

Riduttori ad assi ortogonali **serie PKD**

TPS GEAR SRL

Via Emilia 9/14
35043 Monselice (PD)
Italy
T. +39 0429 773883
F. +39 0429 772028
info@tpsgear.it
www.tpsgear.it

Producer

PGR[®]
Drive Technologies

Distributore per Italia





Giriş / Intro	2
Teknik Bilgiler / Explanatory Notes	3 - 7
Radyal Yük Hesabı / Calculation of Radial Loads	8 - 10
Kısaltmalar / Abbreviations	11
PKD Tanıtımı / Description of PKD	13
W ve IEC Adaptör Kullanımı / Using of W and IEC Adapter	14
Kullanım Alanları / Application Areas	15 - 19
Kullanılan Terimler / Nomenclature	20 - 21
PKD Modüler Sistemi / Modular System of PKD	22
Mevcut Dizaynlara Genel Bakış / Overview of Available Designs	23
Ürünlerimiz / Products	24 - 31
Sipariş Örneği / Example for Ordering	32
Montaj Pozisyonları ve Yağ Markaları / Mounting Positions and Lubrication Marks	33 - 36
Yağ Miktar Tablosu / Lubrication Levels	37
Kilit / Backstop	38
Toleranslar / Tolerances	39
Motor Platformu / Installation of Motor Platform	40 - 42
Motorlu Seçim Tabloları / Selection Tables of Gearedmotors	43 - 76
Motorlu Ölçü Tabloları / Dimension Tables of Gearedmotors	79 - 116
W - IEC Adaptörü Seçim Tabloları / Selection Tables of W and IEC Adapters	117 - 129
W Ölçü Tabloları / Dimension Tables of W	131 - 153
IEC Adaptörü Ölçü Tabloları / Dimension Tables of IEC Adapters	154 - 190
W - IEC Adaptörlerin Ağırlık Tablosu / Weights Table of W and IEC Adapter	192
Servo Motor Adaptörü / Servomotors Adapter	193
Konik Sıkırtma / Shrink Disc	194
Güçlendirilmiş Konik Sıkırtma / With Reinforced Shrink Disc Connector	195
Güçlendirilmiş Konik Sıkırtma Koruma Kapağı / Cover of Reinforced Shrink Disc	196
Ayak Montajlı, Çift Mil Çıkışı / Foot Mounted, Solid Shaft on Both Sides	197
Ayak Montajlı, B14 Flanşlı / Foot Mounted, Flange B14	198
Ayak Montajlı B5 Flanşlı / Foot Mounted, Flange B5	199
B5 Flanş Ölçüleri / Dimension of Flange B5	200
Güçlendirilmiş B5 Flanş / Reinforced B5 Flange	201 - 202
Konik Sıkırtmalı Güçlendirilmiş B5 Flanş / Reinforced B5 Flange With Shrink Disc	203
Tork Kolu ve Platformu / Torque Arm and Platform	204 - 205
Koruma Kapağı / Cover	206
IP 66 Uygulaması / Protection IP 66	207
Su Soğutmalı / Water Cooling	208
İlave Yağ Hacmi ve Yağ Tankı / Additional Lubrication Volume and Oil Tank	209
Yağ Soğutmalı / Oil Cooling	210
Mekanik Keçe / Mechanical Seal	211
Çektirme Ölçü Tablosu / Dimension Table of Fixing Elements	212 - 213
PKD Genel Parça Listeleri / General Part Lists of PKD	214 - 219
Elektrik Motoru / Electrical Motor	221 - 275



Redüktörleri oluşturan tüm parçaları modern CNC tezgahlarında ve yatay işleme merkezlerinde imal eden Polat Group Redüktör Ar-Ge çalışmalarına devam etmektedir. PGR, dişlilerin profil taşlamasından sonraki işlem olan HONLAMA yöntemini seçerek, üretimin her kademesinde işlem kontrolü yapmaktadır. Polat Group Redüktör, helis dişlilerde TEKİL GÖVDE kavramını Türkiye'de ilk uygulayan şirkettir. Buna ek olarak P serisinden farklı olarak helis dişlili, tekil gövdeli (ayaklı, flanşlı, ara millî ve çıkış millî) PA,PF, PD, PM serisi, helisel konik dişlili PKD serisi ve helisel-sonsuz dişlili PSH serisi redüktörlerin tasarım ve üretim işleri büyük bir özenle tamamlanarak seri üretime geçildi. Rulman, dişli ve mil hesapları DIN 3990 Niemann esasına dayalı profesyonel programa (HEXAGON) göre yapıldı. Tüm dişli ünitelerine sementasyon ve normalizasyon ısıl işlemleri uygulanmaktadır. Helis grubunda tekil gövdeler döküldükten sonra doğal şartlar altında (yağmur, sıcak ve soğuk doğa şartları) asgari 5 ay bekletilmekte, gövdeler son şekillerini almakta ve tüm yüzeyler yatay işleme merkezinde aynı anda işlenmektedir. Polat Group Redüktör ayrıca SIKLOİD REDÜKTÖR üzerindeki Ar-Ge çalışmalarına devam etmektedir. Polat Group Redüktör en üst teknolojilerle çalışarak ve Türkiye pazarındaki konumunu koruyarak, yeni ürünler ile ilgili etkinliklerine devam etmektedir.

Polat Group Redüktör, starting its trial production work all the forming reducer on modern CNC machine tools and horizontal machining centers. The company makes process controls in every stages of the production by choosing the HONING METHOD which comes after profile grinding in gears. Polat Group Redüktör is the first company that applies the concept of single body in helical gears in Turkey. Additionally, as being separately from P series, the design and production works of PA,PF, PD, PM, series, helical bevel gear reducers with helical gear and helical-worm gear reducers (PSH) single body (foot, flange, gap solid shaft and solid shaft out) had been completed with great care and started series production. Bearing, gear and shaft calculations are made according to professional softwares (HEXAGON) based on DIN 3990 and Niemann basics. Carburizing and normalization heat treatment are applied to all the gear units. In helical group, single bodies are left in the natural conditions (rain, hot & cold natural conditions) for a minimum period 5 months after casting and the bodies get their final shapes and then all the surface are treated on horizontal machining center at once at the same. Polat Group Redüktör also continues its R&D activities on POLAT SIKLOİD GEAR UNITS. Polat Group Redüktör continues its investments for new productions with the aim of high technology and maintaining its positions on the Turkish Market.

KALİTE POLİTİKAMIZ

POLAT GROUP REDÜKTÖR A.Ş. ürünlerinin kalitesinde en iyiyi yakalamak için; sektöründeki teknolojik gelişmeleri takip etmeyi, pazar payındaki istikrarını sürdürmek için müşterilerinin istek ve beklentilerine eksiksiz ve zamanında cevap vererek, sürekli artan müşteri memnuniyetini sağlamayı, eğitimli çalışanlarının performansını huzurlu bir çalışma ortamı sağlayarak arttırmayı ve bu şekilde kalite yönetim sistemini sürekli iyileştirmeyi kalite politikası olarak benimsemiştir.

VİZYONUMUZ

Müşteri ve çalışan memnuniyetini en üst düzeyde tutan, gelişmeleri izleyen değil yaratan bir dünya şirketi olmaktır.

MİSYONUMUZ

Müşterilerimizin ihtiyaçlarını karşılayacak çözümleri bilgi teknolojilerini kullanarak en verimli ve kaliteli şekilde sunmaktır.

Polat Group Redüktör olarak birçok farklı ürün yelpazesi ile, müşteri ihtiyacını maksimum seviyede karşılamak için eş zamanlı mühendislik yöntemlerini kullanarak çalışmalarını sürdürmektedir. Tasarım faaliyetleri, ürün geliştirme programları ve bilgisayar destekli çalışmalarımız sürekli gelişen bir grafik çizmektedir. Rekabetçi ve güçlü kalite politikamız müşteri yelpazemizi genişletmektedir.

OUR QUALITY POLICY

To achieve the best quality of its products, POLAT GROUP REDÜKTÖR A.Ş. adopts with its own quality politics by following the technological developments of its sector, in order to keep up the stabilization on its own market share ensuring the customers' gladness increasing permanently by answering the customers' wishes and expectations completely at the right time, to have the well-educated staffs increase their performance by providing a peaceful working place and making better the quality management system all the time.

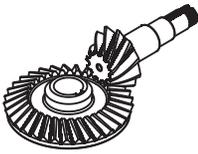
OUR VISION

Our vision is to become a world company which keeps the customer satisfaction at the top level and which does not only follow the developments but also creates the developments itself.

OUR MISSION

Our mission is to provide the solutions to our customers in most efficient and qualified way by make use of the information technologies.

Our reducer group carries out its works using simultaneous engineering methods in order to meet the demands of our customers by presenting several different product ranges. Promotion activities, product development programmes and computer supporting work show a continuously growing chart. Our competitive and strong quality policy is to develop our customer spectrum.



Teknik Açıklamalar

Dişli Ünitesini Seçme

Bir dişli ünitesini seçerken PGR üç fazlı asenkron AC motorlarını veya tek fazlı AC motorları kullanılır ve teknik olarak kıyaslanabilen motorlar için de geçerlidir. Başka motorlar kullanırken, lütfen PGR'e danışınız. Bir dişli ünitesini seçme ile ilgili aşağıdaki önemli ana esaslara bağlı kalınmazsa, aşırı bir yük durumunun olması muhtemeldir. Bu durumda, tüm garantiler geçersizdir. Şüpheli durumda, lütfen dişli ünitesi tasarımını kontrol etmek için birlikte çalışabileceğiniz teknik bilgilerden sorumlu PGR satış ofisi ile irtibata geçiniz. Karşılıklı çıkarlarımız açısından, dişli ünitelerinde aşırı yüklemenin neden olduğu tüm problemler her durumda önlenmelidir.

Kriter

Seçme kriteri aşağıdakilerden oluşur:

1. Termal olarak transfer edilebilen güç (termal sınırı)
Dişli ünitesinin aşırı ısınmaması için, bu güç transferi (3 saat) daha uzun bir çalışma zamanını aşmamalıdır. Termal olarak transfer edilebilen güç sadece PA\PF 62, PD\PM 62 ve daha büyük (iki kademeli dişli üniteleri için) gövdeler ve PA\PF 73, PD\PM 73, PKD 6390 - 7390 ve daha büyük gövdeler (üç kademeli dişli üniteleri için) için olası bir sınırı gösterir. Aşağıdaki maddelerden iki veya daha fazlasının geçerli olması durumunda çalışma durumunu kontrol ediniz.
 - Ortam sıcaklığı $> 40^{\circ}\text{C}$
 - Dönme hızı $n_1 > 1500 \text{ d/dk}$
 - Motor gücü $P_1 > 100 \text{ kW}$
 - W kovanlı ve IEC adaptörlü redüktörler
 - Dik olarak montajı yapılan redüktörler (sayfa 34 - 35)
 - Tahvil oranı $i_{top} < 20$ (Polat konik dişli için $i_{top} < 40$)
2. Mekanik olarak transfer edilebilen güç "P"
Bu güç, katalogdaki ilgili tablodaki servis faktörü f_B tarafından göz önüne alınır. Bir sonraki bölüm gerekli servis faktörünün saptanmasını tanımlar.

Genel olarak, dişli ünitesi ekleme, ısı radyasyonu, dar yer vs gibi özel montaj koşulları olduğunda bize danışınız. Özel ölçüler (veya yağ soğutucusu) termal aşırı yüküne karşı var olduğunda; lütfen PGR'e danışınız.

Giriş gücü ve servis faktörü

Her bir uygulama için gerekli giriş gücü, hesaplama ile saptanır. Motor anma gücü (P), bu giriş gücünden sonra seçilir. Normal olarak, belirli uygulamalarda özel çalışma koşullarına ait güvenlik faktörlerinin gözleneceği ve anma motor çıkış seviyeleri genellikle standart çıkış seviyesi aralığında olduğu için motorun anma gücü istenilen güçten biraz daha yüksektir.

Montajı yapılacak 3 fazlı bir AC motorun anma gücünü seçerken kısa dönem ve seyrek tork tesirini göz önüne almak gerekmez. Bir frekans inventörü üzerindeki 3 fazlı bir AC motor çalıştırırken ilave faktörler anma çıkış gücünün seçimini etkiler. Motorun aksine, kısa dönem ve seyrek tork tesiri önemli derecede dişli ünitesinin seçimini etkiler. Dişli ünitesi servis faktörü f_B bu kısa dönem ve seyrek tork tesirini ve ayrıca yeterli doğrulukla dişli ünitesi üzerindeki etkileri göz önüne alır.

4. sayfadaki **diyagram 1** çalışma saatine veya güne bağlı olarak yük sınıflandırması, devir ve minimum servis faktörü arasındaki ilişkiyi sunmaktadır.

Explanatory Notes

Selecting of Gear Unit

Gear unit selection includes PGR's three-phase AC motor or single phase AC motor and technically equal different motor could be applied. When you apply different motor please contact with PGR. There are some condition for selecting gear unit and these condition must be considered overloading could be effected badly if restrictions are not considered. In these situation, all guarantees could be invalidated. Under suspicious situation please refer to PGR sales office department which is responsible for giving technical information to you.

Conditions

Conditions of selecting gear unit;

1. Thermal Limit
Thermal transfer power should not be exceeded over running time (3 hours) for prevent overheated gear unit. In larger gear unit size this condition is important and units have thermal limit for instance PA\PF 62 and greater unit size, PA\PF 73, PD\PM 73, PKD 6390-7390. For these problems, you must check ambient and some other conditions which are explained below. Any suspicion please contact with PGR.
 - Ambient temperature $> 40^{\circ}\text{C}$
 - Rotational speed $n_1 > 1500 \text{ min}^{-1}$
 - Input power $P_1 > 100 \text{ kW}$
 - With W-cylinder and IEC adapter gear units
 - Vertical mounting position (see page 34 - 35)
 - Reduction ratio $i_{top} < 20$ (for helical-bevel gear units $i_{top} < 40$)
2. Power transfer with service factor "P"
Service factor f_B is important for power transfer, determination of minium service factor will be given at following information.

For every operating conditions; eg. heat radiation in bounded field (place) which is required special devices (oil cooler or water cooler) for that reason please contact with PGR.

Input power and service factor

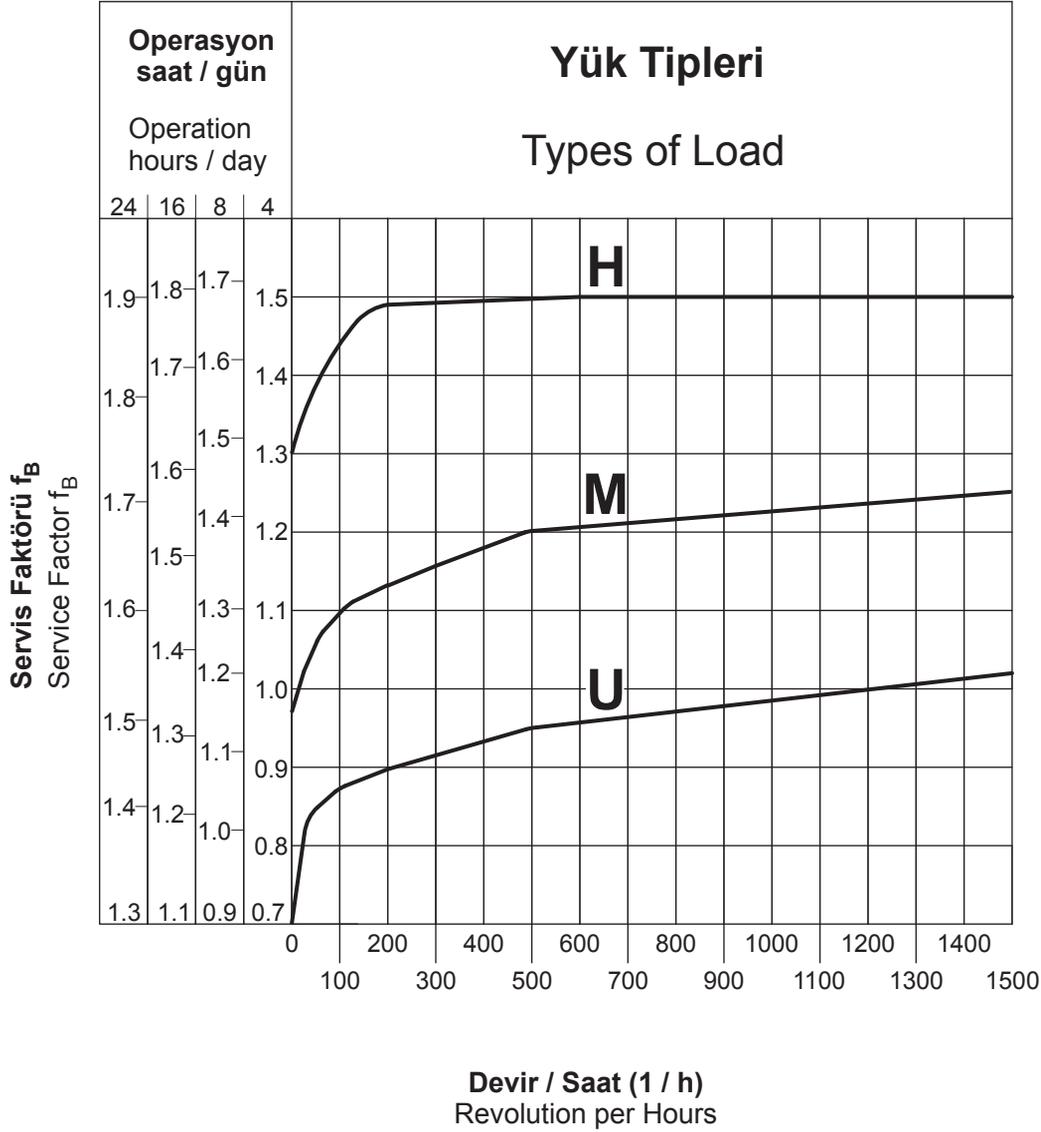
For every application requiring input power could be detected or determined by calculation. After determination input power, rated motor power (P) is defined. Motor power is greater than require input power due to safety factor is used according to operating conditions.

Selecting a motor type is important for right calculation for instance; three phase AC motor which is mounted to gear unit, affecting infrequent torque could not be considered but if you mount three-phase AC motor on frequency inverter latest available factor effects the output power. Besides of motor type short and infrequent torque impression effects selecting gear unit for that service factor is considered.

Diagram 1 which is shown on page 4, presents relation between types of load, revolution per hour and minimum service factor depend on operation hours or day.



Diyagram - 1



Diyagram 1, günlük çalışma zamanına bağlı gerekli minimum servis faktörü $f_{B \min}$, 'Z' saatteki çevrimleri, ve uygulama yükü sınıflandırması 'U', 'M', 'H' gösterir. Çalışma düzgünlüğüne ve kütle hız faktörüne bağlı olarak, üç yük sınıflandırması belirlenmiştir. Hareket ettiren makineden gelen etkiler çalışma düzgünlüğü sınıflandırmasında tanımlanırken, kütle hız faktörü en fazla olan yük üzerinde etkili olur.

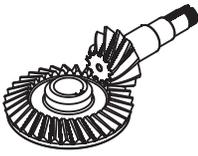
Not : Elde edilen servis faktörü f_B kullanılan sürücü (tahrik) tipine göre "k" katsayısı ile çarpılır.

k = 1 ; elektrik motoru veya hidromotor,
k = 1.25 ; çok silindirli içten yanmalı motor,
k = 1.50 ; tek silindirli içten yanmalı motor

Diagram 1 shows requiring minimum service factor depend on revolution per hours 'Z' and types of load 'U', 'M' or 'H'. In following information mass acceleration factor will be explained how it effects to or relation between load classification. Forces or loads which are applied from driven machine to gear unit while determine load classification, mass acceleration factor is played important role on the high load classification which is designated with 'H' sign.

Note : Service factor f_B which is acquired from diagram should be modified with factor "k" that, depends on driver type.

k = 1 ; hydraulic motor and electrical motor
k = 1.25 ; multi-cylinder engine
k = 1.50 ; single-cylinder engine



Dişli Ünitesini Seçme

Selecting a Gear Unit

Bir çalışmanın sınıflandırılması :

Operation classification;

a) Düzgün çalışma

Küçük karıştırıcılar, asansörler, konveyörler, montaj bantları, doldurma makineleri, bantlı konveyörler, temizleme makineleri, fanlar, test makineleri.

b) Yumuşak şoklar, düzgün olmayan çalışma

Ağır konveyör bantları, değirmenler, ahır gübre makineleri, vinç hareketli mekanizmalar, bükme makineleri, çimento karıştırıcılar, dişli makineleri, ahşap işleme makineleri için sürücüler, vinçler, kayar kapılar, dengeleme makineleri.

c) Ağır şoklar, aşırı düzgün olmayan çalışma

Taş kırıcılar, eksantrik presler, doğrayıcılar, presler, taşlama milleri, çekiçli kırıcılar, kağıt öğütücüler, ağır karıştırıcılar, delme makineleri, katlama makineleri, dönen tezgahlar, yatay karıştırıcılar, kesiciler, vibratörler, santrifüj makineleri, döner tablalar.

Yük sınıflandırması, çalışma düzgünlüğünden ve aşağıdaki tabloya göre kütle hız faktörü 'm_{af}' den belirlenir. Burada, çalışma veya kütle hız faktöründen gelen daha yüksek sınıf yük sınıflandırmasında geçerlidir. (Örnek: aşırı düzgün olmayan çalışma ve m_{af} = 2,8 gibi durumda yük sınıfı 'H' olarak belirlenir.

a) Uniform application

Small agitators, elevators, conveyors, assembly belts, filling machines, conveyor belts, cleaning machines, fans, testing machines.

b) Moderate shocks, non-uniform application

Heavy conveyors belts, mills, stall dunging machines, crane traveling mechanisms, bending machines, cement mixers, gear pumps, decoilers, tapping units, packaging machines, feed drives for wood processing machines, hoists, winches sliding doors, balancing machines.

c) Heavy shocks, extreme non-uniform application

Stone crusher, eccentric presses, choppers, presses, grinding mills, hammer mills, shredders, heavy mixers, punching machines, folding machines, rolling stands, tumbling barrels, shears, vibrators, centrifuges, roller tables.

Load classification is obtained from operation class and mass acceleration factor (m_{af}). For this reason in any situation which factor is greater than other you must take for calculation. (Eg; heavy - shock and m_{af} = 2,8 load classification must be 'H' .)

Yük Sınıfı	Çalışma	Kütle hız faktörü
U	Düzgün çalışma	m _{af} ≤ 0.25
M	Düzgün olmayan çalışma	0.25 < m _{af} ≤ 3
H	Aşırı düzgün olmayan çalışma	3 < m _{af} ≤ 10

Load Classification	Operation	Mass Acceleration Factor
U	Uniform application	m _{af} ≤ 0.25
M	Non-uniform application	0.25 < m _{af} ≤ 3
H	Extreme non-uniform application	3 < m _{af} ≤ 10

$$m_{af} = \frac{J_{ex.red}}{J_{mot}} = \frac{J_{ex}}{J_{mot}} \times \left(\frac{1}{i_{ges}} \right)^2$$

i_{ges} = Toplam dişli ünitesi oranı

J_{ex.red} = Hareket motoru üzerindeki azaltılmış tüm dış kütle atalet momenti

J_{ex} = Tüm dış kütle atalet momenti

J_{mot} = Motorun kütle atalet momenti

i_{ges} = Total gear unit ratio

J_{ex.red} = All external mass moment of inertia on the drive motor, reduced

J_{ex} = All external mass moment of inertia

J_{mot} = Mass moment of inertia of the motors

Kütle hız faktörü m_{af}, çıkış tarafındaki dış kütleler ile giriş tarafındaki yüksek hız kütlelerin arasındaki ilişkiyi gösterir. Kütle hız faktörü, başlatma ve frenleme işlemlerine ve titreşime göre dişli ünitesindeki tork tesir seviyesini önemli derecede etkiler. Örneğin; bantlı konveyör sistemlerinde dış kütle atalet momenti taşınan ürün kadar yük uygular. m_{af} > 10 ise, transfer elemanlarında büyük bir oynama, yük sınıflamasında belirsizlik varsa veya şüphedeyseniz, PGR'e danışınız.

Servis faktörü f_B, maksimum dişli ünitesi çıkış momenti M_{amax} ile montajlanmış motor gücü P₁, çıkış hızı n₂ ve dişli ünitesi verimi (η) sonucu ortaya çıkan momenti M_a arasındaki ilişkidir.

Technically mass acceleration factor m_{af} mass different between external output-side and high speed input-side. m_{af} is played important role at the level of torque propulsive in the gear unit. It is mostly effected at start-up, braking operation and vibration. Please contact with PGR where m_{af} is greater than 10 and large play in transfer elements and vibration in the system.

Calculation of service factor is illuminated below. It depends on maximum output moment of gear unit and the output moment which is calculated from motor power, rotation speed and efficiency.

$$M_a = \frac{9550 \cdot P_1 \cdot \eta \text{ [Nm]}}{n_2}, P_1 \text{ [kW]}, n_2 \text{ [min}^{-1} \text{]}$$

$$f_B = \frac{M_{amax}}{M_a}$$



$$P_1 = \frac{M_a \cdot n_2}{\eta \cdot 9550} \text{ [kW]}, M_a \text{ [Nm]}, n_2 \text{ [min}^{-1} \text{]}$$

Dişli ünitesini doğru şekilde seçtiğinizde, çıkış ve hız genel açıklamalarından alınan servis faktörü f_B , diyagram 1'e göre minimum servis faktörü $f_{B \min}$ 'den büyük veya eşittir.

If the selecting gear unit is right, service factor which is taken from selection of gear motors table, must be greater than minimum service factor $f_{B \min}$ which is taken from diagram-1 (see page 4) according to types of load.

$$f_B \geq f_{B \min}$$

Helisel, paralel mil ve helisel konik dişli ünitelerinde herbir kademe için çok yüksek bir seviyede verimlilik vardır (herbir kademe için yaklaşık %98 veya $\eta = 0,98$). Bu yüzden hesaplamalarda verim $\eta = 1,0$ alınması yeterli doğru sonuçlara ulaşılmasına yardımcı olur. Helisel sonsuz dişliler ile ilgili dişli ünitesi verimliliği, herbir çıkış hızı n_2 'ye ait çıkış ve diş oran tablolarında listelenmiştir. W kovani montajlı (serbest hareket mili) redüktörde çıkış gücü aşağıdaki formülden hesaplanır.

Efficiency is approximately 98 % at helical, helical bevel parallel shaft gear units. For that reason efficiency could be taken $\eta = 1$ it shows that efficiency does not effect the calculation. But, for helical worm gear efficiency is given at table which is depended on output speed and gear ratio.

With W cylinder (free drive shafts) ;

$$P_1 = \frac{M_{amax} \cdot n_2}{9550 \cdot f_{B \min} \cdot \eta} \text{ [kW]}, M_{amax} \text{ [Nm]}, n_2 \text{ [min}^{-1} \text{]}$$

Burada, azami hareket gücü P_{1max} aşmaz.

Value which calculated from equation P_1 , must be less than P_{1max} which is taken from the selection of W cylinder tables.

$$P_1 \leq P_{1max}$$

W ve IEC tipi redüktörler için performans tablosunda herbir çıkış devri n_2 , maksimum çıkış momenti M_{amax} , maksimum motor gücü P_{1max} listelenmiştir.

P_{1max} is shown at performance table for W cylinder (with free input shaft) and IEC adapter.

Hareketli tarafa fren bağlandığında,(frenli motorlar gibi) fren momenti de bir dişli ünitesini seçmede göz önüne alınmalıdır. Gezinti hareketleri, çember dişliler, döner tablalar, kapı hareketleri, karıştırıcılar ve yüzey havalandırıcı ile ilgili uygulamalarda sıkça karşılaşılan yüksek dış kütle atalet momentli ($m_{af} > 2$) kullanımlarda frenleme momentinin, seçilen anma momentinin 1,2 katını aşmamasını öneririz. Daha yüksek frenleme torkları kullanılacaksa, bu durum dişli ünitesini seçerken göz önünde bulundurulmalıdır. Lütfen PGR'e danışınız.

However in selecting gear units brake can be equipped optionally and it is attached to the shaft or solid. It must be considered because of break torque. Application which have high external mass moment of inertia such as $m_{af} > 2$. We suggest break torque does not overrun 1,2 times motor torque.

Radyal ve Eksenel Kuvvetler

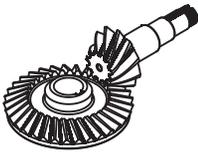
Çıkış momenti ve hız genel açıklamalarındaki tablolarda, çıkış mili üzerine izin verilen radyal kuvvetler F_R ve eksenel kuvvetler F_A listelenmiştir.Tercihen güçlendirilmiş çıkış mili yatakları bir çok dişli ünitesi tipi için geçerlidir. Güçlendirilmiş yataklardaki radyal ve eksenel kuvvetler tablolarda F_{RGR} ve F_{AGR} olarak belirtilmiştir. Listelenen radyal ve eksenel kuvvetler, mil çıkışlı ayak ve flanş bağlantılı dişli üniteleri için uygulanır. Radyal ve eksenel kuvvetler, bu kuvvetlerden biri 0 (sıfır)'a eşit iken hesaplanmıştır.

Axial and Radial Forces

Permissible forces on the output shaft are given at the selection of gear motor. F_R represents radial load and F_A represents axial load. F_{RGR} and F_{AGR} represents permissible load with reinforced bearings. This values are calculated when one of them is equal to zero.

Ayrıca, radyal ve eksenel kuvvetlere ait bir servis faktörü $f_B = 1$ çıkış gücü ve devir açıklama genel tablolarda verilen kuvvetlerin temelinde dayanır. Darbeli tipli kuvvetlerin olduğu ve aşırı çalışmalı (> 8 saat/gün) uygulamalarda uygun servis faktörü $f_B > 1$ radyal ve eksenel kuvvetler için de gözönünde bulundurulmalıdır. İzin verilen kuvvetler F_A ve F_R belirli oranda azaltılır.

In selection of gear motor tables service factor is given with permissible axial and radial load but it must be considered when operating times is greater than 8 hours and service factor must be greater than 1 for that reason permissible radial and axial loads are reduced.



Listelenen radyal kuvvetler, milin ucunun orta kısmında etki eden bir kuvvete karşılık gelir. İzin verilen kuvvetleri saptarken, uygulanan kuvvetin hiç istenmeyen yönü ve dönme yönü varsayıldı. Tam bir hesaplama için, daha yüksek radyal ve eksenel kuvvetler muhtemeldir. Bu yüzden lütfen bize istenen servis süresinin yanısıra gerçek güç ve dönme yönünün detaylarını da belirtiniz.

Transfer elemanları, çıkış miline eklenirse, ilgili faktör f_z radyal kuvveti saptamada göz önüne alınmalıdır.

fz için Tablo

Transfer Elemanları	Faktör fz	Açıklama
Dişliler	1.1	$z \leq 17$ diş
Zincir Dişliler	1.4	$z \leq 13$ diş
Zincir Dişliler	1.2	$z \leq 20$ diş
Dar V-Kayış Makaralar	1.7	ön gerilim kuvveti
Düz kayış Makaralar	2.5	

Mil üzerinde ortaya çıkan radyal kuvvet, aşağıdaki formül kullanılarak hesaplanmıştır.

$$F_{Rvorth} = \frac{2 \cdot M_a}{d_o} f_z \leq F_R$$

M_a : Dişli ünitesi çıkış momenti [Nm]
 f_z : Tablodan alınan katsayı
 d_o : Etkili daire çapı [mm]
 F_R : Devir ve çıkış gücü tablolarından alınan müsaade edilebilir radyal kuvvet [kN]
 F_{Rvorth} : Mil üzerindeki radyal kuvvet [kN]

Kuvvet mil ortasına uygulanmazsa, herhangi bir 'X' noktasında izin verilen radyal kuvvet **formül I ve II** kullanılarak hesaplanır.

Formül / Equation - I

$$F_{RXL} = F_R \cdot \frac{z}{y + x}$$

Formül / Equation - II

$$F_{RXW} = \frac{c}{(f + x) \cdot 1000}$$

X : mil bileziğinden kuvvet uygulama noktasına olan uzaklık [mm]
X Noktası - mil kararlılığı
 F_{RXW} : izin verilen radyal yük [kN]
 F_R : hız ve çıkış tabloları ve milin ortasına uygulanan kuvvetten alınan radyal kuvvet [kN]
X Noktası - yatak servis ömrü
 F_{RXL} : izin verilen radyal yük [kN]

C	}		[Nmm]
C_{GR}			[Nmm]
f			[mm]
y			[mm]
z			[mm]

Belirtilmemiştir ki, hesaplamalarda **formül I** yatak servis ömrünü, **formül II** ise mil kararlılığını hesaplamada kullanılır. Hesaplamalar sonucunda küçük değer dikkate alınmalıdır.

Axial and radial forces are calculated where force acting on the middle of the shaft end see page 37. Direction of rotation is played important role in calculation. For that reason this forces are calculated and result's value is found from forces to the shaft worse. Hence, please explain details in your orders.

For belt-pulleys operations or any other motion transfer applications f_z factor must be considered while calculating radial and axial load.

fz values are shown at table.

Transfer Elements	Factor fz	Notice
Gears	1.1	$z \leq 17$ diş
Sprockets	1.4	$z \leq 13$ diş
Sprockets	1.2	$z \leq 20$ diş
Narrow V-belt pulleys	1.7	by
Flat belt pulleys	2.5	Pre-Tensioning

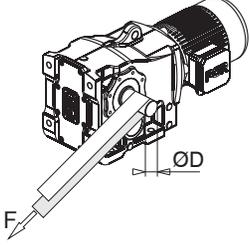
Radial load is determined with following equation;

M_a : Output torque of gear unit [Nm]
 f_z : Factor which is taken from table
 d_o : Effective circular diameter [mm]
 F_R : Permitted radial force which is taken from the speed and output moment tables. [kN]
 F_{Rvorth} : Radial force on the gear unit shaft [kN]

Equation which is determined above is used for when force is not acting on the middle of shaft at other situations following equation is applied.

X : distance from the shaft collar to the point of force application [mm]
point X - shaft stability
 F_{RXW} : permitted overhung force [kN]
 F_R : overhung force from the speed and output tables, force applied at shaft middle [kN]
point X - bearing service life
 F_{RXL} : permitted overhung load [kN]

Notify that, **equation I** and **equation II** are applied for calculating radial load where **equation I** is used for service life and **equation II** is used for shaft stability. But small result must be considered.



RADYAL YÜKLERİN HESABI

Radyal yük F_R (N)'nin hesaplanmasında gerekli tahrik momenti M_a (Nm), kasnak veya dişli çapı D (mm) olmak üzere aşağıdaki formüller kullanılır.

CALCULATION OF OVERHUNG LOADS

Radial load F_R (N) is calculated with the following equations where required moment M_a (Nm) and hoop or gear diameter D (mm) is used.

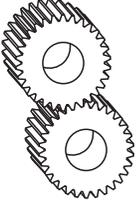


1 - Elastik Kaplin

Çalışma sırasında oluşan sapmalar kaplinin güvenlik sınırları içerisinde ise kuvvetler ihmal edilebilir.

1 - Elastik Coupling

If elastic coupling is working in its reliable working area, the overhung loads can be neglected.



