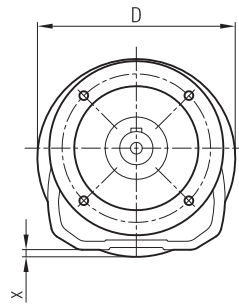
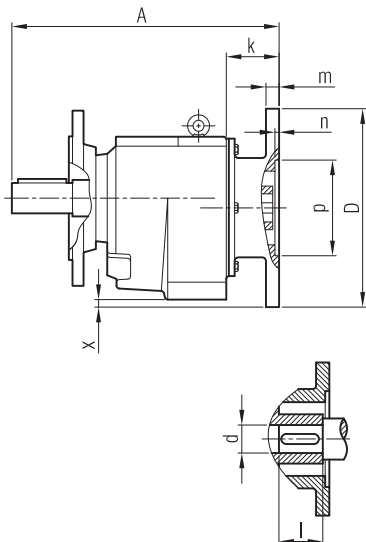


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

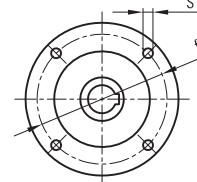


	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5	280 S/B5	280 M/B5	315 S/B5	315 M/B5
A	1367	1411	1424	1462	1582	1609	1634	1710	1772	1772	2004	2004
A <sub>1</sub>	1482	1526	1544	1582	1702	1729	1754	1830	1892	1972	2204	2204
H	220	220	241	241	241	285	285	322	350	350	510	510
HD	380	380	421	421	421	510	510	572	630	630	825	825
AC	310	310	348	348	348	434	434	480	544	544	614	614
x	-	-	-	-	-	-	-	-	-	-	-	-

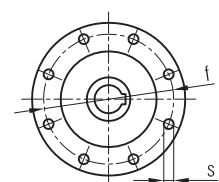
**İRFP 152**  
**İRFP 153**



≤ 200 B5 Tip/Type/Typ



≥ 225 B5 Tip/Type/Typ

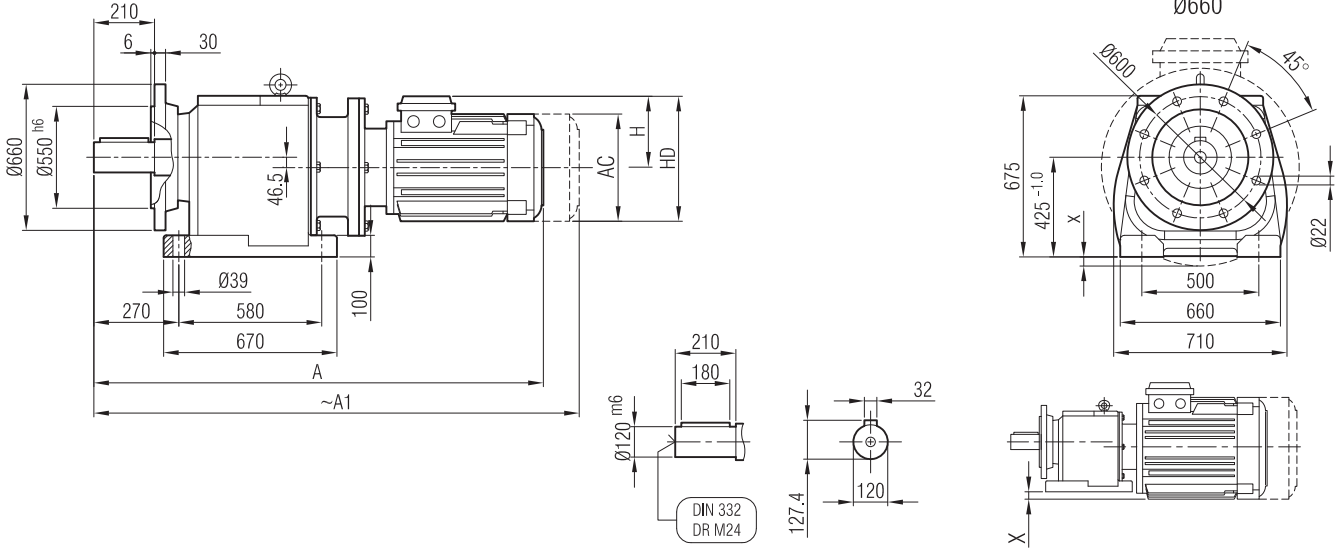


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
160/B5	877	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	877	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	945	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	954	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	954	450	500	550	M16	168	22	6.5	65	140	69.4	18	-
280/B5	954	450	500	550	M16	168	22	6.5	75	140	79.9	20	-
315/B5	1024	550	600	660	M24	238	24	7.5	85	170	90.4	22	-

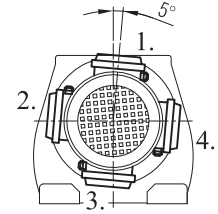
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAFPM 152**  
**İRAFPM 153**

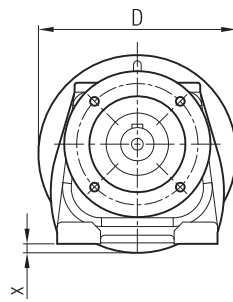
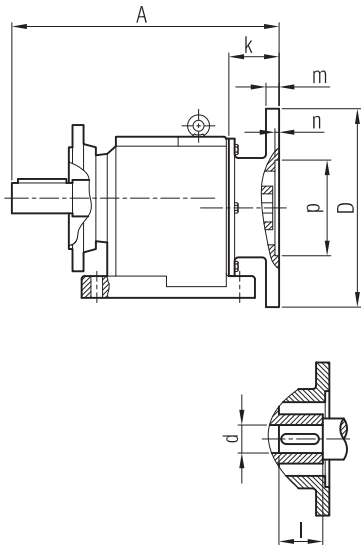


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

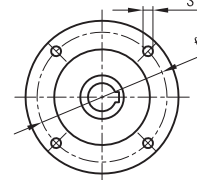


	160 M/B5	160 L/B5	180 M/B5	180 L/B5	200/B5	225 S/B5	225 M/B5	250/B5	280 S/B5	280 M/B5	315 S/B5	315 M/B5
A	1367	1411	1424	1462	1582	1609	1634	1710	1772	1772	2004	2004
A <sub>1</sub>	1482	1526	1544	1582	1702	1729	1754	1830	1892	1972	2204	2204
H	220	220	241	241	241	285	285	322	350	350	510	510
HD	380	380	421	421	421	510	510	572	630	630	825	825
AC	310	310	348	348	348	434	434	480	544	544	614	614
x	-	-	-	-	-	-	-	-	-	-	-	-

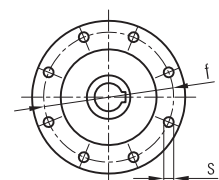
**İRAFP 152**  
**İRAFP 153**



≤ 200 B5 Tip/Type/Typ



≥ 225 B5 Tip/Type/Typ

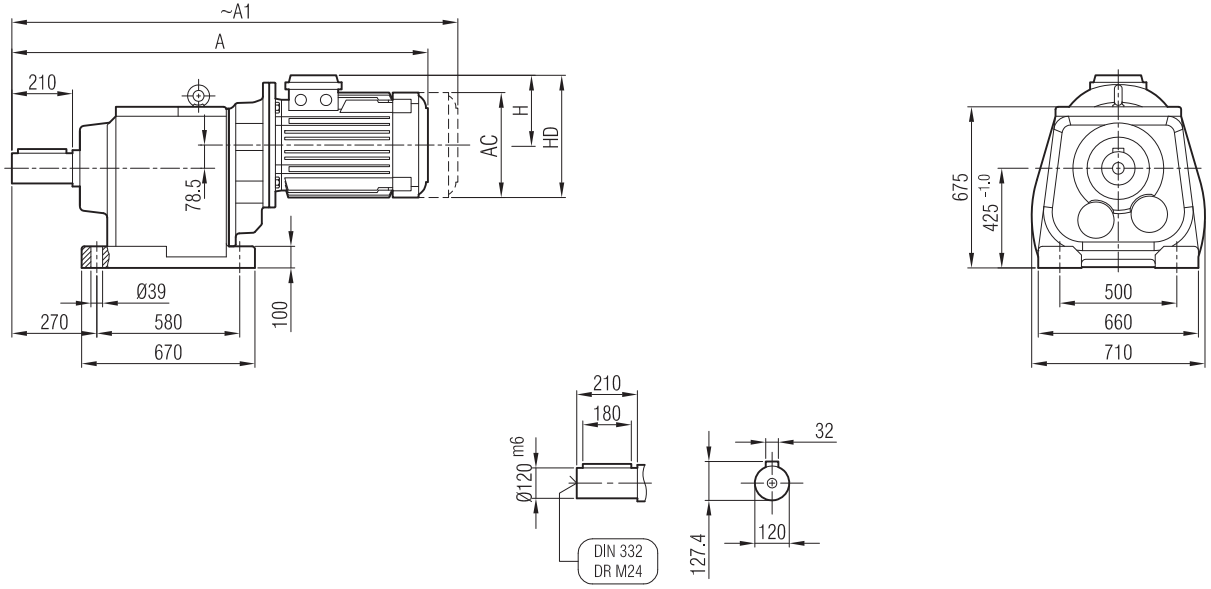


	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u	x
160/B5	877	250	300	350	M14	91	18	6.5	42	110	45.3	12	-
180/B5	877	250	300	350	M14	91	18	6.5	48	110	51.8	14	-
200/B5	945	300	350	400	M16	159	20	6.5	55	110	59.3	16	-
225/B5	954	350	400	450	M16	168	22	6.5	60	140	64.4	18	-
250/B5	954	450	500	550	M16	168	22	6.5	65	140	69.4	18	-
280/B5	954	450	500	550	M16	168	22	6.5	75	140	79.9	20	-
315/B5	1024	550	600	660	M24	238	24	7.5	85	170	90.4	22	-

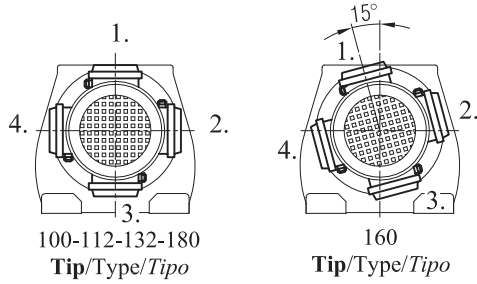
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAM 154**



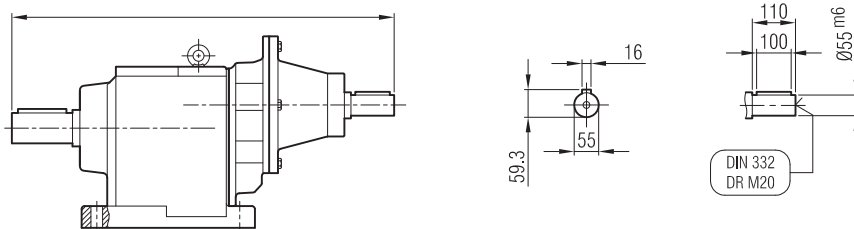
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	1217	1237	1278	1316	1388	1432	1460	1498
A <sub>1</sub>	1295	1320	1378	1416	1503	1547	1580	1618
H	134	145	168	168	220	220	241	241
HD	234	257	300	300	380	380	421	421
AC	194	218	257	257	310	310	348	348

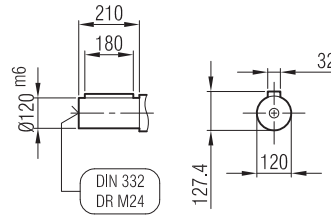
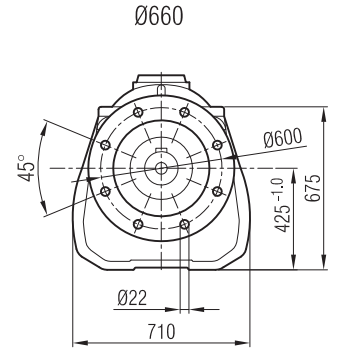
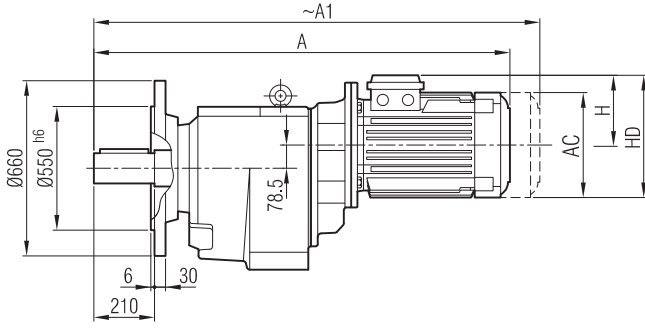
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.*

**İRA 154**

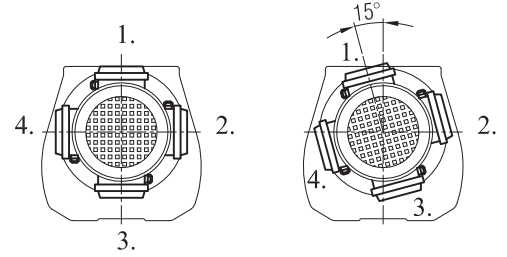




**İRFM 154**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



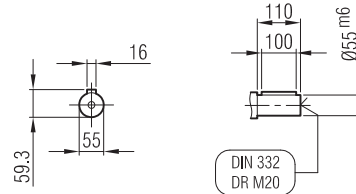
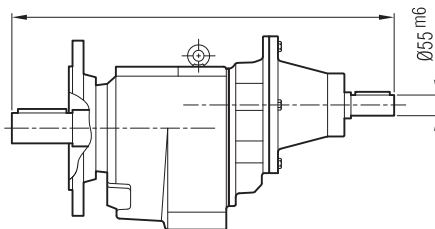
100-112-132-180  
**Tip/Type/Tipo**

160  
**Tip/Type/Tipo**

	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	1217	1237	1278	1316	1388	1432	1460	1498
A <sub>1</sub>	1295	1320	1378	1416	1503	1547	1580	1618
H	134	145	168	168	220	220	241	241
HD	234	257	300	300	380	380	421	421
AC	194	218	257	257	310	310	348	348

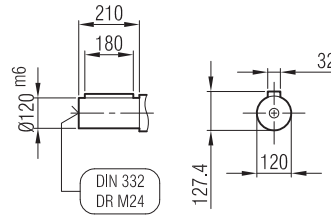
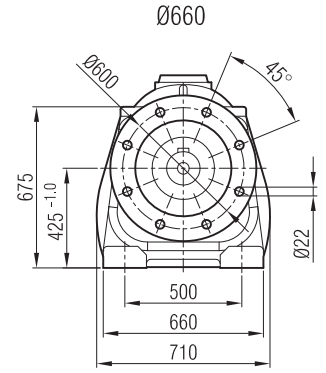
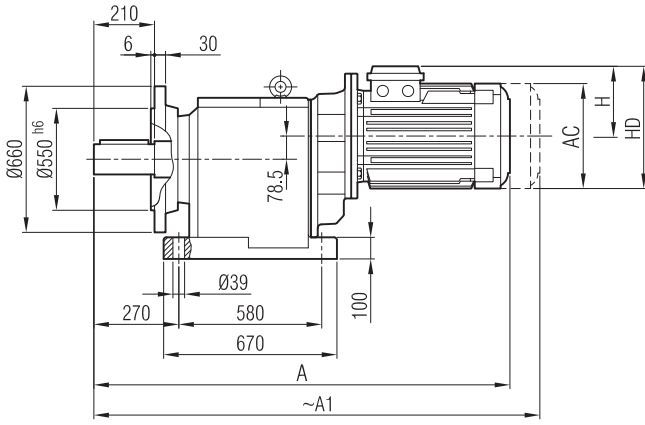
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRF 154**