2 - Düz Dişli (20° kavrama açılı)

$$F_R = \frac{2100 \times M_a}{D}$$

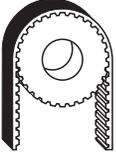
2 - For Spur Gear (Pressure angle 20°)



3 - Küçük Hızlarda Zincir Dişli (Z < 17)

$$F_R = \frac{2100 \times M_a}{D}$$

3 - For Chain Drive With Low Speed (Z < 17)



4 - Triger Kayış

$$F_R = \frac{2500 \times M_a}{D}$$

4 - For Triger Belt



5 - V Kayış

$$F_R = \frac{5000 \times M_a}{D}$$

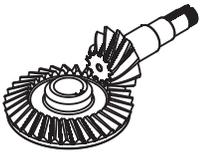
5 - For V Belt



6 - Gerdirme Makaralı Kayış

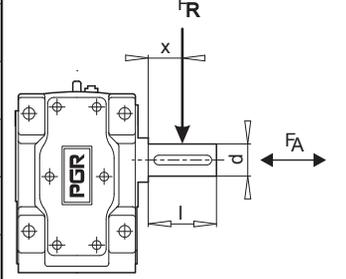
$$F_R = \frac{5000 \times M_a}{D}$$

6 - Flat Belt With Spanning Puley



ÇIKIŞ ŞAFTINDAKİ RADYAL VE EKSENEL YÜK HESAPLAMALARI İÇİN DEĞERLER
VALUE TABLE FOR RADIAL AND AXIAL LOADS AT OUTPUT SHAFT

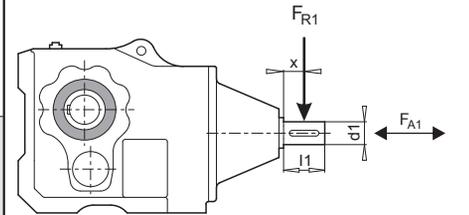
Redüktör Tipi Gearbox Type	y (mm)	z (mm)	c Normal Normal (Nmm)	C _{GR} Güçlendirilmiş Reinforced (Nmm)	f (mm)	d (mm)	l (mm)
PKD 1390 - PKD 1490	111.0	141.0	0.14 x 10 ⁶	0.24 x 10 ⁶	0	30	60
PKD G 1390 - PKD G 1490	111.0	146.0	0.25 x 10 ⁶	0.41 x 10 ⁶	0	35	70
PKD 2390 - PKD 2490	144.0	179.0	0.17 x 10 ⁶	0.30 x 10 ⁶	0	35	70
PKD 3390 - PKD 3490	171.5	216.5	0.29 x 10 ⁶	0.58 x 10 ⁶	0	45	90
PKD 4390 - PKD 4490	181.0	241.0	1.22 x 10 ⁶	1.99 x 10 ⁶	0	60	120
PKD 5390 - PKD 5490	237.0	307.0	1.75 x 10 ⁶	3.08 x 10 ⁶	0	70	140
PKD 6390	281.0	366.0	4.49 x 10 ⁶	7.05 x 10 ⁶	0	90	170
PKD 7390	281.0	366.0	4.49 x 10 ⁶	7.05 x 10 ⁶	0	90	170
PKD 8390	326.7	431.7	8.36 x 10 ⁶	12.82 x 10 ⁶	0	110	210
PKD G 8390	422.0	527.0	9.56 x 10 ⁶	15.60 x 10 ⁶	0	120	210
PKD 9390	515.0	640.0	14.40 x 10 ⁶	24.61 x 10 ⁶	0	140	250



GİRİŞ ŞAFTINDAKİ RADYAL VE EKSENEL YÜK HESAPLAMALARI İÇİN DEĞERLER
VALUE TABLE FOR RADIAL AND AXIAL LOADS AT INPUT SHAFT f=0

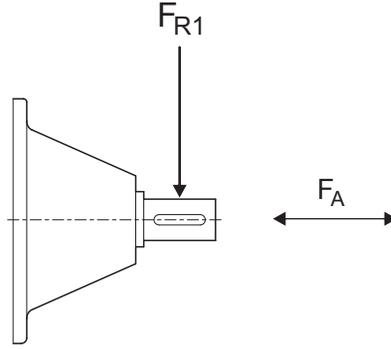
W

Helisel konik redüktör Helical bevel gearboxes	y (mm)	z (mm)	c (Nmm)	d1 (mm)	l1 (mm)
PKD 1390 PKD G 1390 PKD 1490 PKD G 1490 PKD 2390 PKD 2490 PKD 3490	70.0	90.0	3.64 x 10 ⁴	16	40
PKD 3390 PKD 4490 PKD 5490	96.5	121.5	1.07 x 10 ⁵	24	50
PKD 4390 PKD 5390	110.5	150.5	4.70 x 10 ⁵	38	80
PKD 6390 PKD 7390	149.5	204.5	4.60 x 10 ⁵	42	110
PKD 8390 PKD G 8390 PKD 9390	207.5	277.5	1.82 x 10 ⁶	65	140





W



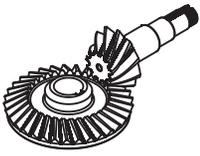
Tip Type	PKD 1390 PKD G 1390 PKD 2390 PKD 1490 PKD G 1490 PKD 2490 PKD 3490		PKD 3390 PKD 4490 PKD 5490		PKD 4390 PKD 5390		PKD 6390 PKD 7390		PKD 8390 PKD G 8390 PKD 9390	
	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]
P ₁ (kW)	F _{A1}	F _{R1}	F _{A1}	F _{R1}	F _{A1}	F _{R1}	F _{A1}	F _{R1}	F _{A1}	F _{R1}
0.12	1.2	0.85	2.9	2.1	-	-	-	-	-	-
0.18	1.1	0.82	2.9	2.1	-	-	-	-	-	-
0.25	1.0	0.78	2.8	2.1	-	-	-	-	-	-
0.37	0.89	0.75	2.6	2.1	4.1	2.1	-	-	-	-
0.55	0.77	0.72	2.5	2.0	3.9	2.8	-	-	-	-
0.75	0.58	0.70	2.3	1.9	3.8	2.4	6.1	4.4	-	-
1.10	0.35	0.61	2.1	1.8	3.5	2.7	5.9	4.3	-	-
1.50	0.29	0.43	2.0	1.8	3.3	2.6	5.8	4.2	-	-
2.20	0.20	0.42	1.7	1.7	2.7	2.4	5.5	4.1	-	-
3.00	0.15	0.23	1.5	1.6	2.5	2.3	5.2	3.9	4.3	11.0
4.00	-	-	0.98	1.1	2.3	2.1	4.9	3.7	4.2	10.9
5.50	-	-	0.65	1.0	1.6	1.8	4.4	3.4	4.1	10.8
7.50	-	-	0.27	1.0	1.4	1.3	4.3	3.4	3.8	10.4
9.20	-	-	-	-	1.0	0.98	3.9	3.1	3.6	10.1
11.0	-	-	-	-	0.59	0.47	3.3	2.7	3.4	9.9
15.0	-	-	-	-	-	-	3.3	2.7	3.1	9.5
18.5	-	-	-	-	-	-	2.7	2.3	3.0	9.3
22.0	-	-	-	-	-	-	2.2	1.8	2.9	9.3
30.0	-	-	-	-	-	-	1.1	1.2	2.3	8.4
37.0	-	-	-	-	-	-	0.74	0.87	2.0	8.1
45.0	-	-	-	-	-	-	-	-	2.2	8.3
55.0	-	-	-	-	-	-	-	-	1.5	7.4
75.0	-	-	-	-	-	-	-	-	0.78	4.6
90.0	-	-	-	-	-	-	-	-	0.24	5.2
110	-	-	-	-	-	-	-	-	-	-
132	-	-	-	-	-	-	-	-	-	-
160	-	-	-	-	-	-	-	-	-	-

$F_{A1} \Rightarrow F_{R1} = 0$

$F_{R1} \Rightarrow F_{A1} = 0$



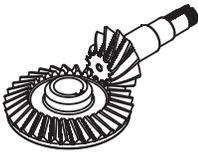
7



f_B = Servis Faktörü (Mamax / Ma)	f_B = Service factor (Mamax / Ma)
F_A = Çıkış tarafındaki müsaade edilebilir eksenel yük [kN]	F_A = Permissible thrust load at the output side [kN]
F_R = Çıkış tarafındaki, milin orta noktasına etkiyen müsaade edilebilir radyal yük [kN]	F_R = Permissible overhung load at the output side, force acting at the shaft's midpoint [kN]
F_D = Reaksiyon yükü [kN]	F_D = Reaction [kN]
i_{toplam} = Dişli ünitesindeki toplam tahvil oranı	i_{total} = Gear units total ratio
i_{ges} = Tahvil oranı	i_{ges} = Reduction ratio
M_a = Çıkış momenti [Nm]	M_a = Output torque [Nm]
M_{amax} = Müsaade edilebilir maksimum çıkış momenti [Nm]	M_{amax} = Max. permissible output torque [Nm]
n₂ = Çıkış hızı [d/dk]	n₂ = Output speed [min ⁻¹]
P_e = Mamax referans alınarak hesaplanan güç [kW]	P_e = Calculated power [kW] with reference to Mamax
P_n = Motor güç oranı [kW]	P_n = Rated power of motor [kW]
η = Verim [%]	η = Efficiency [%]
kg = Redüktörün ağırlığı	kg = Weight of the geared motor

1) 4 ve 5 kademeli redüktörlerin 0,75 kW' a kadar 4 kutuplu olan motorlarında kayıp yaklaşık 40 W olarak hesaplanmıştır. Kayıp, motor hızına bağlı olarak o oranda değişir.

1) Gear units or gear motors which have 4 and 5 stage reduction 4 pole motor up to 0,75 kW losses are calculated nearly 40 W, losses are dependent motor speed.



POLAT KONİK DİŞLİLİ REDÜKTÖR (PKD)
POLAT HELICAL BEVEL GEARED MOTOR (PKD)

Polat Group Redüktör yeni ürünü olan Polat Konik Dişlili PKD serisini farklı tahvil oranları ile 11 farklı gövde büyüklüğünde hizmete sunmaktadır. PKD serisi, kullanıcılara yapısında bulunan konik dişlilerle kendisine verilen hareketin devrini düşürerek hareketin 90 derece çevirip aktarımını sağlar.

Yekpare gövde tasarımı PKD serisinde sağlam bir gövde yapısını sağlayarak dişliler arası eksen kaçıklığına neden olabilecek bağlantı elemanı (vida v.b.) içermez. Döküm gövde salınım etkisini an aza indirir. Kullanıcı isteğine göre her iki yönde de sağlanan çıkış yaklaşık olarak % 96 gibi yüksek verim olanağı ile sunulmaktadır.

Fabrikamızda bulunan son sistem CNC tezgahlarında açılan dişliler yüksek imalat toleransı ile günümüzün uluslararası standartlarını karşılamaktadır. Dövme malzemeden yapılan dişlerimiz gerekli ısı işlem, sementasyon, honlama gibi proseslerden geçirilerek sessiz ve dayanımlı, uzun süre çalışabilen redüktörler imal edilmektedir. Bununla birlikte zorlu çalışma koşullarında güvenli çalışma sağlanır. PKD serisi redüktörlerimiz her türlü endüstriyel uygulamada kullanılabilir.

Bu eşsiz tasarımda temin ettiğimiz motorlu, W kovanlı veya IEC adaptörlü standart ürünlerimiz ;

- * Delik Millî, Mil Çıkışlı
- * Delik Millî, Konik Sıktırmalı
- * Tork Kollu
- * B5 veya B14 Flanşlı

Helisel Konik Dişlili Redüktör:

0.12 kW dan 160 kW' ya kadar 11 boy mevcuttur. 42000 Nm ' ye kadar çıkış momenti bulunur.

New concept of Polat Helical - Bevel Gear unit series are presented to a service by POLAT GROUP REDÜKTÖR with different reduction range and 11 different case width. This design have helical bevel gearset, for that reason this series provide 90 degree angle between input and output direction for transmitting motion.

This robust design have bloc case, this bloc case design ensures strong structure and layout does not include fasteners (e.g. screw) which could be caused a missalignment at gear. PKD series case which is founded from casting, ensure and facilitate mounting from case and it reduces effecting of vibration or oscillation. According to customer demand output direction could be both left and right with 96 per cent efficiency.

Our manufacturing gears which are machined at high technology CNC machines, meet up to date international high standards. Gears are manufactured from forging materials and heat treatment ,carburizing and honning processes are applied for silent, strength running for longer time. Besides, units available for hars environments. PKD series could be used all of industry applications.

Available products of PKD series with motor or W cylinder or IEC adapter is ;

- * Hollow Shaft, Solid Shaft
- * Hollow Shaft, With Shrink disc
- * Torque Arm
- * Flange B5 and B14

Helical Bevel Gearboxes :

42000 Nm output moment altering from 0,12 kW to 160 kW

MAX. MÜSAADE EDİLEBİLİR ÇIKIŞ MOMENTİ $M_{a \max}$.

MAX. PERMISSIBLE OUTPUT TORQUES $M_{a \max}$.

 119 - 129

Üç ve dört kademeli helisel konik dişlili redüktör

Helical - bevel gear boxes triple and quadruple reduction

Redüktör Tipi	PKD 1390	PKD G 1390	PKD 2390	PKD 3390	PKD 4390	PKD 5390	PKD 6390	PKD 7390	PKD 8390	PKD G 8390	PKD 9390
Gearbox type	PKD 1490	PKD G 1490	PKD 2490	PKD 3490	PKD 4490	PKD 5490					
$M_{a \max}$ (Nm)	400	610	860	1550	2800	4800	8200	8500	13000	20000	32000



W ve IEC Adaptör

W kovanlı redüktörlerin max. tahrik gücü geçerli olan çıkış devri ve tahvil oranına göre tablolarda verilmiştir. (Bknz 119-129) IEC adaptörlü dişli ünitelerinde, her gövde büyüklüğünün standart gücü DIN EN 50347' ye göre verilir. P1 değeri W ve IEC seçim sayfalarında listelenmiştir. Bu listedeki değerlerden fazla bir güç istenirse özel hesaplamalar gerekmektedir. Lütfen danışınız.

W kovanlı redüktörlerin giriş mili rulmanları düzenli olarak yağlanmalıdır. 2 kademeli redüktörlerden PA\PF 62, PD\PM 62 ve üst gövdeler, 3 kademeli redüktörlerden PA\PF 73, PD\PM 73, PKD 6390 ve üst gövdeler için her 4000 çalışma saatinde yaklaşık 20-25 gr gres içeren otomatik yağlayıcı kullanılarak giriş shaftı rulmanı yağlamasını öneririz. Kullanılan yağlayıcı Petamo GHY 133 N' dir. Ayrıca W kovanlı redüktörlerde bu yağlayıcıdan ayrı opsiyon olarak dişli ünitesinin soğumasını sağlamak için dış fan da mevcuttur. Lütfen danışınız.

Otomatik yağlayıcı üniteleri IEC 160 motor büyüklüğünden başlayarak en düşük 2 kademeli redüktörlerden PA\PF 62, PD\PM 62, 3 kademeli redüktörlerden PA\PF 73, PD\PM 73, PKD 6390 gövdelerine bağlanmaktadır. Bu otomatik yağlayıcı rulmanlara kalıcı bir yağlama sağlar. Redüktörü çalıştırmadan önce devreye sokulmalıdır. Günlük ortalama 8 saat çalışıyorsa yılda 1 kez, bunun dışındaki çalışma saatlerinde 6 ayda bir değiştirilmelidir. otomatik yağlayıcı içindeki gres dış ortam sıcaklığı 0° C - 40° C arasındaki çalışmalara uygundur. Çok uzun süreli çalışmalarda ve belirtilen dış ortam sıcaklığı değişimlerinde daha özel yağlayıcı kullanılmalıdır. Lütfen danışınız.

Otomatik yağlayıcı IEC'ler belirtilen çalışma şartları içerisinde dikey montaj pozisyonunda (M2 ve M4) önerilmez. Bu gibi durumlarda direkt motor montajı önerilir. Eğer motor boyutu 160 ve daha büyük IEC'ler dikey montaj pozisyonunda kullanılacaksa, kullanım şartları göz önünde bulundurularak tarafımızdan kontrol edilmeli ve onaylanmalıdır. Lütfen buna dikkat ediniz. Dikey montaj pozisyonu çalışmalarında (M2) sızdırmazlık elemanlarının ömrü azalabilmektedir. Bu gibi durumlarda daha kısa aralıklarla bakım yapılmalıdır. 2 kademeli redüktörlerden PA\PF 52, PD\PM 52'ye kadar ve 3 kademeli redüktörlerden PA\PF 63, PD\PM 63, PKD 5390'a kadar olan IEC adaptörlü dişli üniteleri çalışma ömürleri süresince sızdırmazlığa sahip yağlanmış rulman içerir. Bunlar için bakım süreleri kullanım kılavuzunda önerilen bakım süreleri geçerlidir.

Motor boyutu 63'ten 180'e kadar olan IEC adaptörün kaplini arızaya karşı emniyetli değildir. Fakat otomatik yağlayıcı kullanılan IEC 160-180 ve daha büyük boyutlu adaptörlerdeki kaplinler arızaya karşı emniyetlidir. Kaldırma, asansör ve bu gibi insan yararlanmalarına neden olabilecek çalışmalar için özel hesaplamalar gerekmektedir. Lütfen PGR' ye danışınız. Direk motor montajlı redüktörle karşılaştırmak gerekirse IEC ilave mil kaplinine ve extra rulman yataklanmasına sahiptir. Direk motor montajına göre IEC bağlantılı redüktörlerde güç kayıpları daha fazladır. PGR olarak biz direk motor montajını öneririz. Bu size sadece teknik avantaj değil finansal olarak da avantaj sağlar.

W and IEC Adapter for Gear Units

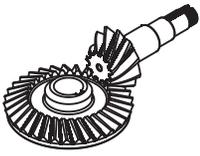
Selection of W cylinder (with free input shaft) and IEC adapter are listed on page 119-129. Maximum power are given according to gear reduction ratio and output speed. Gear units with IEC adapter standard power is specified according to DIN EN 50347. For other power values which are not shown on table, must be required special calculation for operating safety limits. For these cases, please contact with PGR.

Polat gear unit series such as PA\PF 62, PD\PM 62 and greater case which are 2 stage reducers, PA\PF 73, PD\PM 73, PKD 6390 and greater case which are 3 stage reducers with W adapter (with free input shaft) input solid shaft bearings must be lubricated orderly. Automatic lubricator could be used for increasing service life of bearings. This unit includes approximately 20-25 g grease and it supplies fresh grease at every 4000 running hours. PGR recommends, Petamo GHY 133 N type of lubricate should be used. At the same time, fan option is available for cool gear unit to safe operation. For this option contact with PGR.

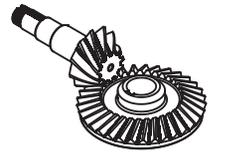
Automatic lubricator design is used from IEC 160 motor size and greater motor size to least gear units which are for 2 stage reducers PA\PF 62, PD\PM 62 and for 3 stage reducers PA\PF 73, PD\PM 73 and PKD 6390. This unit provides permanent lubrication to bearings. Automatic lubricator must be changed once at year for where gear unit is run 8 hours or lesser at daily operation for other running hours it must be changed every 6 months. Automatic lubricator must be actuated before start the reducers. Grease is acceptable between 0 °C - 40 °C operation conditions. At long-term running and exception from specified ambient temperature special lubricate must be used. Please, consult us.

Under determined operating conditions, IEC with automatic lubricator is not suggested for vertical mounting positions (M2 and M4 mounting positions). For these cases direct motor mounting should be applied. If IEC 160 and greater size will be used at vertical mounting positions, it must be controlled by PGR for suitable and safe operations with considering actual operating conditions. For mounting position M2 (vertical alignment) life cycle of seals are effected badly for that reason maintenance of these reducer must be at shorter times from which maintenance time is determined at manual. 2 stage reducers up to PA\PF 52, PD\PM 52 and 3 stage reducer up to PA\PF 63, PD\PM 63, PKD 5390 gear units are included seals for bearings as long as their service life. For these gear units maintenance time is valid which time is specified at manual.

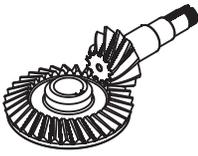
Coupling is used for installing motor to IEC adapter. At from IEC 63 to IEC 180, coupling is not safety for important application where person injuries could be occurred. But IEC 160 - IEC 180 with automatic lubricator and greater size of IEC adapter is safe for application but on the other hand for operations where accident could be caused personnel damage special calculation must be required, please consult us. Direct motor mounting has a lot of advantage according to mounting of IEC adapter. At gear units with IEC adapter has additional solid shaft coupling and bearing seats for that reason power losses are greater than direct motor mounting. Last but not least direct motor mounting could be provided more technical and financial advantage.



UYGULAMALAR	APPLICATIONS
<u>KARIŞTIRICILAR</u>	<u>AGITATORS (MIXERS)</u>
<ul style="list-style-type: none">* Saf Sıvılar* Sıvılar ve Katılar* Değişken Yoğunluklu Sıvılar	<ul style="list-style-type: none">* Pure Liquids* Liquids and Solids* Liquids - Variable Density
<u>HAVALANDIRMA TERTİBATLARI</u>	<u>BLOWERS</u>
<ul style="list-style-type: none">* Santrifüj* Lob* Pervane	<ul style="list-style-type: none">* Centrifugal* Lobe* Vane
<u>MAYALAMA VE DAMITMA</u>	<u>BREWING AND DISTILLING</u>
<ul style="list-style-type: none">* Şişeleme Mekanizması* Mayalama Kazanları - Kesintisiz İş* Fırınlr, Ocaklar - Kesintisiz İş* Ezme, Karışım Kazanları - Kesintisiz İş* Ölçü Haznesi - Sık Sık Başlama	<ul style="list-style-type: none">* Bottling Machinery* Brew Kettles - Continuous Duty* Cookers - Continuous Duty* Mash Tubs - Continuous Duty* Scale Hopper - Frequent Starts
<u>TOPRAK İŞLEME MAKİNELERİ</u>	<u>CLAY WORKING MACHINERY</u>
<ul style="list-style-type: none">* Tuğla Presi* Briket Makinesi* Çamur Karma Makinesi	<ul style="list-style-type: none">* Brick Press* Briquette Machine* Pug Mill
<u>KOMPRESÖRLER</u>	<u>COMPRESSORS</u>
<ul style="list-style-type: none">* Santrifüj* Lob* Çok Pistonlu* Tek Pistonlu	<ul style="list-style-type: none">* Centrifugal* Lobe* Reciprocating, Multi-Cylinder* Reciprocating, Single-Cylinder
<u>KONVEYÖRLER - GENEL MAKSATLI</u>	<u>CONVEYORS - GENERAL PURPOSE</u>
<ul style="list-style-type: none">* Üniform Yüklü* Üniform Yüklü Olmayan* Pistonlu veya Karıştırıcı	<ul style="list-style-type: none">* Uniformly Loaded or Fed* Not Uniformly fed* Reciprocating Or Shaker
<u>VİNÇLER</u>	<u>CRANES</u>
<ul style="list-style-type: none">* Kuru Havuz Ana Kaldırma Vinci Yardımcı Vinç Direkli Vinç Döndürme İşi Çekme İşi* Endüstriyel İşi Ana Kaldırma Vinci	<ul style="list-style-type: none">* Dry Dock Main Hoist Auxiliary Hoist Boom Hoist Slewing Drive Traction Drive* Industrial Duty Main Hoist
<u>ASANSÖRLER</u>	<u>ELEVATORS</u>
<ul style="list-style-type: none">* Kova* Santrifuj Boşaltma* Yürüyen Merdiven* Taşıma, Nakliye* Yerçekimi Boşaltım	<ul style="list-style-type: none">* Bucket* Centrifugal Discharge* Escalators* Freight* Gravity Discharge
<u>KIRMA MAKİNELERİ</u>	<u>CRUSHER</u>
<ul style="list-style-type: none">* Taş ya da Maden	<ul style="list-style-type: none">* Stone or Ore



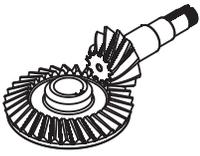
UYGULAMALAR	APPLICATIONS
<u>TARAMA MAKİNELERİ</u>	<u>DREDGES</u>
<ul style="list-style-type: none">* Kablo Bobinleri* Konveyörler* Pompalar* İstifleme Makineleri* Vinçler	<ul style="list-style-type: none">* Cable Reels* Conveyors* Pumps* Stackers* Winches
<u>EKSTRUDERLER</u>	<u>EXTRUDERS</u>
<ul style="list-style-type: none">* Genel* Plastikler<ul style="list-style-type: none">Değişken Hızlı TahrirSabit Hızlı Tahrir*Kauçuk, Lastik<ul style="list-style-type: none">Kesintisiz Vida İşlemleriKesintili Vida İşlemleri	<ul style="list-style-type: none">* General* Plastics<ul style="list-style-type: none">Variable Speed DriveFixed Speed Drive*Rubber<ul style="list-style-type: none">Continuous Screw OperationIntermittent Screw Operation
<u>FANLAR</u>	<u>FANS</u>
<ul style="list-style-type: none">* Santrifüj* Yüksek Emişli* İndüklenmiş Çekiş* Endüstriyel ve Maden Ocağı	<ul style="list-style-type: none">* Centrifugal* Forced Draft* Induced Draft* Industrial and Mine
<u>BESLEME ÜNİTELERİ</u>	<u>FEEDERS</u>
<ul style="list-style-type: none">* Palet* Bant* Disk* Pistonlu* Vida	<ul style="list-style-type: none">* Apron* Belt* Disc* Reciprocating* Screw
<u>GIDA ENDÜSTRİSİ</u>	<u>FOOD INDUSTRY</u>
<ul style="list-style-type: none">* Hububat Fırını* Hamur Karıştırıcı* Kıyma Makinesi* Dilimleyici	<ul style="list-style-type: none">* Cereal Cooker* Dough Mixer* Meat Grinder* Slicer
<u>METAL İŞLEMELERİ</u>	<u>METAL MILLS</u>
<ul style="list-style-type: none">* Çekme Makinesi Taşıma ve Ana Tahrir* Hammadde İtici* Makaslar* Tel Çekme* Tel Sargı Makinesi* Salgı Tezgahı<ul style="list-style-type: none">Geri DönmesizTek TahrirGrup Tahriki	<ul style="list-style-type: none">* Draw Bench Carriage and Main Drive* Slab Pushers* Shears* Wire Drawing* Wire Winding Machine* Runout Table<ul style="list-style-type: none">Non-ReversingIndividual DrivesGroup Drives
<u>DÖNER İŞLEMELER</u>	<u>MILLS (ROTARY TYPE)</u>
<ul style="list-style-type: none">* Küresel ve Çubuk<ul style="list-style-type: none">Düz Halka DişliHelisel Halka DişliDoğrudan Bağlı* Çimento Fırını* Kurutucular ve Soğutucular	<ul style="list-style-type: none">* Ball and Rod<ul style="list-style-type: none">Spur Ring GearHelical Ring GearDirect Connected* Cement Kilns* Dryers and Coolers



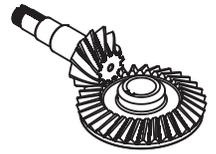
UYGULAMALAR	APPLICATIONS
<u>KERESTE ENDÜSTRİSİ</u>	<u>LUMBER INDUSTRY</u>
<ul style="list-style-type: none">* Kabuk Soyucular<ul style="list-style-type: none">Besleme TamburuAna Tahrik* Konveyörler<ul style="list-style-type: none">BrülörAna Yük veya Ağır YükAna KütükHızar ve Taşıma BandıKalın DilimTaşıma* Kesme Testereleri<ul style="list-style-type: none">ZincirSürükleme* İndirme Boşaltma Tamburları* Uzun Deste* Tomruk Çekme-Eğme* Kütük Döndürme Aygıtları* Sıralama Tablası* Taşıma<ul style="list-style-type: none">ZincirKreynyolu* Tabla Tahriki	<ul style="list-style-type: none">* Barkers<ul style="list-style-type: none">Spindle FeedMain Drive* Conveyors<ul style="list-style-type: none">BurnerMain or Heavy DutyMain LogRe-saw, Merry-Go-RoundSlabTransfer* Cut-Off Saws<ul style="list-style-type: none">ChainDrag* Debarking Drums* Long Deck* Log Hauls - Incline* Log Turning Devices* Sorting Table* Transfers<ul style="list-style-type: none">ChainCauseway* Tray Drives
<u>KAĞIT İŞLEMELERİ</u>	<u>PAPER MILLS</u>
<ul style="list-style-type: none">* Karıştırıcı* Saf çözeltiler için Karıştırıcı* Kabuk Soyma Tromelleri* Mekanik Kabuk Soyucu* Dövücü - Öğütücü* Düzleştirme Makinesi* Kalenderleme* Yüzey Pürüzlendirici* Çentik Besleyici* Kaplama Merdanesi* Konveyörler<ul style="list-style-type: none">Çentik, Kabuk, KimyasalKalın Dilimler İçeren Kütükler* Kesici* Silindir Kalıpları* Kurutucu<ul style="list-style-type: none">Kağıt MakinesiKonveyör Tip* Kabartmalı Basıcı* Ekstruder* Kağıt Merdaneleri* Presler* Hamurlaştırıcı* Pompalar	<ul style="list-style-type: none">* Agitator (Mixer)* Agitator for Pure Liquors* Barking Drums* Mechanical Barkers* Beater* Breaker Stack* Calender* Chipper* Chip Feeder* Coating Rolls* Conveyors<ul style="list-style-type: none">Chip, Bark, ChemicalLog (including Slab)* Cutter* Cylinder Molds* Dryer<ul style="list-style-type: none">Paper MachineConveyor Type* Embosser* Extruder* Paper Rolls* Presses* Pulper* Pumps
<u>FİLTRELER</u>	<u>SCREENS</u>
<ul style="list-style-type: none">* Havalı Yıkama* Döner - Taş veya Çakıl* Hareketli Su Girişi	<ul style="list-style-type: none">* Air Washing* Rotary - Stone or Gravel* Traveling Water Intake



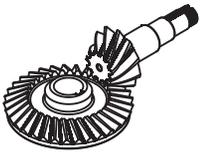
UYGULAMALAR	APPLICATIONS
<u>PLASTİK ENDÜSTRİSİ</u> <u>İLK İŞLEMLER</u>	<u>PLASTIC INDUSTRY</u> <u>PRIMARY PROCESSING</u>
* Yoğun İç Karıştırıcılar Harmanlayıcı Kesintisiz Karıştırıcı	* Intensive Internal Mixers Batch Mixers Continuous Mixers
<u>PLASTİK ENDÜSTRİSİ</u> <u>İKİNCİL İŞLEMLER</u>	<u>PLASTIC INDUSTRY</u> <u>SECONDARY PROCESSING</u>
* Hacim Kalıpcıları * Kaplama * Tabaka * Boru * Ön Plastikleştirme * Rot * Saç, Plaka * Borular	* Blow Molders * Coating * Film * Pipe * Pre-Plasticizers * Rods * Sheet * Tubing
<u>POMPALAR</u>	<u>PUMPS</u>
* Santrifüj * Oranlama * Pistonlu Tek Tesirli - 3 veya daha fazla Silindir Çift Tesirli - 2 veya daha fazla Silindir * Döner Şanzuman Tipi Lob Pervane	* Centrifugal * Proportioning * Reciprocating Single Acting - 3 or more cylinders Double Acting - 2 or more cylinders *Rotary Gear Type Lobe Vane
<u>KAUÇUK - LASTİK ENDÜSTRİSİ</u>	<u>RUBBER INDUSTRY</u>
* Yoğun İç Karıştırıcılar Harmanlayıcılar Kesintisiz Karıştırıcılar *Karıştırma İşlemi 2 Yumuşak Merdane 1 veya 2 Oluklu Merdane * Toplu İşleme - 2 Yumuşak Silindir * Kırıcı ve Isıtıcı - 2 Merdane, 1 Oluklu Merdane * Kırıcı - 2 Oluklu Merdane * Tutma, Besleme, Karıştırma İşlemi - 2 Merdane * Arıtıcı - 2 Merdane * Kalenderler	* Intensive Internal Mixers Batch Mixers Continuous Mixers * Mixing Mill 2 Smooth Rolls 1 or 2 corrugated Rolls * Batch Drop Mill - 2 Smooth Rolls * Cracker Warmer-2 Rolls,1 Corr. Roll * Cracker - 2 Corrugated Rolls * Holding, Feed and Blend Mill - 2 Rolls * Refiner - 2 Rolls * Calenders
<u>ATIK SU BOŞALTIM EKİPMANLARI</u>	<u>SEWAGE DISPOSAL EQUIPMENT</u>
* Çubuklu Elek * Kimyasal Besleme Üniteleri * Su Boşaltma Eleği * Köpük Kesici * Yavaş veya Hızlı Karıştırıcılar * Tortu Toplayıcı * Koyulaştırıcı * Vakumlu Filtre	* Bar Screens * Chemical Feeders * Dewatering Screen * Scum Breaker * Slow or Rapid Mixers * Sludge Collector * Thickener * Vacuum Filter
<u>KOMPAKTÖRLER</u>	<u>COMPACTORS</u>
<u>ÇEKTİRMELER - YAVAŞ VE KUVVETLİ</u>	<u>PULLERS - BARGE HAUL</u>



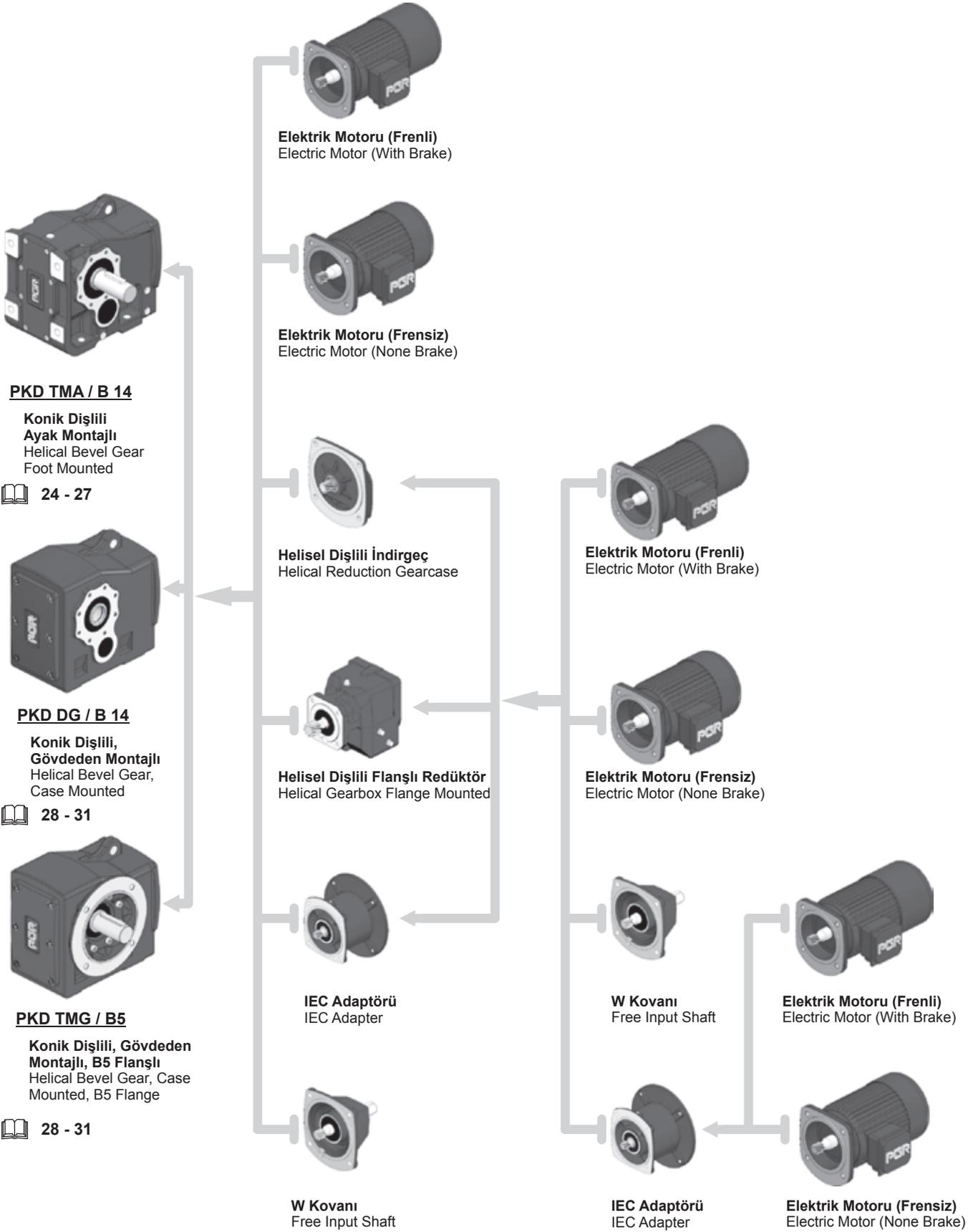
UYGULAMALAR	APPLICATIONS
<u>ŞEKER ENDÜSTRİSİ</u>	<u>SUGAR INDUSTRY</u>
<ul style="list-style-type: none">* Pancar Dilimleme Aleti* Kamış Bıçakları* Kırma Makineleri	<ul style="list-style-type: none">* Beet Slicer* Cane Knives* Crushers
<u>TEKSTİL ENDÜSTRİSİ</u>	<u>TEXTILE INDUSTRY</u>
<ul style="list-style-type: none">* Harman Ölçer* Kalenderler* Şablonlar* Kuru Konserveler* Boyama Makinesi* Dokuma Tezgahları* Çamaşır Sıkma Makinesi - Merdane* Kaplama* Doldurma Makinesi* Haşıl Makinesi* Halat Yıkama Makinesi* Eğirme Makinesi* Germe Kurutma Makineleri* Yıkama Makineleri* Masura Sarıcısı	<ul style="list-style-type: none">* Batcher* Calenders* Cards* Dry Cans* Dyeing Machinery* Looms* Mangle* Napper* Pads* Siashers* Soapers* Spinners* Tenter Frames* Washers* Winders
<u>DAMPERLİ ARAÇLAR</u>	<u>CAR DUMPERS</u>
<u>ÇEKİCİ ARAÇLAR</u>	<u>CAR PULLERS</u>
<u>ARITICILAR</u>	<u>CLARIFIERS</u>
<u>KONSERVE DOLUM MAKİNELERİ</u>	<u>CAN FILLING MACHINES</u>

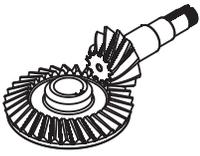


REDÜKTÖR TİPİ GEAR TYPE	REDÜKTÖR DİZAYNI GEAR DESIGN
Ayak montajlı Foot mounted	TMA = Ayak montajlı, Tek mil çıkışı Foot mounted, Solid shaft
PKD 1390 ... PKD 9390 = Üç kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Triple reduction	DA = Ayak montajlı, Delik milli Foot mounted, Hollow shaft
PKD 1490 ... PKD 5490 = Dört kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quadruple reduction	ÇMA = Ayak montajlı, Çift mil çıkışı, Foot mounted, Solid shaft on both sides.
PKD 6390/32 ... PKD 9390/52 = Beş kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quintuple reduction	DA/KS = Ayak montajlı, Delik milli, Konik sıkırtmalı Foot mounted, Hollow shaft, Shrink disc connector
Gövdeden montajlı Case mounted	TMA/B5 = Ayak montajlı, Tek mil çıkışı, B5 flanşlı Foot mounted, Solid shaft, Flange B5
PKD 1390 ... PKD 9390 = Üç kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Triple reduction	DA/B5 = Ayak montajlı, Delik milli, B5 flanşlı Foot mounted, Hollow shaft, Flange B5
PKD 1490 ... PKD 5490 = Dört kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quadruple reduction	DA/KS-B5 = Ayak montajlı, Delik milli, Konik sıkırtmalı, B5 flanşlı Foot mounted, Hollow shaft, Shrink disc connector, Flange B5
PKD 6390/32 ... PKD 9390/52 = Beş kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quintuple reduction	TMA/B14 = Ayak montajlı, Tek mil çıkışı, B14 flanşlı Foot mounted, Solid shaft, Flange B14
Gövdeden montajlı, B5 flanşlı Case mounted, Flange B5	DA/B14 = Ayak montajlı, Delik milli, B14 flanşlı Foot mounted, Hollow shaft, Flange B14
PKD 1390 ... PKD 9390 = Üç kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Triple reduction	ÇMA/B14 = Ayak montajlı, Çift mil çıkışı, B14 flanşlı Foot mounted, Solid shaft on both sides, Flange B14
PKD 1490 ... PKD 5490 = Dört kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quadruple reduction	DA/KS-B14 = Ayak montajlı, Delik milli, Konik sıkırtmalı, B14 flanşlı Foot mounted, Hollow shaft, Shrink disc connector, Flange B14
PKD 6390/32 ... PKD 9390/52 = Beş kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quintuple reduction	DG/B14 = Gövdeden montajlı, Delik milli, B14 flanşlı Case mounted, Hollow shaft, Flange B14
Gövdeden montajlı, B5 flanşlı Case mounted, Flange B5	DG/KS-B14 = Gövdeden montajlı, Delik milli, Konik sıkırtmalı, B14 flanşlı Case mounted, Hollow shaft, Shrink disc connector, Flange B14
PKD 1390 ... PKD 9390 = Üç kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Triple reduction	DG/TK = Gövdeden montajlı, Delik milli, Tork kolu Case mounted, Hollow shaft, Torque arm
PKD 1490 ... PKD 5490 = Dört kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quadruple reduction	DG/KS-TK = Gövdeden montajlı, Delik milli, Konik sıkırtmalı, Tork kolu Case mounted, Hollow shaft, Shrink disc connector, Torque arm
PKD 6390/32 ... PKD 9390/52 = Beş kademeli, helisel konik dişlilili redüktör Helical bevel gearboxes, Quintuple reduction	DG/TKP-B14 = Gövdeden montajlı, Delik milli, Tork kolu platformu, B14 flanşlı Case mounted, Hollow shaft, Torque arm platform, Flange B14
	DG/KS-TKP-B14 = Gövdeden montajlı, Delik milli, Konik sıkırtmalı, Tork kolu platformu, B14 flanşlı Case mounted, Hollow shaft, Shrink disc connector, Torque arm platform, Flange B14
	TMG/B5 = Gövdeden montajlı, Tek mil çıkışı, B5 flanşlı Case mounted, Solid shaft, Flange B5
	DG/B5 = Gövdeden montajlı, Delik milli, B5 flanşlı Case mounted, Hollow shaft, Flange B5
	DG/KS-B5 = Gövdeden montajlı, Delik milli, Konik sıkırtmalı, B5 flanşlı Case mounted, Hollow shaft, Shrink disc connector, Flange B5
	TMG/B14 = Gövdeden montajlı, Tek mil çıkışı, B14 flanşlı Case mounted, Solid shaft, Flange B14



Giriş Aksamları Input Options	Motor Motor	Kutup Numarası Number of Poles	Motor Seçenekleri Motor Options
W = Motorsuz girişli redüktörler için aksam = With free input shaft	Üç fazlı motor Motor boyutu 63 - 315 Three phase motor Motor size 63 - 315	2 = 2 Kutuplu = 2 - Poles 4 = 4 Kutuplu = 4 - Poles 6 = 6 Kutuplu = 6 - Poles 4 - 2 = 1:2 oranında hız değiştirici dahlander bağlantısı = Pole changing 1:2 Dahlander connection 8 - 2 = 1:4 oranında hız değiştirici ayrılmış sarmal dizilişli = Pole changing 1:4 Separate windings	BRE = Frenli = With brake EF = Tek fazlı, fanlı = Separate fan, single phase ZF = Çift fazlı, fanlı = Separate fan, double phase DF = Üç fazlı, fanlı = Separate fan, three phase IG = Enkoderli = With encoder KK/FK = Debriyajlı = With clutches SR = Toza karşı korumalı fren = Brake dust - proof TF = Termistörlü = Thermistor RG = Korozyon korumalı frenli = Brake corrosion - protected WU = Yumuşak kalkışlı rotor = Soft start rotor RLS = Geri dönmeye karşı kilitli = Backstop TW = Isıya duyarlı = Thermal trip HL = Manuel frenli motor = Brake motor with hand release
IEC = DIN 42677' ye göre standart motorlar için aksamlar = For assembly with IEC standard motors acc. to DIN 42677	EExell = Patlamaya karşı güvenliği artırılmış üç fazlı motor = Explosion proof three phase motor increased safety	Diğer kutup kombinasyonları talep karşısında karşılanacaktır Other pole combinations on request	
T = Turbo kaplin = Turbo coupling			





Kısaltmalar Abbrev	Anlamı Meaning	Helisel Konik Dişlili Redüktör Helical Bevel Gear Units
DG/B5	Gövdeden montajlı, Delik milli, B5 flanşlı Case mounted, Hollow shaft, Flange B5	✓ (2)
DA	Ayak montajlı, Delik milli, Foot mounted, Hollow shaft,	✓
DA/B5	Ayak montajlı, Delik milli, B5 flanşlı Foot mounted, Hollow shaft, Flange B5	✓
DA/B14	Ayak montajlı, Delik milli, B14 flanşlı Foot mounted, Hollow shaft, Flange B14	✓
DG/B14	Gövdeden montajlı, Delik milli, B14 flanşlı Case mounted, Hollow shaft, Flange B14	✓ (2)
DG/TK	Gövdeden montajlı, Delik milli, Tork kolu Case mounted, Hollow shaft, Torque arm	✓ (1) (2)
DG/TKP-B14	Gövdeden montajlı, Delik milli, Tork kolu platformu, B14 flanşlı Case mounted, Hollow shaft, Torque arm console, Flange B14	✓ (2)
Ç	Çektirme elementli Fixing elements for hollow shaft	✓
DIN 5480	Kayıcılı delik milli DIN 5480 Splined hollow shaft, DIN 5480	✓
KK	Koruma kapaklı Cover as a touch guard	✓
IEC	IEC adaptörü Adapter for mounting B5 IEC standard motors	✓
ÇMA	Ayak montajlı, Çift mil çıkışı Foot mounted, Solid shaft on both sides	✓
B	Kilit Integrated backstop	✓
WB	W kilidi Backstop in W adapter	✓
KS	Konik sıkırtma Hollow shaft with shrink disc	✓
GKS	Güçlendirilmiş konik sıkırtma Hollow shaft with reinforced shrink disc	✓
TMG/B5	Gövdeden montajlı, Tek mil çıkışı, B5 flanşlı Case mounted, Solid shaft, Flange B5	✓ (2)
GR	Güçlendirilmiş rulman Reinforced bearing	✓
GB5	Güçlendirilmiş B5 Flanşı Agitator design	✓
TMA/B5	Ayak montajlı, Tek mil çıkışı, B5 flanşlı Foot mounted, Solid shaft, Flange B5	✓
TMA	Ayak montajlı, Tek mil çıkışı Foot mounted, Solid shaft	✓
TMG/B14	Gövdeden montajlı, Tek mil çıkışı, B14 flanşlı Case Mounted, Solid shaft, Flange B14	✓ (2)
W	W kovanı Free input shaft	✓

✓ Mevcut tasarımlar onay işareti ile belirtilmiştir.

✓ Sign is presented which designs are existed for gear units.

- 1-) PKD 7390 (dahil) a kadar mevcuttur.
2-) Gövdenin alt kısmında ilave diş açılmış delikler mevcuttur. Bu delikler redüktörün montajı için değildir.

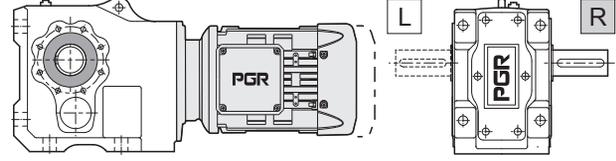
- 1-) This designs exist for PKD 7390 and lesser case
2-) This number shows, there are threaded holes at the bottom of gear unit but these are not used for installation



1) **PKD 1390... TMA - 63 M / 4** R

Tek mil çıkışlı, Ayak montajlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

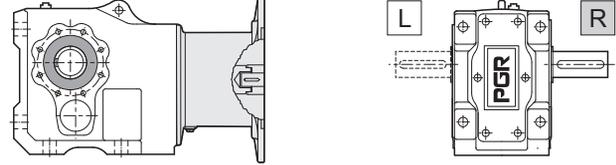
Helical bevel gear unit, Solid shaft,
Foot mounted, Triple reduction, With motor



PKD 1390... TMA - IEC 63 R

Tek mil çıkışlı, Ayak montajlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

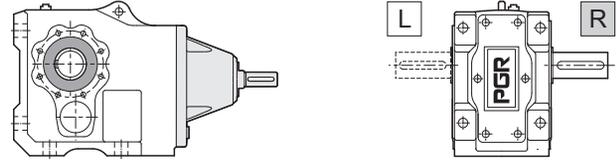
Helical bevel gear unit, Solid shaft,
Foot mounted, Triple reduction, With IEC adapter



PKD 1390... TMA - W R

Tek mil çıkışlı, Ayak montajlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

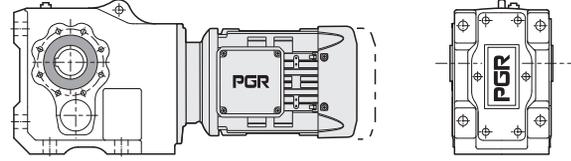
Helical bevel gear unit, Solid shaft,
Foot mounted, Triple reduction, With free input shaft



2) **PKD 1390... DA - 63 M / 4**

Delik milli, Ayak montajlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

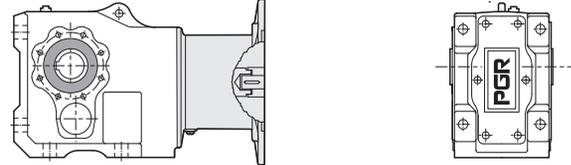
Helical bevel gear unit, Hollow shaft,
Foot mounted, Triple reduction, With motor



PKD 1390... DA - IEC 63

Delik milli, Ayak montajlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

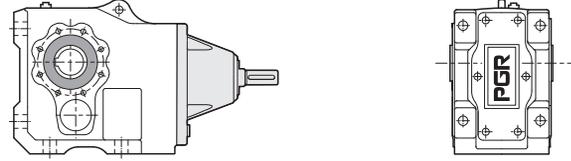
Helical bevel gear unit, Hollow shaft,
Foot mounted, Triple reduction, With IEC adapter



PKD 1390... DA - W

Delik milli, Ayak montajlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

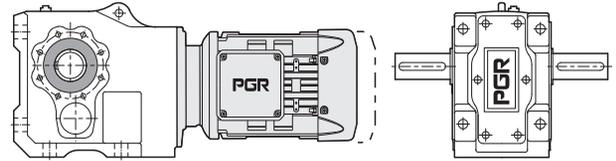
Helical bevel gear unit, Hollow shaft,
Foot mounted, Triple reduction, With free input shaft



3) **PKD 1390... ÇMA - 63 M / 4**

Çift mil çıkışlı, Ayak montajlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

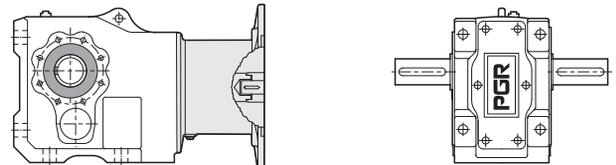
Helical bevel gear unit, Solid shaft on both sides,
Foot mounted, Triple reduction, With motor



PKD 1390... ÇMA - IEC 63

Çift mil çıkışlı, Ayak montajlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

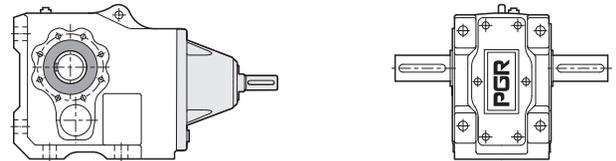
Helical bevel gear unit, Solid shaft on both sides,
Foot mounted, Triple reduction, With IEC adapter



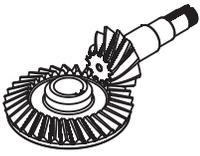
PKD 1390... ÇMA - W

Çift mil çıkışlı, Ayak montajlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

Helical bevel gear unit, Solid shaft on both sides,
Foot mounted, Triple reduction, With free input shaft

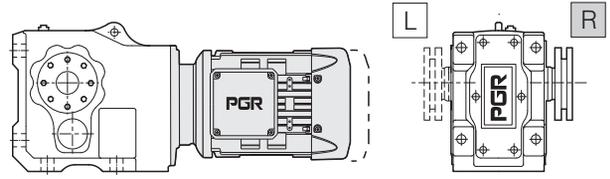


Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



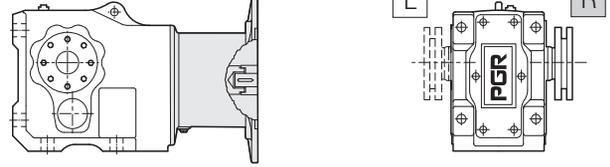
4) PKD 1390... DA / KS - 63 M / 4 R

**Delik milli, Ayak montajlı, Konik sıkırtmalı,
Üç kademeli, Helisel konik dişlili, Motorlu redüktör**
Helical bevel gear unit, Hollow shaft, Foot mounted,
Shrink disc connector, Triple reduction, With motor



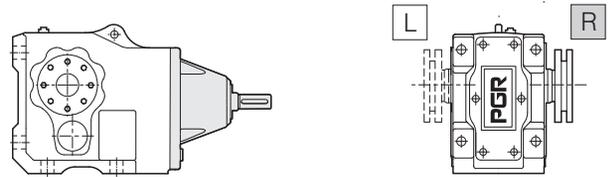
PKD 1390... DA / KS - IEC 63 R

**Delik milli, Ayak montajlı, Konik sıkırtmalı,
Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör**
Helical bevel gear unit, Hollow shaft, Foot mounted,
Shrink disc connector, Triple reduction, With IEC adapter



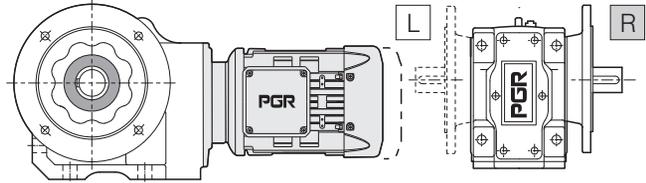
PKD 1390... DA / KS - W R

**Delik milli, Ayak montajlı, Konik sıkırtmalı,
Üç kademeli, Helisel konik dişlili, W kovanlı redüktör**
Helical bevel gear unit, Hollow shaft, Foot mounted,
Shrink disc connector, Triple reduction, With free input shaft



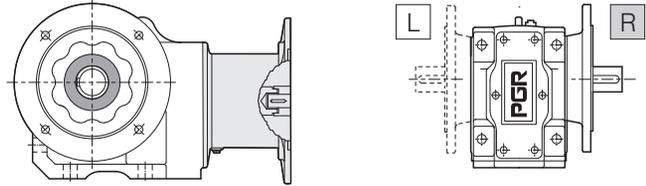
5) PKD 1390... TMA / B5 - 63 M / 4 R

**Tek mil çıkışlı, Ayak montajlı, B5 flanşlı,
Üç kademeli Helisel konik dişlili, Motorlu redüktör**
Helical bevel gear unit, Solid shaft, Foot mounted,
Flange B5, Triple reduction, With motor



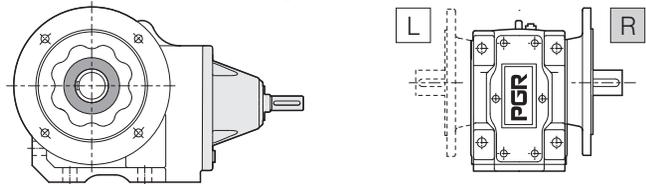
PKD 1390... TMA / B5 - IEC 63 R

**Tek mil çıkışlı, Ayak montajlı, B5 flanşlı,
Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör**
Helical bevel gear unit, Solid shaft, Foot mounted,
Flange B5, Triple reduction, With IEC adapter



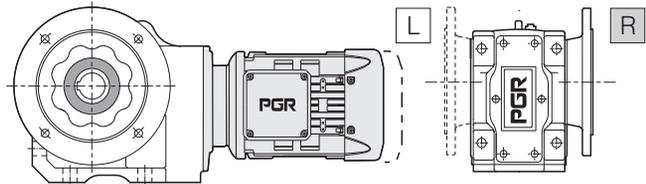
PKD 1390... TMA / B5 - W R

**Tek mil çıkışlı, Ayak montajlı, B5 flanşlı,
Üç kademeli, Helisel konik dişlili, W kovanlı redüktör**
Helical bevel gear unit, Solid shaft, Foot mounted,
Flange B5, Triple reduction, With free input shaft



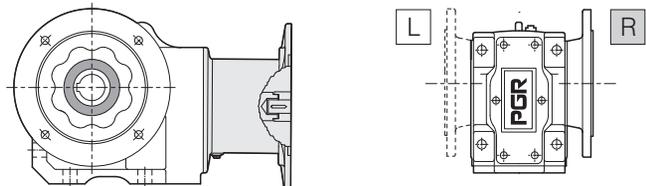
6) PKD 1390... DA / B5 - 63 M / 4 R

**Delik milli, Ayak montajlı, B5 flanşlı,
Üç kademeli, Helisel konik dişlili, Motorlu redüktör**
Helical bevel gear unit, Hollow shaft, Foot mounted,
Flange B5, Triple reduction, With motor



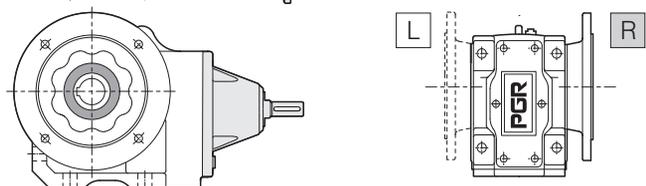
PKD 1390... DA / B5 - IEC 63 R

**Delik milli, Ayak montajlı, B5 flanşlı,
Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör**
Helical bevel gear unit, Hollow shaft, Foot mounted,
Flange B5, Triple reduction, With IEC adapter



PKD 1390... DA / B5 - W R

**Delik milli, Ayak montajlı, B5 flanşlı,
Üç kademeli, Helisel konik dişlili, W kovanlı redüktör**
Helical bevel gear unit, Hollow shaft, Foot mounted,
Flange B5, Triple reduction, With free input shaft



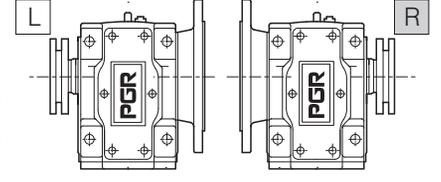
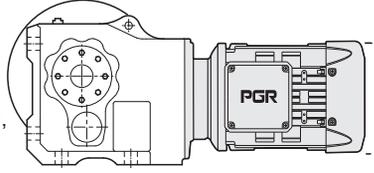
Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



7) PKD 1390... DA / KS-B5 - 63 M / 4 R

Delik milli, Ayak montajlı, Konik sıkırtmalı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

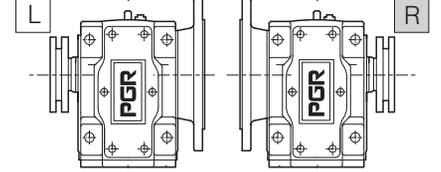
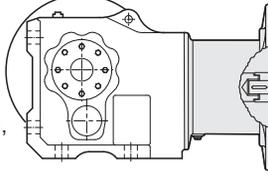
Helical bevel gear unit, Hollow shaft, Foot mounted, Shrink disc connector, Flange B5, Triple reduction, With motor



PKD 1390... DA / KS-B5 - IEC 63 R

Delik milli, Ayak montajlı, Konik sıkırtmalı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

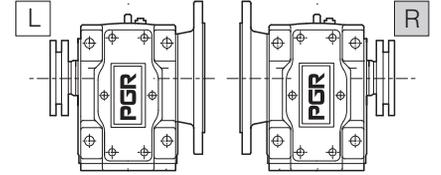
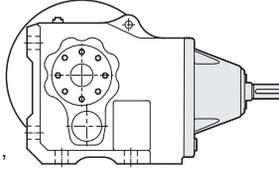
Helical bevel gear unit, Hollow shaft, Foot mounted, Shrink disc connector, Flange B5, Triple reduction, With IEC adapter



PKD 1390... DA / KS-B5 - W R

Delik milli, Ayak montajlı, Konik sıkırtmalı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

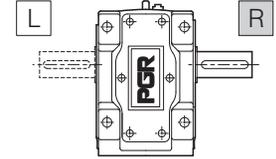
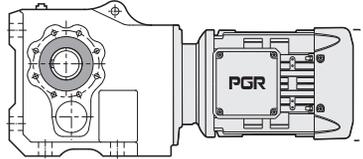
Helical bevel gear unit, Hollow shaft, Foot mounted, Shrink disc connector, Flange B5, Triple reduction, With free input shaft



8) PKD 1390... TMA / B14 - 63 M / 4 R

Tek mil çıkışlı, Ayak montajlı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, Motorlu redüktör

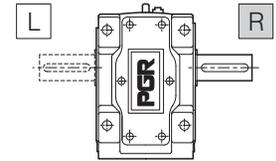
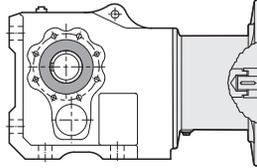
Helical bevel gear unit, Solid shaft, Foot mounted, Triple reduction, Flange B14, With motor



PKD 1390... TMA / B14 - IEC 63 R

Tek mil çıkışlı, Ayak montajlı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör

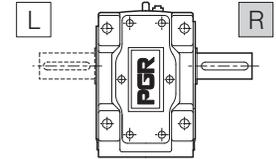
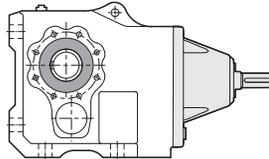
Helical bevel gear unit, Solid shaft, Foot mounted, Triple reduction, Flange B14, With IEC adapter



PKD 1390... TMA / B14 - W R

Tek mil çıkışlı, Ayak montajlı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör

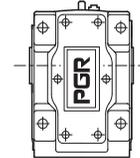
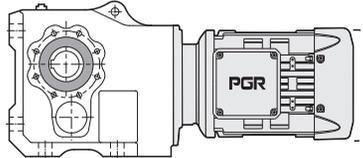
Helical bevel gear unit, Solid shaft, Foot mounted, Triple reduction, Flange B14, With free input shaft



9) PKD 1390... DA / B14 - 63 M / 4

Delik milli, Ayak montajlı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, Motorlu redüktör

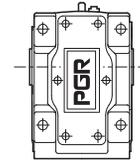
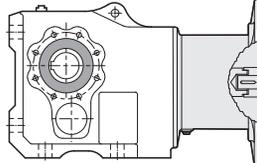
Helical bevel gear unit, Hollow shaft, Foot mounted, Triple reduction, Flange B14, With motor



PKD 1390... DA / B14 - IEC 63

Delik milli, Ayak montajlı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör

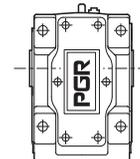
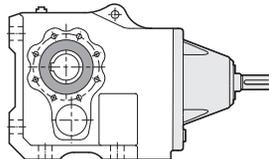
Helical bevel gear unit, Hollow shaft, Foot mounted, Triple reduction, Flange B14, With IEC adapter



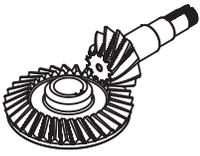
PKD 1390... DA / B14 - W

Delik milli, Ayak montajlı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör

Helical bevel gear unit, Hollow shaft, Foot mounted, Triple reduction, Flange B14, With free input shaft



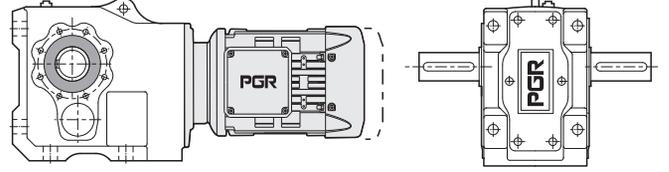
Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



10) PKD 1390... ÇMA / B14 - 63 M / 4

Çift mil çıkışlı, Ayak montajlı, Üç kademeli, B14 Flanşlı, Helisel konik dişlili, Motorlu redüktör

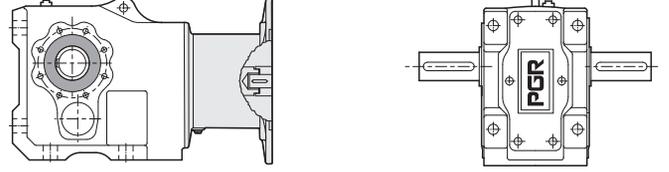
Helical bevel gear unit, Solid shaft on both sides, Foot mounted, Triple reduction, Flange B14, With motor



PKD 1390... ÇMA / B14 - IEC 63

Çift mil çıkışlı, Ayak montajlı, Üç kademeli, B14 Flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör

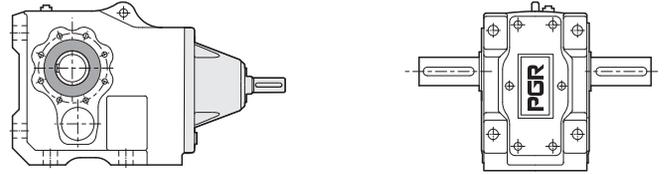
Helical bevel gear unit, Solid shaft on both sides, Foot mounted, Triple reduction, Flange B14, With IEC



PKD 1390... ÇMA / B14 - W

Çift mil çıkışlı, Ayak montajlı, Üç kademeli, B14 Flanşlı, Helisel konik dişlili, W kovanlı redüktör

Helical bevel gear unit, Solid shaft on both sides, Foot mounted, Triple reduction, Flange B14, With free input shaft

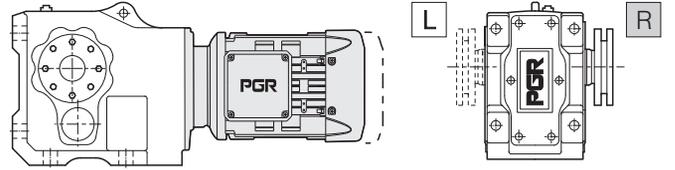


11) PKD 1390... DA / KS-B14 - 63 M / 4

R

Delik milli, Ayak montajlı, Konik sıkırtmalı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, Motorlu redüktör

Helical bevel gear unit, Hollow shaft, Foot mounted, Shrink disc connector, Triple reduction, Flange B14, With motor

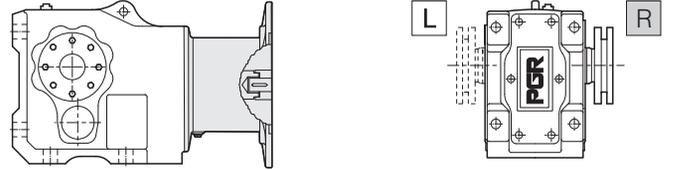


PKD 1390... DA / KS-B14 - IEC 63

R

Delik milli, Ayak montajlı, Konik sıkırtmalı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör

Helical bevel gear unit, Hollow shaft, Foot mounted, Shrink disc connector, Triple reduction, Flange B14, With IEC adapter

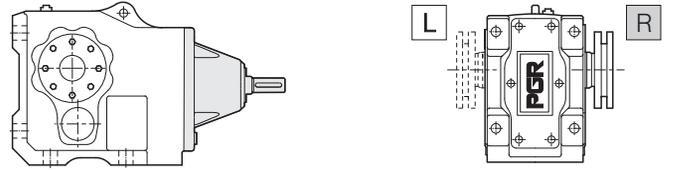


PKD 1390... DA / KS-B14 - W

R

Delik milli, Ayak montajlı, Konik sıkırtmalı, Üç kademeli, B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör

Helical bevel gear unit, Hollow shaft, Foot mounted, Shrink disc connector, Triple reduction, Flange B14, With free input shaft

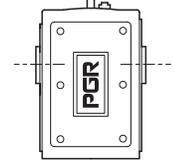
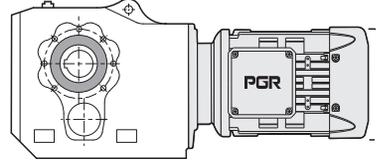


Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



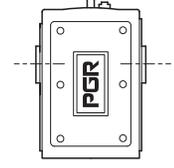
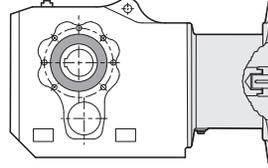
1) PKD 1390... DG / B14 - 63 M / 4

Delik milli, Gövdeden montajlı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, Motorlu redüktör
Helical bevel gear unit, Hollow shaft, Case mounted,
Triple reduction, Flange B14, With motor



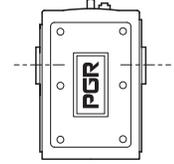
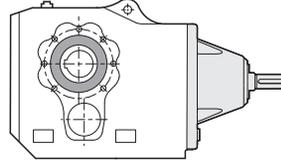
PKD 1390... DG / B14 - IEC 63

Delik milli, Gövdeden montajlı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör
Helical bevel gear unit, Hollow shaft, Case mounted,
Triple reduction, Flange B14, With IEC adapter



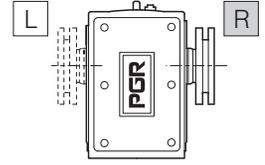
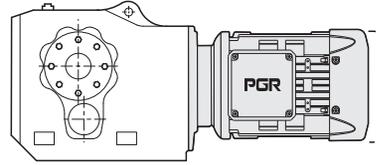
PKD 1390... DG / B14 - W

Delik Milli, Gövdeden Montajlı, Üç Kademeli,
B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör
Helical bevel gear unit, Hollow shaft, Case mounted,
Triple reduction, Flange B14, With free input shaft



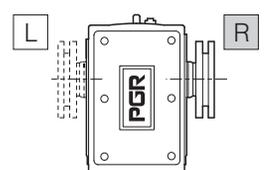
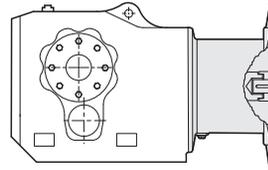
2) PKD 1390... DG / KS-B14 - 63 M / 4 R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, Motorlu redüktör
Helical bevel gear unit, Hollow shaft, Case mounted,
Shrink disc connector, Triple reduction, Flange B14,
With motor.



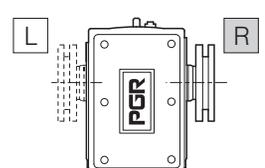
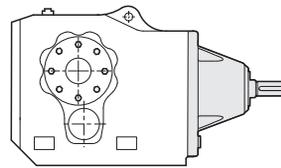
PKD 1390... DG / KS-B14 - IEC 63 R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör
Helical bevel gear unit, Hollow shaft, Case mounted,
Shrink disc connector, Triple reduction, Flange B14,
With IEC adapter



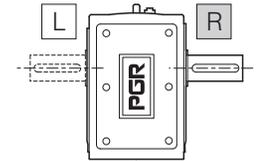
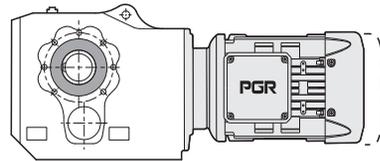
PKD 1390... DG / KS-B14 - W R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör
Helical bevel gear unit, Hollow shaft, Case mounted,
Shrink disc connector, Triple reduction, Flange B14,
With free input shaft



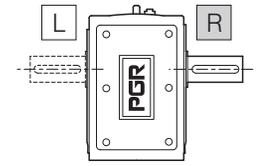
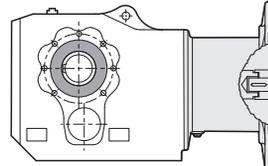
3) PKD 1390...TMG / B14 - 63 M / 4 R

Tek mil çıkışlı, Gövdeden montajlı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, Motorlu redüktör
Helical bevel gear unit, Solid shaft, Case mounted,
Triple reduction, Flange B14, With motor



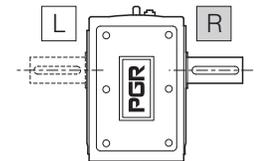
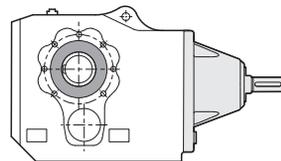
PKD 1390... TMG / B14 - IEC 63 R

Tek mil çıkışlı, Gövdeden montajlı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör
Helical bevel gear unit, Solid shaft, Case mounted,
Triple reduction, Flange B14, With IEC adapter

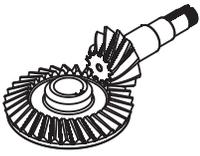


PKD 1390... TMG / B14 - W R

Tek mil çıkışlı, Gövdeden montajlı, Üç kademeli,
B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör
Helical bevel gear unit, Solid shaft, Case mounted,
Triple reduction, Flange B14, With free input shaft



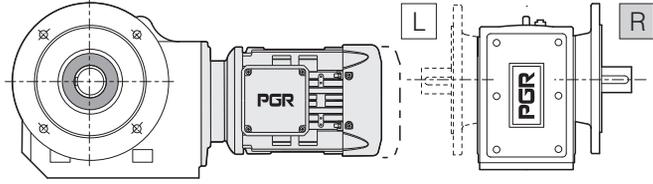
Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



4) PKD 1390... TMG / B5 - 63 M / 4

Tek mil çıkışlı, Gövdeden montajlı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

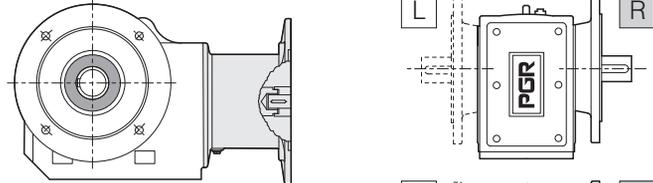
Helical bevel gear unit, Solid shaft, Case mounted, Flange B5, Triple reduction, With motor



PKD 1390... TMG / B5 - IEC 63

Tek mil çıkışlı, Gövdeden montajlı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

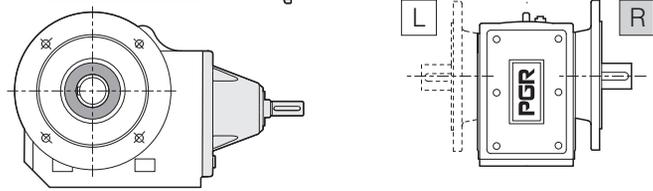
Helical bevel gear unit, Solid shaft, Case mounted, Flange B5, Triple reduction, With IEC adapter



PKD 1390... TMG / B5 - W

Tek mil çıkışlı, Gövdeden montajlı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

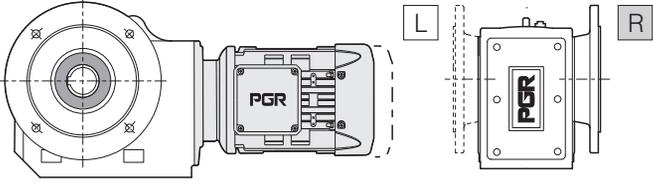
Helical bevel gear unit, Solid shaft, Case mounted, Flange B5, Triple reduction, With free input shaft



5) PKD 1390... DG / B5 - 63 M / 4 R

Delik milli, Gövdeden montajlı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

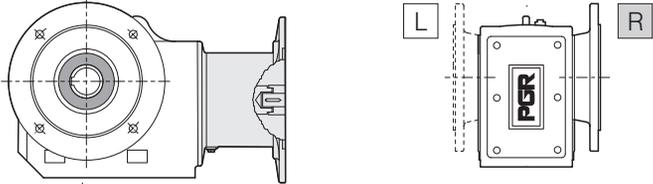
Helical bevel gear unit, Hollow shaft, Case mounted, Flange B5, Triple reduction, With motor



PKD 1390... DG / B5 - IEC 63 R

Delik milli, Gövdeden montajlı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

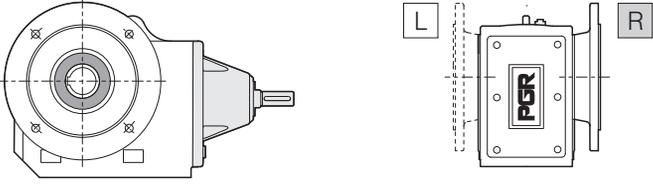
Helical bevel gear unit, Hollow shaft, Case mounted, Flange B5, Triple reduction, With IEC adapter



PKD 1390... DG / B5 - W R

Delik milli, Gövdeden montajlı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

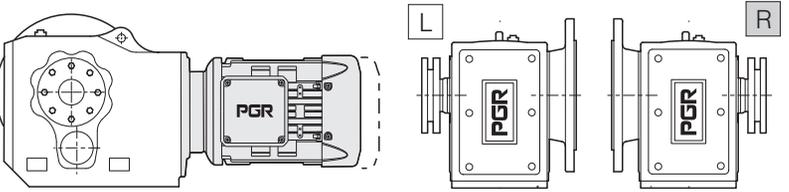
Helical bevel gear unit, Hollow shaft, Case mounted, Flange B5, Triple reduction, With free input shaft



6) PKD 1390...DG / KS-B5 - 63 M / 4 R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

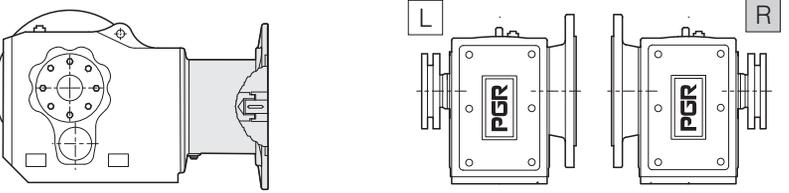
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Flange B5, Triple reduction, With motor



PKD 1390... DG / KS-B5 - IEC 63 R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

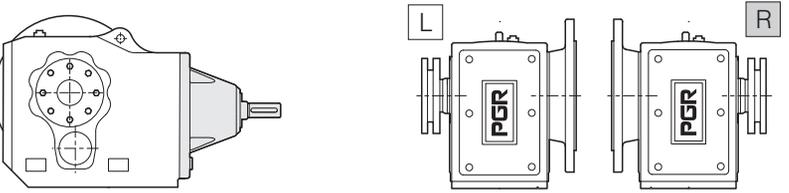
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Flange B5, Triple reduction, With IEC adapter



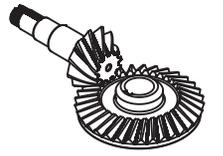
PKD 1390... DG / KS-B5 - W R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, B5 flanşlı, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Flange B5, Triple reduction, With free input shaft



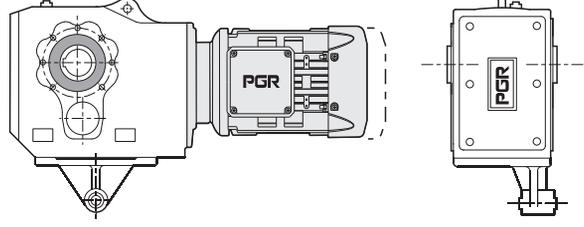
Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



7) PKD 1390... DG / TKP-B14 - 63 M / 4

Delik milli, Gövdeden montajlı, Üç kademeli, Tork kolu platformu, B14 flanşlı, Helisel konik dişlili, Motorlu redüktör

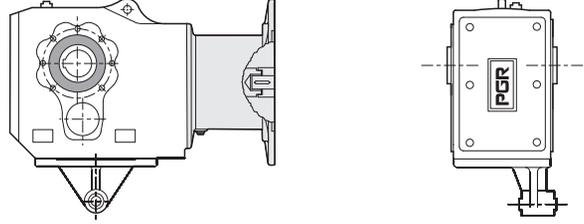
Helical bevel gear unit, Hollow shaft, Case mounted, Triple reduction, Torque arm platform, Flange B14, With motor



PKD 1390... DG / TKP-B14 - IEC 63

Delik milli, Gövdeden montajlı, Üç kademeli, Tork kolu platformu, B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör

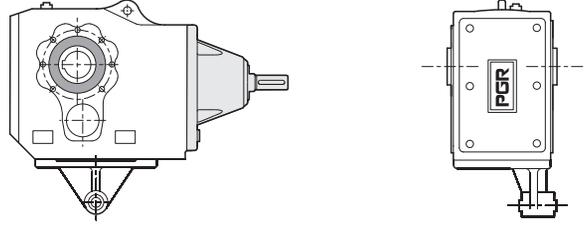
Helical bevel gear unit, Hollow shaft, Case mounted, Triple reduction, Torque arm platform, Flange B14, With IEC adapter



PKD 1390... DG / TKP-B14 - W

Delik milli, Gövdeden montajlı, Üç kademeli, Tork kolu platformu, B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör

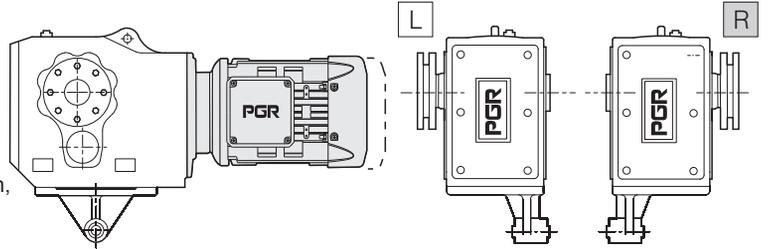
Helical bevel gear unit, Hollow shaft, Case mounted, Triple reduction, Torque arm platform, Flange B14, With free input shaft



8) PKD 1390...DG / KS-TKP-B14 - 63 M / 4 R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Üç kademeli, Tork kolu platformu, B14 flanşlı, Helisel konik dişlili, Motorlu redüktör