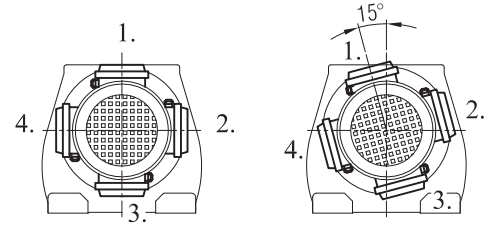


**İRAFEM 154**



DIN 332  
DR M24

**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



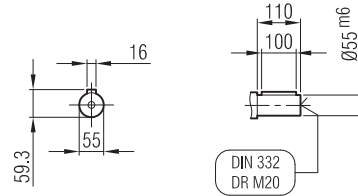
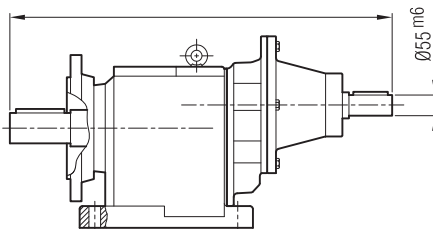
100-112-132-180  
**Tip/Type/Tipo**

160  
**Tip/Type/Tipo**

	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	1217	1237	1278	1316	1388	1432	1460	1498
A <sub>1</sub>	1295	1320	1378	1416	1503	1547	1580	1618
H	134	145	168	168	220	220	241	241
HD	234	257	300	300	380	380	421	421
AC	194	218	257	257	310	310	348	348

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

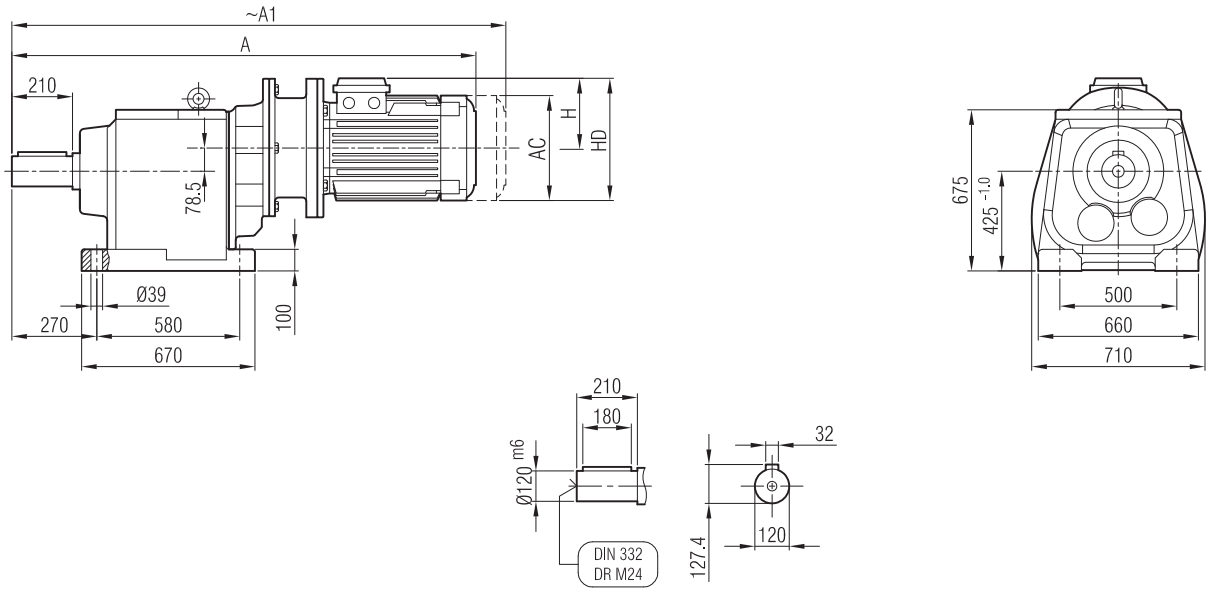
**İRAF 154**



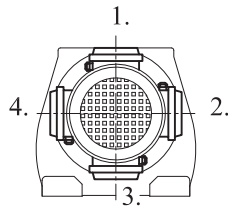
DIN 332  
DR M20



**İRAPM 154**



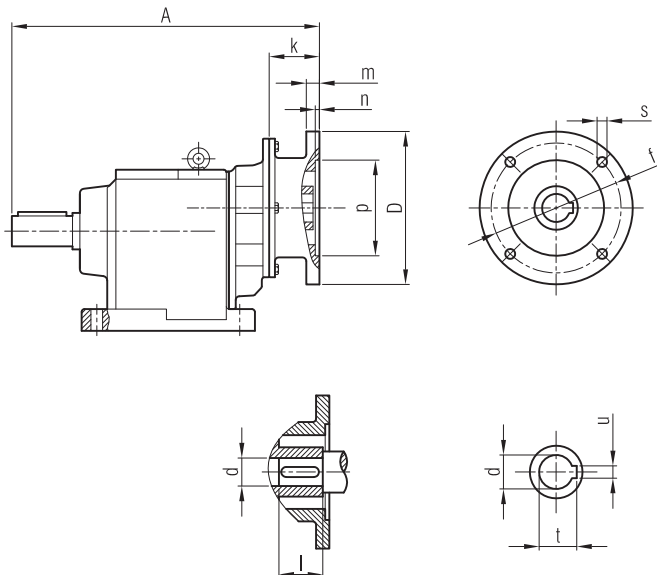
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5
A	1279	1299	1370	1408	1487	1531	1544	1582
A <sub>1</sub>	1357	1382	1470	1508	1602	1646	1664	1702
H	220	220	241	241	241	220	241	241
HD	380	380	421	421	421	380	421	421
AC	310	310	348	348	348	310	348	348

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

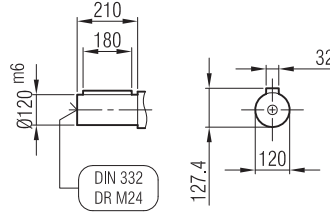
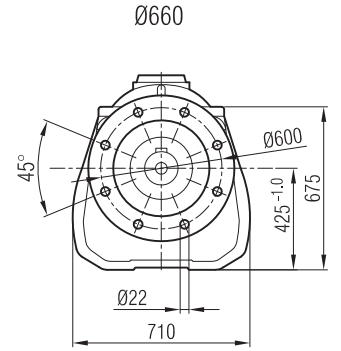
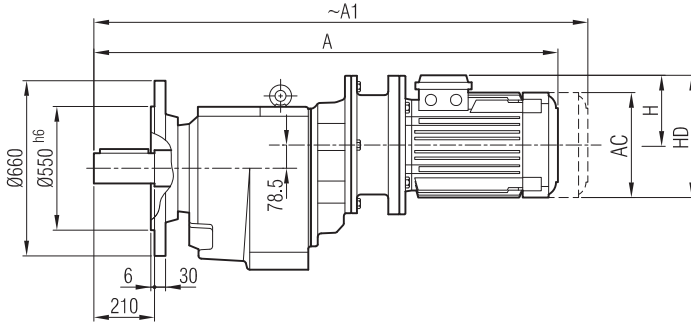
**İRAP 154**



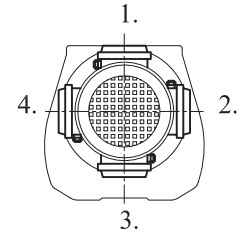
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	963	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	963	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	990	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	997	250	300	350	M14	91	18	6.5	42	110	45.3	12
180/B5	997	250	300	350	M14	91	18	6.5	48	110	51.8	14



**İRFPM 154**

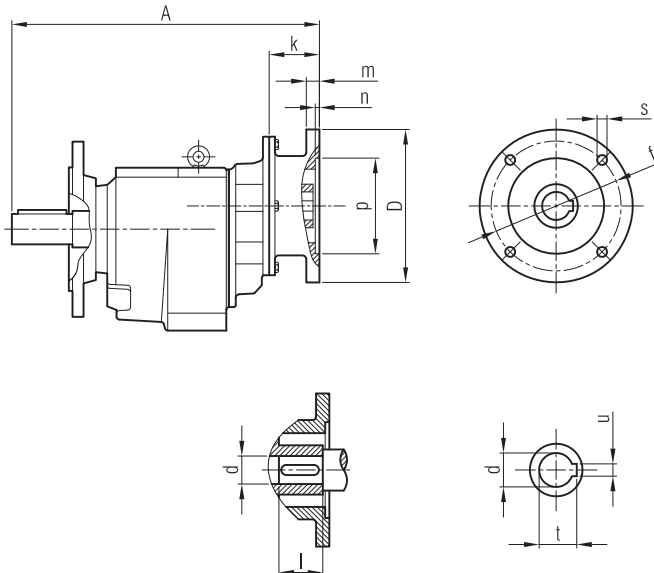


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5
A	1279	1299	1370	1408	1487	1531	1544	1582
A <sub>1</sub>	1357	1382	1470	1508	1602	1646	1664	1702
H	220	220	241	241	241	220	241	241
HD	380	380	421	421	421	380	421	421
AC	310	310	348	348	348	310	348	348

**İRFP 154**

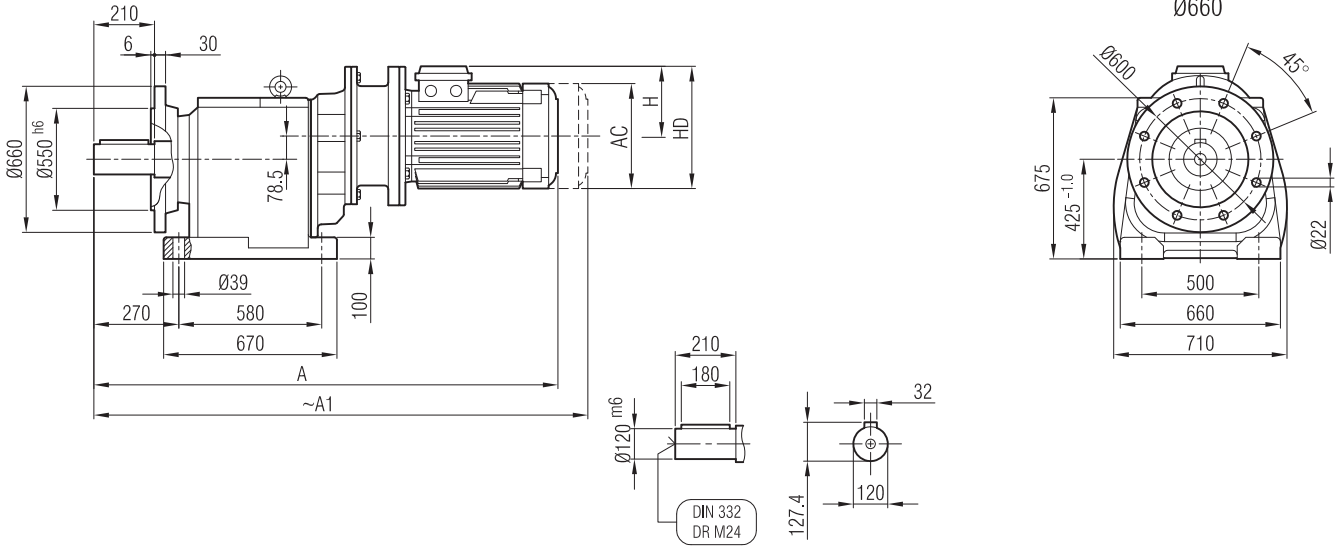


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

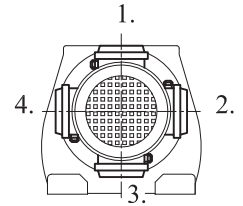
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	963	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	963	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	990	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	997	250	300	350	M14	91	18	6.5	42	110	45.3	12
180/B5	997	250	300	350	M14	91	18	6.5	48	110	51.8	14



**İRAFPM 154**

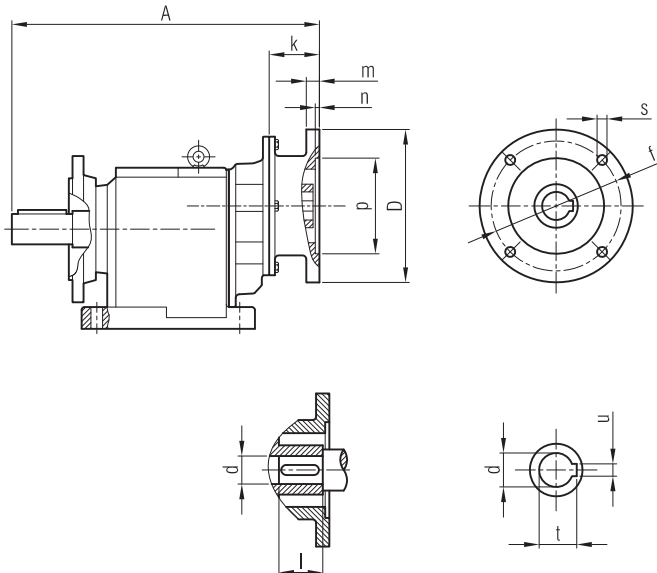


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	180 M/B5	180 L/B5
A	1279	1299	1370	1408	1487	1531	1544	1582
A <sub>1</sub>	1357	1382	1470	1508	1602	1646	1664	1702
H	220	220	241	241	241	220	241	241
HD	380	380	421	421	421	380	421	421
AC	310	310	348	348	348	310	348	348

**İRAFP 154**



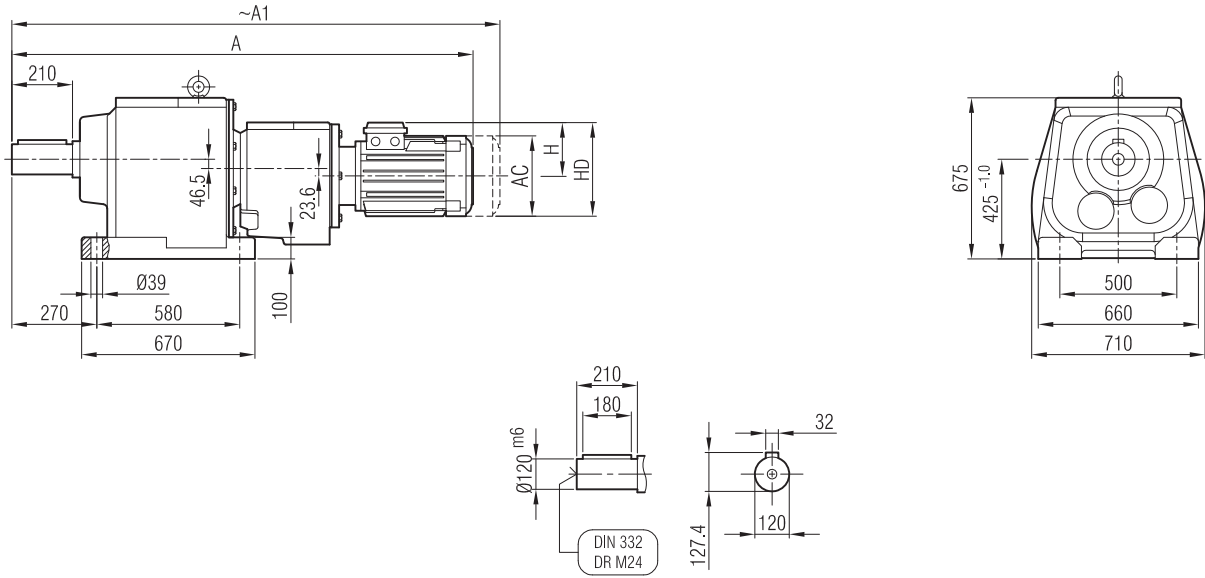
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	963	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	963	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	990	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	997	250	300	350	M14	91	18	6.5	42	110	45.3	12
180/B5	997	250	300	350	M14	91	18	6.5	48	110	51.8	14