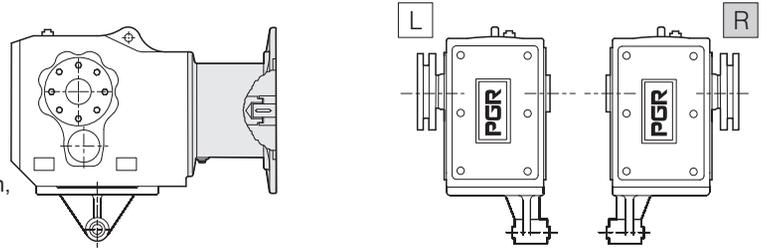
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Triple reduction, Torque arm platform, Flange B14, With motor



PKD 1390...DG / KS-TKP-B14 - IEC R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Üç kademeli, Tork kolu platformu, B14 flanşlı, Helisel konik dişlili, IEC adaptörlü redüktör

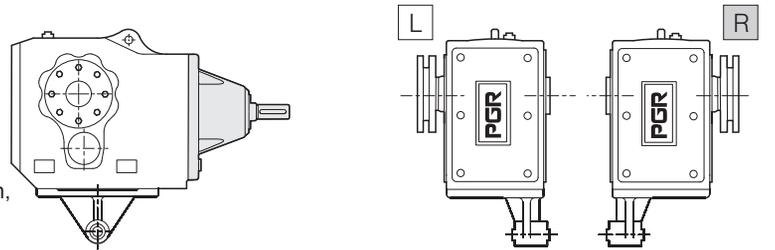
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Triple reduction, Torque arm platform, Flange B14, With IEC adapter



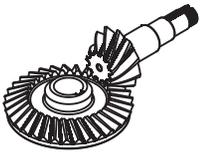
PKD 1390...DG / KS-TKP-B14 - W R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Üç kademeli, Tork kolu platformu, B14 flanşlı, Helisel konik dişlili, W kovanlı redüktör

Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Triple reduction, Torque arm platform, Flange B14, With free input shaft



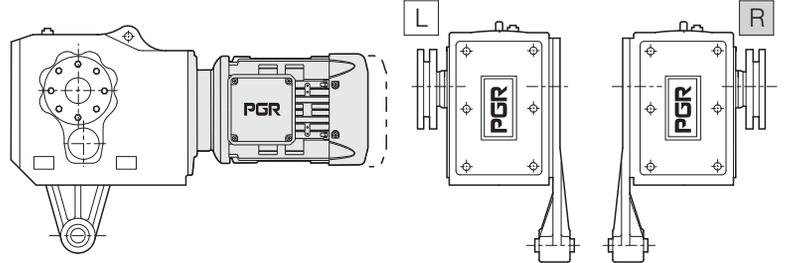
Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



9) **PKD 1390... DG / KS-TK - 63 M / 4** R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Tork kolu, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

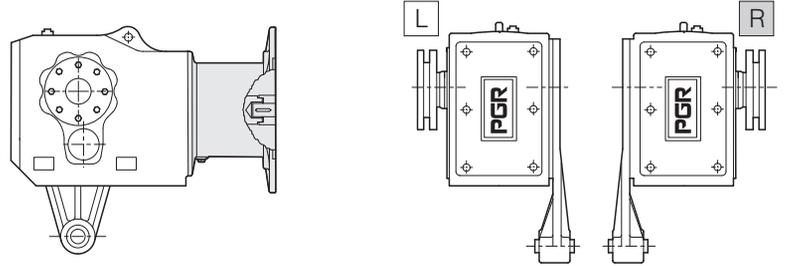
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Torque arm, Triple reduction, With motor



PKD 1390... DG / KS-TK - IEC R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Tork kolu, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

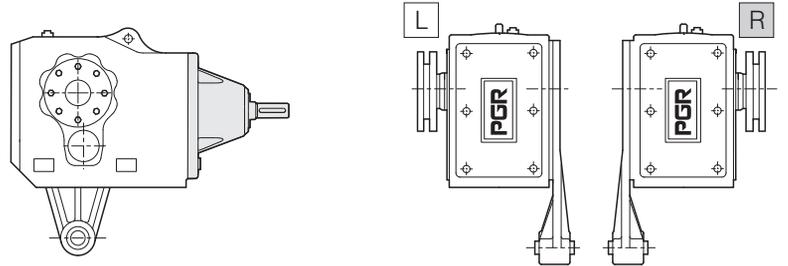
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Torque arm, Triple reduction, With IEC adapter



PKD 1390... DG / KS-TK - W R

Delik milli, Gövdeden montajlı, Konik sıkırtmalı, Tork kolu, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

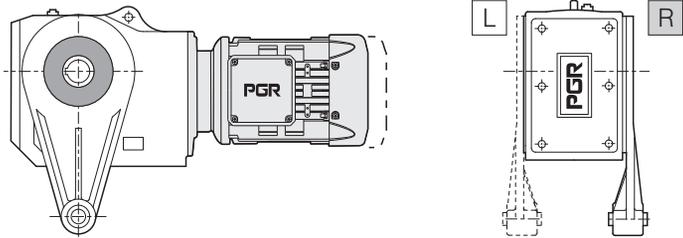
Helical bevel gear unit, Hollow shaft, Case mounted, Shrink disc connector, Torque arm, Triple reduction, With free input shaft



10) **PKD 1390... DG / TK - 63 M / 4** R

Delik milli, Gövdeden montajlı, Tork kolu, Üç kademeli, Helisel konik dişlili, Motorlu redüktör

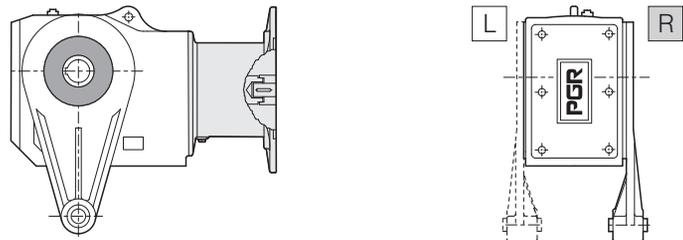
Helical bevel gear unit, Hollow shaft, Case mounted, Torque arm, Triple reduction, With motor



PKD 1390... DG / TK - IEC R

Delik milli, Gövdeden montajlı, Tork kolu, Üç kademeli, Helisel konik dişlili, IEC adaptörlü redüktör

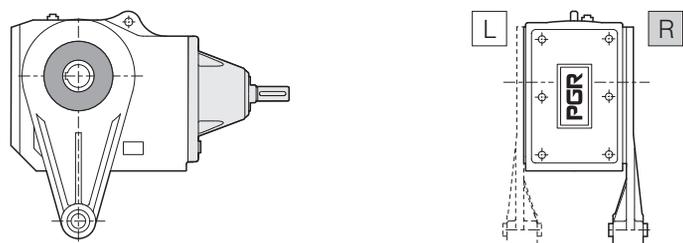
Helical bevel gear unit, Hollow shaft, Case mounted, Torque arm, Triple reduction, With IEC adapter



PKD 1390... DG / TK - W R

Delik milli, Gövdeden montajlı, Tork kolu, Üç kademeli, Helisel konik dişlili, W kovanlı redüktör

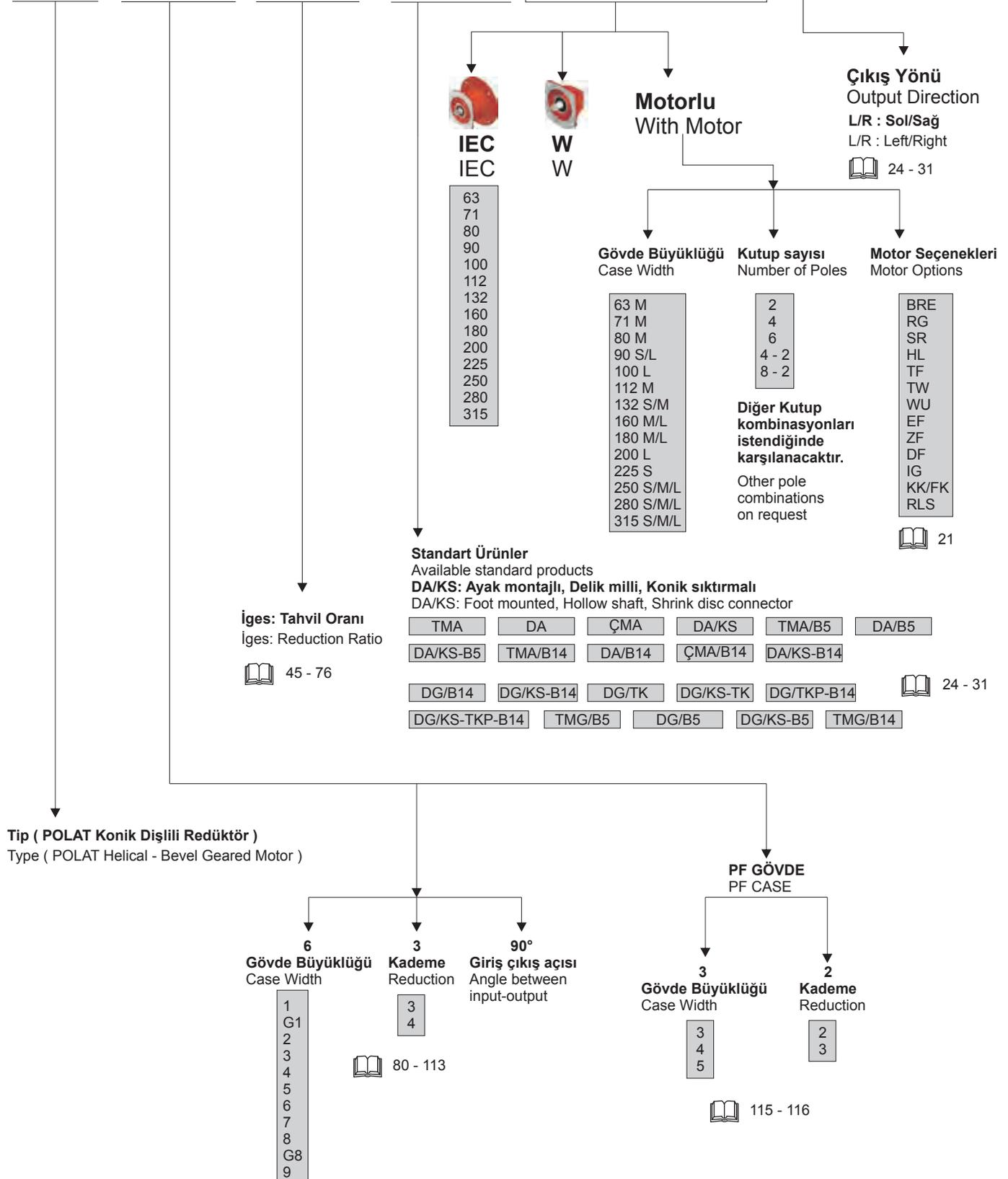
Helical bevel gear unit, Hollow shaft, Case mounted, Torque arm, Triple reduction, With free input shaft

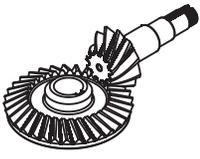


Not : L ve R çıkış yönünü göstermektedir.
Note: L and R shows that output direction.



P K D 6390/32 297.35 D A / K S - 90 S / 4 BRE R





YAĞLAMA

Çalıştırmadan veya uzun süreli olarak depoya kaldırmadan önce ventildeki tapa sökölüp, havalandırma tapası takılarak aşırı basınç ve yağ sızıntısı önlenmelidir.

Redüktörler fabrikadan çalışmaya hazır ve mineral yağ doldurulmuş olarak gönderilirler. Bütün dişi üniteler aşağıdaki tablonun ortam sıcaklığı sütununda listesi verilen yağlayıcı (normal) ile dolu olarak sevk edilirler. Diğer ortam sıcaklıkları için listede verilen yağlayıcılar ilave masraf karşılığında temin edilebilir.

Yağlayıcı her 10 000 çalışma saatinde veya 2 yıl sonra değiştirilmelidir. Sentetik yağlar için yağ değişikliği her 20000 çalışma saatinde veya 4 yıl sonra yapılmalıdır. Zorlu çalışma koşullarında örneğin yüksek rutubet ve büyük sıcaklık değişimleri ve kötü çevre şartları gibi durumlarda daha kısa aralıklarla yağ değişimi yapılması tavsiye edilir. Yağ değişiminin üniteyi komple temizleme işlemi ile birleştirilmesi önerilir. Rulman içerisindeki gres her 10000 çalışma saatinde değiştirilmeli ve yeni gres ile doldurulmalıdır. Bu işlem yapıldıktan rulmanın 1/3 ünün gresle dolu olması sağlanmalıdır.

LUBRICATION

Lubricating oil properties and selection of oil must be correct for the reducers to have long life and to run with good performance. In order to prevent oil leakage during long period storage due to inner pressure, top plug should be removed according to assembly type and venting plug should be mounted.

Reducers are delivered as being filled with mineral oil. Following tables are presented properties of oils depend on ambient temperature. Gear units which is W or IEC adapter type and geared motors are charged with lubricant. Ambient temperature is played important role for choosing lubricant. Relation between ambient temperature and properties of oils are shown in table.

Lubricants must be changed every 10000 hours or after two years, but this time changes when synthetic oil is used. Lubricants must be changed every 20000 hours or after four years where synthetic oil is used. However, operating conditions should be considered for changing oil time eg. in aggressive environment large temperature changing, oil must be changed frequently. For bearings grease should be changed every 10000 running time and it should be done with fresh grease and least 1/3 of bearing must be covered.

Not: Sentetik ve mineral yağlayıcılar birbirine karıştırılmamalıdır. / Note: Consider that different kind of oil (synthetic and mineral oil) should not be mixed.

Redüktör Tipi Type of gearbox	Yağ Tipi Type of Lubricant	Ortam Sıcaklığı Ambient Temp. °C	ISO Viskozite sınıfı ISO viscosity class	SHELL	MOBİL	BP	ESSO	DEA	ARAL	CASTROL	TRIBOL	KLÜBER
Helisel Gearboxes	Mineral yağ	- 5...40 Normal	ISO VG 220	Shell Omala Oel 220	Mobilgear 630	Energol GR-XP 220	Spartan EP 220	Deagear DX SAE 85W-90 Falcon CLP 220	Degol BG 220	Alpha SP 220 Alpha MW 220 Alpha MAX 220	Tribol 1100/220	Klüberoil GEM 1-220
	Mineral oil	- 15...25	ISO VG 100	Shell omala Oel 100	Mobilgear 627	Energol GR-XP 100	Spartan EP 100	Deagear DX SAE 80W Falcon CLP 150	Degol BG 100	Alpha SP 100 Alpha MW 100 Alpha MAX 220	Tribol 1100/100	Klüberoil GEM 1-100
	Sentetik yağ Synthetic oil	# - 50...-15	ISO VG 15	Shell Tellus Oel T 15	Mobil DTE 11 M	Bartran HV 15	Uniwis J 13	Airkraft Hydraulic Oil 15	Vitamol 1010	Hyspin SP 15 Hyspin ZZ 15	Tribol 770	Isoflex MT 30 rot.
Rulmanlar Anti Friction Bearings	Sentetik yağlı gres Synthetic fluid grease	- 25...80	ISO VG 220	Shell Tivela Oel WB	Glygoyle 30	Energyn SG-XP 220	ESSO Glycolube 220	Polydea PGLP 220	Degol GS 220	Alphasyn PG 220	Tribol 800/220	Klüberynth GH 6 - 220
	Mineral yağlı gres Normal	- 25...80	ISO VG 220	Cassida 220	Mobil DTE FM 220			Plantogear 220 S	Bio-Degol S 220	Carelube GES 220	Tribol Bio Top 1418/220	Klüber - Bio GM 2 - 220
	Mineral yağlı gres # - 50...110	- 25...80	ISO VG 220	Shell Tivela compound A	Glygoyle Grease 00	Energyn GSF	Fliessfett S 420	Renolin 220	Degol FG 220	OPTIMOL optieb GE 220	Tribol Food Proof 1810/220	Klüberoil 4UH1 - 220
Rulmanlar	Mineral yağlı gres Normal	- 30...60		Alvania Fett R 3 oder	Mobilux 3	Energrease LS 3	Beacon 3	Glissando 30 Glissando 20	Aralub SKA 00	Spheerol AP 3 Spheerol AP 2 LZV - EP	Tribol 3030/100-2 Tribol 4020/220-2 Tribol 3785	Centoplex 3 Centoplex 2
	Mineral yağlı gres # - 50...110	- 35...60		Alvania Fett RL 3	Mobilux 2	Energrease LS 2	Beacon 2	Glissando FT 3	Aralub BAB EP 2	Spheerol EPL 2		
Anti Friction Bearings	Sentetik gres Synthetic grease	# - 50...110		Aero Shell Grease 16 oder 7	Mobiltemp SHC 32	Beacon 325	Beacon 325	Discor 8 - EP 2	Aralub SKL 2	Product 783/46	Tribol 3499	Isoflex Topas NB52

-30° C altında ve 60° C üzerindeki ortam sıcaklıklarında yağtaki sızdırmazlık elemanı için özel kalitedeki malzeme kullanılmalıdır.

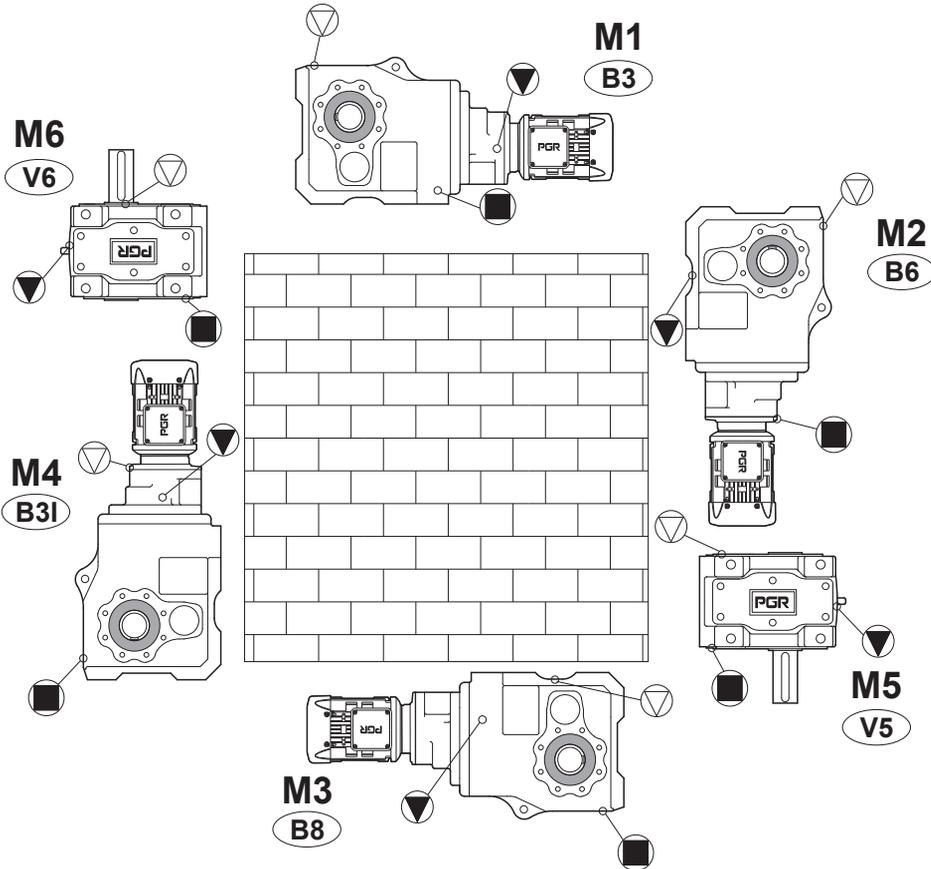
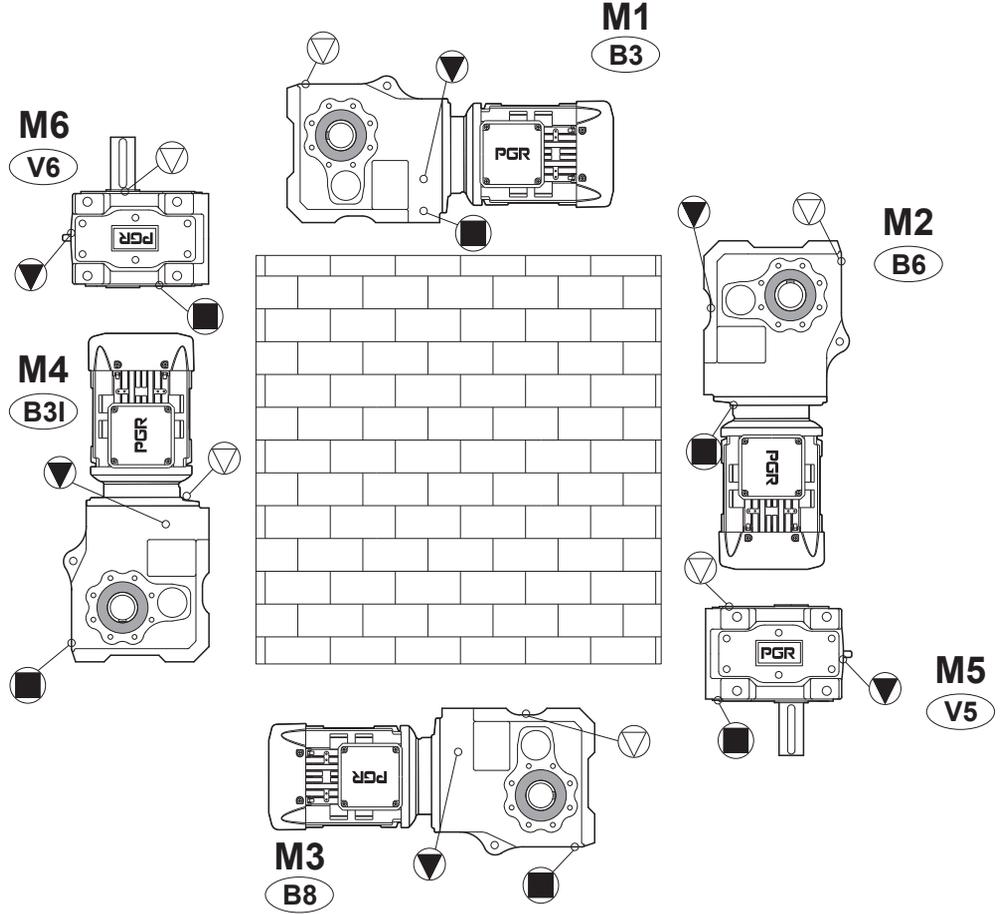
Different materials should be used for sealing rings at operation temperature where temperature is below -30 °C and above 60 °C.

MONTAJ POZİSYONLARI MOUNTING POSITIONS



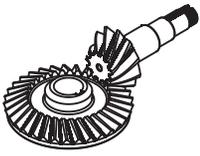
AYAK MONTAJLI FOOT MOUNTED

PKD 1390
PKD G 1390
PKD 2390
PKD 3390
PKD 4390
PKD 5390
PKD 6390
PKD 7390
PKD 8390
PKD G 8390
PKD 9390



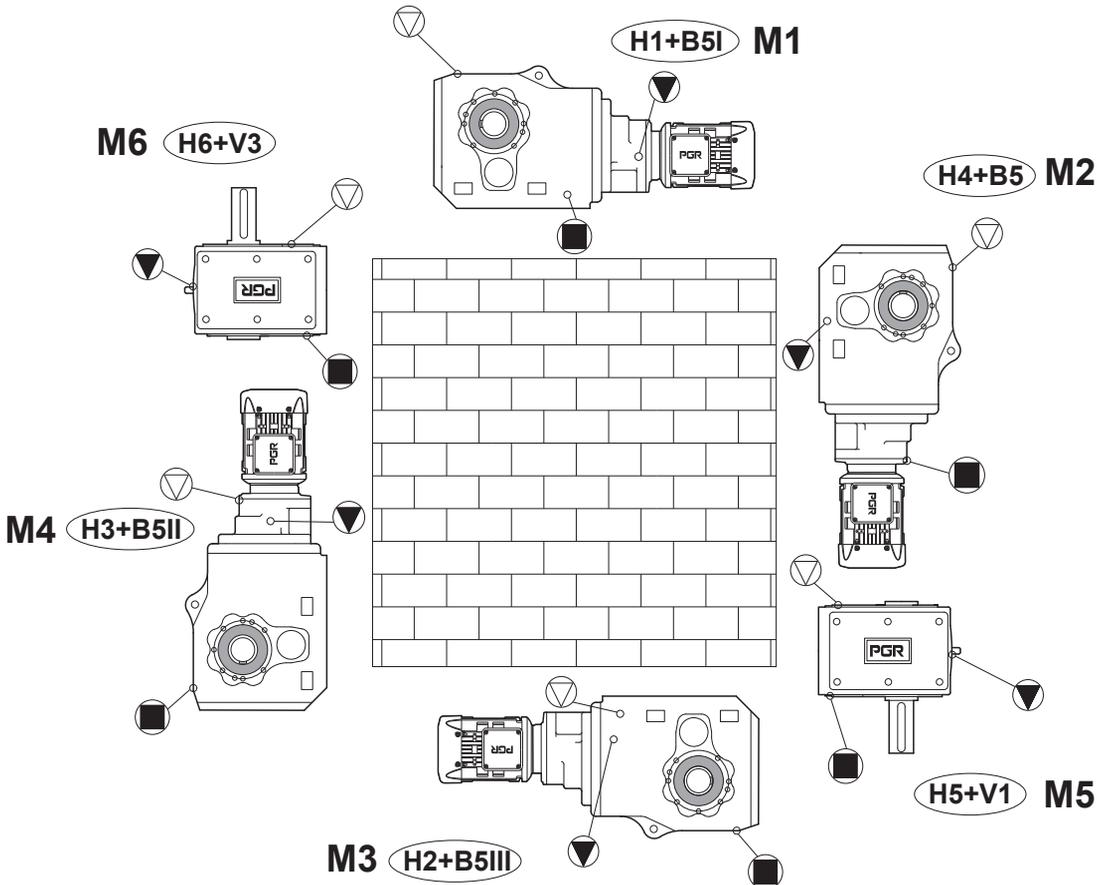
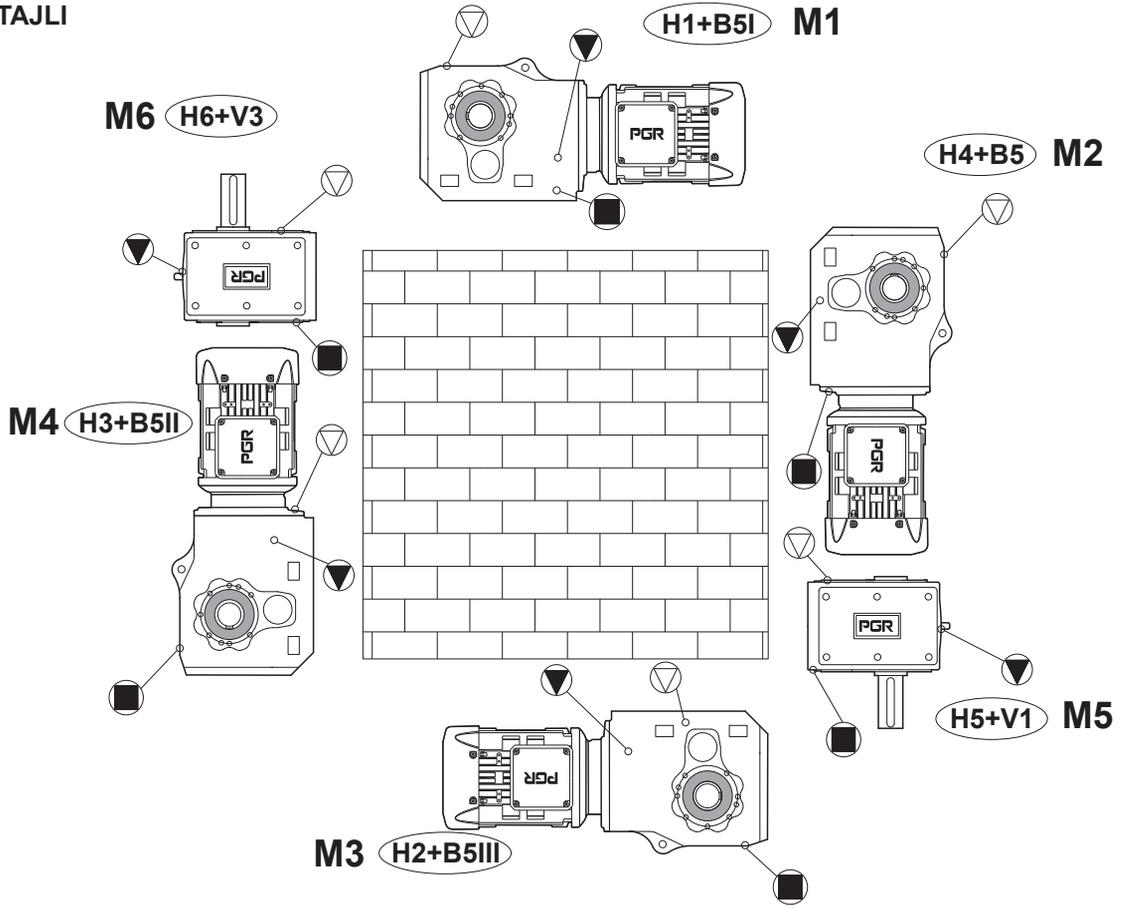
PKD 1490
PKD G 1490
PKD 2490
PKD 3490
PKD 4490
PKD 5490

▽ Havalandırma tapası / Vent plug ● Boşaltma tapası / Drain plug ▼ Yağ Seviye tapası / Oil level



GÖVDEDEN MONTAJLI
CASE MOUNTED

PKD 1390
PKD G 1390
PKD 2390
PKD 3390
PKD 4390
PKD 5390
PKD 6390
PKD 7390
PKD 8390
PKD G 8390
PKD 9390



PKD 1490
PKD G 1490
PKD 2490
PKD 3490
PKD 4490
PKD 5490

▽ Havalandırma tapası / Vent plug ● Boşaltma tapası / Drain plug ▼ Yağ Seviye tapası / Oil level



M4 montaj pozisyonunda ilave yağlama ünitesi kullanılır

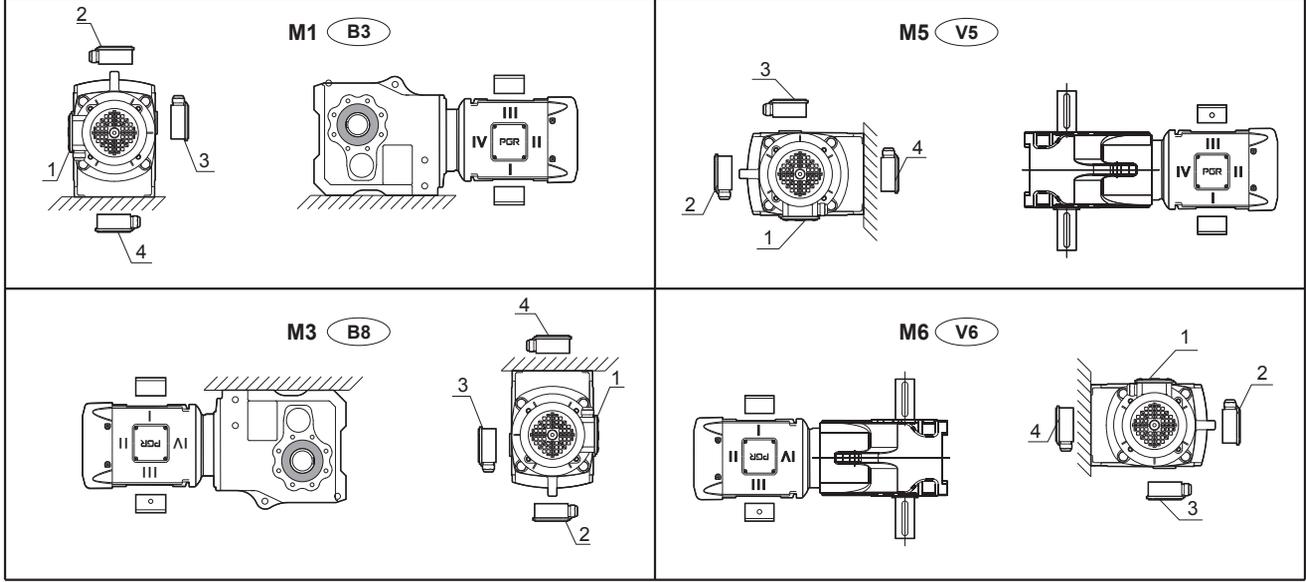
Mounting position M4 with additional lubricant volume



208

Tabloda gösterilen bu montaj pozisyonları helisel konik dişli redüktörlerin W kovani ve IEC adaptör olanlar için de geçerlidir.

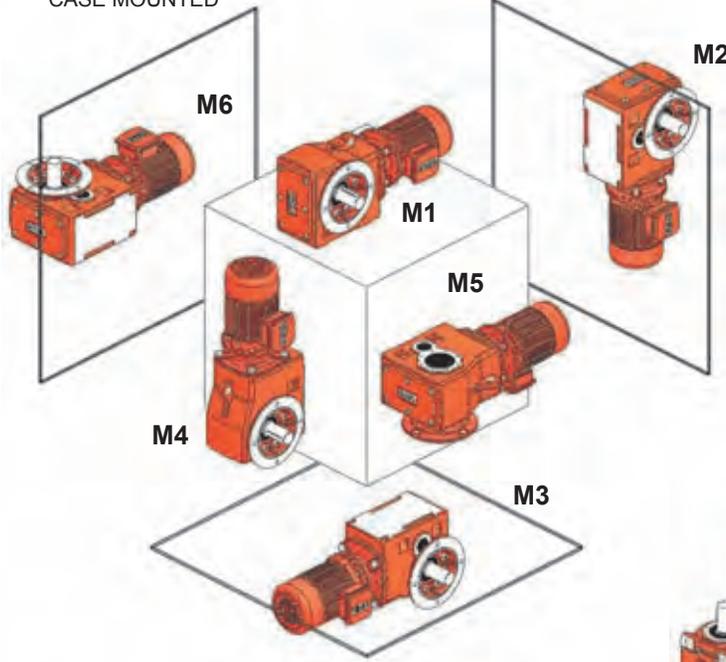
Mounting positions which are shown below of this page are used for all types of helical-bevel gear units. (Type W cylinder, IEC adapter and geared motor)



Montaj yüzeyi / Mounting surface

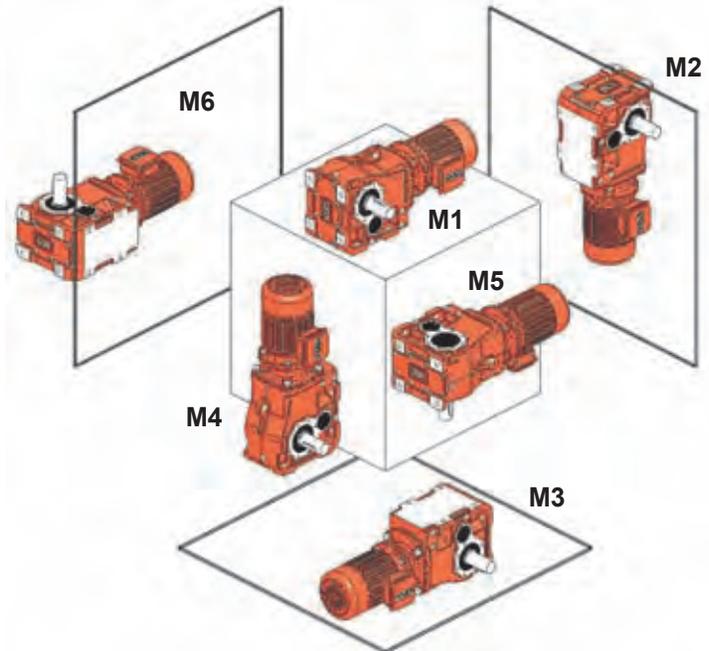
GÖVDEDEN MONTAJLI

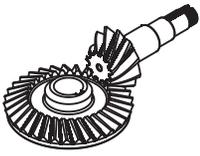
CASE MOUNTED



AYAK MONTAJLI

FOOT MOUNTED





(Litre) (L)	AYAK MONTAJLI FOOT MOUNTED 						GÖVDEDEN MONTAJLI CASE MOUNTED  					
	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
 36	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
 34 - 35	B3	B6	B8	B3I	V5	V6	B5I	B5	B5III	B5II	V1	V3
							H1	H4	H2	H3	H5	H6
PKD 1390	0.70	1.60	1.90	2.40	1.20	1.70	0.70	1.90	1.90	2.40	1.20	1.70
PKD G1390	0.70	1.60	1.90	2.40	1.20	1.70	0.70	1.90	1.90	2.40	1.20	1.70
PKD 2390	1.30	2.60	3.50	4.20	2.00	2.80	1.30	2.60	3.50	4.20	2.00	2.80
PKD 3390	1.70	4.80	6.40	6.70	4.10	5.10	1.90	5.20	6.40	7.30	3.30	5.10
PKD 4390	4.40	8.70	10.0	9.80	6.80	7.50	3.60	9.70	11.4	11.5	6.50	8.20
PKD 5390	6.50	16.0	19.0	21.5	11.0	15.5	7.50	16.5	20.0	23.5	11.5	18.0
PKD 6390	10.0	27.5	32.0	36.0	18.0	24.0	12.0	27.5	33.0	38.5	19.0	26.0
PKD 7390	10.0	27.5	32.0	36.0	18.0	24.0	12.0	27.5	33.0	38.5	19.0	26.0
PKD 8390	17.0	51.5	62.5	71.5	33.0	46.5	21.0	54.0	66.0	80.0	38.0	52.0
PKD G8390	26.0	73.0	85.0	102	48.0	62.0	36.0	78.0	91.0	101	53.0	76.0
PKD 9390	36.0	157	170	172	80.0	90.0	40.0	130	154	175	82.0	91.0

(Litre) (L)	AYAK MONTAJLI FOOT MOUNTED 						GÖVDEDEN MONTAJLI CASE MOUNTED  					
	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
 36	M1	M2	M3	M4	M5	M6	M1	M2	M3	M4	M5	M6
 34 - 35	B3	B6	B8	B3I	V5	V6	B5I	B5	B5III	B5II	V1	V3
							H1	H4	H2	H3	H5	H6
PKD 1490	1.20	2.00	2.20	3.00	1.40	1.90	1.20	2.30	2.20	3.00	1.40	1.90
PKD G1490	1.20	2.00	2.20	3.00	1.40	1.90	1.20	2.30	2.20	3.00	1.40	1.90
PKD 2490	2.40	3.00	3.80	5.30	2.20	3.10	2.40	3.00	3.80	5.30	2.20	3.10
PKD 3490	3.30	6.60	7.00	7.80	4.30	5.10	3.80	5.70	6.90	8.50	3.60	5.60
PKD 4490	4.60	10.2	10.7	12.8	5.20	6.70	5.70	10.2	14.7	14.7	6.60	9.60
PKD 5490	10.0	17.0	20.0	24.2	11.5	16.5	12.5	18.0	26.5	26.5	13.0	17.0

M1 Yeni Montaj Pozisyonu The New Mounted Position

B3 Eski Montaj Pozisyonu The Old Mounted Position



Kilit Sistemli Helisel Konik Dişli Redüktör

Her helisel konik dişli redüktör kilit sistemli yapılabilir. Kilit sistemi yağlaması için ayrı bir yağlama sistemine gerek yoktur.

Dikkat: Çalıştırılmadan önce redüktör ve motorun dönüş yönleri herhangi bir kırılmaya karşı olabilecek riski önlemek için kontrol edilmelidir.

Backstop System For Hlical - Bevel Gear Unit

Backstop system is available for all type of helical - bevel gear unit. There is not require another lubricating system because, backstop is lubricated through the gear unit's oil.

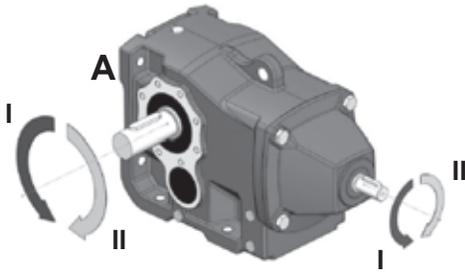
Precaution: When you receive gear units, please check direction of rotation before running or installation for avoid damage.

Çıkış şaftı sonundaki yüzeyin kilitleme yönüne göre gösterimi:

Saat Yönü Tersi I
Saat Yönü II

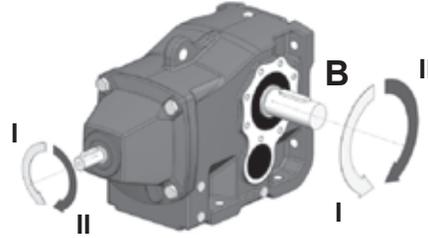
"I" and "II" signs are shown locking direction from viewing at face of output shaft.

Counterclockwise I
Clockwise II



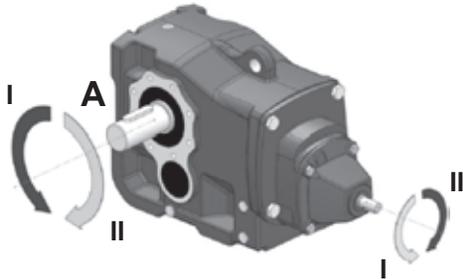
PKD 1390 - PKD 9390
PKD 6390/32 -PKD 9390/52

A' daki çıkış şaftı
Output shaft at A



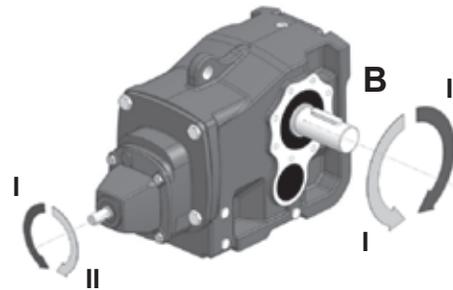
PKD 1390 - PKD 9390
PKD 6390/32 -PKD 9390/52

B' deki çıkış şaftı
Output shaft at B



PKD 1490 - PKD 5490

A' daki çıkış şaftı
Output shaft at A

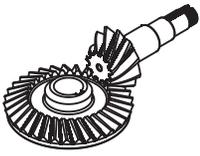


PKD 1490 - PKD 5490

B' deki çıkış şaftı
Output shaft at B

Bütün şaft tasarımları ve çift çıkışlı şaftlar için geçerlidir.

These designation is used for all hollow shaft design and output shaft on both sides.



**MOTOR VE REDÜKTÖRLERDE
BOYUT - ÇİZİM BİLGİLERİ**

Motor ölçüleri istenen opsiyona göre ölçüleri değişebilir.

DELİK MİLLİLER

Delik mil çapı toleransı için (DIN 748) ISO H7.
Müşteri mili çap toleransı ISO h6. "H" yükleme tipi bulunuyorsa
ISO k6

IEC - ADAPTÖR

Flanş merkezi çap toleransı için ISO H7

GİRİŞ VE ÇIKIŞ ŞAFTLARI

Mil çapı toleransı (DIN 748) :

Ø 14 ile Ø 50 mm arası için ISO k6,
Ø 50 mm üzeri için ISO m6

Şaftta diş çekilmiş delikler için DIN 332/2 ye göre;

= Ø 13 - Ø 16	M5	
> Ø 16 - Ø 21	M6	
> Ø 21 - Ø 24	M8	
> Ø 24 - Ø 30	M10	 80 - 113
> Ø 30 - Ø 38	M12	
> Ø 38 - Ø 50	M16	
> Ø 50 - Ø 85	M20	
> Ø 85 - Ø 130	M24	

Kama yatakları DIN 6885

Şaft boyu "h" DIN 747

FLANŞLAR

Flanş merkezi çap toleransı (DIN 42948);

< Ø 230 mm' ye kadar ISO j6,
> Ø 230 mm üzeri için ISO h6

**GEARED MOTORS AND GEARBOXES
INFORMATION REFERRING TO
DIMENSION - DRAWINGS**

Motor dimension could be changed according to customer purchase.

HOLLOW SHAFTS

Tolerance of hollow shaft (DIN 748) ISO H7.
Tolerance of customer's solid shaft which is used for hollow shaft ISO h6, with type of load classification 'H' which is heavy-shock operation ISO k6.

IEC - ADAPTER

Diameter tolerance of flange centering is machined according to ISO H7.

INPUT AND OUTPUT SHAFT

Tolerances of solid shaft (DIN 748) :

between Ø 14 - Ø 50 mm to ISO k6,
greater than Ø 50 mm to ISO m6.

Tapped center hole is machined according to DIN 332, sheet 2 ;

= Ø 13 - Ø 16	M5	
> Ø 16 - Ø 21	M6	
> Ø 21 - Ø 24	M8	
> Ø 24 - Ø 30	M10	 80 - 113
> Ø 30 - Ø 38	M12	
> Ø 38 - Ø 50	M16	
> Ø 50 - Ø 85	M20	
> Ø 85 - Ø 130	M24	

Keyways are machined according to DIN 6885, sheet 1

Shaft heights are machined according to "h" to DIN 747

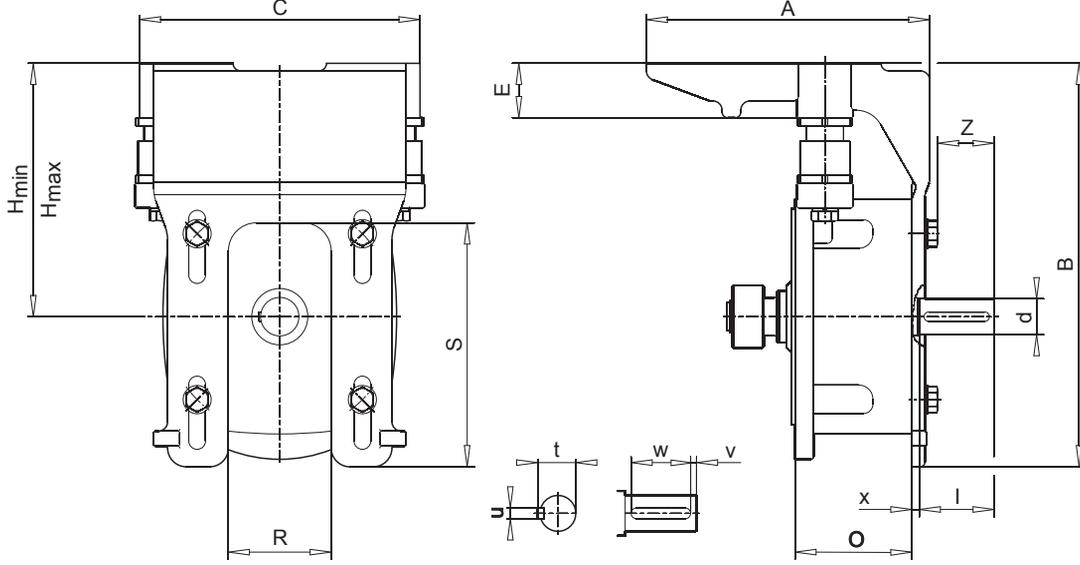
FLANGES

Diameter tolerance of flange centering is machined according to (DIN 42948);

< Ø 230 mm to ISO j6,
> Ø 230 mm to ISO h6



Motor Platformu Ölçüleri
Motor Platform Dimensions



Tip Type	Bağlantı boyutları ve platform ölçüleri Connection and Platform dimensions										Mil Ölçüleri Shaft size				Flanş Flange
	A	B	C	E	R	S	H min	H max	Z	O	d l	t u	v w	x	
MK I 63 M - 100 L	224	253	206	45	60	140	153	173	41	121.5	24 50	27 8	5 40	8	160 S
MK II 80 M - 112 M	238	320	252	50	66	145	199	224	48	115.5	28 60	31 8	5 50	9	250 S
MK III-A 90 S - 132 M	305	430	302	58	110	260	254	286	61	127	38 80	41 10	5 70	8	300 S
MK III-B 90 S - 132 M	305	430	302	58	110	260	254	286	91	172	42 110	45 12	10 90	8	Ø250
MK IV 112 M - 200 L	478	530	402	75	130	315	315	355	116	254	65 140	69 18	15 110	8	Ø350
MK V 200 L - 250 M	664	690	572	105	382	369	465	515	119	247	65 140	69 18	15 110	12	Ø450

Motor Platform Montajı

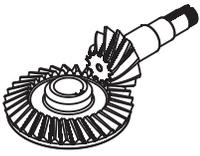
Motor platform tasarımı PGR monoblok dişli ünitesi serilerinin tüm montaj pozisyonlarında kullanılabilir. 5 motor platformu boyutu tüm motor-redüktör kombinasyonlarını kapsar. Çok kademeli redüktörleri de karşılayan ayrı ayrı redüktörler için seçim tablolarından motor platformları bakılabilir.

- * Her montaj pozisyonu için kullanılabilir.
- * Optimum kayış gerilimi için kolayca yönlendirilebilen yükseklik ayarlaması yapılabilir.
- * Sabitleme elemanları da dahil olmak üzere korozyona karşı direçlidir.
- * Hafif, vibrasyonu absorbe eden alüminyum yapı mevcuttur..
- * Birçok motor boyutu için kullanım kolaylığı sağlar.
- * Tabloya göre "l" oranının 1'e eşit olduğu durumlar için önerilir.
- * Her yöne 90° ye kadar eksen etrafında dönebilir.

Assembling of Motor Platform

Motor platform design could be used at all PGR monoblock gear unit series for all mounting positions. There are 5 motor platform designs. This platforms are provide using possibility with all motor-gear unit series. Motor platform type, dimension and suitable belt type could be followed from table which is shown on page 39-41, on the other hand this table is valid for multi stage gear units.

- * It could be used for all mounting positions.
- * It could be adjusted for optimum belt-tension and height easily.
- * It has high corrosion resistance however fixing elements have this property.
- * Alumium structure provide vibration absorbing and light weight.
- * It could be used with all motor type.
- * We recommend, it is suitable for while "i" ratio is equal to one, table is prepared according to this situation
- * It could be adjusted to all direction up to 90°



Tip Type	PKD 1390 PKD G 1390 PKD 2390	PKD 3390	PKD 4390 PKD 5390	PKD 6390 PKD 7390	PKD 8390	PKD G 8390	PKD 9390
Motor	W III	W II	W III	W III W IV	W V W IV	W V W IV	W IV
63 M	MK I						
71 M	MK I						
80 M	MK I	MK II					
90 S 90 L	MK I	MK II	MK III - A	MK III - B			
100 L	MK I	MK II	MK III - A	MK III - B			
112 M		MK II	MK III - A	MK III - B	MK IV	MK IV	
132 S 132 M			MK III - A	MK III - B	MK IV	MK IV	
160 M 160 L				MK IV	MK IV	MK IV	
180 M 180 L				MK IV	MK IV	MK IV **	
200 L				MK IV	MK IV	MK IV **	MK V
225 S 225 M					MK V	MK V	MK V
250 M					MK V	MK V	MK V

** Ayarlanabilir mesafe (sınırlı)

** There is a limit distance for adjustment.

Seçim Örneği:

Çıkış gücü ve hızına göre gerekli olan dişli ünitesinin temel tipini ve gerekli çıkış gücü veya çıkış dönüş hızına dayanan çıkış gücü ve dişli oranını saptayınız.

Örnek :

0.18 kW , 5.8 min , i = 232.89
PKD 2390 100L

Bu esas dişli ünitesi tipi için, motor platformu MK I tayin edildiğini tablodan (yukarıya bakınız) saptayınız. Bu nedenle, tam tip tanımı PKD 2390 - MK I - 100'dür.

MK I tablodan (sayfa 42) bant makarası ve bant tipi ile ilgili daha fazla bilgi alabilirsiniz.

Esas boyutlar, tabloda gösterilmiştir. (sayfa 40)

Selection Example:

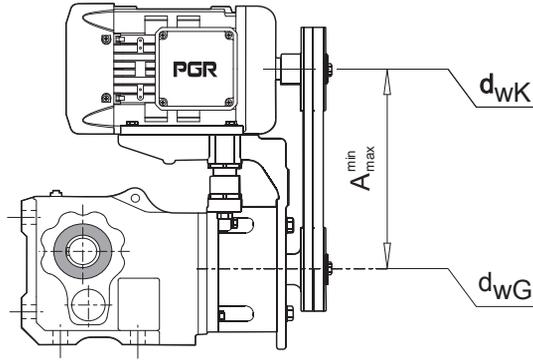
Motor platform assignment could be explained in one example hence, according to selecting gear unit reduction ratio, output speed and motor power is determined.

Example :

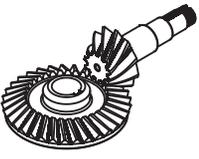
0.18 kW , 5.8 min , i = 232.89
PKD 2390 100L

From table (see above of this page) type of gear unit (column) and motor type (row) are intersected. Hence, from this motor bracket MK I dimension should be used. Full designation is Pkd 2390 - MK I - 100

Following page shows more detail about belt pulley and type of belt (see page 42). You can see dimension of belt length with motor platform assignment.



	Motor	Çıkış Output (kW)	Ayar aralığı Adjustment range		Kayış uzunluğu Belt length	Mil merkezi uzaklığı Shaft centre distance A	Kayış sayısı Number of belts	
			Amin	Amax				
MK I Kayış Tipi SPZ Belt type SPZ	63 M/4A	0.12	216	236	(d _{wg} = 80) (i = 1) L _w 697	223	1	
	63 M/4B	0.18	216	236		697	223	1
	71 M/4A	0.25	224	244		710	229	1
	71 M/4B	0.37	224	244		710	229	1
	80 M/4A	0.55	233	253		737	243	1
	80 M/4B	0.75	233	253		737	243	1
	90 S/4A	1.10	243	263		750	249	1
	90 L/4A	1.50	243	263		750	249	2
	100 L/4A	2.20	253	273		772	260	2
	100 L/4B	3.00	253	273		772	260	3
MK II Kayış Tipi XPZ Belt type XPZ	80 M/4A	0.55	279	304	(d _{wg} = 112) (i = 1) L _w 930	289	1	
	80 M/4B	0.75	279	304		930	289	1
	90 S/4A	1.10	289	314		950	299	1
	90 L/4A	1.50	289	314		950	299	1
	100 L/4A	2.20	299	324		980	314	1
	100 L/4B	3.00	299	324		980	314	2
	112 M/4B	4.00	311	336		1000	324	2
MK III Kayış Tipi SPZ Belt type SPZ	90 S/4A	1.10	344	376	(d _{wg} = 160) (i = 1) L _w 1222	360	1	
	90 L/4B	1.50	344	376		1222	360	1
	100 L/4A	2.20	354	386		1250	374	1
	100 L/4B	3.00	354	386		1250	374	1
	112 M/4B	4.00	366	398		1262	380	2
	132 S/4C	5.50	386	418		1312	405	2
	132 M/4B	7.50	386	418		1312	405	3
	132 M/4	9.20	386	418		1312	405	3
MK IV Kayış Tipi XPA Belt type XPA	112 M/4B	4.00	427	467	(d _{wg} = 200) (i = 1) L _w 1500	436	1	
	132 S/4C	5.50	447	487		1550	461	1
	132 M/4B	7.50	447	487		1550	461	2
	132 M/4	9.20	447	487		1550	461	2
	160 M/4B	11.0	475	515		1600	486	2
	160 L/4A	15.0	475	515		1600	486	3
	180 M/4B	18.5	495	535		1650	511	3
	180 L/4B	22.0	495	535		1650	511	4
	200 L/4C	30.0	515	555		1700	536	4
MK V Kayış Tipi SPA Belt type SPA	200 L/4C	30.0	665	715	(d _{wg} = 250) (i = 1) L _w 2182	698	4	
	225 S/4A	37.0	690	740		2207	710	4
	225 M/4C	45.0	690	740		2207	710	5
MK V Kayış Tipi SPB Belt type SPB	250 M/4C	55.0	715	765	(d _{wg} = 250) (i = 1) L _w 2240	727	4	



Motorlu Seçim Tabloları Selection of Gearmotors





Motorlu redüktör performans tablolarının yapısı.
Notify about performance tables for Geared motor.

0.25 kW → **Redüktör motor gücü**
Gear unit motor power

Motor gücü
Rated motor power

Çıkış devri
Output speed

Çıkış momenti
Output torque

Servis faktörü
Service factor

Tahvil oranı
Reduction ratio

Redüktör tipi
Gear unit motor type

Ağırlık
Weight

Ölçü sayfaları
Drawing pages

P_1 [kW]	n_2 [Min ⁻¹]	M_2 [Nm]	f_B	i_{ges}	F_R [N]	F_A [N]	$F_{R GR}$ [N]	$F_{A GR}$ [N]	Tip / Type	Kg	Sayfa Page mm
0.25	4.7 5.6	509 429	3.0 3.6	296.10 250.01	15.0 15.0	15.0 15.0	15.0 15.0	23.0 23.0	PKD 3390 - 71M/4A	60	92-93

Müsaade edilebilir radyal yükler
Normal rulmanlarda
 F_R için listelenmiş değerlerde
 $F_A = 0$ (N) olarak hesaplanmıştır

Permissible radial force or load on output shaft while normal bearings are used. For this load F_A is assumed equal zero. $F_A = 0$ (N)

Müsaade edilebilir eksenel yükler
Normal rulmanlarda
 F_A için listelenmiş değerlerde
 $F_R = 0$ (N) olarak hesaplanmıştır

Permissible axial force or load on output shaft while normal bearings are used. For this load F_R is assumed equal zero. $F_R = 0$ (N)

Müsaade edilebilir eksenel yükler
Güçlendirilmiş rulmanlarda
(Sadece ayak montajlı, helisel konik dişlili redüktörlerde PKD 7390' a kadar)

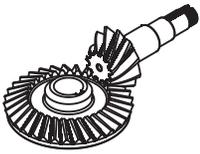
F_A için listelenmiş değerlerde
 $F_R = 0$ (N) olarak hesaplanmıştır

Permissible axial force on output shaft while reinforced bearings are used (exist for PKD 7390 and lesser gear case). For this load F_R is assumed equal to zero. $F_R = 0$ (N)

Müsaade edilebilir radyal yükler
Güçlendirilmiş rulmanlarda
(Sadece ayak montajlı, helisel konik dişlili redüktörlerde PKD 7390' a kadar)

F_R için listelenmiş değerlerde
 $F_A = 0$ (N) olarak hesaplanmıştır

Permissible radial force or load on output shaft while reinforced bearings are used (exist for PKD 7390 and lesser gear case). For this load F_A is assumed equal to zero. $F_A = 0$ (N)



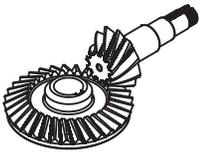
P_1 [kW]	n_2 [Min ⁻¹]	M_2 [Nm]	f_B	i_{ges}	F_R [kN]	F_A [kN]	F_{RGR} [kN]	F_{AGR} [kN]	Tip / Type	 Kg	Sayfa Page mm
0.12	1.0	1186	1.3	1363.01	11.0	15.0	15.0	30.0	PKD 3490 - 63M/4A	67	94-95
	1.1	1001	1.5	1151.03	13.0	15.0	15.0	30.0			
	1.5	760	2.0	873.20	14.0	15.0	15.0	30.0			
	1.9	602	2.6	691.75	14.0	15.0	15.0	30.0			
	2.4	469	3.3	538.92	15.0	15.0	15.0	30.0			
	1.2	975	0.9	1121.09	-	12.0	8.0	25.0	PKD 2490 - 63M/4A	45	90-91
	1.4	829	1.0	952.47	3.0	12.0	10.0	25.0			
	1.7	656	1.3	754.58	6.0	12.0	11.0	25.0			
	1.9	590	1.5	678.31	7.0	12.0	11.0	25.0			
	2.3	489	1.8	562.44	8.0	12.0	12.0	25.0			
	2.8	412	2.1	473.11	8.0	12.0	12.0	25.0			
	3.9	296	2.9	339.72	9.0	12.0	12.0	25.0			
	0.9	*763	0.8	1412.66	5.0	20.0	9.0	20.0	PKD G 1490 - 63M/4A	38	86-87
	1.0	*763	0.8	1255.89	5.0	20.0	9.0	20.0			
	2.1	548	1.1	630.06	8.0	20.0	9.0	20.0			
	2.4	486	1.3	558.17	8.0	20.0	9.0	20.0			
	2.7	429	1.4	493.33	9.0	20.0	9.0	20.0			
	3.6	320	1.9	367.72	9.0	20.0	9.0	20.0			
	3.1	368	1.6	277.79	9.0	20.0	9.0	20.0	PKD G 1390 - 63M/6	33	84-85
	3.7	311	1.9	234.59	9.0	20.0	9.0	20.0			
	4.2	273	2.2	206.01	9.0	20.0	9.0	20.0			
	4.7	242	2.4	277.79	9.0	20.0	9.0	20.0	PKD G 1390 - 63M/4A	33	84-85
	5.6	204	2.9	234.59	9.0	20.0	9.0	20.0			
	0.9	*500	0.8	1412.66	3.0	20.0	8.0	20.0	PKD 1490 - 63M/4A	37	82-83
	1.0	*500	0.8	1255.89	3.0	20.0	8.0	20.0			
	1.6	*500	0.8	848.31	3.0	20.0	8.0	20.0			
	2.0	*500	0.8	668.11	3.0	20.0	8.0	20.0			
	2.2	*500	0.8	590.51	3.0	20.0	8.0	20.0			
	3.0	383	1.0	440.14	5.0	20.0	9.0	20.0			
	2.6	441	0.9	332.51	5.0	20.0	8.0	20.0	PKD 1390 - 63M/6	32	80-81
	3.1	372	1.1	280.80	6.0	20.0	9.0	20.0			
	3.5	327	1.2	246.59	6.0	20.0	9.0	20.0			
	4.0	289	1.4	332.51	6.0	20.0	9.0	20.0	PKD 1390 - 63M/4A	32	80-81
	4.7	244	1.6	280.80	7.0	20.0	9.0	20.0			
	5.3	215	1.9	246.59	7.0	20.0	9.0	20.0			
	6.4	179	2.2	206.01	7.0	20.0	9.0	20.0			
7.9	145	2.8	166.82	7.0	20.0	9.0	20.0				
9.4	123	3.3	140.87	7.0	20.0	9.0	20.0				
10.6	108	3.7	123.71	7.0	20.0	9.0	20.0				
13.5	85	4.7	97.43	7.0	20.0	9.0	20.0				
15.3	75	5.3	86.12	7.0	20.0	9.0	20.0				
17.2	67	6.0	76.68	7.0	20.0	9.0	20.0				
21.0	55	7.3	62.74	7.0	20.0	9.0	20.0				
23.8	48	8.3	55.26	7.0	20.0	9.0	20.0				
26.9	43	9.4	48.92	7.0	20.0	9.0	20.0				
31.6	36	11.0	41.72	7.0	20.0	9.0	20.0				
37.8	30	13.2	34.86	7.0	20.0	9.0	20.0				
41.8	27	14.6	31.48	7.0	20.0	9.0	20.0				
47.5	24	16.6	27.72	7.0	20.0	9.0	20.0				
53.7	21	18.7	24.55	7.0	20.0	9.0	20.0				
62.9	18	19.6	20.93	7.0	20.0	9.0	20.0				
75.3	15	19.5	17.49	7.0	20.0	9.0	20.0				
86.3	13	20.2	15.27	7.0	19.0	9.0	19.0				
107.4	11	18.2	12.27	7.0	18.0	9.0	18.0				
121.3	9	18.9	10.86	7.0	17.0	9.0	17.0				
142.2	8	19.6	9.26	7.0	16.0	9.0	16.0				
162.9	7	20.3	8.09	7.0	16.0	9.0	16.0				

* max. çıkış momenti $f_B = 0.8$
* max. output torque with $f_B = 0.8$

0.18 kW



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
0.18	1.0	1741	0.9	1363.01	3.0	15.0	15.0	30.0	PKD 3490 - 63M/4B	67	94-95
	1.2	1471	1.1	1151.03	9.0	15.0	15.0	30.0			
	1.5	1116	1.4	873.20	12.0	15.0	15.0	30.0			
	1.9	884	1.8	691.75	13.0	15.0	15.0	30.0			
	2.5	689	2.3	538.92	14.0	15.0	15.0	29.0			
	3.4	510	3.0	399.39	15.0	15.0	15.0	27.0			
	3.8	451	3.4	353.00	15.0	15.0	15.0	27.0			
	1.8	964	0.9	754.58	0.4	12.0	8.0	25.0	PKD 2490 - 63M/4B	45	90-91
	2.0	867	1.0	678.31	1.0	12.0	9.0	25.0			
	2.4	719	1.2	562.44	5.0	12.0	10.0	25.0			
	2.8	604	1.4	473.11	7.0	12.0	11.0	25.0			
	4.0	434	2.0	339.72	8.0	12.0	12.0	25.0			
	4.5	380	2.3	297.67	9.0	12.0	12.0	25.0			
	5.8	298	2.4	232.89	9.0	12.0	12.0	23.0	PKD 2390 - 63M/4B	40	88-89
	2.4	713	0.9	558.17	6.0	20.0	9.0	20.0	PKD G 1490 - 63M/4B	38	86-87
	2.7	630	1.0	493.33	7.0	20.0	9.0	20.0			
	3.7	470	1.3	367.72	8.0	20.0	9.0	20.0			
	3.2	531	1.1	277.79	8.0	20.0	9.0	20.0	PKD G 1390 - 71M/6A	34	84-85
	3.8	448	1.3	234.59	9.0	20.0	9.0	20.0			
	4.4	393	1.6	206.01	9.0	20.0	9.0	20.0			
	4.8	355	1.7	277.79	9.0	20.0	9.0	20.0	PKD G 1390 - 63M/4B	33	84-85
	5.7	300	2.0	234.59	9.0	20.0	9.0	20.0			
	6.5	263	2.3	206.01	9.0	20.0	9.0	20.0			
	3.2	536	0.7	280.80	3.0	20.0	7.0	20.0	PKD 1390 - 71M/6A	33	80-81
	3.6	471	0.8	246.59	4.0	20.0	8.0	20.0			
	4.0	425	0.9	332.51	5.0	20.0	8.0	20.0	PKD 1390 - 63M/4B	32	80-81
	4.8	359	1.1	280.80	6.0	20.0	9.0	20.0			
	5.5	315	1.3	246.59	6.0	20.0	9.0	20.0			
	6.5	263	1.5	206.01	6.0	20.0	9.0	20.0			
	8.1	213	1.9	166.82	7.0	20.0	9.0	20.0			
	9.6	180	2.2	140.87	7.0	20.0	9.0	20.0			
	10.9	158	2.5	123.71	7.0	20.0	9.0	20.0			
	13.8	124	3.2	97.43	7.0	20.0	9.0	20.0			
	15.6	110	3.6	86.12	7.0	20.0	9.0	20.0			
	17.5	98	4.1	76.68	7.0	20.0	9.0	20.0			
	21.4	80	5.0	62.74	7.0	20.0	9.0	20.0			
24.3	71	5.7	55.26	7.0	20.0	9.0	20.0				
27.5	63	6.4	48.92	7.0	20.0	9.0	20.0				
32.2	53	7.5	41.72	7.0	20.0	9.0	20.0				
38.6	45	9.0	34.86	7.0	20.0	9.0	20.0				
42.7	40	9.9	31.48	7.0	20.0	9.0	20.0				
48.5	35	11.3	27.72	7.0	20.0	9.0	20.0				
54.8	31	12.8	24.55	7.0	20.0	9.0	20.0				
64.3	27	13.4	20.93	7.0	20.0	9.0	20.0				
76.9	22	13.4	17.49	7.0	19.0	9.0	19.0				
88.1	20	13.8	15.27	7.0	19.0	9.0	19.0				
109.7	16	12.4	12.27	7.0	17.0	9.0	17.0				
123.9	14	12.8	10.86	7.0	17.0	9.0	17.0				
145.3	12	13.3	9.26	7.0	16.0	9.0	16.0				
166.4	10	13.8	8.09	7.0	15.0	9.0	15.0				

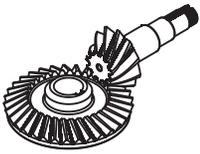


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
0.25	1.5	1599	3.0	931.06	38.0	45.0	38.0	45.0	PKD 5490 - 71M/4A	199	102-103
	2.0	1209	3.3	703.71	38.0	45.0	38.0	45.0			
	0.9	2605	1.1	1516.84	23.0	40.0	28.0	40.0	PKD 4490 - 71M/4A	121	98-99
	1.2	1913	1.5	1113.75	25.0	40.0	28.0	40.0			
	1.6	1516	1.8	882.35	27.0	40.0	28.0	40.0			
	2.2	1107	2.5	644.73	27.0	40.0	28.0	40.0			
	2.4	975	2.9	567.85	28.0	40.0	28.0	40.0			
	1.2	1977	0.8	1151.03	1.0	15.0	13.0	30.0	PKD 3490 - 71M/4A	68	94-95
	1.6	1500	1.0	873.20	9.0	15.0	15.0	30.0			
	2.0	1188	1.3	691.75	11.0	15.0	15.0	29.0			
	2.6	926	1.7	538.92	13.0	15.0	15.0	28.0			
	3.5	686	2.3	399.39	14.0	15.0	15.0	26.0			
	3.9	606	2.6	353.00	14.0	15.0	15.0	26.0			
	5.2	460	3.4	267.79	15.0	15.0	15.0	24.0			
	6.5	369	4.2	215.12	15.0	15.0	15.0	23.0			
	8.3	288	5.4	167.59	15.0	15.0	15.0	21.0			
	4.7	509	3.0	296.10	15.0	15.0	15.0	23.0	PKD 3390 - 71M/4A	60	92-93
	5.6	429	3.6	250.01	15.0	15.0	15.0	23.0			
	2.5	966	0.9	562.44	-	12.0	8.0	25.0	PKD 2490 - 71M/4A	46	90-91
	2.9	813	1.1	473.11	3.0	12.0	9.0	25.0			
	4.1	584	1.5	339.72	7.0	12.0	11.0	24.0			
	4.7	511	1.7	297.67	8.0	12.0	12.0	24.0			
	6.1	393	1.7	228.98	8.0	12.0	12.0	22.0			
	6.0	400	1.7	232.89	8.0	12.0	12.0	22.0	PKD 2390 - 71M/4A	41	88-89
	3.9	615	1.0	234.59	7.0	20.0	9.0	20.0	PKD G 1390 - 71M/6B	35	84-85
	4.4	540	1.1	206.01	8.0	20.0	9.0	20.0			
	5.0	477	1.2	277.79	8.0	20.0	9.0	20.0	PKD G 1390 - 71M/4A	34	84-85
	5.9	403	1.5	234.59	9.0	20.0	9.0	20.0			
	6.7	354	1.7	206.01	9.0	20.0	9.0	20.0			
	4.4	540	0.7	206.01	2.0	20.0	7.0	20.0	PKD 1390 - 71M/6B	34	80-81
	5.0	482	0.8	280.80	4.0	20.0	8.0	20.0	PKD 1390 - 71M/4A	33	80-81
	5.6	424	0.9	246.59	5.0	20.0	8.0	20.0			
	6.7	354	1.1	206.01	6.0	20.0	9.0	20.0			
	8.3	287	1.4	166.82	6.0	20.0	9.0	20.0			
	9.9	242	1.7	140.87	7.0	20.0	9.0	20.0			
	11.2	212	1.9	123.71	7.0	20.0	9.0	20.0			
14.3	167	2.4	97.43	7.0	20.0	9.0	20.0				
16.1	148	2.7	86.12	7.0	20.0	9.0	20.0				
18.1	132	3.0	76.68	7.0	20.0	9.0	20.0				
22.2	108	3.7	62.74	7.0	20.0	9.0	20.0				
25.2	95	4.2	55.26	7.0	20.0	9.0	20.0				
28.4	84	4.8	48.92	7.0	20.0	9.0	20.0				
33.3	72	5.6	41.72	7.0	20.0	9.0	20.0				
39.9	60	6.7	34.86	7.0	20.0	9.0	20.0				
44.2	54	7.4	31.48	7.0	20.0	9.0	20.0				
50.1	48	8.4	27.72	7.0	20.0	9.0	20.0				
56.6	42	9.5	24.55	7.0	20.0	9.0	20.0				
66.4	36	10.0	20.93	7.0	20.0	9.0	20.0				
79.5	30	10.0	17.49	7.0	19.0	9.0	19.0				
91.0	26	10.3	15.27	7.0	18.0	9.0	18.0				
113.3	21	9.2	12.27	7.0	17.0	9.0	17.0				
128.0	19	9.6	10.86	7.0	17.0	9.0	17.0				
150.1	16	9.9	9.26	7.0	16.0	9.0	16.0				
171.9	14	10.3	8.09	7.0	15.0	9.0	15.0				

0.37 kW



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
0.37	0.9 1.2	3563 2771	2.4 3.1	1448.34 1166.22	64.0 65.0	50.0 50.0	66.0 66.0	50.0 50.0	PKD 7390/32 - 71M/4B	356	115
	1.0 1.2	3695 2886	2.2 2.8	1388.82 1118.29	64.0 64.0	50.0 50.0	66.0 66.0	50.0 50.0	PKD 6390/32 - 71M/4B	356	115
	1.0 1.3 1.5 1.9 2.4	3613 2741 2403 1816 1498	1.3 1.8 2.0 2.3 3.2	1399.82 1061.93 931.06 703.71 580.56	33.0 36.0 36.0 37.0 38.0	45.0 45.0 45.0 45.0 45.0	38.0 38.0 38.0 38.0 38.0	45.0 45.0 45.0 45.0 45.0	PKD 5490 - 71M/4B	200	102-103
	1.2 1.6 2.1 2.4 3.9	2874 2277 1664 1465 904	1.0 1.2 1.7 1.9 3.1	1113.75 882.35 644.73 567.85 350.42	21.0 24.0 26.0 27.0 28.0	40.0 40.0 40.0 40.0 40.0	28.0 28.0 28.0 28.0 28.0	40.0 40.0 40.0 40.0 38.0	PKD 4490 - 71M/4B	122	98-99
	2.0 2.5 3.4 3.9 5.1 6.4 8.2	1785 1391 1031 911 691 555 433	0.9 1.1 1.5 1.7 2.2 2.8 3.6	691.75 538.92 399.39 353.00 267.79 215.12 167.59	3.0 10.0 13.0 13.0 14.0 15.0 15.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0	15.0 15.0 15.0 15.0 15.0 15.0 15.0	27.0 26.0 25.0 24.0 23.0 22.0 21.0	PKD 3490 - 71M/4B	69	94-95
	4.6 5.5 12.3	764 645 286	2.0 2.4 5.4	296.10 250.01 110.94	14.0 14.0 15.0	15.0 15.0 15.0	15.0 15.0 15.0	23.0 22.0 18.0	PKD 3390 - 71M/4B	61	92-93
	4.0 4.6	877 768	1.0 1.1	339.72 297.67	0.4 4.0	12.0 12.0	9.0 10.0	23.0 22.0	PKD 2490 - 71M/4B	47	90-91
	4.9 5.9 6.2 7.4 13.8 17.4	715 601 566 476 255 203	1.1 1.2 1.5 1.8 3.4 4.2	276.87 232.89 219.34 184.51 98.92 78.85	5.0 7.0 7.0 8.0 9.0 9.0	12.0 12.0 12.0 12.0 12.0 12.0	10.0 11.0 11.0 12.0 12.0 12.0	22.0 21.0 21.0 20.0 18.0 17.0	PKD 2390 - 71M/4B	42	88-89
	5.8 6.6 7.5 9.1 14.9 16.8	605 532 473 387 237 210	1.0 1.1 1.3 1.6 2.1 2.9	234.59 206.01 183.15 149.85 91.88 81.40	7.0 8.0 8.0 9.0 9.0 9.0	20.0 20.0 20.0 20.0 20.0 20.0	9.0 9.0 9.0 9.0 9.0 9.0	20.0 20.0 20.0 20.0 20.0 20.0	PKD G 1390 - 71M/4B	35	84-85