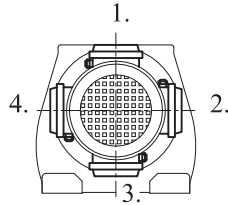




**İRAM 153 İR 92**  
**İRAM 153 İR 93**



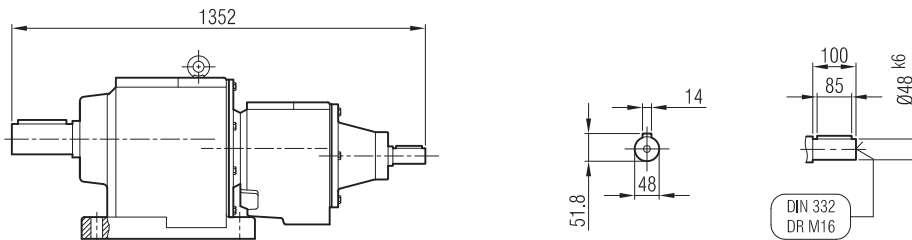
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100	112	132 S	132 M	160 M		
A	1423	1446	1498	1536	1626		
A <sub>1</sub>	1501	1529	1598	1636	1741		
H	134	145	168	168	220		
HD	234	257	300	300	380		
AC	194	218	257	257	310		

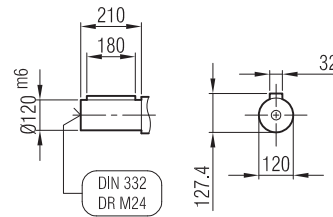
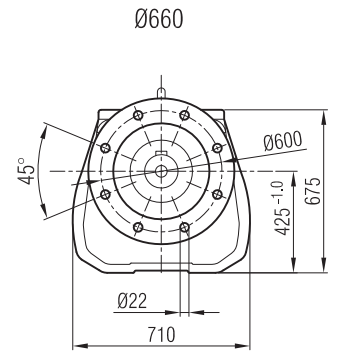
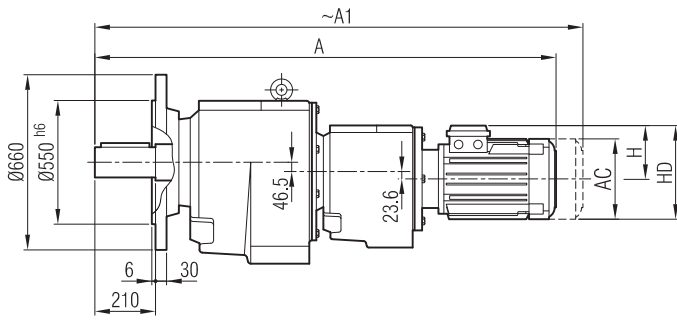
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

**İRA 152 İR 92 / İRA 152 İR 93**  
**İRA 153 İR 92 / İRA 153 İR 93**

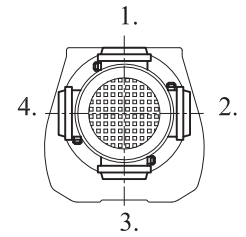




**İRFM 153 İR 92**  
**İRFM 153 İR 93**

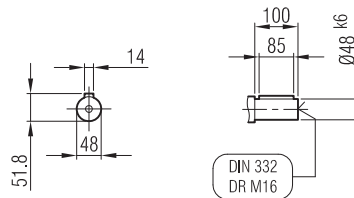
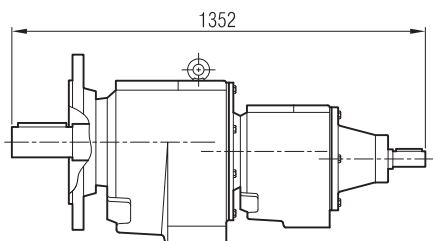


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M	160 M		
A	1423	1446	1498	1536	1626		
A <sub>1</sub>	1501	1529	1598	1636	1741		
H	134	145	168	168	220		
HD	234	257	300	300	380		
AC	194	218	257	257	310		

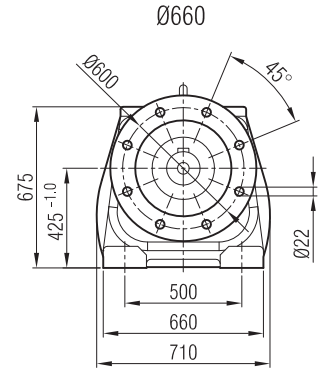
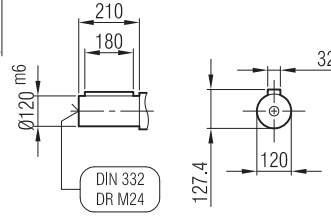
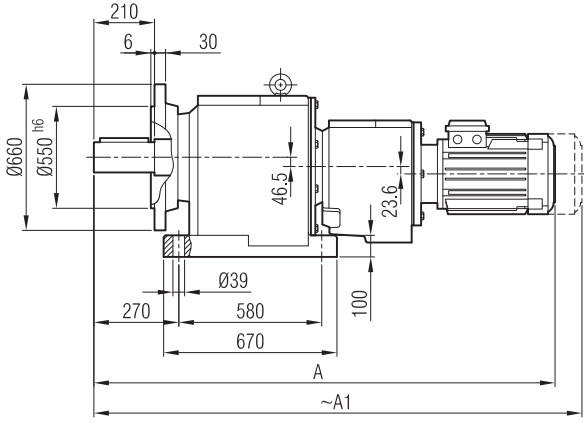
**İRF 152 İR 92 / İRF 153 İR 93**  
**İRF 153 İR 92 / İRF 153 İR 93**



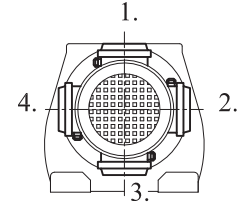
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAFM 153 İR 92**  
**İRAFM 153 İR 93**

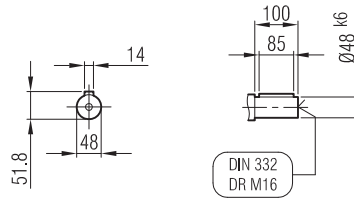
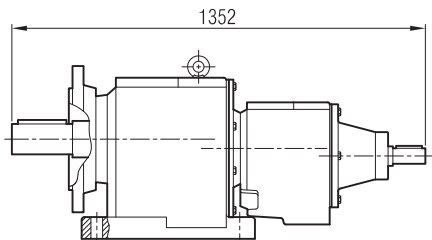


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M	160 M		
A	1423	1446	1498	1536	1626		
A <sub>1</sub>	1501	1529	1598	1636	1741		
H	134	145	168	168	220		
HD	234	257	300	300	380		
AC	194	218	257	257	310		

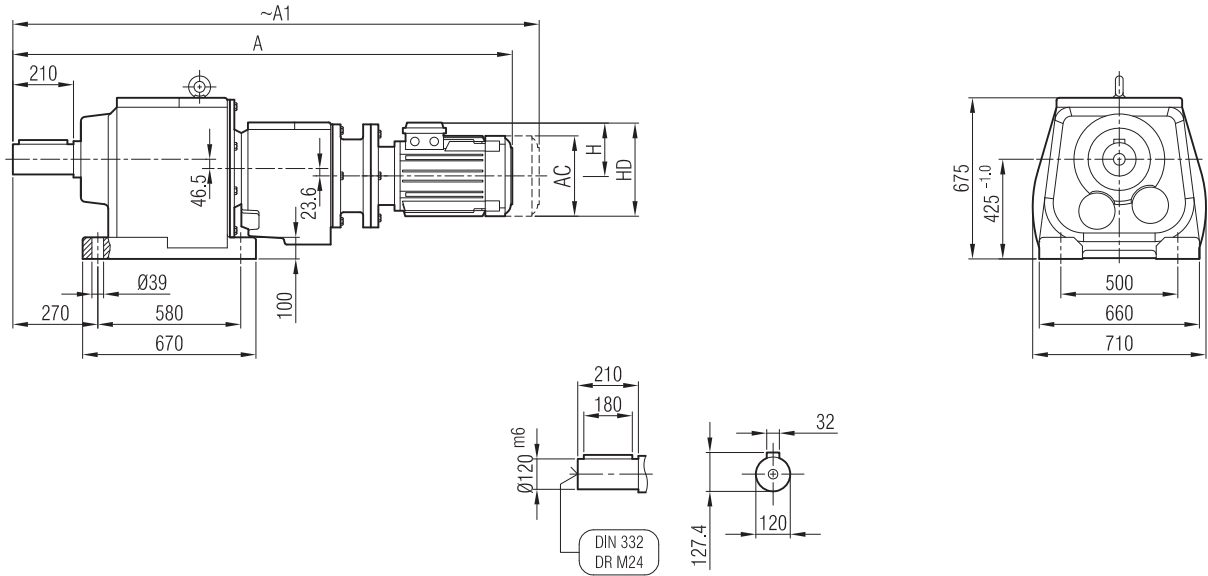
**İRAF 152 İR 92 / İRAF 152 İR 93**  
**İRAF 153 İR 92 / İRAF 153 İR 93**



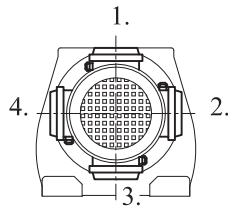
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRAPM 153 İR 92**  
**İRAPM 153 İR 93**



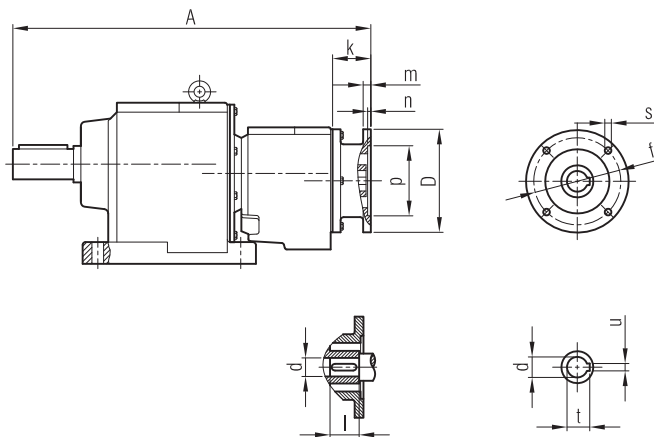
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1411	1426	1451	1492	1512	1593	1631	1719
A <sub>1</sub>	1480	1492	1517	1570	1595	1693	1731	1834
H	118	126	126	134	145	168	168	220
HD	198	216	216	234	257	300	300	380
AC	156	176	176	194	218	257	257	310

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

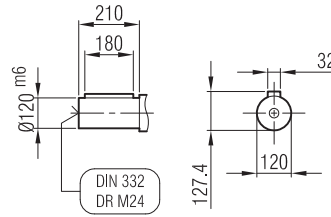
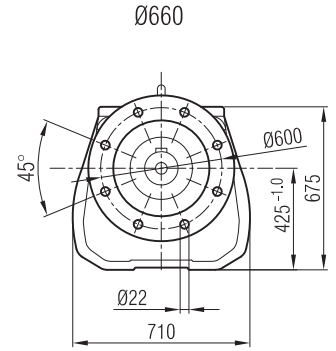
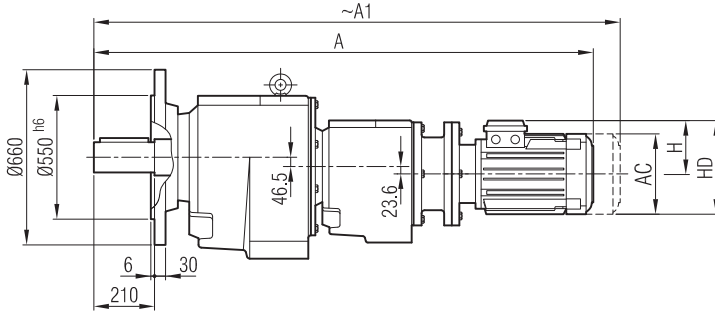
**İRAP 152 İR 92 / İRAP 152 İR 93**  
**İRAP 153 İR 92 / İRAP 153 İR 93**



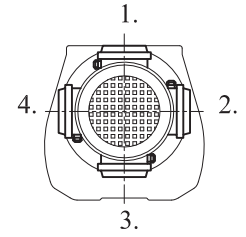
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	1167	130	165	200	M10	49	12	5	19	40	21.8	6
90/B5	1167	130	165	200	M10	49	12	5	24	50	27.3	8
100/B5	1176	180	215	250	M12	58	14	5	28	60	31.3	8
112/B5	1176	180	215	250	M12	58	14	5	28	60	31.3	8
132/B5	1213	230	265	300	M12	95	17	6	38	80	41.3	10
160/B5	1229	250	300	350	M14	111	18	6.5	42	110	45.3	12



**İRFPM 153 İR 92**  
**İRFPM 153 İR 93**



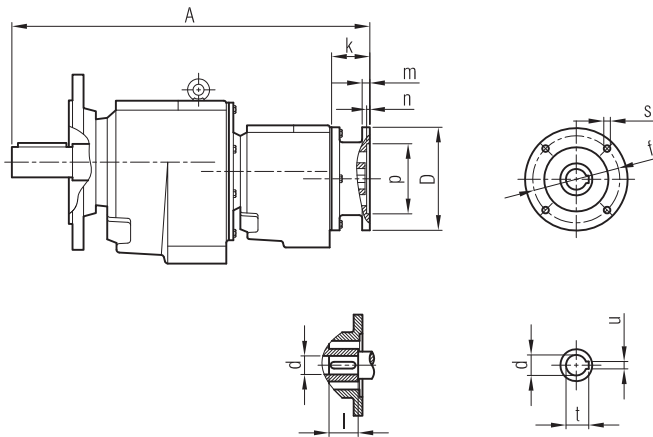
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1411	1426	1451	1492	1512	1593	1631	1719
A <sub>1</sub>	1480	1492	1517	1570	1595	1693	1731	1834
H	118	126	126	134	145	168	168	220
HD	198	216	216	234	257	300	300	380
AC	156	176	176	194	218	257	257	310