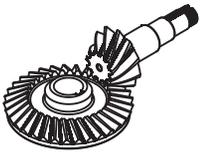
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
0.37	7.5	473	0.8	183.15	4.0	20.0	8.0	20.0	PKD 1390 - 71M/4B	34	80-81
	9.7	364	1.1	140.87	6.0	20.0	9.0	20.0			
	11.1	319	1.3	123.71	6.0	20.0	9.0	20.0			
	12.4	284	1.4	109.98	6.0	20.0	9.0	20.0			
	14.1	251	1.6	97.43	7.0	20.0	9.0	20.0			
	15.9	222	1.8	86.12	7.0	20.0	9.0	20.0			
	17.9	198	2.0	76.68	7.0	20.0	9.0	20.0			
	21.8	162	2.5	62.74	7.0	20.0	9.0	20.0			
	24.8	143	2.8	55.26	7.0	20.0	9.0	20.0			
	28.0	126	3.2	48.92	7.0	20.0	9.0	20.0			
	32.8	108	3.7	41.72	7.0	20.0	9.0	20.0			
	39.3	90	4.4	34.86	7.0	20.0	9.0	20.0			
	43.5	81	4.9	31.48	7.0	20.0	9.0	20.0			
	49.4	72	5.6	27.72	7.0	20.0	9.0	20.0			
	55.8	63	6.3	24.55	7.0	20.0	9.0	20.0			
	65.4	54	6.6	20.93	7.0	20.0	9.0	20.0			
	78.3	45	6.6	17.49	7.0	19.0	9.0	19.0			
	89.7	39	6.9	15.27	7.0	18.0	9.0	18.0			
111.6	32	6.1	12.27	7.0	17.0	9.0	17.0				
126.1	28	6.4	10.86	7.0	17.0	9.0	17.0				
147.8	24	6.6	9.26	7.0	16.0	9.0	16.0				
169.3	21	6.9	8.09	7.0	15.0	9.0	15.0				
0.55	1.0	5326	1.6	1448.34	61.0	50.0	66.0	50.0	PKD 7390/32 - 80M/4A	358	115
	1.2	4143	2.1	1166.22	63.0	50.0	66.0	50.0			
	1.4	3354	2.5	972.42	64.0	50.0	66.0	50.0			
	1.8	2675	3.2	765.14	65.0	50.0	66.0	50.0			
	2.3	2075	4.1	596.10	65.0	50.0	66.0	50.0			
	1.0	5317	1.5	1388.82	61.0	50.0	66.0	50.0	PKD 6390/32 - 80M/4A	358	115
	1.3	4196	2.0	1118.29	63.0	50.0	66.0	50.0			
	1.5	3498	2.3	932.46	64.0	50.0	66.0	50.0			
	1.9	2753	3.0	733.69	64.0	50.0	66.0	50.0			
	1.0	5252	0.9	1399.82	24.0	45.0	38.0	45.0	PKD 5490 - 80M/4A	202	102-103
	1.3	3984	1.2	1061.93	31.0	45.0	38.0	45.0			
	1.5	3493	1.4	931.06	33.0	45.0	38.0	45.0			
	2.0	2640	1.8	703.71	36.0	45.0	38.0	45.0			
	2.4	2178	2.2	580.56	37.0	45.0	38.0	45.0			
	3.0	1722	2.8	459.05	37.0	45.0	38.0	45.0			
	1.6	3310	0.8	882.35	19.0	40.0	28.0	40.0	PKD 4490 - 80M/4A	124	98-99
	2.2	2419	1.2	644.73	23.0	40.0	28.0	40.0			
	2.5	2130	1.3	567.85	24.0	40.0	28.0	40.0			
	4.0	1315	2.1	350.42	27.0	40.0	28.0	37.0			
	5.0	1047	2.7	278.98	27.0	40.0	28.0	35.0			
	6.9	766	3.7	204.13	28.0	40.0	28.0	33.0			
	3.5	1498	1.0	399.39	8.0	15.0	15.0	23.0	PKD 3490 - 80M/4A	71	94-95
	4.0	1324	1.2	353.00	10.0	15.0	15.0	22.0			
	4.7	1111	1.4	296.10	12.0	15.0	15.0	21.0	PKD 3390 - 80M/4A	63	92-93
	5.6	938	1.7	250.01	13.0	15.0	15.0	20.0			
	6.0	878	1.8	234.13	13.0	15.0	15.0	20.0			
	7.1	742	2.1	197.69	14.0	15.0	15.0	19.0			

0.55 kW
0.75 kW

PGR[®]
Drive Technologies



P_1 [kW]	n_2 [Min ⁻¹]	M_2 [Nm]	f_B	i_{ges}	F_R [kN]	F_A [kN]	F_{RGR} [kN]	F_{AGR} [kN]	Tip / Type	Kg	Sayfa Page mm
0.55	6.4	823	1.0	219.34	3.0	12.0	9.0	20.0	PKD 2390 - 80M/4A	44	88-89
	7.6	692	1.2	184.51	6.0	12.0	11.0	19.0			
	8.2	637	1.3	169.88	6.0	12.0	11.0	19.0			
	10.2	516	1.7	137.63	8.0	12.0	12.0	18.0			
	12.1	434	2.0	115.77	8.0	12.0	12.0	18.0			
	14.2	371	2.3	98.92	9.0	12.0	12.0	17.0			
	16.4	320	2.7	85.23	9.0	12.0	12.0	17.0			
	17.8	296	2.9	78.85	9.0	12.0	12.0	16.0			
	21.1	249	3.4	66.47	9.0	12.0	12.0	16.0			
	24.0	219	3.9	58.24	9.0	12.0	12.0	15.0			
	26.9	195	4.3	52.11	9.0	12.0	12.0	15.0			
	7.6	687	0.9	183.15	6.0	20.0	-	-	PKD G 1390 - 80M/4A	37	84-85
	9.3	562	1.1	149.85	8.0	20.0	-	-			
	9.8	534	1.1	142.45	8.0	20.0	-	-			
	12.0	437	1.4	116.55	9.0	20.0	-	-			
	15.2	345	1.5	91.88	9.0	20.0	-	-			
	17.2	305	2.0	81.40	9.0	20.0	-	-			
	19.5	270	2.2	71.94	9.0	20.0	-	-			
	21.9	240	2.5	64.06	9.0	20.0	-	-			
	26.7	197	3.1	52.42	8.0	20.0	-	-			
	12.7	413	1.0	109.98	5.0	20.0	8.0	20.0	PKD 1390 - 80M/4A	36	80-81
	14.4	366	1.1	97.43	5.0	20.0	8.0	20.0			
	16.3	323	1.2	86.12	6.0	20.0	9.0	20.0			
	18.3	288	1.4	76.68	6.0	20.0	9.0	20.0			
	22.3	235	1.7	62.74	7.0	20.0	9.0	20.0			
	25.3	207	1.9	55.26	7.0	20.0	9.0	20.0			
	28.6	184	2.2	48.92	7.0	20.0	9.0	20.0			
	33.6	157	2.6	41.72	7.0	20.0	9.0	20.0			
	40.2	131	3.1	34.86	7.0	20.0	9.0	20.0			
	44.5	118	3.4	31.48	7.0	20.0	9.0	20.0			
	50.5	104	3.8	27.72	7.0	20.0	9.0	20.0			
	57.0	92	4.3	24.55	7.0	20.0	9.0	20.0			
	66.9	79	4.6	20.93	7.0	20.0	9.0	20.0			
80.1	66	4.6	17.49	7.0	19.0	9.0	19.0				
91.7	57	4.7	15.27	7.0	18.0	9.0	18.0				
114.1	46	4.2	12.27	7.0	17.0	9.0	17.0				
128.9	41	4.4	10.86	7.0	16.0	9.0	16.0				
151.1	35	4.6	9.26	7.0	16.0	9.0	16.0				
173.1	30	4.7	8.09	7.0	15.0	9.0	15.0				
0.75	1.0	7414	1.1	1448.34	56.0	50.0	66.0	50.0	PKD 7390/32 - 80M/4B	359	115
	1.2	5767	1.5	1166.22	60.0	50.0	66.0	50.0			
	1.4	4670	1.8	972.42	62.0	50.0	66.0	50.0			
	1.8	3723	2.3	765.14	63.0	50.0	66.0	50.0			
	2.3	2889	2.9	596.10	64.0	50.0	66.0	50.0			
	1.0	7105	1.2	1388.82	57.0	50.0	66.0	50.0	PKD 6390/32 - 80M/4B	359	115
	1.3	5721	1.4	1118.29	60.0	50.0	66.0	50.0			
	1.5	4771	1.7	932.46	62.0	50.0	66.0	50.0			
	1.9	3754	2.2	733.69	63.0	50.0	66.0	50.0			
	2.4	2924	2.8	571.60	64.0	50.0	66.0	50.0			
	1.3	5433	0.9	1061.93	23.0	45.0	38.0	45.0			
	1.5	4763	1.0	931.06	28.0	45.0	38.0	45.0			
	2.0	3600	1.1	703.71	33.0	45.0	38.0	45.0			
	2.4	2970	1.6	580.56	35.0	45.0	38.0	45.0			
	3.0	2349	2.0	459.05	36.0	45.0	38.0	45.0			
	4.0	1785	2.7	348.85	37.0	45.0	38.0	45.0			
	5.3	1354	3.2	264.64	38.0	45.0	38.0	45.0			
	6.1	1172	3.1	228.99	38.0	45.0	38.0	45.0			



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
0.75	2.2	3298	0.8	644.73	18.0	40.0	28.0	37.0	PKD 4490 - 80M/4B	125	98-99
	2.5	2905	1.0	567.85	21.0	40.0	28.0	37.0			
	4.0	1793	1.6	350.42	26.0	40.0	28.0	35.0			
	5.0	1427	2.0	278.98	27.0	40.0	28.0	33.0			
	6.9	1044	2.7	204.13	27.0	40.0	28.0	31.0			
	8.1	880	2.8	172.07	28.0	40.0	28.0	30.0			
	4.0	1806	0.9	353.00	1.0	15.0	14.0	20.0	PKD 3490 - 80M/4B	72	94-95
	4.7	1515	1.0	296.10	8.0	15.0	15.0	19.0	PKD 3390 - 80M/4B	64	92-93
	5.6	1279	1.2	250.01	11.0	15.0	15.0	19.0			
	6.0	1198	1.3	234.13	11.0	15.0	15.0	19.0			
	7.1	1011	1.5	197.69	13.0	15.0	15.0	18.0			
	12.6	568	2.7	110.94	14.0	15.0	15.0	17.0			
	14.9	479	2.8	93.67	15.0	15.0	15.0	16.0			
	16.6	431	3.1	84.16	15.0	15.0	15.0	16.0			
	6.4	1122	0.8	219.34	0.2	12.0	4.0	18.0	PKD 2390 - 80M/4B	45	88-89
	7.6	944	0.9	184.51	0.4	12.0	8.0	18.0			
	8.2	869	1.0	169.88	0.4	12.0	9.0	18.0			
	10.2	704	1.2	137.63	5.0	12.0	10.0	17.0			
	12.1	592	1.5	115.77	7.0	12.0	11.0	17.0			
	14.2	506	1.7	98.92	8.0	12.0	12.0	16.0			
	16.4	436	2.0	85.23	8.0	12.0	12.0	16.0			
	17.8	403	2.1	78.85	8.0	12.0	12.0	16.0			
	21.1	340	2.5	66.47	9.0	12.0	12.0	15.0			
	24.0	298	2.9	58.24	9.0	12.0	12.0	15.0			
	26.9	267	3.2	52.11	9.0	12.0	12.0	14.0			
	28.6	251	3.1	48.99	9.0	12.0	12.0	14.0			
	31.2	229	3.3	44.80	9.0	12.0	12.0	14.0			
	35.3	203	3.4	39.70	9.0	12.0	12.0	13.0			
	9.3	767	0.8	149.85	5.0	20.0	9.0	20.0	PKD G 1390 - 80M/4B	38	84-85
	9.8	729	0.8	142.45	6.0	20.0	9.0	20.0			
	12.0	596	1.0	116.55	7.0	20.0	9.0	20.0			
	15.2	470	1.1	91.88	8.0	20.0	9.0	20.0			
	17.2	416	1.4	81.40	9.0	20.0	9.0	20.0			
	19.5	368	1.6	71.94	9.0	20.0	9.0	20.0			
	21.9	328	1.9	64.06	9.0	20.0	9.0	20.0			
	26.7	268	2.3	52.42	9.0	20.0	9.0	20.0			
	30.3	236	2.6	46.16	9.0	20.0	9.0	20.0			
	34.3	209	2.9	40.87	9.0	20.0	9.0	20.0			
	14.4	498	0.8	97.43	3.0	20.0	8.0	20.0	PKD 1390 - 80M/4B	37	80-81
	16.3	441	0.9	86.12	4.0	20.0	8.0	20.0			
	18.3	392	1.0	76.68	5.0	20.0	9.0	20.0			
	22.3	321	1.2	62.74	6.0	20.0	9.0	20.0			
	25.3	283	1.4	55.26	6.0	20.0	9.0	20.0			
	28.6	250	1.6	48.92	7.0	20.0	9.0	20.0			
	33.6	213	1.9	41.72	7.0	20.0	9.0	20.0			
	40.2	178	2.2	34.86	7.0	20.0	9.0	20.0			
	44.5	161	2.5	31.48	7.0	20.0	9.0	20.0			
50.5	142	2.8	27.72	7.0	20.0	9.0	20.0				
57.0	126	3.2	24.55	7.0	20.0	9.0	20.0				
66.9	107	3.3	20.93	7.0	19.0	9.0	19.0				
80.1	89	3.3	17.49	7.0	18.0	9.0	18.0				
91.7	78	3.5	15.27	7.0	18.0	9.0	18.0				
114.1	63	3.1	12.27	7.0	17.0	9.0	17.0				
128.9	56	3.2	10.86	7.0	16.0	9.0	16.0				
151.1	47	3.3	9.26	7.0	15.0	9.0	15.0				
173.1	41	3.5	8.09	7.0	15.0	9.0	15.0				

1.10 kW



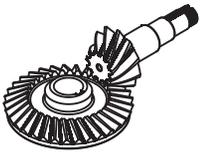
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
1.10	1.0	10614	3.0	1424.59	155.0	70.0	160.0	70.0	PKD 9390/52 - 90S/4A	1458	116
	1.0	10902	1.8	1463.24	116.0	65.0	120.0	65.0	PKD G 8390/52 -90S/4A	903	116
	1.2	8968	2.2	1203.73	118.0	65.0	120.0	65.0			
	1.5	6778	3.0	909.80	120.0	65.0	120.0	65.0			
	1.0	10933	1.2	1467.49	87.0	60.0	95.0	60.0	PKD 8390/42 -90S/4A	628	116
	1.4	7584	1.7	1017.96	93.0	60.0	95.0	60.0			
	1.7	6299	2.1	845.40	94.0	60.0	95.0	60.0			
	2.0	5253	2.5	705.03	95.0	60.0	95.0	60.0			
	2.3	4492	2.9	602.92	95.0	60.0	95.0	60.0			
	1.0	10791	0.8	1448.34	40.0	50.0	66.0	50.0	PKD 7390/32 - 90S/4A	362	115
	1.2	8689	1.0	1166.22	51.0	50.0	66.0	50.0			
	1.4	7245	1.2	972.42	56.0	50.0	66.0	50.0			
	1.8	5701	1.5	765.14	60.0	50.0	66.0	50.0			
	2.4	4441	1.9	596.10	62.0	50.0	66.0	50.0			
	3.0	3508	2.4	470.91	64.0	50.0	66.0	50.0			
	3.7	2866	3.0	384.74	64.0	50.0	66.0	50.0			
	4.5	2310	3.7	310.09	65.0	50.0	66.0	50.0			
	1.0	10347	0.8	1388.82	43.0	50.0	66.0	50.0	PKD 6390/32 - 90S/4A	362	115
	1.3	8332	1.0	1118.29	53.0	50.0	66.0	50.0			
	1.5	6947	1.2	932.46	57.0	50.0	66.0	50.0			
	1.9	5466	1.5	733.69	61.0	50.0	66.0	50.0			
	2.5	4259	1.9	571.60	62.0	50.0	66.0	50.0			
	3.1	3364	2.4	451.55	64.0	50.0	66.0	50.0			
	3.8	2749	3.0	368.93	64.0	50.0	66.0	50.0			
	4.7	2215	3.7	297.35	65.0	50.0	66.0	50.0			
	2.0	5243	0.8	703.71	25.0	45.0	38.0	45.0	PKD 5490 - 90S/4A	206	102-103
	2.4	4325	1.1	580.56	30.0	45.0	38.0	45.0			
	3.1	3420	1.4	459.05	33.0	45.0	38.0	45.0			
	4.0	2599	1.8	348.85	36.0	45.0	38.0	45.0			
	5.3	1972	2.4	264.64	37.0	45.0	38.0	45.0			
	6.2	1706	2.8	228.99	38.0	45.0	38.0	45.0			
	4.9	2158	2.2	289.62	37.0	45.0	38.0	45.0	PKD 5390 - 90S/4A	188	100-101
	5.7	1843	2.6	247.36	37.0	45.0	38.0	45.0			
3.5	3014	0.9	404.53	20.0	40.0	28.0	31.0	PKD 4490 - 90S/4A	128	98-99	
4.0	2611	1.1	350.42	23.0	40.0	28.0	31.0				
4.3	2455	1.1	329.57	23.0	40.0	28.0	31.0	PKD 4390 - 90S/4A	113	96-97	
5.1	2040	1.4	273.80	25.0	40.0	28.0	30.0				
6.0	1750	1.6	234.83	26.0	40.0	28.0	30.0				
7.2	1453	1.9	195.09	27.0	40.0	28.0	29.0				
8.5	1232	1.2	165.34	27.0	40.0	28.0	28.0				
12.0	878	2.7	117.81	28.0	40.0	28.0	26.0				
5.3	1995	0.8	267.79	1.0	15.0	12.0	17.0	PKD 3490 - 90S/4A	75	94-95	
5.6	1863	0.8	250.01	1.0	15.0	14.0	16.0	PKD 3390 - 90S/4A	67	92-93	
6.0	1744	0.9	234.13	4.0	15.0	15.0	16.0				
7.1	1473	1.1	197.69	9.0	15.0	15.0	16.0				
7.5	1402	1.1	188.22	9.0	15.0	15.0	16.0				
8.9	1184	1.3	158.92	11.0	15.0	15.0	16.0				
10.1	1089	1.5	139.49	12.0	15.0	15.0	16.0				
12.0	877	1.8	117.78	13.0	15.0	15.0	15.0				
12.7	827	1.9	110.94	14.0	15.0	15.0	15.0				
15.1	698	2.2	93.67	14.0	15.0	15.0	15.0				
16.8	627	2.5	84.16	14.0	15.0	15.0	15.0				
18.6	566	2.7	75.92	13.0	15.0	15.0	15.0				
22.0	478	3.2	64.11	13.0	15.0	15.0	14.0				
23.8	441	3.5	59.15	13.0	15.0	15.0	14.0				



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
1.10	14.3	737	1.2	98.92	5.0	12.0	10.0	15.0	PKD 2390 - 90S/4A	48	88-89			
	17.9	587	1.5	78.85	7.0	12.0	11.0	15.0						
	21.2	495	1.7	66.47	8.0	12.0	12.0	14.0						
	24.2	434	2.0	58.24	8.0	12.0	12.0	14.0						
	27.1	388	2.2	52.11	8.0	12.0	12.0	14.0						
	28.8	365	2.4	48.99	9.0	12.0	12.0	13.0						
	31.5	334	2.6	44.80	9.0	12.0	12.0	13.0						
	35.5	296	2.9	39.70	9.0	12.0	12.0	13.0						
	42.4	248	2.8	33.28	9.0	12.0	12.0	12.0						
	44.9	234	3.5	31.43	9.0	12.0	12.0	12.0						
	48.3	218	3.2	29.22	9.0	12.0	12.0	12.0						
	17.3	606	1.0	81.40	7.0	20.0	9.0	20.0				PKD G 1390 - 90S/4A	41	84-85
	19.6	536	1.1	71.94	8.0	20.0	9.0	20.0						
	22.0	477	1.3	64.06	8.0	20.0	9.0	20.0						
	26.9	391	1.6	52.42	9.0	20.0	9.0	20.0						
	30.5	344	1.8	46.16	9.0	20.0	9.0	20.0						
	34.5	305	2.0	40.87	9.0	20.0	9.0	20.0						
	40.4	260	2.3	34.86	9.0	20.0	9.0	20.0						
	46.3	227	2.6	30.44	9.0	20.0	9.0	20.0						
	22.5	467	0.9	62.74	4.0	20.0	8.0	20.0	PKD 1390 - 90S/4A	40	80-81			
	25.5	412	1.0	55.26	5.0	20.0	9.0	20.0						
	28.8	365	1.1	48.92	5.0	20.0	9.0	20.0						
	33.8	311	1.3	41.72	6.0	20.0	9.0	20.0						
	40.4	260	1.5	34.86	6.0	20.0	9.0	20.0						
	44.8	235	1.7	31.48	7.0	20.0	9.0	20.0						
	50.9	207	1.9	27.72	7.0	20.0	9.0	20.0						
	57.4	183	2.2	24.55	7.0	19.0	9.0	19.0						
	67.4	156	2.6	20.93	7.0	19.0	9.0	19.0						
	80.6	130	2.9	17.49	7.0	18.0	9.0	18.0						
	92.3	114	3.3	15.27	7.0	17.0	9.0	17.0						
	114.9	91	2.4	12.27	7.0	16.0	9.0	16.0						
	129.8	81	2.5	10.86	7.0	16.0	9.0	16.0						
	152.2	69	2.8	9.26	7.0	15.0	9.0	15.0						
174.3	60	3.0	8.09	7.0	15.0	9.0	15.0							
1.50	1.0	14371	2.2	1424.59	152.0	70.0	160.0	70.0	PKD 9390/52 - 90L/4A	1460	116			
	1.3	11292	2.8	1119.32	154.0	70.0	160.0	70.0						
	1.0	14761	1.4	1463.24	109.0	65.0	120.0	65.0	PKD G 8390/52 - 90L/4A	905	116			
	1.2	12143	1.6	1203.73	114.0	65.0	120.0	65.0						
	1.6	9178	2.2	909.80	117.0	65.0	120.0	65.0						
	2.0	7211	2.8	714.84	120.0	65.0	120.0	65.0						
	1.0	14804	0.9	1467.49	78.0	60.0	95.0	60.0	PKD 8390/42 - 90L/4A	630	116			
	1.4	10269	1.3	1017.96	89.0	60.0	95.0	60.0						
	1.7	8528	1.5	845.40	91.0	60.0	95.0	60.0						
	2.0	7112	1.8	705.03	93.0	60.0	95.0	60.0						
	2.4	6082	2.1	602.92	94.0	60.0	95.0	60.0						
	3.2	4483	2.9	444.35	95.0	60.0	95.0	60.0						
	3.7	3833	3.1	379.99	95.0	60.0	95.0	60.0						
	1.5	9810	0.9	972.42	45.0	50.0	66.0	50.0	PKD 7390/32 - 90L/4A	364	115			
	1.9	7719	1.1	765.14	54.0	50.0	66.0	50.0						
2.4	6013	1.4	596.10	59.0	50.0	66.0	50.0							
3.0	4751	1.8	470.91	62.0	50.0	66.0	50.0							
3.7	3881	2.2	384.74	63.0	50.0	66.0	50.0							
4.6	3128	2.7	310.09	64.0	50.0	66.0	50.0							
5.3	2718	3.1	269.43	65.0	50.0	66.0	50.0	PKD 7390/42 - 90L/4A	381	115				



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
1.50	1.5	9407	0.9	932.46	48.0	50.0	66.0	50.0	PKD 6390/32 - 90L/4A	364	115
	1.9	7401	1.1	733.69	55.0	50.0	66.0	50.0			
	2.5	5766	1.4	571.60	60.0	50.0	66.0	50.0			
	3.1	4555	1.8	451.55	62.0	50.0	66.0	50.0			
	3.8	3722	2.2	368.93	63.0	50.0	66.0	50.0			
	4.8	3000	2.7	297.35	64.0	50.0	66.0	50.0			
	5.5	2606	3.1	258.36	64.0	50.0	66.0	50.0	PKD 6390/42 - 90L/4A	381	115
	6.0	2375	3.5	235.45	63.0	50.0	66.0	50.0	PKD 6390 - 100L/6A	334	104-105
	3.1	4631	1.0	459.05	28.0	45.0	38.0	45.0	PKD 5490 - 90L/4A	208	102-103
	4.1	3519	1.4	348.85	33.0	45.0	38.0	45.0			
	5.4	2670	1.8	264.64	36.0	45.0	38.0	45.0			
	6.2	2310	2.1	228.99	36.0	45.0	38.0	45.0			
	8.6	1665	2.4	165.02	38.0	45.0	38.0	44.0			
	4.9	2922	1.6	289.62	35.0	45.0	38.0	45.0	PKD 5390 - 90L/4A	190	100-101
	5.7	2495	1.9	247.36	36.0	45.0	38.0	45.0			
	9.8	1466	2.5	145.30	38.0	45.0	38.0	43.0			
	4.1	3535	0.8	350.42	16.0	40.0	28.0	28.0	PKD 4490 - 90L/4A	130	98-99
	4.3	3325	0.8	329.57	18.0	40.0	28.0	28.0	PKD 4390 - 90L/4A	115	96-97
	5.2	2762	1.0	273.80	22.0	40.0	28.0	28.0			
	6.0	2369	1.2	234.83	23.0	40.0	28.0	28.0			
	7.3	1968	1.4	195.09	25.0	40.0	28.0	27.0			
	8.6	1668	0.9	165.34	26.0	40.0	28.0	27.0			
	12.1	1188	2.0	117.81	27.0	40.0	28.0	25.0			
	14.9	964	2.6	95.57	28.0	40.0	28.0	24.0			
	16.4	873	2.7	86.50	28.0	40.0	28.0	24.0			
	7.2	1994	0.8	197.69	1.0	15.0	12.0	14.0	PKD 3390 - 90L/4A	69	92-93
	7.5	1899	0.8	188.22	1.0	15.0	13.0	14.0			
	8.9	1603	1.0	158.92	7.0	15.0	15.0	14.0			
	10.2	1407	1.1	139.49	9.0	15.0	15.0	14.0			
	12.1	1188	1.3	117.78	11.0	15.0	15.0	14.0			
	12.8	1119	1.4	110.94	12.0	15.0	15.0	14.0			
	15.2	945	1.6	93.67	13.0	15.0	15.0	14.0			
	16.9	849	1.8	84.16	12.0	15.0	15.0	14.0			
18.7	766	2.0	75.92	12.0	15.0	15.0	14.0				
22.2	647	2.4	64.11	12.0	15.0	15.0	13.0				
24.0	597	2.6	59.15	12.0	15.0	15.0	13.0				
28.4	504	2.7	49.94	11.0	15.0	15.0	13.0				
29.8	481	3.0	47.67	11.0	15.0	15.0	13.0				
35.2	407	3.0	40.37	11.0	15.0	15.0	12.0				
14.4	998	0.9	98.92	0.3	12.0	7.0	13.0	PKD 2390 - 90L/4A	49	88-89	
18.0	795	1.1	78.85	4.0	12.0	10.0	13.0				
21.4	671	1.3	66.47	6.0	12.0	11.0	13.0				
24.4	588	1.5	58.24	7.0	12.0	11.0	13.0				
27.3	526	1.6	52.11	8.0	12.0	12.0	13.0				
29.0	494	1.7	48.99	8.0	12.0	12.0	13.0				
31.7	452	1.9	44.80	8.0	12.0	12.0	13.0				
35.8	400	2.1	39.70	8.0	12.0	12.0	12.0				
42.7	336	2.1	33.28	9.0	12.0	12.0	12.0				
45.2	317	2.6	31.43	9.0	12.0	12.0	12.0				
48.6	295	2.4	29.22	9.0	12.0	12.0	12.0				
54.3	264	2.5	26.14	9.0	12.0	12.0	11.0				
57.8	248	2.4	24.58	9.0	12.0	12.0	11.0				
63.2	227	2.6	22.48	9.0	12.0	12.0	11.0				
71.3	201	2.7	19.92	9.0	12.0	12.0	11.0				

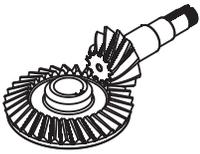


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
1.50	19.7	726	0.8	71.94	5.0	20.0	9.0	20.0	PKD G 1390 - 90L/4A	43	84-85
	22.2	646	0.9	64.06	7.0	20.0	9.0	20.0			
	27.1	529	1.2	52.42	8.0	20.0	9.0	20.0			
	30.8	466	1.3	46.16	8.0	20.0	9.0	20.0			
	34.7	412	1.5	40.87	9.0	20.0	9.0	20.0			
	40.7	352	1.7	34.86	9.0	20.0	9.0	20.0			
	46.7	307	2.0	30.44	9.0	19.0	9.0	19.0			
	54.0	265	2.3	26.30	9.0	19.0	9.0	19.0			
	61.3	234	2.2	23.16	9.0	19.0	9.0	19.0			
	69.2	207	2.5	20.51	9.0	18.0	9.0	18.0			
	29.0	494	0.8	48.92	3.0	20.0	8.0	20.0	PKD 1390 -90L/4A	42	80-81
	34.0	421	1.0	41.72	5.0	20.0	8.0	20.0			
	40.7	352	1.1	34.86	6.0	20.0	9.0	20.0			
	45.1	318	1.3	31.48	6.0	20.0	9.0	20.0			
	51.2	280	1.4	27.72	6.0	19.0	9.0	19.0			
	57.9	248	1.6	24.55	7.0	19.0	9.0	19.0			
	67.8	211	1.9	20.93	7.0	18.0	9.0	18.0			
	81.2	176	2.2	17.49	7.0	17.0	9.0	17.0			
	93.0	154	2.5	15.27	7.0	17.0	9.0	17.0			
	115.8	124	1.8	12.27	7.0	16.0	9.0	16.0			
130.7	110	1.8	10.86	7.0	15.0	9.0	15.0				
153.3	93	2.1	9.26	7.0	15.0	9.0	15.0				
175.6	82	2.2	8.09	7.0	14.0	9.0	14.0				
2.20	1.0	21227	1.5	1424.59	144.0	70.0	160.0	70.0	PKD 9390/52 - 100L/4A	1464	116
	1.3	16679	1.9	1119.32	150.0	70.0	160.0	70.0			
	1.7	12606	2.5	846.00	154.0	70.0	160.0	70.0			
	2.0	10528	3.0	706.54	155.0	70.0	160.0	70.0			
	1.0	21803	0.9	1463.24	92.0	65.0	120.0	65.0	PKD G 8390/52 -100L/4A	909	116
	1.2	17936	1.1	1203.73	103.0	65.0	120.0	65.0			
	1.5	13557	1.5	909.80	112.0	65.0	120.0	65.0			
	2.0	10652	1.9	714.84	116.0	65.0	120.0	65.0			
	2.3	9293	2.2	623.65	118.0	65.0	120.0	65.0			
	1.4	15168	0.9	1017.96	78.0	60.0	95.0	60.0	PKD 8390/42 - 100L/4A	634	116
	1.7	12597	1.0	845.40	85.0	60.0	95.0	60.0			
	2.0	10505	1.2	705.03	88.0	60.0	95.0	60.0			
	2.3	8984	1.4	602.92	91.0	60.0	95.0	60.0			
	3.2	6621	2.0	444.35	94.0	60.0	95.0	60.0			
	3.7	5662	2.3	379.99	95.0	60.0	95.0	60.0			
	4.9	4262	3.1	286.02	95.0	60.0	95.0	60.0			
	1.8	11401	0.7	765.14	38.0	50.0	66.0	50.0	PKD 7390/32 - 100L/4A	368	115
	2.4	8882	1.0	596.10	51.0	50.0	66.0	50.0			
	3.0	7017	1.2	470.91	57.0	50.0	66.0	50.0			
	3.7	5733	1.0	384.74	60.0	50.0	66.0	50.0			
	4.5	4621	1.8	310.09	62.0	50.0	66.0	50.0			
	5.2	4015	2.1	269.43	64.0	50.0	66.0	50.0	PKD 7390/42 - 100L/4A	385	115
	7.2	2925	2.0	196.30	64.0	50.0	66.0	50.0			
	9.0	2340	2.7	157.05	65.0	50.0	66.0	49.0			
	5.7	3659	2.3	245.55	64.0	50.0	66.0	50.0	PKD 7390 - 100L/4A	334	106-107
	6.8	3084	2.8	206.98	64.0	50.0	66.0	50.0			
	10.3	2036	3.3	136.65	65.0	50.0	66.0	50.0			
	1.9	10933	0.8	733.69	43.0	50.0	66.0	50.0	PKD 6390/32 - 100L/4A	368	115
	2.5	8517	1.0	571.60	52.0	50.0	66.0	50.0			
	3.1	6728	1.2	451.55	58.0	50.0	66.0	50.0			
3.8	5497	1.5	368.93	60.0	50.0	66.0	50.0				
4.7	4431	1.9	297.35	62.0	50.0	66.0	50.0				
5.5	3850	2.1	258.36	63.0	50.0	66.0	50.0	PKD 6390/42 - 100L/4A	385	115	
7.5	2805	2.6	188.23	64.0	50.0	66.0	50.0				
9.4	2244	2.8	150.60	65.0	50.0	66.0	50.0				
7.1	2954	2.8	198.23	64.0	50.0	66.0	50.0	PKD 6390 - 100L/4A	334	104-105	
10.9	1928	3.4	129.36	65.0	50.0	66.0	50.0				

2.20 kW



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
2.20	4.0	5198	0.9	348.85	26.0	45.0	38.0	45.0	PKD 5490 - 100L/4A	212	102-103
	4.9	4316	1.1	289.62	31.0	45.0	38.0	45.0	PKD 5390 - 100L/4A	194	100-101
	5.7	3686	1.3	247.36	33.0	45.0	38.0	45.0			
	7.1	2956	1.6	198.37	35.0	45.0	38.0	44.0			
	8.3	2525	1.9	169.43	36.0	45.0	38.0	42.0			
	9.7	2165	1.7	145.30	37.0	45.0	38.0	41.0			
	11.7	1788	2.7	120.01	37.0	45.0	38.0	39.0			
	13.8	1527	2.6	102.50	38.0	45.0	38.0	38.0			
	6.0	3499	0.8	234.83	17.0	40.0	28.0	23.0	PKD 4390 - 100L/4A	119	96-97
	7.2	2907	1.0	195.09	21.0	40.0	28.0	23.0			
	8.8	2383	1.2	159.93	24.0	40.0	28.0	24.0			
	10.6	1980	1.4	132.86	25.0	40.0	28.0	23.0			
	12.0	1755	1.4	117.81	26.0	40.0	28.0	23.0			
	14.8	1424	2.0	95.57	27.0	40.0	28.0	23.0			
	16.3	1289	2.2	86.50	27.0	40.0	28.0	22.0			
	18.5	1134	2.5	76.08	27.0	40.0	28.0	22.0			
	20.6	1021	2.7	68.52	28.0	40.0	28.0	21.0			
	22.3	942	2.7	63.21	28.0	40.0	28.0	21.0			
	25.3	830	3.1	55.67	28.0	40.0	28.0	21.0			
	12.7	1653	0.9	110.94	7.0	15.0	15.0	12.0	PKD 3390 - 100L/4A	73	92-93
	15.1	1396	1.1	93.67	10.0	15.0	15.0	12.0			
	16.8	1254	1.2	84.16	11.0	15.0	15.0	12.0			
	18.6	1131	1.4	75.92	11.0	15.0	15.0	12.0			
	22.0	955	1.6	64.11	11.0	15.0	15.0	12.0			
	23.8	881	1.8	59.15	11.0	15.0	15.0	12.0			
	28.2	744	2.1	49.94	10.0	15.0	15.0	12.0			
	29.6	710	2.2	47.67	10.0	15.0	15.0	12.0			
	34.9	601	2.6	40.37	10.0	15.0	15.0	11.0			
	37.0	568	2.2	38.09	10.0	15.0	15.0	11.0			
	39.5	531	2.2	35.65	10.0	15.0	15.0	11.0			
	47.5	442	2.6	29.67	10.0	15.0	15.0	11.0			
	21.2	990	0.9	66.47	0.4	12.0	8.0	11.0			
	24.2	868	1.0	58.24	2.0	12.0	9.0	11.0			
	27.1	776	1.1	52.11	5.0	12.0	10.0	11.0			
	28.8	730	1.2	48.99	5.0	12.0	10.0	11.0			
	31.5	668	1.3	44.80	6.0	12.0	11.0	11.0			
	35.5	592	1.5	39.70	7.0	12.0	11.0	11.0			
	42.4	496	1.5	33.28	8.0	12.0	12.0	11.0			
	44.9	468	1.8	31.43	8.0	12.0	12.0	11.0			
	48.3	435	2.0	29.22	8.0	12.0	12.0	11.0			
	53.9	390	2.2	26.14	9.0	12.0	12.0	11.0			
	57.4	366	2.0	24.58	8.0	12.0	12.0	10.0			
	62.7	335	2.3	22.48	8.0	12.0	12.0	10.0			
	70.8	297	2.5	19.92	8.0	12.0	12.0	10.0			
	80.5	261	2.8	17.52	8.0	12.0	12.0	10.0			
	86.5	243	2.1	16.29	8.0	12.0	12.0	10.0			
	96.7	217	2.1	14.58	8.0	12.0	12.0	9.0			
112.5	187	2.3	12.53	7.0	12.0	12.0	9.0				
127.0	165	2.5	11.11	7.0	12.0	12.0	9.0				
160.4	131	2.7	8.79	7.0	11.0	12.0	8.0				
26.9	781	0.8	52.42	5.0	19.0	9.0	19.0	PKD G 1390 - 100L/4A	47	84-85	
30.5	688	0.9	46.16	7.0	18.0	9.0	18.0				
34.5	609	1.0	40.87	7.0	18.0	9.0	18.0				
40.4	519	1.2	34.86	8.0	18.0	9.0	18.0				
46.3	454	1.3	30.44	9.0	18.0	9.0	18.0				
53.6	392	1.5	26.30	9.0	18.0	9.0	18.0				
60.9	345	1.5	23.16	9.0	17.0	9.0	17.0				
68.8	306	1.9	20.51	9.0	17.0	9.0	17.0				
80.6	261	2.1	17.49	9.0	16.0	9.0	16.0				
92.3	228	2.3	15.27	9.0	16.0	9.0	16.0				
112.9	186	2.5	12.49	9.0	15.0	9.0	15.0				

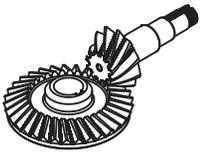


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [N]	F _A [N]	F _{R GR} [N]	F _{A GR} [N]	Tip / Type	Kg	Sayfa Page mm
2.20	40.4	519	0.8	34.86	3.0	18.0	8.0	18.0	PKD 1390 - 100L/4A	46	80-81
	44.8	469	0.9	31.48	4.0	18.0	8.0	18.0			
	50.9	413	1.0	27.72	5.0	18.0	9.0	18.0			
	57.4	366	1.1	24.55	6.0	17.0	9.0	17.0			
	67.4	312	1.3	20.93	6.0	17.0	9.0	17.0			
	80.6	261	1.5	17.49	7.0	16.0	9.0	16.0			
	92.3	228	1.7	15.27	7.0	16.0	9.0	16.0			
	114.9	183	1.2	12.27	7.0	15.0	9.0	15.0			
	129.8	162	1.2	10.86	7.0	15.0	9.0	15.0			
	152.2	138	1.4	9.26	7.0	14.0	9.0	14.0			
174.3	121	1.5	8.09	7.0	14.0	9.0	14.0				
3.00	1.0	28947	1.1	1424.59	129.0	70.0	160.0	70.0	PKD 9390/52 - 100L/4B	1467	116
	1.3	22744	1.4	1119.32	142.0	70.0	160.0	70.0			
	1.7	17190	1.9	846.00	149.0	70.0	160.0	70.0			
	2.0	14356	2.2	706.54	152.0	70.0	160.0	70.0			
	2.3	12390	2.6	609.75	154.0	70.0	160.0	70.0			
	3.2	9027	2.6	444.25	156.0	70.0	160.0	70.0			
	1.2	24459	0.8	1203.73	83.0	65.0	120.0	65.0	PKD G 8390/52 -100L/4B	912	116
	1.5	18486	1.1	909.80	102.0	65.0	120.0	65.0			
	2.0	14525	1.4	714.84	110.0	65.0	120.0	65.0			
	2.3	12672	1.6	623.65	113.0	65.0	120.0	65.0			
	3.2	8838	2.3	434.96	118.0	65.0	120.0	65.0			
	3.7	7711	2.6	379.47	119.0	65.0	120.0	65.0			
	1.7	17178	0.8	845.40	73.0	60.0	95.0	60.0	PKD 8390/42 - 100L/4B	637	116
	2.0	14326	0.9	705.03	80.0	60.0	95.0	60.0			
	2.3	12251	1.1	602.92	85.0	60.0	95.0	60.0			
	3.2	9029	1.4	444.35	91.0	60.0	95.0	60.0			
	3.7	7721	1.7	379.99	92.0	60.0	95.0	60.0			
	4.9	5812	2.2	286.02	94.0	60.0	95.0	60.0			
	5.7	5008	2.6	246.45	95.0	60.0	95.0	60.0	PKD 8390/52 - 100L/4B	662	116
	3.0	9568	0.9	470.91	47.0	50.0	66.0	50.0	PKD 7390/32 - 100L/4B	371	115
	3.7	7818	1.1	384.74	54.0	50.0	66.0	50.0			
	4.5	6301	1.3	310.09	59.0	50.0	66.0	50.0			
	5.2	5475	1.6	269.43	60.0	50.0	66.0	50.0	PKD 7390/42 - 100L/4B	388	115
	7.2	3989	1.9	196.30	63.0	50.0	66.0	50.0			
	9.0	3191	2.0	157.05	64.0	50.0	66.0	48.0			
	10.5	2729	2.3	134.31	65.0	50.0	66.0	46.0			
	5.7	4989	1.7	245.55	61.0	50.0	66.0	50.0	PKD 7390 - 100L/4B	337	106-107
	6.8	4206	2.0	206.98	63.0	50.0	66.0	50.0			
	10.3	2777	2.4	136.65	65.0	50.0	66.0	49.0			
	12.8	2237	2.4	110.10	65.0	50.0	66.0	47.0			
15.4	1858	2.6	91.45	65.0	50.0	66.0	45.0				
3.1	9175	0.9	451.55	49.0	50.0	66.0	50.0	PKD 6390/32 - 100L/4B	371	115	
3.8	7496	1.1	368.93	55.0	50.0	66.0	50.0				
4.7	6042	1.4	297.35	59.0	50.0	66.0	50.0				
5.5	5250	1.6	258.36	61.0	50.0	66.0	50.0	PKD 6390/42 - 100L/4B	388	115	
7.5	3825	1.9	188.23	63.0	50.0	66.0	50.0				
9.4	3060	2.0	150.60	64.0	50.0	66.0	50.0				
6.0	4784	1.7	235.45	61.0	50.0	66.0	50.0	PKD 6390 - 100L/4B	337	104-105	
7.1	4028	2.0	198.23	63.0	50.0	66.0	50.0				
10.9	2628	2.5	129.36	64.0	50.0	66.0	50.0				
13.4	2145	2.4	105.58	65.0	50.0	66.0	50.0				

3.00 kW



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
3.00	4.9	5885	0.8	289.62	20.0	45.0	38.0	43.0	PKD 5390 - 100L/4B	197	100-101			
	5.7	5026	1.0	247.36	26.0	45.0	38.0	43.0						
	7.1	4031	1.2	198.37	31.0	45.0	38.0	42.0						
	8.3	3443	1.4	169.43	34.0	45.0	38.0	41.0						
	9.7	2952	1.2	145.30	35.0	45.0	38.0	40.0						
	11.7	2439	1.9	120.01	36.0	45.0	38.0	38.0						
	13.8	2083	1.9	102.50	37.0	45.0	38.0	37.0						
	16.0	1791	2.2	88.12	37.0	45.0	38.0	36.0						
	19.5	1467	2.4	72.18	38.0	45.0	38.0	34.0						
	8.2	3496	0.8	172.07	17.0	40.0	28.0	20.0				PKD 4490 - 100L/4B	137	98-99
	8.8	3250	0.9	159.93	19.0	40.0	28.0	20.0				PKD 4390 - 100L/4B	122	96-97
	10.6	2700	1.0	132.86	23.0	40.0	28.0	20.0						
	12.0	2394	1.0	117.81	24.0	40.0	28.0	21.0						
	14.8	1942	1.4	95.57	25.0	40.0	28.0	21.0						
	16.3	1758	1.6	86.50	26.0	40.0	28.0	21.0						
	18.5	1546	1.8	76.08	27.0	40.0	28.0	20.0						
	20.6	1392	2.0	68.52	27.0	40.0	28.0	20.0						
	22.3	1284	2.0	63.21	27.0	40.0	28.0	20.0						
	25.3	1131	2.3	55.67	27.0	40.0	28.0	20.0						
29.6	967	2.5	47.61	28.0	40.0	28.0	19.0							
34.8	824	2.6	40.56	28.0	40.0	28.0	19.0							
41.0	698	2.1	34.38	28.0	40.0	28.0	18.0							
50.5	568	2.3	27.93	28.0	40.0	28.0	17.0							
15.1	1903	0.8	93.67	1.0	14.0	13.0	10.0	PKD 3390 - 100L/4B	76	92-93				
16.8	1710	0.9	84.16	5.0	15.0	15.0	10.0							
18.6	1543	1.0	75.92	8.0	15.0	15.0	10.0							
22.0	1303	1.2	64.11	9.0	15.0	15.0	10.0							
23.8	1202	1.3	59.15	9.0	15.0	15.0	10.0							
28.2	1015	1.5	49.94	9.0	15.0	15.0	10.0							
29.6	969	1.6	47.67	9.0	15.0	15.0	11.0							
34.9	820	1.9	40.37	9.0	15.0	15.0	10.0							
37.0	774	1.7	38.09	9.0	15.0	15.0	10.0							
39.5	724	1.6	35.65	9.0	15.0	15.0	10.0							
47.5	603	1.9	29.67	9.0	14.0	15.0	10.0							
56.3	509	1.9	25.06	9.0	14.0	15.0	10.0							
59.0	486	2.1	23.92	9.0	14.0	15.0	10.0							
69.6	411	2.2	20.25	8.0	13.0	15.0	10.0							
82.5	347	2.3	17.10	8.0	13.0	15.0	9.0							
89.6	320	2.4	15.73	8.0	12.0	15.0	9.0							
104.1	275	2.3	13.54	8.0	12.0	15.0	9.0							
111.2	258	2.1	12.68	7.0	11.0	15.0	9.0							
131.3	218	2.2	10.74	7.0	11.0	15.0	8.0							
27.1	1059	0.8	52.11	0.3	12.0	6.0	10.0	PKD 2390 - 100L/4B	56	88-89				
28.8	995	0.9	48.99	0.3	12.0	7.0	10.0							
31.5	910	0.9	44.80	0.4	12.0	9.0	10.0							
35.5	807	1.1	39.70	4.0	12.0	10.0	10.0							
42.4	676	1.1	33.28	6.0	12.0	11.0	10.0							
44.9	639	1.3	31.43	6.0	12.0	11.0	10.0							
48.3	594	1.4	29.22	7.0	12.0	11.0	10.0							
53.9	531	1.6	26.14	8.0	12.0	12.0	10.0							
57.4	499	1.5	24.58	8.0	12.0	12.0	10.0							
62.7	457	1.7	22.48	8.0	12.0	12.0	10.0							
70.8	405	1.8	19.92	8.0	12.0	12.0	10.0							
80.5	356	2.0	17.52	7.0	12.0	12.0	9.0							
86.5	331	1.5	16.29	7.0	12.0	12.0	9.0							
96.7	296	1.6	14.58	7.0	12.0	12.0	9.0							
112.5	255	1.7	12.53	7.0	11.0	12.0	9.0							
127.0	226	1.8	11.11	7.0	11.0	12.0	9.0							
160.4	179	2.0	8.79	6.0	10.0	12.0	8.0							

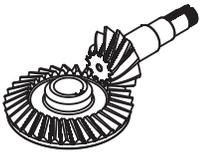


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
3.00	40.4	708	0.8	34.86	6.0	16.0	9.0	16.0	PKD G 1390 - 100L/4B	49	84-85
	46.3	618	1.0	30.44	7.0	16.0	9.0	16.0			
	53.6	534	1.1	26.30	8.0	16.0	9.0	16.0			
	60.9	471	1.1	23.16	8.0	16.0	9.0	16.0			
	68.8	417	1.4	20.51	9.0	16.0	9.0	16.0			
	80.6	355	1.5	17.49	9.0	15.0	9.0	15.0			
	92.3	310	1.7	15.27	9.0	15.0	9.0	15.0			
	112.9	254	1.8	12.49	9.0	15.0	9.0	15.0			
	57.4	499	0.8	24.55	3.0	16.0	8.0	16.0	PKD 1390 - 100L/4B	48	80-81
	67.4	425	0.9	20.93	5.0	16.0	8.0	16.0			
	80.6	355	1.1	17.49	6.0	15.0	9.0	15.0			
	92.3	310	1.2	15.27	6.0	15.0	9.0	15.0			
	114.9	249	0.9	12.27	7.0	14.0	9.0	14.0			
	129.8	221	0.9	10.86	7.0	14.0	9.0	14.0			
	152.2	188	1.0	9.26	7.0	14.0	9.0	14.0			
	174.3	164	1.1	8.09	7.0	13.0	9.0	13.0			
4.00	1.0	38056	0.8	1424.59	102.0	70.0	160.0	70.0	PKD 9390/52 - 112M/4B	1476	116
	1.3	29901	1.1	1119.32	128.0	70.0	160.0	70.0			
	1.7	22599	1.4	846.00	142.0	70.0	160.0	70.0			
	2.0	18874	1.7	706.54	147.0	70.0	160.0	70.0			
	2.3	16289	2.0	609.75	150.0	70.0	160.0	70.0			
	3.2	11867	2.7	444.25	154.0	70.0	160.0	70.0			
	3.7	10318	3.0	386.23	155.0	70.0	160.0	70.0			
	1.6	24304	0.8	909.80	83.0	65.0	120.0	65.0	PKD G 8390/52 - 112M/4B	921	116
	2.0	19096	1.0	714.84	99.0	65.0	120.0	65.0			
	2.3	16660	1.2	623.65	106.0	65.0	120.0	65.0			
	3.3	11619	1.7	434.96	115.0	65.0	120.0	65.0			
	3.8	10137	2.0	379.47	117.0	65.0	120.0	65.0			
	5.3	7262	2.8	271.85	120.0	65.0	120.0	65.0			
	2.4	16106	0.8	602.92	76.0	60.0	95.0	60.0	PKD 8390/42 - 112M/4B	646	116
	3.2	11870	1.1	444.35	86.0	60.0	95.0	60.0			
	3.8	10151	1.3	379.99	89.0	60.0	95.0	60.0			
	5.0	7640	1.7	286.02	93.0	60.0	95.0	60.0			
	5.8	6584	2.0	246.45	94.0	60.0	95.0	60.0	PKD 8390/52 - 112M/4B	671	116
	7.8	4870	2.7	182.32	95.0	60.0	95.0	60.0			
	9.8	3910	3.3	146.35	95.0	60.0	95.0	60.0			
	11.6	3303	3.3	123.64	95.0	60.0	95.0	60.0			
	3.7	10278	0.8	384.74	44.0	50.0	66.0	50.0	PKD 7390/32 - 112M/4B	380	115
	4.6	8284	1.0	310.09	53.0	50.0	66.0	50.0			
	5.3	7197	1.2	269.43	56.0	50.0	66.0	50.0	PKD 7390/42 - 112M/4B	397	115
	7.3	5244	1.4	196.30	61.0	50.0	66.0	48.0			
	9.1	4195	1.5	157.05	63.0	50.0	66.0	46.0			
	5.8	6559	1.3	245.55	58.0	50.0	66.0	50.0	PKD 7390 - 112M/4B	346	106-107
	6.9	5529	1.5	206.98	60.0	50.0	66.0	50.0			
	10.5	3650	1.8	136.65	64.0	50.0	66.0	47.0			
	13.0	2941	2.7	110.10	64.0	50.0	66.0	46.0			
	15.6	2443	2.9	91.45	65.0	50.0	66.0	44.0			
	3.9	9855	0.8	368.93	47.0	50.0	66.0	50.0	PKD 6390/32 - 112M/4B	379	115
4.8	7943	1.0	297.35	54.0	50.0	66.0	50.0				
5.5	6902	1.2	258.36	57.0	50.0	66.0	50.0	PKD 6390/42 - 112M/4B	396	115	
7.6	5028	1.4	188.23	61.0	50.0	66.0	50.0				
9.5	4023	1.5	150.60	63.0	50.0	66.0	50.0				
6.1	6290	1.3	235.45	58.0	50.0	66.0	50.0	PKD 6390 - 112M/4B	345	104-105	
7.2	5295	1.5	198.23	61.0	50.0	66.0	50.0				
11.1	3456	1.9	129.36	63.0	50.0	66.0	50.0				
13.5	2820	2.7	105.58	64.0	50.0	66.0	50.0				

4.00 kW



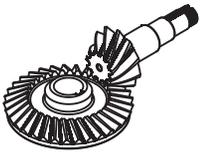
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
4.00	6.2	6117	0.8	228.99	18.0	45.0	38.0	39.0	PKD 5490 - 112M/4B	224	102-103
	7.2	5299	0.9	198.37	25.0	45.0	38.0	39.0	PKD 5390 - 112M/4B	205	100-101
	8.4	4526	1.1	169.43	29.0	45.0	38.0	38.0			
	9.8	3881	0.9	145.30	32.0	45.0	38.0	37.0			
	11.9	3206	1.5	120.01	34.0	45.0	38.0	36.0			
	14.0	2738	1.8	102.50	36.0	45.0	38.0	35.0			
	16.2	2354	2.0	88.12	36.0	45.0	38.0	34.0			
	19.8	1928	2.5	72.18	37.0	45.0	38.0	33.0			
	22.9	1668	2.9	62.45	38.0	45.0	38.0	32.0			
	26.2	1457	3.0	54.55	38.0	45.0	38.0	31.0			
	10.8	3549	0.8	132.86	17.0	40.0	28.0	17.0	PKD 4390 - 112M/4B	131	96-97
	12.1	3147	0.8	117.81	19.0	40.0	28.0	18.0			
	15.0	2553	1.1	95.57	23.0	40.0	28.0	18.0			
	16.5	2311	1.2	86.50	24.0	40.0	28.0	18.0			
	18.8	2032	1.4	76.08	25.0	40.0	28.0	18.0			
	20.9	1830	1.5	68.52	26.0	40.0	28.0	18.0			
	22.6	1689	1.7	63.21	26.0	40.0	28.0	18.0			
	25.7	1487	1.9	55.67	27.0	40.0	28.0	18.0			
	30.0	1272	2.2	47.61	27.0	40.0	28.0	17.0			
	35.3	1084	2.6	40.56	27.0	40.0	28.0	17.0			
	41.6	918	2.4	34.38	28.0	40.0	28.0	17.0			
	51.2	746	2.6	27.93	28.0	40.0	28.0	16.0			
	18.8	2028	0.8	75.92	1.0	10.0	12.0	8.0	PKD 3390 - 112M/4B	85	92-93
	22.3	1712	0.9	64.11	6.0	11.0	15.0	9.0			
	24.2	1580	1.0	59.15	7.0	12.0	15.0	9.0			
	28.6	1334	1.2	49.94	7.0	12.0	15.0	9.0			
	30.0	1274	1.2	47.67	7.0	12.0	15.0	9.0			
	35.4	1078	1.4	40.37	8.0	13.0	15.0	9.0			
	37.5	1018	1.5	38.09	8.0	13.0	15.0	9.0			
	40.1	952	1.6	35.65	8.0	13.0	15.0	9.0			
	48.2	793	1.9	29.67	8.0	13.0	15.0	9.0			
	57.1	669	2.1	25.06	8.0	12.0	15.0	9.0			
	59.8	639	2.3	23.92	8.0	12.0	15.0	9.0			
	70.6	541	2.5	20.25	8.0	12.0	15.0	9.0			
	83.6	457	2.5	17.10	7.0	12.0	15.0	9.0			
	90.9	420	2.6	15.73	7.0	11.0	15.0	9.0			
	105.6	362	2.6	13.54	7.0	11.0	15.0	8.0			
	112.8	339	2.4	12.68	7.0	10.0	15.0	8.0			
	133.2	287	2.5	10.74	7.0	10.0	15.0	8.0			
	36.0	1061	0.8	39.70	0.3	11.0	6.0	9.0	PKD 2390 - 112M/4B	63	88-89
	43.0	889	0.8	33.28	0.4	11.0	8.0	9.0			
	45.5	840	1.0	31.43	3.0	11.0	9.0	9.0			
	48.9	781	1.1	29.22	4.0	12.0	10.0	9.0			
	54.7	698	1.2	26.14	6.0	12.0	11.0	9.0			
	58.2	657	1.3	24.58	6.0	11.0	11.0	9.0			
	63.6	600	1.3	22.48	7.0	12.0	11.0	9.0			
	71.8	532	1.4	19.92	7.0	11.0	12.0	9.0			
81.6	468	1.5	17.52	7.0	11.0	12.0	8.0				
87.8	435	1.4	16.29	7.0	11.0	12.0	8.0				
98.1	389	1.5	14.58	6.0	11.0	12.0	8.0				
114.1	335	1.6	12.53	6.0	10.0	12.0	8.0				
128.8	297	1.8	11.11	6.0	10.0	12.0	8.0				
162.6	235	2.0	8.79	6.0	9.0	12.0	8.0				
54.4	702	0.9	26.30	6.0	14.0	9.0	14.0	PKD G 1390 - 112M/4B	58	84-85	
61.7	619	0.8	23.16	7.0	14.0	9.0	14.0				
69.7	548	1.1	20.51	8.0	14.0	9.0	14.0				
81.8	467	1.2	17.49	9.0	14.0	9.0	14.0				
93.6	408	1.3	15.27	9.0	14.0	9.0	14.0				
114.5	334	1.6	12.49	9.0	14.0	9.0	14.0				



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
4.00	81.8	467	0.8	17.49	4.0	14.0	8.0	14.0	PKD 1390 - 112M/4B	57	80-81
	93.6	408	0.9	15.27	5.0	14.0	9.0	14.0			
	154.4	247	0.8	9.26	7.0	13.0	9.0	13.0			
	176.8	216	0.8	8.09	7.0	13.0	9.0	13.0			
5.50	1.3	40687	0.8	1119.32	93.0	70.0	160.0	70.0	PKD 9390/52 - 132S/4C	1490	116
	1.7	30752	1.0	846.00	124.0	70.0	160.0	70.0			
	2.0	25682	1.2	706.54	135.0	70.0	160.0	70.0			
	2.4	22164	1.4	609.75	143.0	70.0	160.0	70.0			
	3.3	16148	2.0	444.25	150.0	70.0	160.0	70.0			
	3.7	14039	2.3	386.23	152.0	70.0	160.0	70.0			
	5.1	10229	3.1	281.40	155.0	70.0	160.0	70.0			
	2.0	25984	0.8	714.84	72.0	65.0	120.0	65.0	PKD G 8390/52 -132S/4C	935	116
	2.3	22669	0.9	623.65	87.0	65.0	120.0	65.0			
	3.3	15810	1.3	434.96	107.0	65.0	120.0	65.0			
	3.8	13794	1.4	379.47	111.0	65.0	120.0	65.0			
	5.3	9882	2.0	271.85	117.0	65.0	120.0	65.0			
	6.1	8591	2.3	236.35	118.0	65.0	120.0	65.0			
	6.3	8385	2.4	230.68	119.0	65.0	120.0	65.0	PKD G 8390 - 132S/4C	859	110-111
	7.4	7053	2.8	194.04	120.0	65.0	120.0	65.0			
	3.3	16152	0.8	444.35	76.0	60.0	95.0	60.0	PKD 8390/42 - 132S/4C	660	116
	3.8	13813	0.9	379.99	81.0	60.0	95.0	60.0			
	4.9	10784	1.2	296.68	88.0	60.0	95.0	60.0	PKD 8390 - 132S/4C	609	108-109
	5.9	8878	1.5	244.25	91.0	60.0	95.0	60.0			
	9.7	5410	2.4	148.84	95.0	60.0	95.0	60.0			
	12.4	4237	3.1	116.55	95.0	60.0	95.0	60.0			
	4.7	11272	0.8	310.09	37.0	50.0	66.0	48.0	PKD 7390/32 - 132S/4C	394	115
	5.4	9794	0.9	269.43	46.0	50.0	66.0	45.0	PKD 7390/42 - 132S/4C	411	115
	7.4	7135	1.0	196.30	56.0	50.0	66.0	44.0			
	9.2	5709	1.1	157.05	60.0	50.0	66.0	43.0			
	5.9	8925	1.0	245.55	50.0	50.0	66.0	48.0	PKD 7390 - 132S/4C	360	106-107
	7.0	7523	1.1	206.98	55.0	50.0	66.0	47.0			
	7.7	6789	1.3	186.78	57.0	50.0	66.0	47.0			
	9.2	5723	1.5	157.44	60.0	50.0	66.0	46.0			
	10.6	4967	1.3	136.65	61.0	50.0	66.0	44.0			
	13.1	4002	2.1	110.10	63.0	50.0	66.0	43.0			
	15.8	3324	2.6	91.45	64.0	50.0	66.0	42.0			
18.2	2894	2.9	79.61	64.0	50.0	66.0	41.0				
20.6	2547	3.3	70.08	65.0	50.0	66.0	40.0				
4.9	10808	0.8	297.35	42.0	50.0	66.0	50.0	PKD 6390/32 - 132S/4C			
5.6	9391	0.9	258.36	48.0	50.0	66.0	50.0	PKD 6390/42 - 132S/4C	411	115	
6.1	8559	1.0	235.45	52.0	50.0	66.0	50.0	PKD 6390 - 132S/4C	360	104-105	
7.3	7206	1.1	198.23	56.0	50.0	66.0	50.0				
8.1	6510	1.3	179.11	58.0	50.0	66.0	50.0				
9.6	5481	1.5	150.79	60.0	50.0	66.0	50.0				
11.2	4702	1.4	129.36	61.0	50.0	66.0	50.0				
13.7	3838	2.1	105.58	63.0	50.0	66.0	48.0				
16.5	3188	2.6	87.70	64.0	50.0	66.0	46.0				
18.9	2775	3.0	76.33	64.0	50.0	66.0	45.0				
21.5	2443	3.4	67.20	64.0	50.0	66.0	44.0				



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm					
5.50	8.5	6159	0.8	169.43	16.0	45.0	38.0	34.0	PKD 5390 - 132S/4C	220	100-101					
	12.0	4362	1.1	120.01	30.0	45.0	38.0	33.0								
	14.1	3726	1.3	102.50	32.0	45.0	38.0	33.0								
	16.4	3203	1.5	88.12	34.0	45.0	38.0	32.0								
	20.0	2624	1.8	72.18	36.0	45.0	38.0	31.0								
	23.1	2270	2.1	62.45	37.0	45.0	38.0	31.0								
	26.5	1983	2.4	54.55	37.0	45.0	38.0	30.0								
	32.1	1636	2.9	45.00	38.0	45.0	38.0	29.0								
	36.4	1445	3.3	39.74	38.0	45.0	38.0	28.0								
	39.9	1316	2.9	36.21	38.0	45.0	38.0	27.0								
	5.50	15.1	3474	0.8	95.57	17.0	40.0	28.0	15.0	PKD 4390 - 132S/4C	145	96-97				
		16.7	3144	0.9	86.50	20.0	40.0	28.0	15.0							
		19.0	2766	1.0	76.08	22.0	40.0	28.0	15.0							
		21.1	2491	1.1	68.52	23.0	40.0	28.0	16.0							
		22.9	2298	1.1	63.21	24.0	40.0	28.0	16.0							
		26.0	2024	1.4	55.67	25.0	40.0	28.0	16.0							
		30.4	1731	1.6	47.61	26.0	40.0	28.0	16.0							
		35.6	1474	1.9	40.56	27.0	40.0	28.0	16.0							
		42.0	1250	2.2	34.38	27.0	40.0	28.0	16.0							
		51.7	1015	2.8	27.93	28.0	39.0	28.0	15.0							
		60.5	868	2.9	23.88	28.0	38.0	28.0	15.0							
		71.0	740	3.1	20.35	27.0	37.0	28.0	15.0							
		5.50	28.9	1815	0.9	49.94	1.0	7.0	14.0				7.0	PKD 3390 - 132S/4C	98	92-93
			30.3	1733	0.9	47.67	4.0	8.0	15.0				7.0			
			35.8	1467	1.1	40.37	6.0	9.0	15.0				8.0			
	37.9		1385	0.9	38.09	6.0	9.0	15.0	8.0							
	40.5		1296	0.9	35.65	6.0	9.0	15.0	8.0							
	48.7		1079	1.4	29.67	6.0	10.0	15.0	8.0							
	57.7		911	1.6	25.06	7.0	10.0	15.0	8.0							
	60.4		869	1.8	23.92	7.0	10.0	15.0	8.0							
	71.4		736	2.0	20.25	7.0	10.0	15.0	8.0							
	84.5		622	2.3	17.10	7.0	10.0	15.0	8.0							
	91.9		572	2.4	15.73	7.0	10.0	15.0	8.0							
106.7	492		2.7	13.54	7.0	10.0	15.0	8.0								
114.0	461		2.2	12.68	6.0	9.0	15.0	8.0								
134.6	390		2.3	10.74	6.0	9.0	15.0	7.0								
169.9	309		2.8	8.50	6.0	9.0	15.0	7.0								
7.50	1.7	41789	0.8	846.00	85.0	70.0	160.0	70.0	PKD 9390/52 - 132M/4B	1501	116					
	2.1	34901	0.9	706.54	110.0	70.0	160.0	70.0								
	2.4	30120	1.1	609.75	127.0	70.0	160.0	70.0								
	3.3	21944	1.5	444.25	143.0	70.0	160.0	70.0								
	3.8	19079	1.7	386.23	146.0	70.0	160.0	70.0								
	5.2	13900	2.3	281.40	152.0	70.0	160.0	70.0								
	7.50	3.3	21485	0.9	434.96	91.0	65.0	120.0	65.0	PKD G 8390/52 - 132M/4B	946	116				
		3.8	18745	1.1	379.47	100.0	65.0	120.0	65.0							
		5.3	13428	1.5	271.85	112.0	65.0	120.0	65.0							
		6.1	11675	1.7	236.35	115.0	65.0	120.0	65.0							
		8.4	8506	2.4	172.19	119.0	65.0	120.0	65.0							
	10.0	7155	2.5	144.85	120.0	65.0	120.0	65.0								
	7.50	6.3	11395	1.8	230.68	115.0	65.0	120.0	65.0	PKD G 8390 - 132M/4B	870	110-111				
		7.5	9585	2.1	194.04	117.0	65.0	120.0	65.0							
	7.50	4.9	14655	0.9	296.68	79.0	60.0	95.0	60.0	PKD 8390 - 132M/4B	620	108-109				
5.9		12065	1.1	244.25	85.0	60.0	95.0	60.0								
9.7		7352	1.8	148.84	93.0	60.0	95.0	60.0								
12.4		5757	2.3	116.55	94.0	60.0	95.0	60.0								
15.1		4740	2.7	95.96	95.0	60.0	95.0	60.0								
17.5		4097	2.9	82.95	95.0	60.0	95.0	60.0								

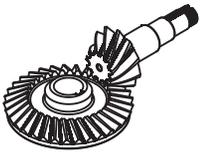


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
7.50	7.4	9696	0.8	196.30	47.0	50.0	66.0	39.0	PKD 7390/42 - 132M/4B	422	115			
	9.2	7758	0.8	157.05	54.0	50.0	66.0	39.0						
	10.8	6634	0.9	134.31	58.0	50.0	66.0	39.0						
	7.8	9226	0.9	186.78	49.0	50.0	66.0	42.0						
	9.2	7777	1.1	157.44	54.0	50.0	66.0	42.0	PKD 7390 - 132M/4B	371	106-107			
	13.2	5439	1.6	110.10	60.0	50.0	66.0	41.0						
	15.9	4518	1.9	91.45	62.0	50.0	66.0	40.0						
	18.2	3932	2.2	79.61	63.0	50.0	66.0	39.0						
	20.7	3462	2.5	70.08	64.0	50.0	66.0	38.0						
	24.8	2886	2.7	58.44	64.0	50.0	66.0	37.0						
	28.8	2484	2.8	50.29	65.0	50.0	66.0	36.0						
	7.7	9298	0.8	188.23	49.0	50.0	66.0	45.0				PKD 6390/42 - 132M/4B	420	115
	11.3	6362	0.9	128.79	58.0	50.0	66.0	44.0						
	8.1	8847	0.9	179.11	51.0	50.0	66.0	48.0	PKD 6390 - 132M/4B	369	104-105			
	9.6	7449	1.1	150.79	55.0	50.0	66.0	47.0						
	13.7	5215	1.6	105.58	61.0	50.0	66.0	45.0						
	16.5	4332	1.9	87.70	62.0	50.0	66.0	44.0						
	19.0	3771	2.2	76.33	63.0	50.0	66.0	43.0						
	21.6	3319	2.5	67.20	63.0	50.0	66.0	42.0						
	25.9	2768	2.7	56.03	64.0	50.0	66.0	41.0						
	30.1	2382	2.8	48.23	64.0	50.0	66.0	39.0						
	12.1	5928	0.8	120.01	19.0	45.0	38.0	30.0				PKD 5390 - 132M/4B	231	100-101
	14.1	5063	0.8	102.50	26.0	45.0	38.0	30.0						
	16.5	4353	1.1	88.12	29.0	45.0	38.0	30.0						
	20.1	3565	1.3	72.18	33.0	45.0	38.0	29.0						
	23.2	3085	1.6	62.45	34.0	45.0	38.0	29.0						
	26.6	2695	1.8	54.55	35.0	45.0	38.0	28.0						
	32.2	2223	2.2	45.00	37.0	45.0	38.0	27.0						
	36.5	1963	2.4	39.74	37.0	45.0	38.0	27.0						
	40.0	1789	2.1	36.21	37.0	45.0	38.0	26.0						
	46.3	1548	2.2	31.33	38.0	45.0	38.0	25.0						
	21.2	3385	0.8	68.52	18.0	38.0	28.0	12.0	PKD 4390 - 132M/4B	156	96-97			
	22.9	3122	0.8	63.21	20.0	38.0	28.0	12.0						
	26.0	2750	1.0	55.67	22.0	39.0	28.0	13.0						
	30.5	2352	1.2	47.61	24.0	39.0	28.0	14.0						
	35.7	2004	1.4	40.56	25.0	38.0	28.0	14.0						
	42.2	1698	1.6	34.38	26.0	38.0	28.0	14.0						
	51.9	1380	2.0	27.93	27.0	37.0	28.0	14.0						
	60.7	1180	2.1	23.88	27.0	36.0	28.0	14.0						
	71.3	1005	2.3	20.35	26.0	35.0	28.0	14.0						
	79.5	901	2.4	18.25	26.0	35.0	28.0	13.0						
	92.4	775	2.0	15.69	25.0	33.0	28.0	13.0						
	108.0	663	2.2	13.42	24.0	32.0	28.0	13.0						
	126.8	565	2.3	11.43	23.0	31.0	28.0	12.0						
	141.4	506	2.4	10.25	22.0	30.0	28.0	12.0						
	154.0	465	2.5	9.42	22.0	30.0	28.0	12.0						
	164.1	436	2.5	8.83	22.0	29.0	28.0	12.0						
	35.9	1994	0.8	40.37	1.0	4.0	13.0	5.0	PKD 3390 - 132M/4B	109	92-93			
	48.9	1466	1.0	29.67	4.0	6.0	15.0	6.0						
	57.9	1238	1.2	25.06	5.0	7.0	15.0	7.0						
	60.6	1181	1.3	23.92	5.0	7.0	15.0	7.0						
	71.6	1000	1.5	20.25	5.0	8.0	15.0	7.0						
	84.8	845	1.7	17.10	6.0	8.0	15.0	7.0						
	92.2	777	1.8	15.73	6.0	8.0	15.0	7.0						
	107.1	669	2.0	13.54	6.0	8.0	15.0	7.0						
	114.4	626	1.6	12.68	5.0	8.0	15.0	7.0						
	135.1	530	1.7	10.74	5.0	8.0	15.0	7.0						
	170.5	420	2.1	8.50	5.0	8.0	15.0	7.0						

9.20 kW



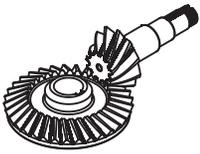
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
9.20	2.1	42811	0.7	706.54	86.0	70.0	160.0	70.0	PKD 9390/52 - 132M/4	1508	116			
	2.4	36947	0.9	609.75	108.0	70.0	160.0	70.0						
	3.3	26918	1.2	444.25	134.0	70.0	160.0	70.0						
	3.8	23403	1.4	386.23	141.0	70.0	160.0	70.0						
	5.2	17051	1.9	281.40	149.0	70.0	160.0	70.0						
	6.5	13522	2.4	223.16	153.0	70.0	160.0	70.0						
	7.6	11621	2.8	191.78	154.0	70.0	160.0	70.0						
	3.3	26355	0.8	434.96	70.0	65.0	120.0	65.0				PKD G 8390/52 -132M/4	953	116
	3.8	22993	0.9	379.47	86.0	65.0	120.0	65.0						
	5.3	16472	1.2	271.85	106.0	65.0	120.0	65.0						
6.1	14321	1.4	236.35	110.0	65.0	120.0	65.0							
8.4	10434	1.9	172.19	116.0	65.0	120.0	65.0							
10.0	8777	2.1	144.85	118.0	65.0	120.0	65.0							
6.3	13978	1.4	230.68	111.0	65.0	120.0	65.0	PKD G 8390 - 132M/4	877	110-111				
7.5	11758	1.7	194.04	115.0	65.0	120.0	65.0							
12.4	7066	2.8	116.62	120.0	65.0	120.0	65.0							
5.1	17331	0.8	286.02	71.0	60.0	95.0	60.0	PKD 8390/42 - 132M/4	678	116				
5.9	14800	0.9	244.25	79.0	60.0	95.0	60.0	PKD 8390 - 132M/4	627	108-109				
9.7	9019	1.4	148.84	91.0	60.0	95.0	60.0							
12.4	7062	1.8	116.55	93.0	60.0	95.0	60.0							
15.1	5814	2.2	95.96	94.0	60.0	95.0	60.0							
17.5	5026	2.6	82.95	95.0	60.0	95.0	60.0							
20.3	4336	3.0	71.56	95.0	60.0	95.0	60.0							
7.8	11318	0.8	186.78	37.0	50.0	66.0	38.0				PKD 7390 - 132M/4	377	106-107	
9.2	9540	0.9	157.44	48.0	50.0	66.0	38.0							
13.2	6671	1.3	110.10	58.0	50.0	66.0	38.0							
15.9	5541	1.5	91.45	60.0	50.0	66.0	38.0							
18.2	4824	1.8	79.61	62.0	50.0	66.0	37.0							
20.7	4246	2.0	70.08	63.0	50.0	66.0	37.0							
24.8	3541	2.4	58.44	64.0	50.0	66.0	35.0							
28.8	3047	1.7	50.29	64.0	50.0	66.0	35.0							
35.3	2487	3.1	41.04	62.0	50.0	66.0	33.0							
8.1	10853	0.8	179.11	41.0	50.0	66.0	44.0	PKD 6390 - 132M/4	378	104-105				
9.6	9137	0.9	150.79	49.0	50.0	66.0	44.0							
13.7	6397	1.3	105.58	58.0	50.0	66.0	43.0							
16.5	5314	1.5	87.70	61.0	50.0	66.0	42.0							
19.0	4625	1.8	76.33	62.0	50.0	66.0	41.0							
21.6	4072	2.0	67.20	63.0	50.0	66.0	41.0							
25.9	3395	2.4	56.03	63.0	50.0	66.0	39.0							
30.1	2922	2.7	48.23	64.0	50.0	66.0	38.0							
16.5	5340	0.9	88.12	23.0	45.0	38.0	27.0	PKD 5390 - 132M/4	237	100-101				
20.1	4373	1.1	72.18	30.0	45.0	38.0	27.0							
23.2	3784	1.3	62.45	32.0	45.0	38.0	27.0							
26.6	3305	1.5	54.55	34.0	45.0	38.0	27.0							
32.2	2727	1.8	45.00	35.0	45.0	38.0	26.0							
36.5	2408	2.0	39.74	36.0	45.0	38.0	26.0							
40.0	2194	2.2	36.21	37.0	45.0	38.0	25.0							
46.3	1898	2.5	31.33	37.0	45.0	38.0	25.0							
53.0	1658	2.8	27.37	38.0	45.0	38.0	24.0							
62.0	1416	3.0	23.38	38.0	45.0	38.0	23.0							
64.2	1368	3.1	22.58	38.0	45.0	38.0	23.0							