**İRFP 152 İR 92 / İRFP 153 İR 93**  
**İRFP 153 İR 92 / İRFP 153 İR 93**

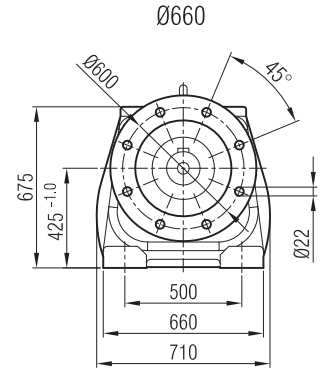
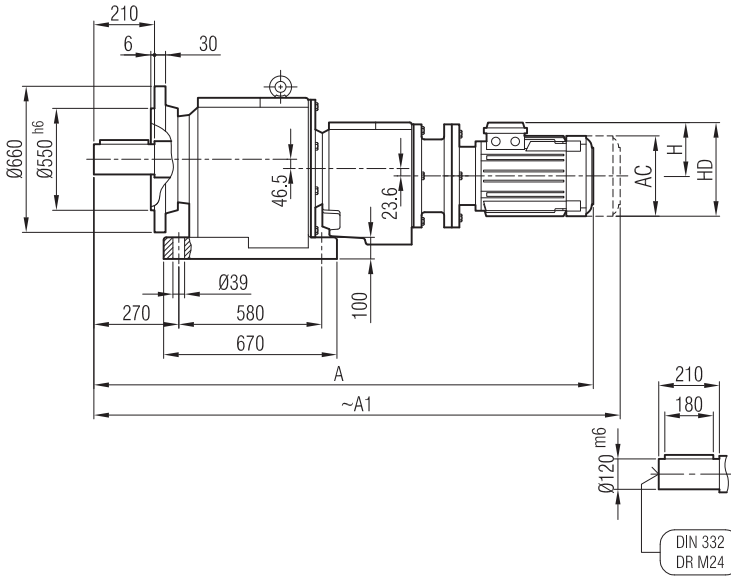
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



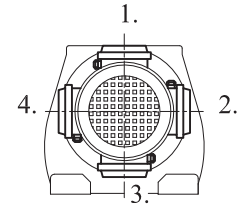
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	1167	130	165	200	M10	49	12	5	19	40	21.8	6
90/B5	1167	130	165	200	M10	49	12	5	24	50	27.3	8
100/B5	1176	180	215	250	M12	58	14	5	28	60	31.3	8
112/B5	1176	180	215	250	M12	58	14	5	28	60	31.3	8
132/B5	1213	230	265	300	M12	95	17	6	38	80	41.3	10
160/B5	1229	250	300	350	M14	111	18	6.5	42	110	45.3	12



**İRAFPM 153 İR 92**  
**İRAFPM 153 İR 93**



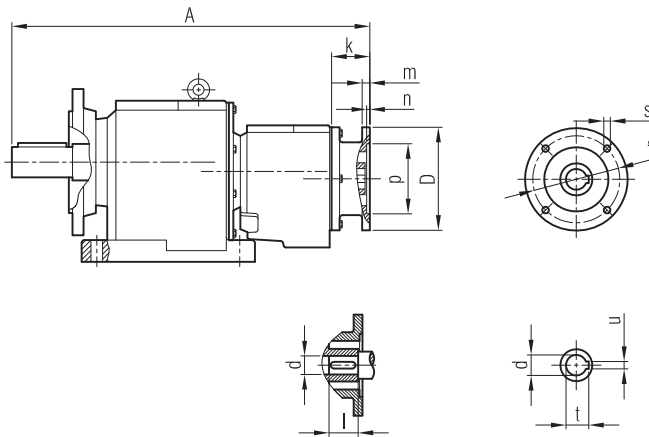
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	80/B5	90 S/B5	90 L/B5	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5
A	1411	1426	1451	1492	1512	1593	1631	1719
A <sub>1</sub>	1480	1492	1517	1570	1595	1693	1731	1834
H	118	126	126	134	145	168	168	220
HD	198	216	216	234	257	300	300	380
AC	156	176	176	194	218	257	257	310

**İRAFP 152 İR 92 / İRAFP 152 İR 93**  
**İRAFP 153 İR 92 / İRAFP 153 İR 93**

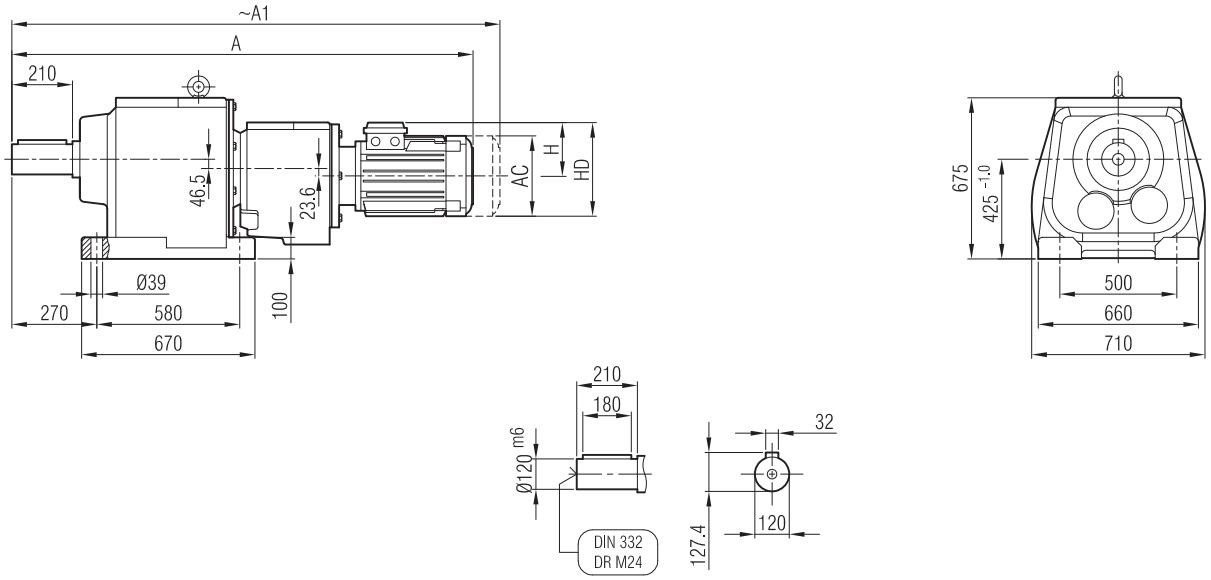
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



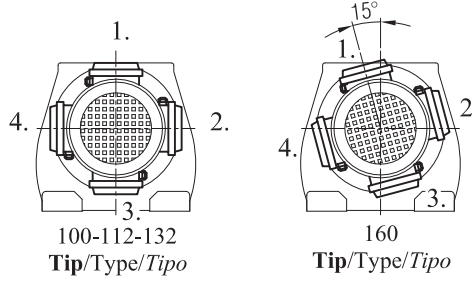
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
80/B5	1167	130	165	200	M10	49	12	5	19	40	21.8	6
90/B5	1167	130	165	200	M10	49	12	5	24	50	27.3	8
100/B5	1176	180	215	250	M12	58	14	5	28	60	31.3	8
112/B5	1176	180	215	250	M12	58	14	5	28	60	31.3	8
132/B5	1213	230	265	300	M12	95	17	6	38	80	41.3	10
160/B5	1229	250	300	350	M14	111	18	6.5	42	110	45.3	12



**İRAM 153 İR 103**



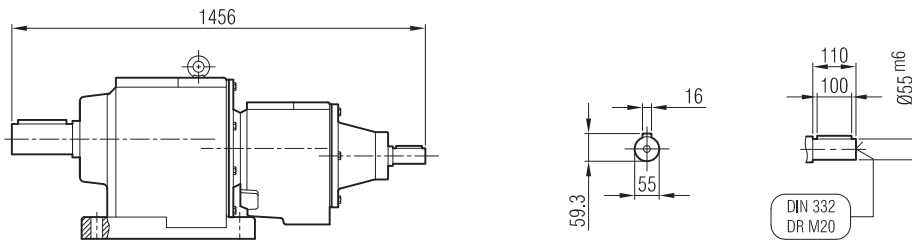
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100	112	132 S	132 M	160 M	160 L
A	1497	1517	1558	1596	1668	1712
A <sub>1</sub>	1575	1600	1658	1696	1783	1827
H	134	145	168	168	220	220
HD	234	257	300	300	380	380
AC	194	218	257	257	310	310

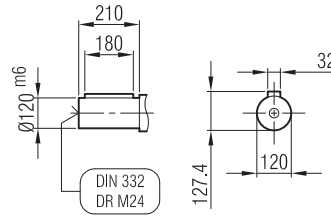
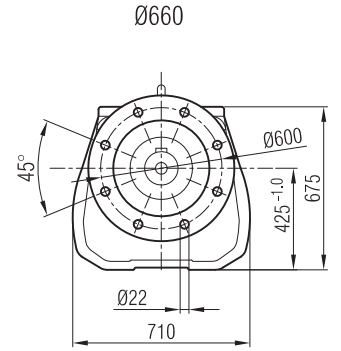
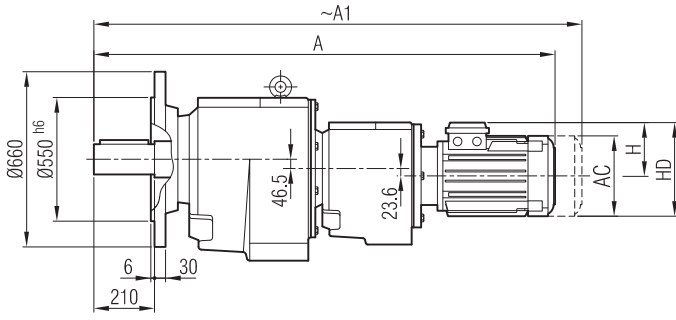
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

**İRA 153 İR 103**

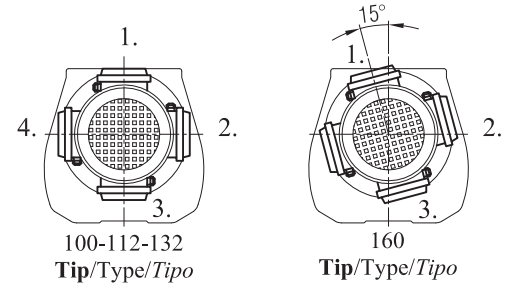




**İRFM 153 İR 103**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

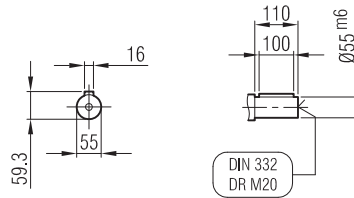
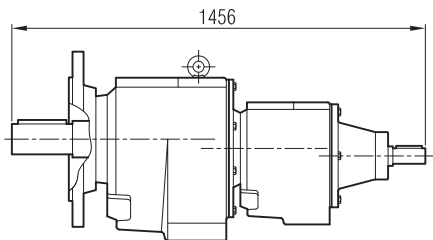


100-112-132  
Tip/Type/Tipo

160  
Tip/Type/Tipo

	100	112	132 S	132 M	160 M	160 L
A	1497	1517	1558	1596	1668	1712
A <sub>1</sub>	1575	1600	1658	1696	1783	1827
H	134	145	168	168	220	220
HD	234	257	300	300	380	380
AC	194	218	257	257	310	310

**İRF 153 İR 103**

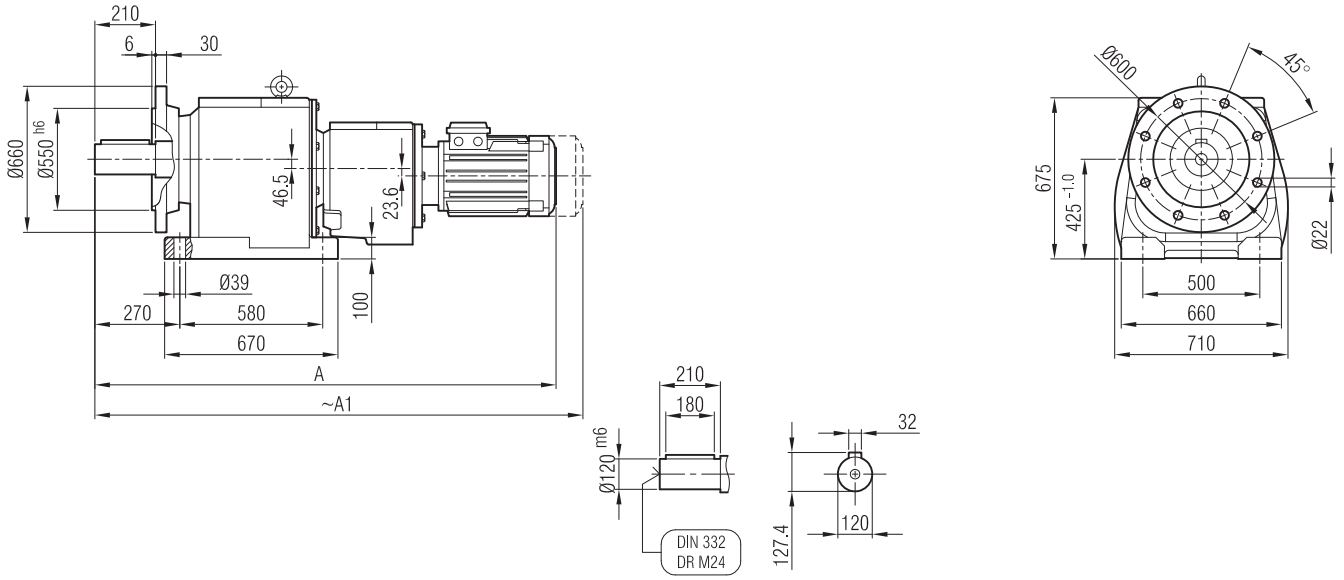


**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.

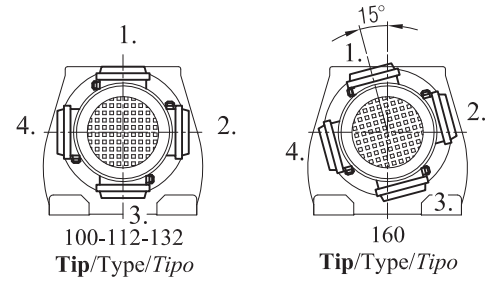




**İRAFEM 153 İR 103**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

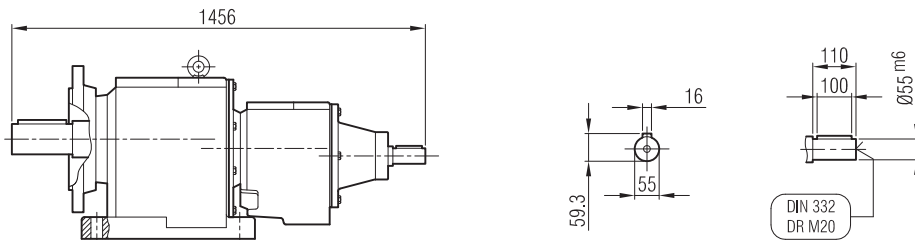


100-112-132  
Tip/Type/Tip

160  
Tip/Type/Tip

	100	112	132 S	132 M	160 M	160 L
A	1497	1517	1558	1596	1668	1712
A <sub>1</sub>	1575	1600	1658	1696	1783	1827
H	134	145	168	168	220	220
HD	234	257	300	300	380	380
AC	194	218	257	257	310	310

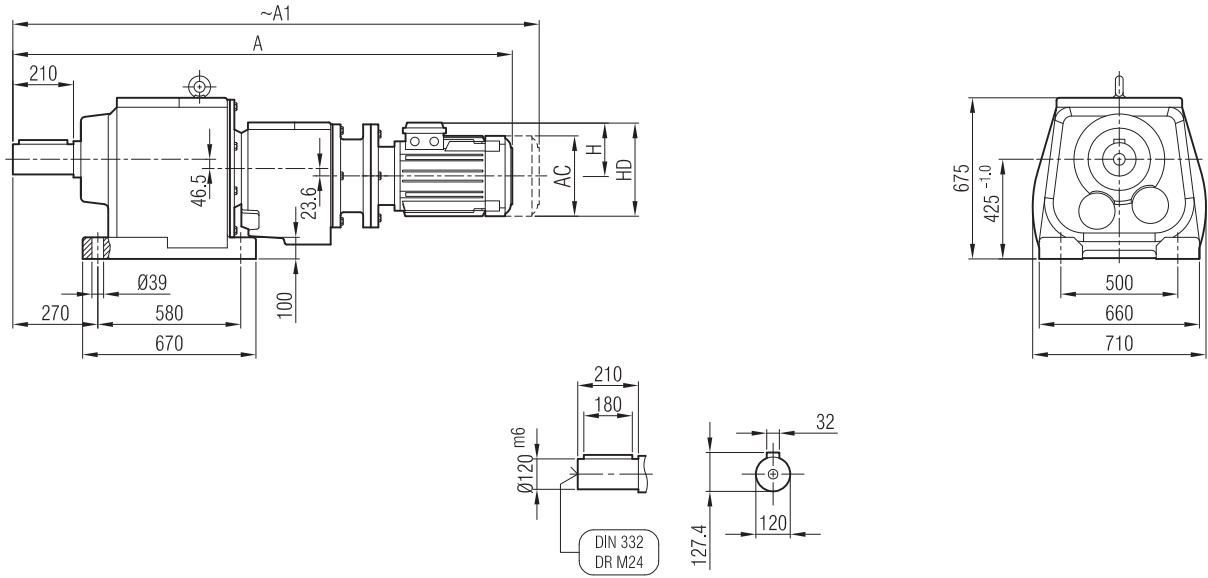
**İRAF 153 İR 103**



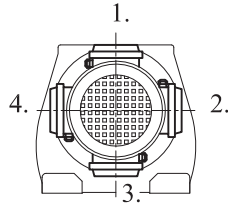
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRAPM 153 İR 103**



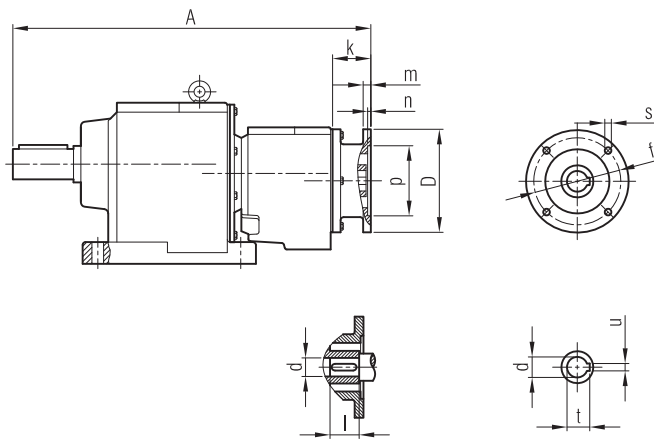
**Klemens Pozisyonları**  
Positions of Terminal Box  
*Position de la boîte à bornes*



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5	
A	1559	1579	1650	1688	1767	1811	
A <sub>1</sub>	1637	1662	1750	1788	1882	1926	
H	134	145	168	168	220	220	
HD	234	257	300	300	380	380	
AC	194	218	257	257	310	310	

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
*Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.*

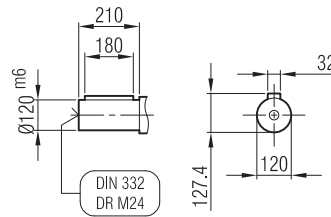
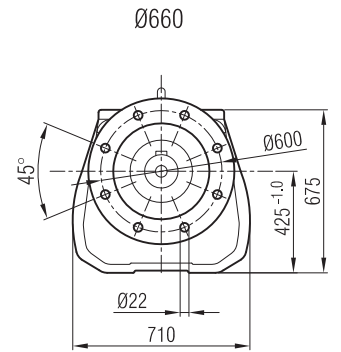
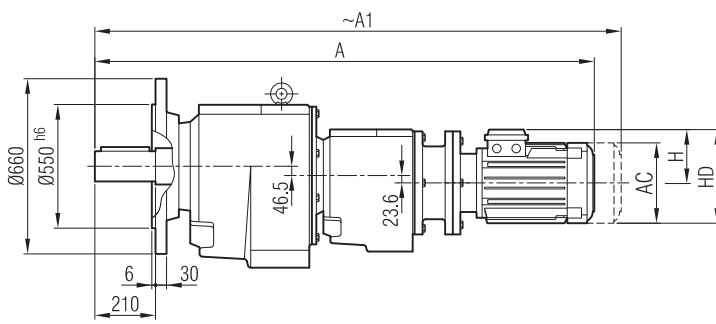
**İRAPM 153 İR 103**



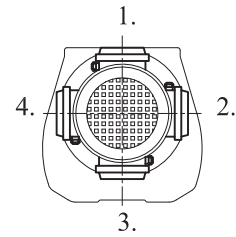
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	1243	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	1243	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	1270	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	1277	250	300	350	M14	91	18	6.5	42	110	45.3	12



**İRFPM 153 İR 103**



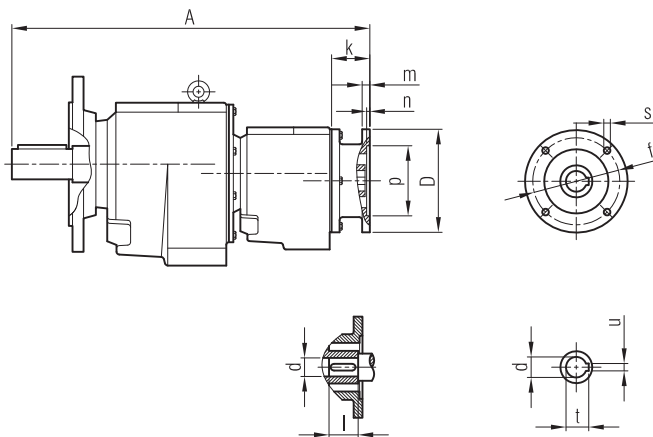
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5
A	1559	1579	1650	1688	1767	1811
A <sub>1</sub>	1637	1662	1750	1788	1882	1926
H	134	145	168	168	220	220
HD	234	257	300	300	380	380
AC	194	218	257	257	310	310

**İRFP 153 İR 103**

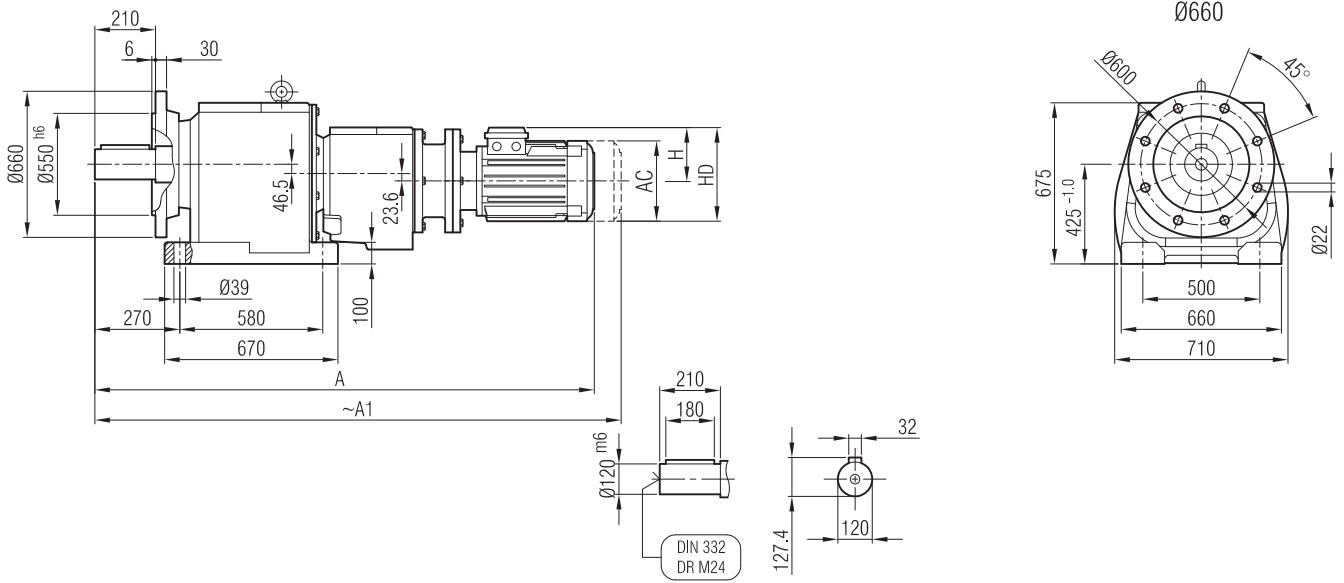
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



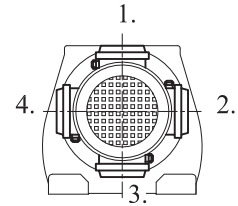
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	1243	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	1243	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	1270	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	1277	250	300	350	M14	91	18	6.5	42	110	45.3	12



**İRAFPM 153 İR 103**



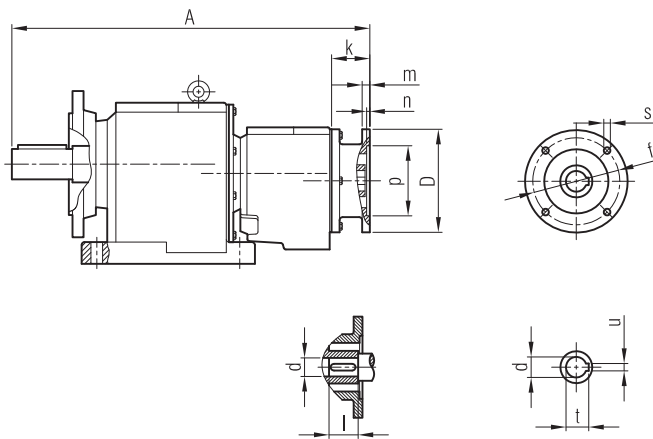
**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	100/B5	112/B5	132 S/B5	132 M/B5	160 M/B5	160 L/B5
A	1559	1579	1650	1688	1767	1811
A <sub>1</sub>	1637	1662	1750	1788	1882	1926
H	134	145	168	168	220	220
HD	234	257	300	300	380	380
AC	194	218	257	257	310	310

**İRAFPM 153 İR 103**

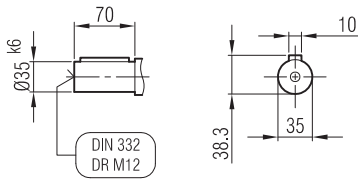
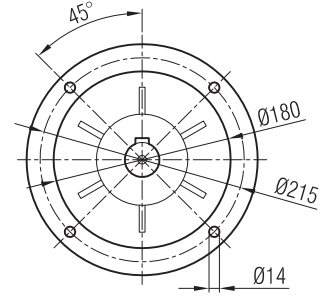
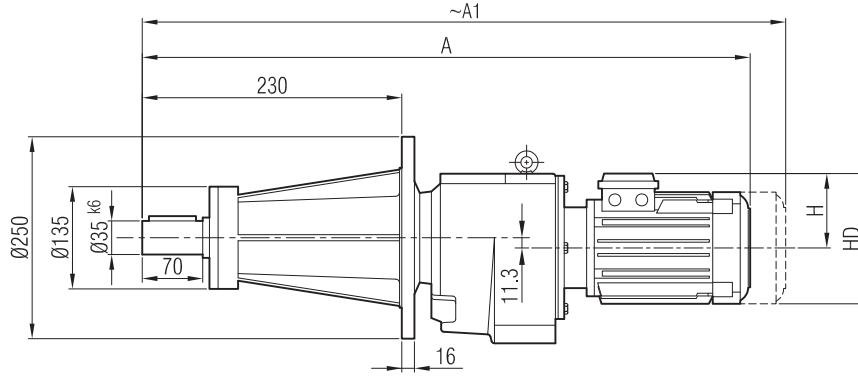
"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



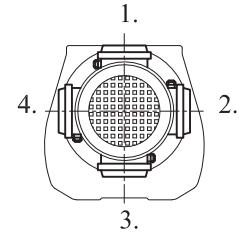
	A	Øp	Øf	ØD	s	k	m	n	Ød	l	t	u
100/B5	1243	180	215	250	M12	57	15	5	28	60	31.3	8
112/B5	1243	180	215	250	M12	57	15	5	28	60	31.3	8
132/B5	1270	230	265	300	M12	84	17	6	38	80	41.3	10
160/B5	1277	250	300	350	M14	91	18	6.5	42	110	45.3	12



**İRBM 63**  
**İRBM 62**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

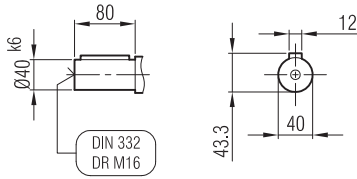
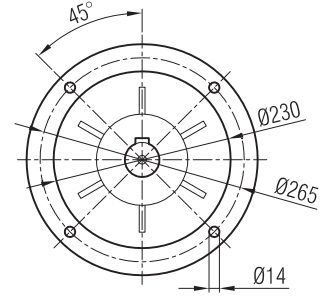
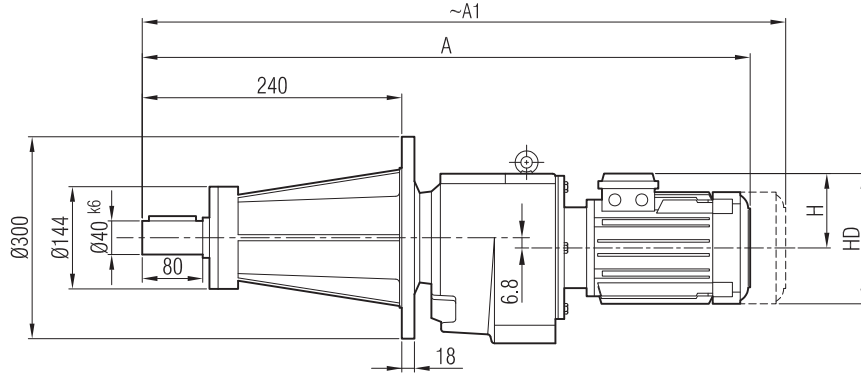


	71	80	90 S	90 L	100	112	132 S
A	621	651	681	706	745	765	811
A <sub>1</sub>	672	720	747	772	823	848	911
H	111	118	126	126	134	145	168
HD	182	198	216	216	234	257	300

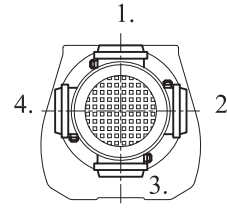
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



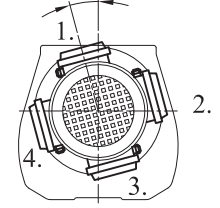
**İRBM 731**  
**İRBM 721**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



71-90-100-112-132  
Tip/Type/Typ



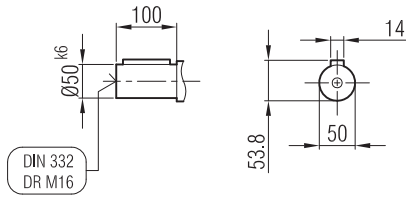
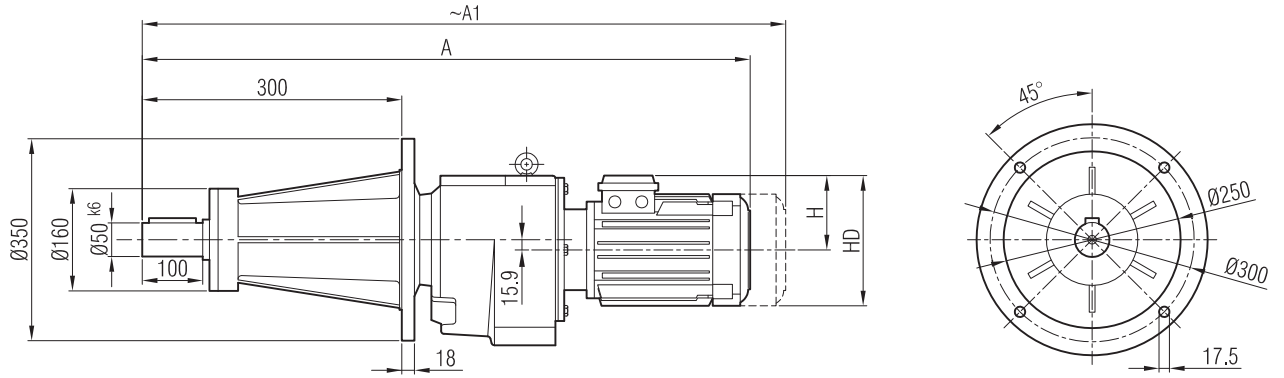
80 Tip/Type/Typ

	71	80	90 S	90 L	100	112	132 S	132 M
A	646	676	707	732	773	796	744	882
A <sub>1</sub>	697	745	773	798	851	879	944	982
H	111	118	126	126	134	145	168	168
HD	182	198	216	216	234	257	300	300

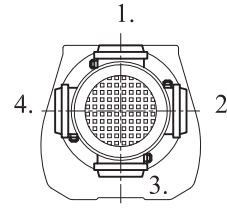
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



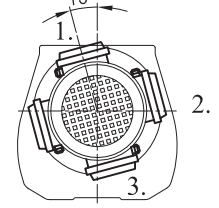
**İRBM 73**  
**İRBM 72**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



71-90-100-112-132  
Tip/Type/Typ



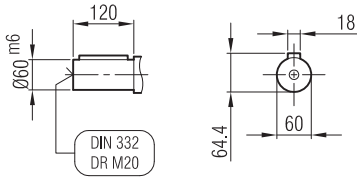
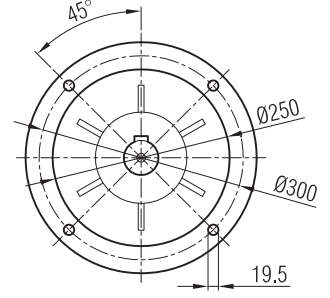
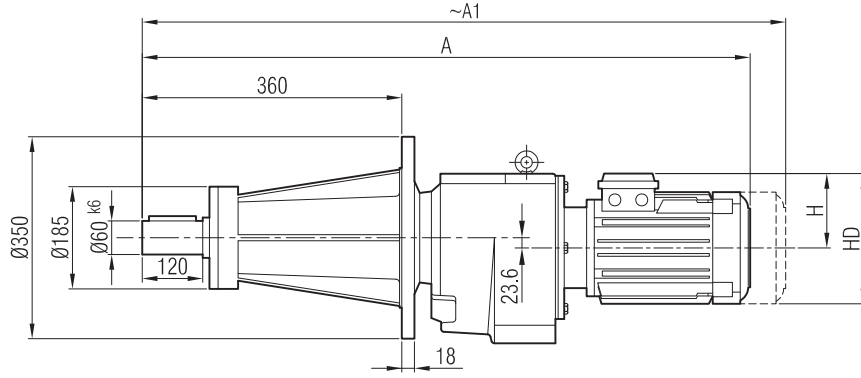
80 Tip/Type/Typ

	71	80	90 S	90 L	100	112	132 S	132 M	160 M
A	725	755	785	810	851	874	936	974	1052
A <sub>1</sub>	776	824	851	876	929	957	1036	1074	1167
H	111	118	126	126	134	145	168	168	220
HD	182	198	216	216	234	257	300	300	380

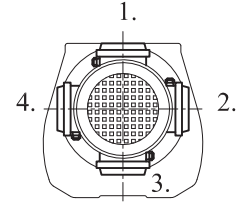
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspond aux moteurs équipés de freins.



**İRBM 83**  
**İRBM 82**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



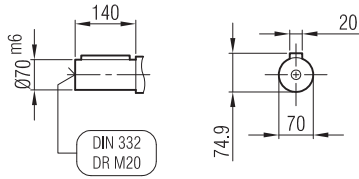
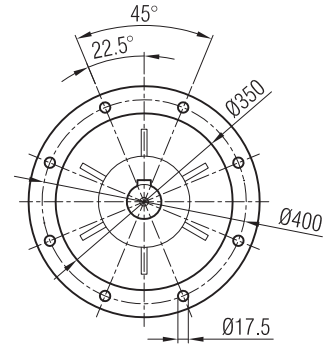
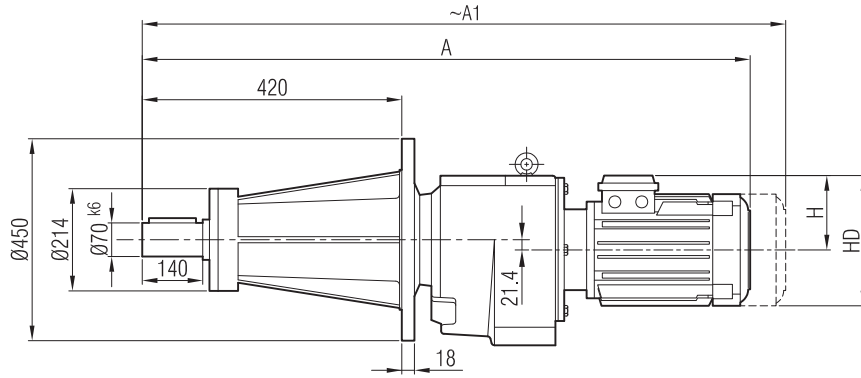
	80	90 S	90 L	100	112	132 S	132 M	160 M	160 L	180 M	180 L
A	864	892	917	957	979	1041	1079	1181	1225	1238	1276
A <sub>1</sub>	933	958	983	1035	1062	1141	1179	1296	1345	1358	1396
H	118	126	126	134	145	168	168	220	220	241	241
HD	198	216	216	234	257	300	300	380	380	421	421

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.

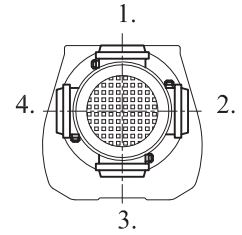




**İRBM 93**  
**İRBM 92**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes

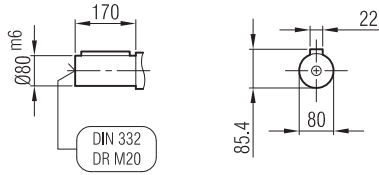
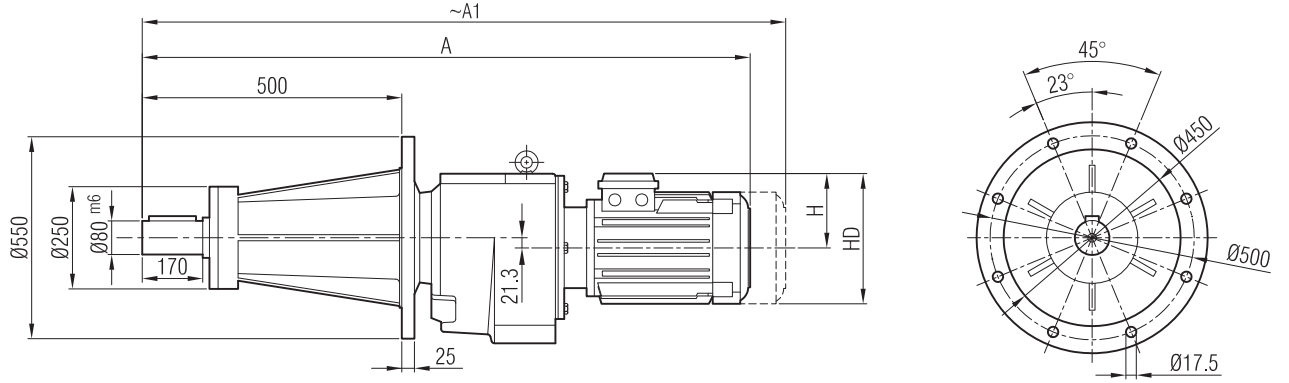


	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200
A	1057	1080	1132	1170	1260	1304	1317	1355	1396
A <sub>1</sub>	1135	1163	1232	1270	1375	1424	1437	1475	1516
H	134	145	168	168	220	220	241	241	277
HD	234	257	300	300	380	380	421	421	477

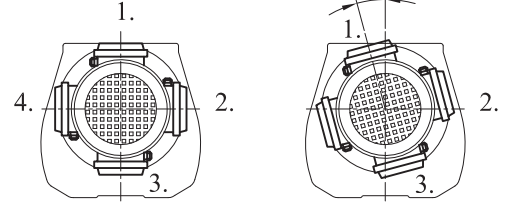
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



**İRBM 103**  
**İRBM 102**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



100-112-132-180-200  
225 Tip/Type/Typ

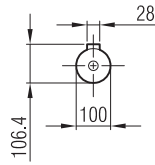
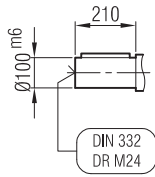
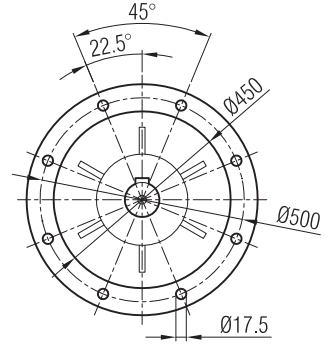
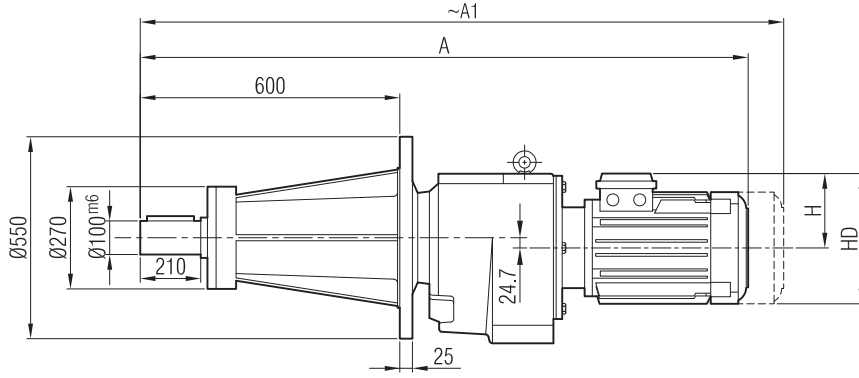
160 Tip/Type/Typ

	100	112	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M
A	1211	1231	1272	1310	1382	1426	1454	1492	1546	1580	1605
A <sub>1</sub>	1289	1314	1372	1410	1497	1546	1574	1612	1666	1700	1725
H	134	145	168	168	220	220	241	241	277	285	285
HD	234	257	300	300	380	380	421	421	477	510	510

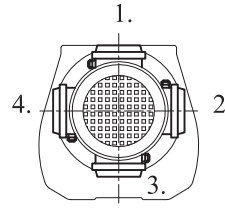
**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



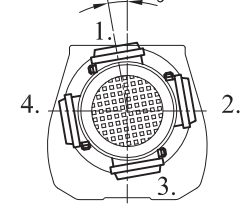
**İRBM 123**  
**İRBM 122**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



132-160-180-225  
250 Tip/Type/Typ



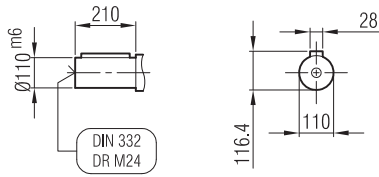
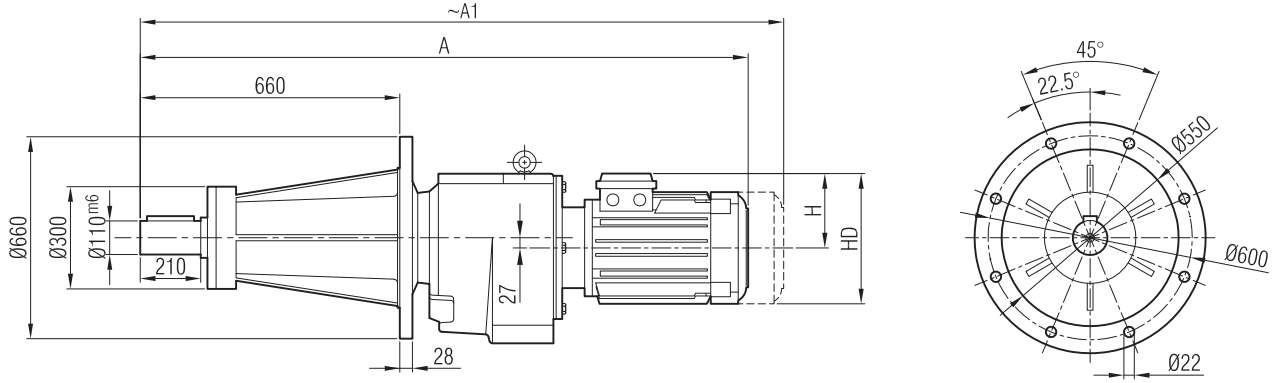
200 Tip/Type/Typ

	132 S	132 M	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M
A	1392	1430	1510	1554	1569	1607	1658	1691	1716	1794
A1	1492	1530	1625	1674	1689	1727	1778	1811	1836	1914
H	168	168	220	220	241	241	277	285	285	322
HD	300	300	380	380	421	421	477	510	510	572

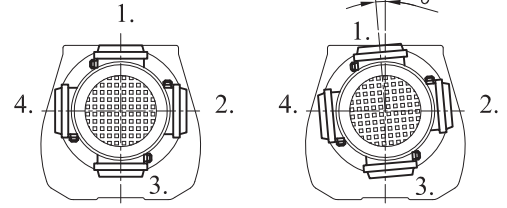
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.



**İRBM 143**  
**İRBM 142**



**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



132-160-180-225-250  
280 Tip/Type/Typ

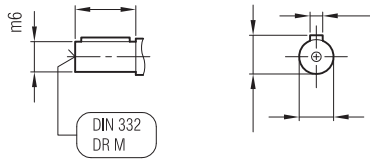
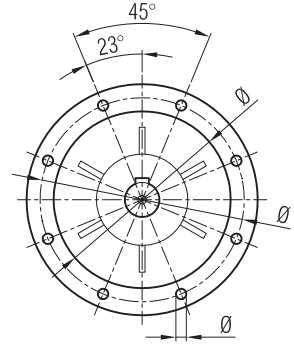
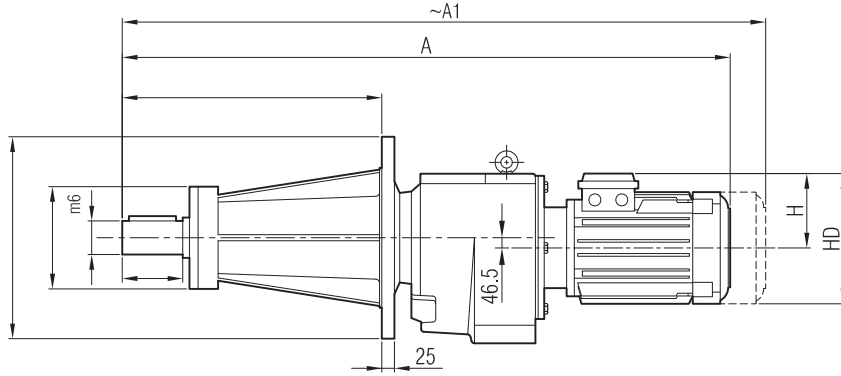
200 Tip/Type/Typ

	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M
A	1866	1910	1926	1964	2015	2048	2073	2151	2212	2212
A1	1981	2030	2046	2048	2135	2168	2193	2271	2412	2412
H	220	220	241	241	277	285	285	322	350	350
HD	380	380	421	421	477	510	510	572	630	630

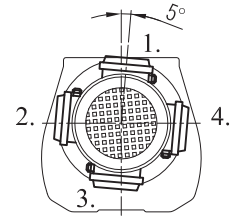
**"A1" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A1" is for motors with brake.  
Le dimensions "A1" correspondent aux moteurs équipés de freins.



**İRBM 153**  
**İRBM 152**

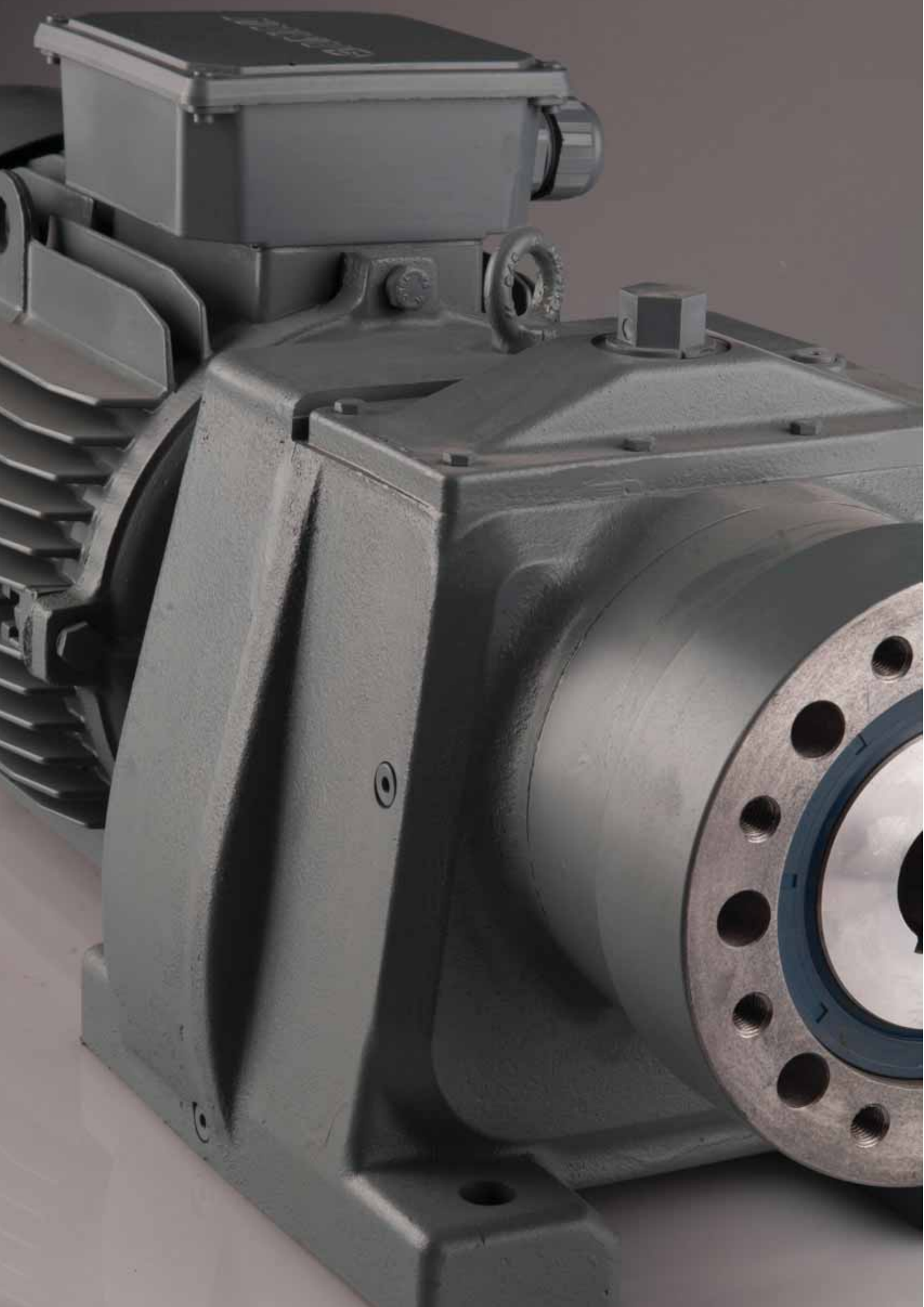


**Klemens Pozisyonları**  
Positions of Terminal Box  
Position de la boîte à bornes



	160 M	160 L	180 M	180 L	200	225 S	225 M	250 M	280 S	280 M	315 S	315 M
A	0	0	0	0	0	0	0	0	0	0	0	0
A <sub>1</sub>	0	0	0	0	0	0	0	0	0	0	0	0
H	220	220	241	241	277	285	285	322	350	350	510	510
HD	380	380	421	421	477	510	510	572	630	630	825	825

**"A<sub>1</sub>" Ölçüsü Frenli Motorlar içindir.**  
Dimension "A<sub>1</sub>" is for motors with brake.  
Le dimensions "A<sub>1</sub>" correspondent aux moteurs équipés de freins.



# Monoblok Helisel Dişli Redüktörler Yedek Parça Listeleri

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General Parts List

*Liste des pièces détachées*



**TİP / TYPE / TYP**

**İRAM - İRAPM - İRA - İRAP**

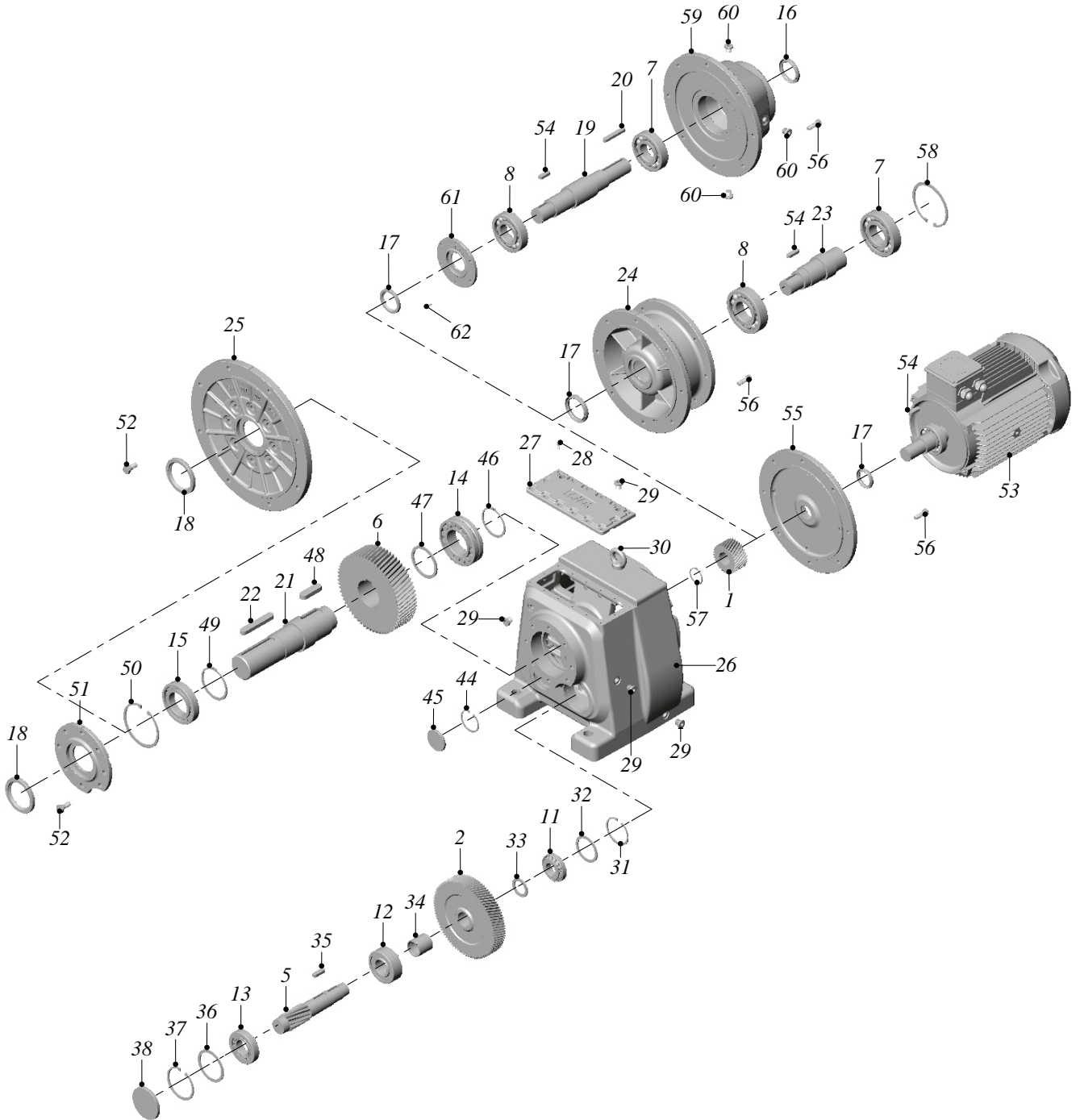
**İRFM - İRFPM - İRF - İRFP**

**İRAFM - İRAFPM - İRAF - İRAFP**

42-52-621-62-721-72-82-92-102-122-142-152

**İki Kademeli / Double Reduction**

*Doppel Reduzierung*







TİP / TYPE / TYP

İRAM / İRFM / İRAFAM / İRAPM / İRFPM / İRAFPM

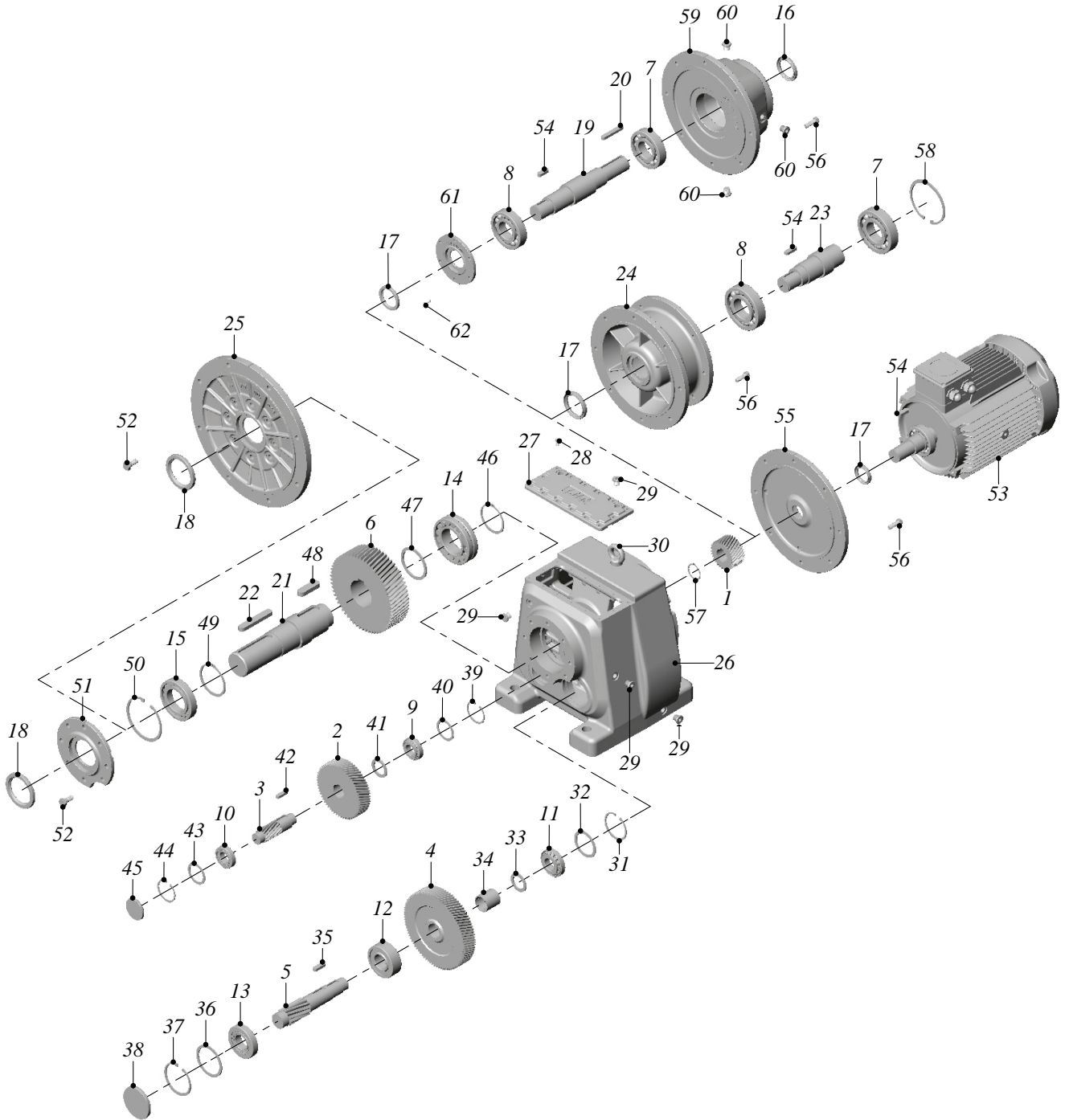
İRA / İRF / İRAF / İRAP / İRFP / İRAFP

42-52-621-62-721-72-82-92-102-122-142-152

1 - Dişli Z1	1 - Gear Z1	1 - Rad Z1
2 - Dişli Z2	2 - Gear Z2	2 - Rad Z2
5 - Milli Dişli Z3	5 - Gear Z3	5 - Ritzelwelle Z3
6 - Dişli Z4	6 - Gear Z4	6 - Rad Z4
7 - Rulman	7 - Bearing	7 - Lager
8 - Rulman	8 - Bearing	8 - Lager
11 - Rulman	11 - Bearing	11 - Lager
12 - Rulman	12 - Bearing	12 - Lager
13 - Rulman	13 - Bearing	13 - Lager
14 - Rulman	14 - Bearing	14 - Lager
15 - Rulman	15 - Bearing	15 - Lager
16 - Keçe	16 - Seal	16 - Wellendichtring
17 - Keçe	17 - Seal	17 - Wellendichtring
18 - Keçe	18 - Seal	18 - Wellendichtring
19 - Giriş Mili	19 - Input Shaft	19 - Antriebswelle
20 - Kama	20 - Key	20 - Passfeder
21 - Çıktı Mili	21 - Output Shaft	21 - Abtriebswelle
22 - Kama	22 - Key	22 - Passfeder
23 - Ara Bağlantı Mili	23 - Connection Shaft	23 - Verbindungswelle
24 - Pam Flanş (IEC)	24 - IEC Flange	24 - IEC Flansch
25 - Flanş	25 - Flange	25 - Abtriebsflansch
26 - Gövde	26 - Gear Case	26 - Getriebegehäuse
27 - Kapak	27 - Cover	27 - Deckel
28 - Çıvata	28 - Bolt	28 - Sechskantschraube
29 - Yağ Tapası	29 - Oil Plug	29 - Ölschraube
30 - Taşıma Kancası	30 - Lifting Eye Bolt	30 - Ringschraube
31 - Segman	31 - Circlip	31 - Sicherungsring
32 - Pul	32 - Washer	32 - Unterlegscheibe
33 - Pul	33 - Washer	33 - Unterlegscheibe
34 - Burç	34 - Spacer	34 - Stützscheibe
35 - Kama	35 - Key	35 - Passfeder
36 - Pul	36 - Washer	36 - Unterlegscheibe
37 - Segman	37 - Circlip	37 - Sicherungsring
38 - Tapa	38 - Locking Cover	38 - Verschlusskappe
44 - Segman	44 - Circlip	44 - Sicherungsring
45 - Tapa	45 - Locking Cover	45 - Verschlusskappe
46 - Segman	46 - Circlip	46 - Sicherungsring
47 - Burç	47 - Spacer	47 - Stützscheibe
48 - Kama	48 - Key	48 - Passfeder
49 - Segman	49 - Circlip	49 - Sicherungsring
50 - Segman	50 - Circlip	50 - Sicherungsring
51 - Keçe Kapağı	51 - Seal Cover	51 - Dichtringflansch
52 - Çıvata	52 - Bolt	52 - Sechskantschraube
53 - Motor	53 - Electric Motor	53 - Elektromotor
54 - Kama	54 - Key	54 - Passfeder
55 - Motor Bağlantı Kapağı	55 - Motor Mounting Adapter	55 - Motoranschlussflansch
56 - Çıvata	56 - Bolt	56 - Sechskantschraube
57 - Segman	57 - Circlip	57 - Sicherungsring
58 - Segman	58 - Circlip	58 - Sicherungsring
59 - Motorsuz Kapak	59 - Gear Case Cover	59 - Antriebsdeckel
60 - Yağ Tapası	60 - Oil Plug	60 - Ölschraube
61 - Keçe Kapağı	61 - Seal Cover	61 - Dichtringflansch
62 - Çıvata	62 - Bolt	62 - Sechskantschraube

**TİP / TYPE / TYP****İRAM - İRAPM - İRA - İRAP****İRFM - İRFPM - İRF - İRFP****İRAFPM - İRAFP - İRAF - İRAFP**

43-53-631-63-731-73-83-93-103-123-143-153





TİP / TYPE / TYP

İRAM / İRFM / İRAFM / İRAPM / İRFPM / İRAFPM

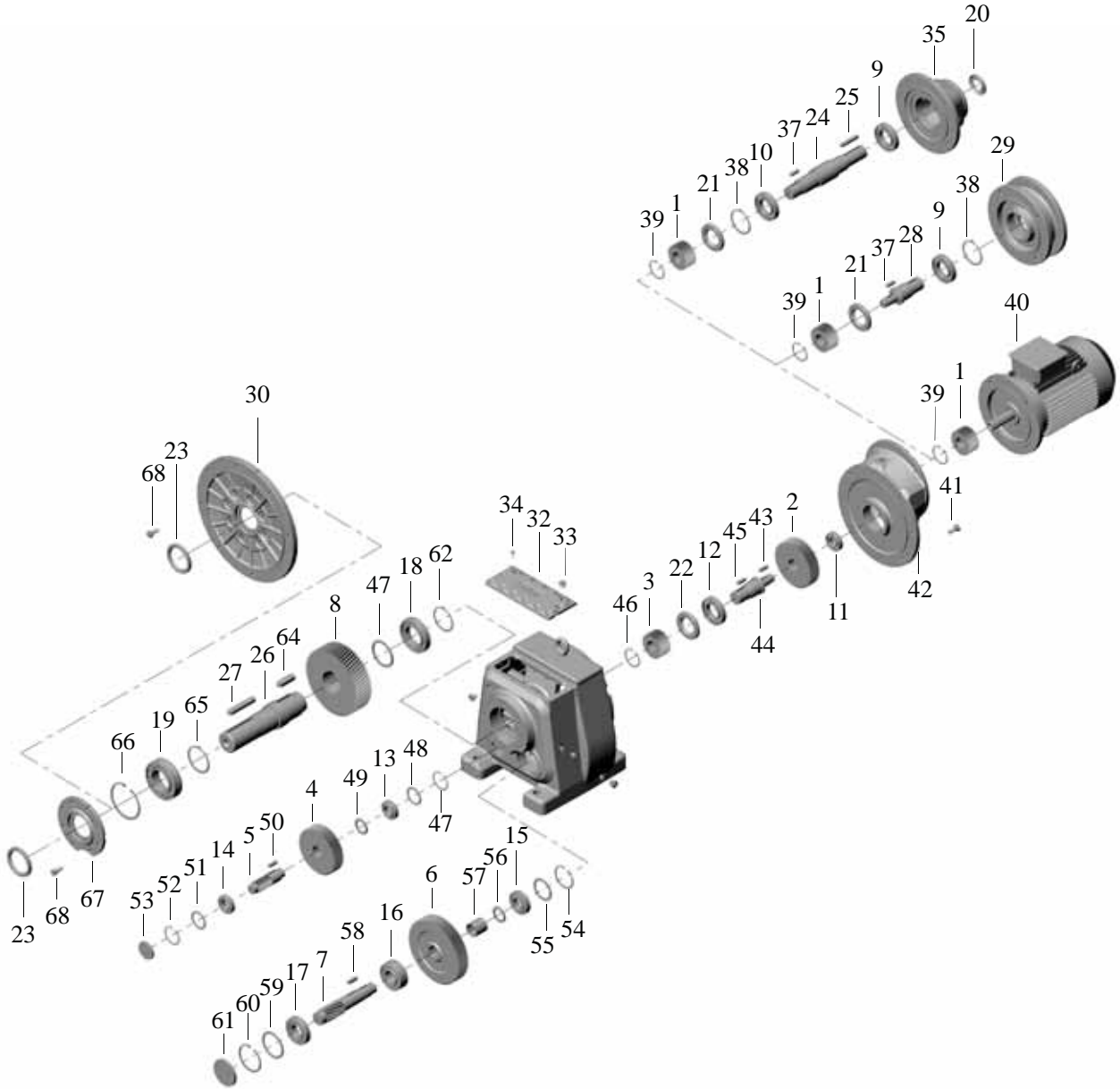
İRA / İRF / İRAF / İRAP / İRFP / İRAFP

43-53-631-63-731-73-83-93-103-123-143-153

1 - Dişli Z1	1 - Gear Z1	1 - Rad Z1
2 - Dişli Z2	2 - Gear Z2	2 - Rad Z2
3 - Milli Dişli Z3	3 - Gear Z3	3 - Ritzelwelle Z3
4 - Dişli Z4	4 - Gear Z4	4 - Rad Z4
5 - Milli Dişli Z5	5 - Gear Z5	5 - Ritzelwelle Z5
6 - Dişli Z6	6 - Gear Z6	6 - Rad Z6
7 - Rulman	7 - Bearing	7 - Lager
8 - Rulman	8 - Bearing	8 - Lager
9 - Rulman	9 - Bearing	9 - Lager
10 - Rulman	10 - Bearing	10 - Lager
11 - Rulman	11 - Bearing	11 - Lager
12 - Rulman	12 - Bearing	12 - Lager
13 - Rulman	13 - Bearing	13 - Lager
14 - Rulman	14 - Bearing	14 - Lager
15 - Rulman	15 - Bearing	15 - Lager
16 - Keçe	16 - Seal	16 - Wellendichtring
17 - Keçe	17 - Seal	17 - Wellendichtring
18 - Keçe	18 - Seal	18 - Wellendichtring
19 - Giriş Mili	19 - Input Shaft	19 - Antriebswelle
20 - Kama	20 - Key	20 - Passfeder
21 - Çıkış Mili	21 - Output Shaft	21 - Abtriebswelle
22 - Kama	22 - Key	22 - Passfeder
23 - Ara Bağlantı Mili	23 - Connection Shaft	23 - Verbindungswelle
24 - Pam Flanş (IEC)	24 - IEC Flange	24 - IEC Flansch
25 - Flanş	25 - Flange	25 - Abtriebsflansch
26 - Gövde	26 - Gear Case	26 - Getriebegehäuse
27 - Kapak	27 - Cover	27 - Deckel
28 - Çıvata	28 - Bolt	28 - Sechskantschraube
29 - Yağ Tapası	29 - Oil Plug	29 - Ölschraube
30 - Taşınma Kancası	30 - Lifting Eye Bolt	30 - Ringschraube
31 - Segman	31 - Circlip	31 - Sicherungsring
32 - Pul	32 - Washer	32 - Unterlegscheibe
33 - Pul	33 - Washer	33 - Unterlegscheibe
34 - Burç	34 - Spacer	34 - Stützscheibe
35 - Kama	35 - Key	35 - Passfeder
36 - Pul	36 - Washer	36 - Unterlegscheibe
37 - Segman	37 - Circlip	37 - Sicherungsring
38 - Tapa	38 - Locking Cover	38 - Verschlusskappe
39 - Segman	39 - Circlip	39 - Sicherungsring
40 - Pul	40 - Washer	40 - Unterlegscheibe
41 - Burç	41 - Spacer	41 - Stützscheibe
42 - Kama	42 - Key	42 - Passfeder
43 - Pul	43 - Washer	43 - Unterlegscheibe
44 - Segman	44 - Circlip	44 - Sicherungsring
45 - Tapa	45 - Locking Cover	45 - Verschlusskappe
46 - Segman	46 - Circlip	46 - Sicherungsring
47 - Burç	47 - Spacer	47 - Stützscheibe
48 - Kama	48 - Key	48 - Passfeder
49 - Segman	49 - Circlip	49 - Sicherungsring
50 - Segman	50 - Circlip	50 - Sicherungsring
51 - Keçe Kapağı	51 - Seal Cover	51 - Dichtringflansch
52 - Çıvata	52 - Bolt	52 - Sechskantschraube
53 - Motor	53 - Electric Motor	53 - Elektromotor
54 - Kama	54 - Key	54 - Passfeder
55 - Motor Bağlantı Kapağı	55 - Motor Mounting Adapter	55 - Motoranschlussflansch
56 - Çıvata	56 - Bolt	56 - Sechskantschraube
57 - Segman	57 - Circlip	57 - Sicherungsring
58 - Segman	58 - Circlip	58 - Sicherungsring
59 - Motorsuz Kapak	59 - Gear Case Cover	59 - Antriebsdeckel
60 - Yağ Tapası	60 - Oil Plug	60 - Ölschraube
61 - Keçe Kapağı	61 - Seal Cover	61 - Dichtringflansch
62 - Çıvata	62 - Bolt	62 - Sechskantschraube

**TİP / TYPE / TYP****İRAM - İRAPM - İRA - İRAP****İRFM - İRFPM - İRF - İRFP****İRAFPM - İRAF - İRAFP**

} 64-741-74-84-94-104-124-144-154



**TİP / TYPE****İRAM / İRFM / İRAFM / İRAPM / İRFPM / İRAFPM****İRA / İRF / İRAF / İRAP / İRFP / İRAFP**

} 64-741-74-84-94-104-124-144-154

1 - Dişli Z1	1 - Gear Z1	1 - Pignon Z1
2 - Dişli Z2	2 - Gear Z2	2 - Pignon Z2
3 - Dişli Z3	3 - Gear Z3	3 - Pignon Z3
4 - Dişli Z4	4 - Gear Z4	4 - Pignon Z4
5 - Milli Dişli Z5	5 - Gear Z5	5 - Pignon Z5
6 - Dişli Z6	6 - Gear Z6	6 - Pignon Z6
7 - Milli Dişli Z7	7 - Gear Z7	7 - Pignon Z7
8 - Dişli Z8	8 - Gear Z8	8 - Pignon Z8
9 - Rulman	9 - Bearing	9 - Roulement
10 - Rulman	10 - Bearing	10 - Roulement
11 - Rulman	11 - Bearing	11 - Roulement
12 - Rulman	12 - Bearing	12 - Roulement
13 - Rulman	13 - Bearing	13 - Roulement
14 - Rulman	14 - Bearing	14 - Roulement
15 - Rulman	15 - Bearing	15 - Roulement
16 - Rulman	16 - Bearing	16 - Roulement
17 - Rulman	17 - Bearing	17 - Roulement
18 - Rulman	18 - Bearing	18 - Roulement
19 - Rulman	19 - Bearing	19 - Roulement
20 - Keçe	20 - Seal	20 - Joint
21 - Keçe	21 - Seal	21 - Joint
22 - Keçe	22 - Seal	22 - Joint
23 - Keçe	23 - Seal	23 - Joint
24 - Giriş Mili	24 - Input Shaft	24 - Arbre d'entrée
25 - Kama	25 - Key	25 - Clavette
26 - Çıkış Mili	26 - Output Shaft	26 - Arbre de sortie
27 - Kama	27 - Key	27 - Clavette
28 - Ara Bağlantı Mili	28 - Connection Shaft	28 - Arbre connecteur
29 - Pam Flanş (IEC)	29 - IEC Flange	29 - Bride IEC
30 - Flanş	30 - Flange	30 - Bride
31 - Gövde	31 - Gear Case	31 - Carter
32 - Kapak	32 - Cover	32 - Couvercle
33 - Yağ Tapası	33 - Oil Plug	33 - Bouchon d'huile
34 - Cıvata	34 - Bolt	34 - Vis
35 - Motorsuz Kapak	35 - Gear Case Cover	35 - Bride d'entrée
36 - Taşıma Kancası	36 - Lifting Eye Bolt	36 - Anneau de levage
37 - Kama	37 - Key	37 - Clavette
38 - Segman	38 - Circlip	38 - Circlip
39 - Segman	39 - Circlip	39 - Circlip
40 - Motor	40 - Electric Motor	40 - Moteur électrique
41 - Cıvata	41 - Bolt	41 - Vis
42 - V Gövde	42 - Gear Case V	42 - Carter V
43 - Kama	43 - Key	43 - Clavette
44 - Ara Bağlantı Mili	44 - Connection Shaft	44 - Arbre connecteur
45 - Kama	45 - Key	45 - Clavette
46 - Segman	46 - Circlip	46 - Circlip
47 - Segman	47 - Circlip	47 - Circlip
48 - Pul	48 - Washer	48 - Joint
49 - Pul	49 - Washer	49 - Joint
50 - Kama	50 - Key	50 - Clavette
51 - Pul	51 - Washer	51 - Joint
52 - Segman	52 - Circlip	52 - Circlip
53 - Tapa	53 - Locking Cover	53 - Bouchon
54 - Segman	54 - Circlip	54 - Circlip
55 - Pul	55 - Washer	55 - Joint
56 - Pul	56 - Washer	56 - Joint
57 - Burç	57 - Spacer	57 - Anneau d'espacement
58 - Kama	58 - Key	58 - Clavette
59 - Pul	59 - Washer	59 - Joint
60 - Segman	60 - Circlip	60 - Circlip
61 - Tapa	61 - Locking Cover	61 - Bouchon
62 - Segman	62 - Circlip	62 - Circlip
63 - Pul	63 - Washer	63 - Joint
64 - Kama	64 - Key	64 - Clavette
65 - Segman	65 - Circlip	65 - Circlip
66 - Segman	66 - Circlip	66 - Circlip
67 - Keçe Kapağı	67 - Seal Cover	67 - Joint
68 - Cıvata	68 - Bolt	68 - Vis

**Notlar**  
Notes



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