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
9.20	26.0	3373	0.8	55.67	18.0	35.0	28.0	11.0	PKD 4390 - 132M/4	163	96-97			
	30.5	2885	1.0	47.61	21.0	35.0	28.0	12.0						
	35.7	2458	1.1	40.56	23.0	36.0	28.0	12.0						
	42.2	2083	1.3	34.38	25.0	35.0	28.0	13.0						
	51.9	1692	1.7	27.93	26.0	35.0	28.0	13.0						
	60.7	1447	1.9	23.88	26.0	34.0	28.0	13.0						
	71.3	1233	2.1	20.35	26.0	34.0	28.0	13.0						
	79.5	1106	2.2	18.25	25.0	33.0	28.0	13.0						
	92.4	951	2.1	15.69	24.0	32.0	28.0	12.0						
	108.0	813	2.5	13.42	23.0	31.0	28.0	12.0						
	126.8	693	2.2	11.43	22.0	30.0	28.0	12.0						
	141.4	621	2.4	10.25	22.0	30.0	28.0	12.0						
	154.0	571	2.6	9.42	21.0	29.0	28.0	11.0						
	164.1	535	2.6	8.83	21.0	29.0	28.0	11.0						
	48.9	1798	0.8	29.67	2.0	4.0	15.0	5.0				PKD 3390 - 132M/4	116	92-93
	57.9	1518	1.0	25.06	3.0	5.0	15.0	5.0						
	60.6	1449	1.1	23.92	4.0	5.0	15.0	6.0						
	71.6	1227	1.2	20.25	4.0	6.0	15.0	6.0						
	84.8	1036	1.4	17.10	5.0	6.0	15.0	6.0						
	92.2	953	1.5	15.73	5.0	7.0	15.0	6.0						
107.1	821	1.6	13.54	5.0	7.0	15.0	6.0							
114.4	768	1.3	12.68	5.0	6.0	15.0	6.0							
135.1	651	1.4	10.74	5.0	6.0	15.0	6.0							
170.5	515	1.7	8.50	5.0	7.0	15.0	6.0							
11.0	3.3	32185	1.0	444.25	122.0	70.0	160.0	70.0	PKD 9390/52 - 160M/4B	1528	116			
	3.8	27982	1.1	386.23	132.0	70.0	160.0	70.0						
	4.9	21575	1.5	297.79	143.0	70.0	160.0	70.0	PKD 9390 - 160M/4B	1452	112-113			
	5.7	18348	1.7	253.26	148.0	70.0	160.0	70.0						
	7.3	14318	2.2	197.62	152.0	70.0	160.0	70.0						
	9.5	11093	2.9	153.11	155.0	70.0	160.0	70.0						
	5.3	19695	1.0	271.85	98.0	65.0	120.0	65.0	PKD G 8390/52 - 160M/4B	973	116			
	6.1	17123	1.2	236.35	105.0	65.0	120.0	65.0						
	8.4	12475	1.6	172.19	114.0	65.0	120.0	65.0						
	10.0	10494	1.7	144.85	116.0	65.0	120.0	65.0						
	6.3	16713	1.2	230.68	105.0	65.0	120.0	65.0	PKD G 8390 - 160M/4B	897	110-111			
	7.5	14058	1.4	194.04	111.0	65.0	120.0	65.0						
	9.5	11003	1.8	151.87	116.0	65.0	120.0	65.0						
	11.4	9255	2.2	127.75	117.0	65.0	120.0	65.0						
	12.4	8449	2.4	116.62	119.0	65.0	120.0	65.0						
	16.0	6566	3.0	90.63	120.0	65.0	120.0	65.0						
	8.0	13209	1.0	182.32	83.0	60.0	95.0	60.0	PKD 8390/52 - 160M/4B	723	116			
	9.7	10783	1.2	148.84	88.0	60.0	95.0	60.0	PKD 8390 - 160M/4B	637	108-109			
	11.8	8878	1.5	122.54	91.0	60.0	95.0	60.0						
	12.4	8444	1.5	116.55	92.0	60.0	95.0	60.0						
15.1	6952	1.9	95.96	93.0	60.0	95.0	60.0							
17.5	6009	2.2	82.95	94.0	60.0	95.0	60.0							
20.3	5184	2.5	71.56	95.0	60.0	95.0	60.0							
23.2	4523	2.9	62.43	95.0	60.0	95.0	60.0							
9.2	11406	0.7	157.44	37.0	50.0	66.0	35.0	PKD 7390 - 160M/4B				398	106-107	
13.2	7977	1.1	110.10	54.0	50.0	66.0	36.0							
15.9	6626	1.3	91.45	58.0	50.0	66.0	36.0							
18.2	5767	1.5	79.61	60.0	50.0	66.0	35.0							
20.7	5077	1.7	70.08	61.0	50.0	66.0	35.0							
24.8	4234	2.0	58.44	63.0	50.0	66.0	34.0							
28.8	3644	3.6	50.29	63.0	50.0	66.0	33.0							
35.3	2973	2.6	41.04	61.0	50.0	66.0	32.0							
41.2	2547	2.8	35.16	59.0	50.0	66.0	31.0							



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
11.0	9.6	10925	0.8	150.79	41.0	50.0	66.0	40.0	PKD 6390 - 160M/4B	389	104-105
	13.7	7649	1.1	105.58	55.0	50.0	66.0	41.0			
	16.5	6353	1.3	87.70	59.0	50.0	66.0	40.0			
	19.0	5530	1.5	76.33	60.0	50.0	66.0	40.0			
	21.6	4869	1.7	67.20	61.0	50.0	66.0	39.0			
	25.9	4060	2.0	56.03	63.0	50.0	66.0	38.0			
	30.1	3494	3.6	48.23	63.0	50.0	66.0	37.0			
	36.8	2851	2.6	39.35	61.0	50.0	66.0	36.0			
	43.0	2443	2.8	33.71	59.0	50.0	66.0	35.0			
	16.5	6384	0.8	88.12	16.0	45.0	38.0	25.0	PKD 5390 - 160M/4B	258	100-101
	20.1	5229	0.9	72.18	25.0	45.0	38.0	25.0			
	23.2	4525	1.1	62.45	29.0	45.0	38.0	25.0			
	26.6	3952	1.2	54.55	32.0	45.0	38.0	25.0			
	32.2	3261	1.5	45.00	34.0	45.0	38.0	25.0			
	36.5	2879	1.7	39.74	35.0	45.0	38.0	25.0			
	40.0	2623	1.8	36.21	36.0	45.0	38.0	24.0			
	46.3	2270	2.1	31.33	37.0	45.0	38.0	24.0			
	53.0	1983	2.3	27.37	37.0	45.0	38.0	23.0			
	62.0	1693	2.5	23.38	38.0	45.0	38.0	23.0			
	64.2	1636	2.6	22.58	38.0	45.0	38.0	22.0			
	72.7	1445	2.9	19.94	38.0	45.0	38.0	22.0			
	80.8	1301	3.1	17.95	38.0	45.0	38.0	22.0			
	88.6	1186	2.6	16.37	38.0	45.0	38.0	21.0			
	107.4	978	2.8	13.50	36.0	45.0	38.0	20.0			
	121.6	864	3.0	11.92	35.0	44.0	38.0	19.0			
	135.1	778	3.1	10.74	34.0	43.0	38.0	19.0			
	30.5	3449	0.8	47.61	18.0	32.0	28.0	10.0	PKD 4390 - 160M/4B	183	96-97
	35.7	2939	1.0	40.56	21.0	32.0	28.0	10.0			
	42.2	2490	1.1	34.38	23.0	33.0	28.0	11.0			
	51.9	2023	1.4	27.93	25.0	33.0	28.0	12.0			
	60.7	1730	1.6	23.88	25.0	33.0	28.0	12.0			
	71.3	1474	1.8	20.35	25.0	32.0	28.0	12.0			
	79.5	1322	1.9	18.25	24.0	32.0	28.0	12.0			
	92.4	1137	1.8	15.69	23.0	31.0	28.0	11.0			
	108.0	972	2.1	13.42	23.0	30.0	28.0	11.0			
	126.8	828	1.8	11.43	22.0	29.0	28.0	11.0			
141.4	743	2.0	10.25	21.0	29.0	28.0	11.0				
154.0	682	2.2	9.42	21.0	28.0	28.0	11.0				
164.1	640	2.2	8.83	21.0	28.0	28.0	11.0				
15.0	3.8	38157	0.8	386.23	104.0	70.0	160.0	70.0			
	4.9	29420	1.1	297.79	128.0	70.0	160.0	70.0	PKD 9390 - 160L/4A	1477	112-113
	5.7	25021	1.3	253.26	138.0	70.0	160.0	70.0			
	7.3	19524	1.6	197.62	146.0	70.0	160.0	70.0			
	9.5	15126	2.1	153.11	151.0	70.0	160.0	70.0			
	12.1	11879	2.4	120.24	154.0	70.0	160.0	70.0			
	14.2	10113	2.5	102.37	155.0	70.0	160.0	70.0			
	5.3	26857	0.7	271.85	71.0	65.0	120.0	65.0	PKD G 8390/52 - 160L/4A	983	116
	6.3	22790	0.9	230.68	88.0	65.0	120.0	65.0	PKD G 8390 - 160L/4A	922	110-111
	7.5	19170	1.0	194.04	99.0	65.0	120.0	65.0			
	9.5	15004	1.3	151.87	109.0	65.0	120.0	65.0			
	11.4	12621	1.6	127.75	113.0	65.0	120.0	65.0			
	12.4	11521	1.7	116.62	116.0	65.0	120.0	65.0			
	16.0	8953	2.2	90.63	118.0	65.0	120.0	65.0			
21.5	6677	2.4	67.58	120.0	65.0	120.0	65.0				

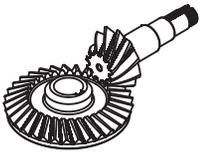


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
15.0	9.7	14704	0.9	148.84	79.0	60.0	95.0	60.0	PKD 8390 - 160L/4A	668	108-109
	11.8	12106	1.1	122.54	86.0	60.0	95.0	60.0			
	12.4	11515	1.1	116.55	87.0	60.0	95.0	60.0			
	15.1	9480	1.4	95.96	90.0	60.0	95.0	60.0			
	17.5	8194	1.6	82.95	92.0	60.0	95.0	60.0			
	20.3	7070	1.8	71.56	93.0	60.0	95.0	60.0			
	23.2	6168	2.1	62.43	94.0	60.0	95.0	60.0			
	27.2	5275	2.5	53.39	94.0	60.0	95.0	60.0			
	32.4	4419	2.8	44.73	89.0	60.0	95.0	60.0			
	34.8	4111	2.3	41.61	88.0	60.0	95.0	60.0			
	40.4	3547	2.5	35.90	85.0	60.0	95.0	60.0			
	13.2	10877	0.8	110.10	41.0	50.0	66.0	30.0	PKD 7390 - 160L/4A	423	106-107
	15.9	9035	0.9	91.45	50.0	50.0	66.0	31.0			
	18.2	7864	1.1	79.61	54.0	50.0	66.0	31.0			
	20.7	6924	1.2	70.08	57.0	50.0	66.0	31.0			
	24.8	5773	1.5	58.44	60.0	50.0	66.0	31.0			
	28.8	4969	1.7	50.29	60.0	50.0	66.0	31.0			
	35.3	4055	1.9	41.04	58.0	50.0	66.0	30.0			
	41.2	3473	2.0	35.16	56.0	50.0	66.0	30.0			
	49.5	2896	2.2	29.32	54.0	50.0	66.0	29.0			
	57.5	2493	2.3	25.23	52.0	50.0	66.0	28.0			
	13.7	10430	0.8	105.58	44.0	50.0	66.0	36.0	PKD 6390 - 160L/4A	406	104-105
	16.5	8664	0.9	87.70	52.0	50.0	66.0	36.0			
	19.0	7541	1.1	76.33	55.0	50.0	66.0	36.0			
	21.6	6639	1.2	67.20	58.0	50.0	66.0	36.0			
	25.9	5536	1.5	56.03	60.0	50.0	66.0	35.0			
	30.1	4764	1.7	48.23	60.0	50.0	66.0	35.0			
	36.8	3888	1.9	39.35	59.0	50.0	66.0	34.0			
	43.0	3331	2.5	33.71	57.0	50.0	66.0	33.0			
	51.6	2777	3.0	28.11	55.0	50.0	66.0	32.0			
	59.9	2390	3.4	24.19	53.0	50.0	66.0	31.0			
	73.4	1951	4.2	19.74	51.0	50.0	66.0	30.0			
	82.3	1740	4.3	17.62	49.0	50.0	66.0	29.0			
	97.8	1465	4.9	14.83	47.0	50.0	66.0	28.0			
	23.2	6170	0.8	62.45	16.0	45.0	38.0	22.0	PKD 5390 - 160L/4A	272	100-101
	26.6	5389	0.9	54.55	24.0	45.0	38.0	22.0			
	32.2	4446	1.1	45.00	29.0	45.0	38.0	22.0			
	36.5	3926	1.2	39.74	32.0	45.0	38.0	22.0			
	40.0	3577	1.3	36.21	33.0	45.0	38.0	22.0			
	46.3	3095	1.6	31.33	35.0	45.0	38.0	22.0			
53.0	2704	1.7	27.37	36.0	45.0	38.0	22.0				
62.0	2309	1.9	23.38	37.0	45.0	38.0	21.0				
64.2	2231	1.9	22.58	37.0	45.0	38.0	21.0				
72.7	1970	2.2	19.94	37.0	45.0	38.0	21.0				
80.8	1774	2.3	17.95	37.0	45.0	38.0	20.0				
88.6	1617	1.9	16.37	37.0	45.0	38.0	20.0				
107.4	1334	2.1	13.50	35.0	44.0	38.0	19.0				
121.6	1178	2.2	11.92	34.0	43.0	38.0	19.0				
135.1	1061	2.3	10.74	33.0	42.0	38.0	18.0				
144.0	995	2.3	10.07	33.0	41.0	38.0	18.0				
153.3	934	2.4	9.46	32.0	41.0	38.0	18.0				
178.4	803	2.4	8.13	31.0	39.0	38.0	17.0				

15.0 kW
18.5 kW



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
15.0	42.2	3396	0.8	34.38	18.0	27.0	23.0	8.0	PKD 4390 - 160L/4A	191	96-97
	51.9	2759	1.0	27.93	22.0	28.0	25.0	9.0			
	60.7	2360	1.1	23.88	23.0	29.0	26.0	9.0			
	71.3	2010	1.3	20.35	23.0	29.0	27.0	10.0			
	79.5	1803	1.4	18.25	23.0	29.0	27.0	10.0			
	92.4	1550	1.3	15.69	22.0	28.0	26.0	10.0			
	108.0	1326	1.5	13.42	21.0	27.0	26.0	10.0			
	126.8	1130	1.3	11.43	21.0	27.0	26.0	10.0			
	141.4	1013	1.5	10.25	20.0	27.0	26.0	10.0			
	154.0	930	1.6	9.42	20.0	26.0	26.0	10.0			
164.1	873	1.6	8.83	20.0	26.0	26.0	10.0				
18.5	5.2	34287	0.9	281.40	116.0	70.0	160.0	70.0	PKD 9390/52 - 180M/4B	1567	116
	6.5	27191	1.2	223.16	134.0	70.0	160.0	70.0			
	7.3	24080	1.3	197.62	139.0	70.0	160.0	70.0	PKD 9390 - 180M/4B	1491	112-113
	9.5	18656	1.7	153.11	147.0	70.0	160.0	70.0			
	12.1	14651	2.2	120.24	152.0	70.0	160.0	70.0			
	14.2	12473	2.6	102.37	153.0	70.0	160.0	70.0			
	15.8	11176	2.9	91.73	155.0	70.0	160.0	70.0			
	18.1	9746	3.3	79.99	156.0	70.0	160.0	70.0			
	8.4	20981	1.0	172.19	94.0	65.0	120.0	65.0	PKD G 8390/52 -180M/4B	997	116
	10.0	17649	1.0	144.85	103.0	65.0	120.0	65.0			
	9.5	18505	1.1	151.87	101.0	65.0	120.0	65.0	PKD G 8390 - 180M/4B	936	110-111
	11.4	15566	1.3	127.75	107.0	65.0	120.0	65.0			
	12.4	14209	1.4	116.62	112.0	65.0	120.0	65.0			
	16.0	11042	1.8	90.63	116.0	65.0	120.0	65.0			
	21.5	8235	2.4	67.58	119.0	65.0	120.0	65.0			
	24.6	7184	2.8	58.96	120.0	65.0	120.0	65.0			
	11.7	15065	0.8	123.64	79.0	60.0	95.0	60.0			
	12.4	14201	0.9	116.55	82.0	60.0	95.0	60.0	PKD 8390 - 180M/4B	686	108-109
	15.1	11692	1.1	95.96	86.0	60.0	95.0	60.0			
	17.5	10106	1.3	82.95	89.0	60.0	95.0	60.0			
	20.3	8719	1.5	71.56	91.0	60.0	95.0	60.0			
	23.2	7607	1.7	62.43	92.0	60.0	95.0	60.0			
	27.2	6505	2.0	53.39	91.0	60.0	95.0	60.0			
	32.4	5450	2.4	44.73	87.0	60.0	95.0	60.0			
	34.8	5070	2.6	41.61	86.0	60.0	95.0	60.0			
	40.4	4374	3.0	35.90	83.0	60.0	95.0	60.0			
	15.9	11143	0.8	91.45	39.0	50.0	66.0	27.0			
	18.2	9699	0.9	79.61	47.0	50.0	66.0	28.0			
20.7	8539	1.0	70.08	52.0	50.0	66.0	28.0				
24.8	7120	1.2	58.44	57.0	50.0	66.0	28.0				
28.8	6128	1.3	50.29	57.0	50.0	66.0	29.0				
32.4	5460	1.4	44.81	56.0	50.0	66.0	29.0				
35.3	5001	1.5	41.04	55.0	50.0	66.0	29.0				
41.2	4284	2.0	35.16	54.0	50.0	66.0	28.0				
49.5	3572	2.4	29.32	53.0	50.0	66.0	28.0				
57.5	3074	2.8	25.23	51.0	50.0	66.0	27.0				
64.5	2739	3.1	22.48	50.0	50.0	66.0	26.0				
70.4	2509	3.4	20.59	49.0	50.0	66.0	26.0				
78.9	2238	3.5	18.37	48.0	50.0	66.0	26.0				



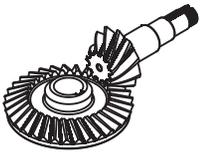
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm		
18.5	16.5	10685	0.8	87.70	44.0	50.0	66.0	33.0	PKD 6390 - 180M/4B	441	104-105		
	19.0	9301	0.9	76.33	49.0	50.0	66.0	33.0					
	21.6	8188	1.0	67.20	53.0	50.0	66.0	33.0					
	25.9	6827	1.2	56.03	57.0	50.0	66.0	33.0					
	30.1	5876	1.3	48.23	57.0	50.0	66.0	33.0					
	33.7	5236	1.4	42.97	57.0	50.0	66.0	32.0					
	36.8	4795	1.5	39.35	56.0	50.0	66.0	32.0					
	43.0	4108	2.0	33.71	55.0	50.0	66.0	32.0					
	51.6	3425	2.4	28.11	53.0	50.0	66.0	31.0					
	59.9	2948	2.8	24.19	52.0	50.0	66.0	30.0					
	67.3	2627	3.1	21.56	50.0	50.0	66.0	29.0					
	73.4	2406	3.4	19.74	50.0	50.0	66.0	29.0					
	18.5	32.2	5484	0.9	45.00	23.0	45.0	38.0	20.0	PKD 5390 - 180M/4B	297	100-101	
		36.5	4843	1.0	39.74	28.0	45.0	38.0	20.0				
		40.0	4412	1.1	36.21	30.0	45.0	38.0	20.0				
		46.3	3818	1.3	31.33	32.0	45.0	38.0	20.0				
		53.0	3335	1.4	27.37	34.0	45.0	38.0	20.0				
		62.0	2848	1.5	23.38	35.0	45.0	38.0	20.0				
		64.2	2751	1.6	22.58	36.0	45.0	38.0	20.0				
		72.7	2430	1.8	19.94	36.0	45.0	38.0	20.0				
80.8		2188	2.0	17.95	37.0	45.0	38.0	20.0					
88.6		1994	2.2	16.37	35.0	44.0	38.0	19.0					
107.4		1645	2.6	13.50	34.0	42.0	38.0	18.0					
121.6		1453	2.7	11.92	33.0	41.0	38.0	18.0					
135.1		1308	2.2	10.74	33.0	41.0	38.0	18.0					
144.0		1227	2.3	10.07	32.0	40.0	38.0	17.0					
153.3		1152	2.3	9.46	32.0	40.0	38.0	17.0					
178.4		990	2.6	8.13	31.0	38.0	38.0	17.0					
22.0	5.2	40634	0.8	281.40	93.0	70.0	160.0	70.0	PKD 9390/52 - 180L/4B	1598	116		
	6.5	32224	1.0	223.16	121.0	70.0	160.0	70.0					
	22.0	7.4	28537	1.1	197.62	129.0	70.0	160.0	70.0	PKD 9390 - 180L/4B	1522	112-113	
		9.5	22109	1.4	153.11	142.0	70.0	160.0	70.0				
		12.1	17363	1.8	120.24	149.0	70.0	160.0	70.0				
		14.2	14782	2.2	102.37	151.0	70.0	160.0	70.0				
		15.9	13245	2.4	91.73	153.0	70.0	160.0	70.0				
		18.2	11550	2.8	79.99	154.0	70.0	160.0	70.0				
	21.1	9968	3.2	69.03	155.0	70.0	160.0	70.0					
	22.0	8.4	24865	0.8	172.19	78.0	65.0	120.0	65.0	PKD G 8390/52 -180L/4B	1028	116	
		22.0	9.6	21930	0.9	151.87	91.0	65.0	120.0	65.0	PKD G 8390 - 180L/4B	967	110-111
			11.4	18447	1.1	127.75	99.0	65.0	120.0	65.0			
			12.5	16840	1.2	116.62	103.0	65.0	120.0	65.0			
			16.1	13086	1.5	90.63	112.0	65.0	120.0	65.0			
			21.5	9759	2.0	67.58	117.0	65.0	120.0	65.0			
			24.7	8514	2.3	58.96	119.0	65.0	120.0	65.0			
			28.9	7281	2.7	50.42	116.0	65.0	120.0	65.0			
	22.0		15.2	13856	0.9	95.96	81.0	60.0	95.0	60.0			
		17.5	11977	1.1	82.95	85.0	60.0	95.0	60.0				
		20.3	10333	1.3	71.56	88.0	60.0	95.0	60.0				
23.3		9015	1.4	62.43	90.0	60.0	95.0	60.0					
27.3		7709	1.7	53.39	89.0	60.0	95.0	60.0					
32.5		6458	2.0	44.73	86.0	60.0	95.0	60.0					
35.0		6009	2.2	41.61	84.0	60.0	95.0	60.0					
40.5		5184	2.5	35.90	82.0	60.0	95.0	60.0					
46.5		4523	2.9	31.32	80.0	60.0	95.0	60.0					

22.0 kW
30.0 kW

PGR®
Drive Technologies



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
22.0	20.8	10120	0.8	70.08	45.0	50.0	66.0	25.0	PKD 7390 - 180L/4B	468	106-107
	24.9	8438	1.0	58.44	52.0	50.0	66.0	26.0			
	28.9	7262	1.1	50.29	54.0	50.0	66.0	27.0			
	32.5	6471	1.2	44.81	53.0	50.0	66.0	27.0			
	35.5	5926	1.3	41.04	53.0	50.0	66.0	27.0			
	41.4	5077	1.7	35.16	52.0	50.0	66.0	27.0			
	49.6	4233	2.0	29.32	51.0	50.0	66.0	26.0			
	57.7	3643	2.3	25.23	49.0	50.0	66.0	26.0			
	64.7	3246	2.6	22.48	48.0	50.0	66.0	26.0			
	70.7	2973	2.9	20.59	48.0	50.0	66.0	25.0			
	79.2	2653	2.9	18.37	47.0	50.0	66.0	25.0			
	88.5	2374	3.2	16.44	46.0	50.0	66.0	24.0			
	94.0	2236	3.1	15.49	45.0	50.0	66.0	24.0			
	103.6	2028	2.6	14.04	44.0	50.0	66.0	23.0			
	21.7	9704	0.8	67.20	48.0	50.0	66.0	30.0			
	26.0	8091	1.0	56.03	53.0	50.0	66.0	30.0			
	30.2	6964	1.1	48.23	54.0	50.0	66.0	31.0			
	33.9	6205	1.2	42.97	54.0	50.0	66.0	31.0			
	37.0	5683	1.3	39.35	53.0	50.0	66.0	30.0			
	43.2	4868	1.7	33.71	53.0	50.0	66.0	30.0			
	51.8	4059	2.0	28.11	51.0	50.0	66.0	29.0			
	60.1	3494	2.3	24.19	50.0	50.0	66.0	29.0			
	67.5	3113	2.6	21.56	49.0	50.0	66.0	28.0			
	73.7	2851	2.9	19.74	48.0	50.0	66.0	28.0			
	82.6	2544	2.9	17.62	47.0	50.0	66.0	27.0			
	92.3	2276	3.2	15.76	46.0	50.0	66.0	27.0			
	98.1	2142	3.4	14.83	45.0	50.0	66.0	26.0			
	109.5	1919	2.6	13.29	44.0	50.0	66.0	26.0			
	122.8	1710	2.8	11.84	43.0	50.0	66.0	25.0			
	127.5	1648	2.9	11.42	42.0	50.0	66.0	25.0			
	134.1	1566	3.1	10.85	42.0	50.0	66.0	25.0			
	150.3	1398	3.2	9.68	41.0	50.0	66.0	24.0			
	168.0	1251	3.6	8.66	40.0	50.0	66.0	23.0			
36.6	5739	0.8	39.74	21.0	44.0	38.0	18.0	PKD 5390 - 180L/4B	328	100-101	
40.2	5229	0.9	36.21	25.0	45.0	38.0	18.0				
46.4	4524	1.1	31.33	29.0	45.0	38.0	19.0				
53.2	3952	1.2	27.37	32.0	45.0	38.0	19.0				
62.2	3375	1.3	23.38	34.0	44.0	38.0	19.0				
64.4	3260	1.3	22.58	34.0	44.0	38.0	19.0				
73.0	2879	1.5	19.94	35.0	44.0	38.0	19.0				
81.0	2592	1.7	17.95	35.0	43.0	38.0	19.0				
88.9	2363	1.8	16.37	34.0	42.0	38.0	18.0				
107.8	1950	2.2	13.50	33.0	41.0	38.0	18.0				
122.0	1722	2.3	11.92	32.0	40.0	38.0	17.0				
135.5	1550	1.9	10.74	32.0	39.0	38.0	17.0				
144.5	1454	1.9	10.07	31.0	39.0	38.0	17.0				
153.9	1365	1.9	9.46	31.0	39.0	38.0	17.0				
179.0	1173	2.2	8.13	30.0	38.0	38.0	16.0				
30.0	12.1	23595	1.4	120.24	139.0	70.0	160.0	70.0	PKD 9390 - 200L/4C	1555	112-113
	14.3	20088	1.6	102.37	145.0	70.0	160.0	70.0			
	15.9	18000	1.8	91.73	148.0	70.0	160.0	70.0			
	18.3	15696	2.0	79.99	150.0	70.0	160.0	70.0			
	21.2	13546	2.4	69.03	153.0	70.0	160.0	70.0			
	24.9	11520	2.8	58.71	154.0	70.0	160.0	70.0			
	16.1	17784	1.1	90.63	102.0	65.0	120.0	65.0	PKD G 8390 - 200L/4C	985	110-111
	21.6	13262	1.5	67.58	113.0	65.0	120.0	65.0			
	24.8	11571	1.7	58.96	114.0	65.0	120.0	65.0			
	29.0	9895	2.0	50.42	111.0	65.0	120.0	65.0			
	34.6	8289	2.4	42.24	108.0	65.0	120.0	65.0			
	41.1	6972	2.6	35.53	104.0	65.0	120.0	65.0			

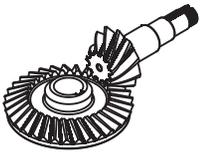


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
30.0	17.6	16277	0.8	82.95	76.0	60.0	95.0	60.0	PKD 8390 - 200L/4C	750	108-109			
	20.4	14043	0.9	71.56	80.0	60.0	95.0	60.0						
	23.4	12251	1.1	62.43	84.0	60.0	95.0	60.0						
	27.3	10477	1.2	53.39	83.0	60.0	95.0	60.0						
	32.6	8777	1.5	44.73	81.0	60.0	95.0	60.0						
	35.1	8166	1.6	41.61	80.0	60.0	95.0	60.0						
	40.7	7045	1.8	35.90	78.0	60.0	95.0	60.0						
	46.6	6146	2.1	31.32	76.0	60.0	95.0	60.0						
	54.5	5256	2.5	26.79	74.0	60.0	95.0	60.0						
	65.1	4403	3.0	22.44	71.0	60.0	95.0	59.0						
	84.2	3401	3.2	17.33	67.0	60.0	95.0	56.0						
	99.8	2872	3.3	14.64	65.0	60.0	95.0	53.0						
	118.2	2423	3.0	12.35	61.0	60.0	95.0	51.0						
	29.0	9869	0.8	50.29	46.0	50.0	66.0	22.0				PKD 7390 - 200L/4C	490	106-107
	32.6	8794	0.9	44.81	47.0	50.0	66.0	22.0						
	35.6	8054	1.0	41.04	47.0	50.0	66.0	23.0						
	41.5	6899	1.2	35.16	47.0	50.0	66.0	23.0						
	49.8	5753	1.5	29.32	47.0	50.0	66.0	23.0						
	57.9	4951	1.7	25.23	46.0	50.0	66.0	23.0						
	64.9	4412	1.9	22.48	45.0	50.0	66.0	23.0						
	70.9	4040	2.1	20.59	45.0	50.0	66.0	23.0						
	79.5	3605	2.2	18.37	44.0	50.0	66.0	23.0						
	88.8	3226	2.3	16.44	43.0	50.0	66.0	23.0						
	94.3	3039	2.5	15.49	43.0	50.0	65.0	22.0						
	104.0	2755	1.9	14.04	41.0	50.0	63.0	22.0						
	116.7	2455	2.0	12.51	41.0	50.0	62.0	21.0						
	121.1	2366	2.1	12.06	40.0	50.0	62.0	21.0						
	127.4	2249	2.2	11.46	40.0	50.0	61.0	21.0						
	142.8	2006	2.4	10.22	39.0	50.0	60.0	21.0						
	159.6	1795	2.6	9.15	38.0	50.0	59.0	21.0						
	30.3	9464	0.8	48.23	47.0	50.0	66.0	26.0	PKD 6390 - 200L/4C	490	104-105			
	34.0	8432	0.9	42.97	47.0	50.0	66.0	26.0						
37.1	7723	1.0	39.35	48.0	50.0	66.0	26.0							
43.3	6616	1.2	33.71	48.0	50.0	66.0	27.0							
51.9	5516	1.5	28.11	47.0	50.0	66.0	27.0							
60.3	4748	1.7	24.19	46.0	50.0	66.0	26.0							
67.7	4230	1.9	21.56	46.0	50.0	66.0	26.0							
73.9	3874	2.1	19.74	45.0	50.0	66.0	26.0							
82.9	3457	2.2	17.62	45.0	50.0	66.0	26.0							
92.6	3093	2.3	15.76	44.0	50.0	66.0	25.0							
98.4	2910	2.5	14.83	43.0	50.0	66.0	25.0							
109.8	2608	1.9	13.29	42.0	50.0	66.0	24.0							
123.3	2324	2.1	11.84	41.0	50.0	66.0	24.0							
127.9	2240	2.1	11.42	41.0	50.0	66.0	24.0							
134.6	2129	2.3	10.85	40.0	50.0	66.0	23.0							
150.9	1899	2.4	9.68	39.0	49.0	66.0	23.0							
168.6	1699	2.6	8.66	38.0	48.0	66.0	23.0							
37.0	12.1	29101	1.1	120.24	128.0	70.0	160.0	70.0	PKD 9390 - 225S/4A	1588	112-113			
	14.3	24775	1.3	102.37	137.0	70.0	160.0	70.0						
	15.9	22200	1.4	91.73	142.0	70.0	160.0	70.0						
	18.3	19358	1.7	79.99	146.0	70.0	160.0	70.0						
	21.2	16706	1.9	69.03	149.0	70.0	160.0	70.0						
	24.9	14208	2.3	58.71	152.0	70.0	160.0	70.0						
	29.3	12040	2.4	49.75	154.0	70.0	160.0	70.0						
	16.1	21933	0.9	90.63	90.0	65.0	120.0	65.0				PKD G 8390 - 225S/4A	1018	110-111
	21.6	16357	1.2	67.58	107.0	65.0	120.0	65.0						
	24.8	14270	1.4	58.96	109.0	65.0	120.0	65.0						
	29.0	12204	1.6	50.42	107.0	65.0	120.0	65.0						
	34.6	10223	2.0	42.24	104.0	65.0	120.0	65.0						
	41.1	8599	2.1	35.53	100.0	65.0	120.0	65.0						
	49.4	7159	2.1	29.58	97.0	65.0	120.0	65.0						

37.0 kW
45.0 kW



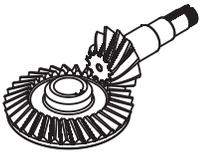
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
37.0	20.4	17319	0.8	71.56	73.0	60.0	95.0	60.0	PKD 8390 - 225S/4A	783	108-109			
	23.4	15110	0.9	62.43	78.0	60.0	95.0	60.0						
	27.3	12921	1.0	53.39	78.0	60.0	95.0	60.0						
	32.6	10824	1.2	44.73	77.0	60.0	95.0	60.0						
	35.1	10071	1.3	41.61	76.0	60.0	95.0	60.0						
	40.7	8689	1.5	35.90	75.0	60.0	95.0	60.0						
	46.6	7580	1.7	31.32	73.0	60.0	95.0	60.0						
	54.5	6483	2.0	26.79	71.0	60.0	95.0	59.0						
	65.1	5431	2.4	22.44	69.0	60.0	95.0	57.0						
	84.2	4195	2.6	17.33	66.0	60.0	95.0	54.0						
	99.8	3542	2.7	14.64	63.0	60.0	95.0	52.0						
	118.2	2988	2.4	12.35	60.0	60.0	95.0	50.0						
	181.3	1949	2.7	8.05	54.0	60.0	95.0	45.0						
	35.6	9933	0.8	41.04	42.0	50.0	58.0	19.0				PKD 7390 - 225S/4A	523	106-107
	41.5	8509	1.0	35.16	43.0	50.0	61.0	20.0						
	49.8	7095	1.2	29.32	43.0	50.0	62.0	21.0						
	57.9	6107	1.4	25.23	43.0	50.0	63.0	21.0						
	64.9	5441	1.6	22.48	43.0	50.0	63.0	21.0						
	70.9	4983	1.7	20.59	42.0	50.0	63.0	21.0						
	79.5	4446	1.8	18.37	42.0	50.0	63.0	21.0						
	88.8	3978	1.9	16.44	41.0	50.0	62.0	21.0						
	94.3	3748	2.0	15.49	41.0	50.0	61.0	21.0						
	104.0	3398	1.5	14.04	40.0	50.0	59.0	20.0						
	116.7	3028	1.7	12.51	39.0	50.0	59.0	20.0						
	121.1	2919	1.7	12.06	39.0	50.0	58.0	20.0						
	127.4	2773	1.8	11.46	38.0	50.0	58.0	20.0						
	142.8	2474	1.9	10.22	38.0	50.0	57.0	20.0						
	159.6	2214	2.1	9.15	37.0	50.0	57.0	19.0						
	37.1	9525	0.8	39.35	42.0	50.0	66.0	23.0	PKD 6390 - 225S/4A	523	104-105			
	43.3	8159	1.0	33.71	43.0	50.0	66.0	24.0						
	51.9	6804	1.2	28.11	43.0	50.0	66.0	24.0						
	60.3	5856	1.4	24.19	43.0	50.0	66.0	24.0						
	67.7	5218	1.6	21.56	43.0	50.0	66.0	24.0						
73.9	4778	1.7	19.74	43.0	50.0	66.0	24.0							
82.9	4263	1.8	17.62	42.0	50.0	66.0	24.0							
92.6	3815	1.9	15.76	42.0	50.0	66.0	24.0							
98.4	3589	2.0	14.83	41.0	50.0	66.0	24.0							
109.8	3217	1.6	13.29	40.0	49.0	66.0	23.0							
123.3	2867	1.7	11.84	39.0	48.0	66.0	23.0							
127.9	2763	1.7	11.42	39.0	48.0	66.0	22.0							
134.6	2625	1.8	10.85	39.0	47.0	66.0	22.0							
150.9	2342	1.9	9.68	38.0	47.0	66.0	22.0							
168.6	2096	2.1	8.66	37.0	46.0	65.0	22.0							
45.0	14.3	30132	1.1	102.37	125.0	70.0	160.0	70.0	PKD 9390 - 225M/4C	1621	112-113			
	15.9	27000	1.2	91.73	134.0	70.0	160.0	70.0						
	18.3	23544	1.4	79.99	139.0	70.0	160.0	70.0						
	21.2	20319	1.6	69.03	145.0	70.0	160.0	70.0						
	24.9	17280	1.9	58.71	149.0	70.0	160.0	70.0						
	29.3	14643	2.2	49.75	152.0	70.0	160.0	70.0						
	35.8	11999	2.7	40.77	154.0	70.0	160.0	70.0						
	37.3	11520	2.8	39.14	155.0	70.0	160.0	70.0						
	42.8	10045	3.1	34.13	155.0	70.0	160.0	70.0						
	21.6	19894	1.0	67.58	98.0	65.0	120.0	65.0				PKD G 8390 - 225M/4C	1051	110-111
	24.8	17356	1.2	58.96	103.0	65.0	120.0	65.0						
	29.0	14842	1.3	50.42	102.0	65.0	120.0	65.0						
	34.6	12433	1.6	42.24	100.0	65.0	120.0	65.0						
	41.1	10459	1.7	35.53	97.0	65.0	120.0	65.0						
	49.4	8707	2.3	29.58	94.0	65.0	120.0	65.0						
	57.7	7446	2.7	25.30	92.0	65.0	120.0	65.0						



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm			
45.0	27.3	15715	0.8	53.39	72.0	60.0	95.0	60.0	PKD 8390 - 225M/4C	816	108-109			
	32.6	13165	1.0	44.73	72.0	60.0	95.0	60.0						
	35.1	12249	1.1	41.61	72.0	60.0	95.0	60.0						
	40.7	10567	1.2	35.90	71.0	60.0	95.0	59.0						
	46.6	9219	1.4	31.32	70.0	60.0	95.0	58.0						
	54.5	7884	1.6	26.79	69.0	60.0	95.0	57.0						
	65.1	6605	2.0	22.44	67.0	60.0	95.0	55.0						
	72.3	5940	2.2	20.18	66.0	60.0	95.0	54.0						
	84.2	5102	2.5	17.33	64.0	60.0	95.0	53.0						
	99.8	4308	3.0	14.64	62.0	60.0	95.0	51.0						
	118.2	3634	2.3	12.35	59.0	60.0	95.0	49.0						
	181.3	2371	3.0	8.05	53.0	60.0	95.0	44.0						
	49.8	8629	1.0	29.32	39.0	50.0	55.0	18.0				PKD 7390 - 225M/4C	556	106-107
	57.9	7427	1.1	25.23	39.0	50.0	56.0	19.0						
	64.9	6618	1.3	22.48	40.0	50.0	57.0	19.0						
	70.9	6061	1.4	20.59	40.0	50.0	57.0	19.0						
	79.5	5407	1.5	18.37	39.0	50.0	58.0	20.0						
	88.8	4839	1.6	16.44	39.0	50.0	58.0	20.0						
	94.3	4558	1.7	15.49	39.0	50.0	57.0	19.0						
	104.0	4133	1.3	14.04	37.0	50.0	55.0	19.0						
	116.7	3683	1.4	12.51	37.0	50.0	55.0	19.0						
	121.1	3550	1.4	12.06	37.0	50.0	55.0	19.0						
	127.4	3373	1.5	11.46	37.0	49.0	55.0	19.0						
	142.8	3009	1.6	10.22	36.0	49.0	54.0	19.0						
	159.6	2693	1.8	9.15	36.0	48.0	54.0	18.0						
	51.9	8275	1.0	28.11	39.0	47.0	66.0	21.0	PKD 6390 - 225M/4C	556	104-105			
	60.3	7122	1.2	24.19	40.0	48.0	66.0	22.0						
	67.7	6346	1.3	21.56	40.0	48.0	66.0	22.0						
	73.9	5812	1.4	19.74	40.0	48.0	66.0	22.0						
	82.9	5185	1.4	17.62	40.0	48.0	66.0	22.0						
92.6	4640	1.6	15.76	40.0	48.0	66.0	22.0							
98.4	4366	1.6	14.83	39.0	47.0	66.0	22.0							
109.8	3913	1.3	13.29	38.0	46.0	66.0	21.0							
123.3	3486	1.4	11.84	37.0	45.0	65.0	21.0							
127.9	3360	1.4	11.42	37.0	45.0	65.0	21.0							
134.6	3193	1.5	10.85	37.0	45.0	65.0	21.0							
150.9	2849	1.6	9.68	36.0	44.0	64.0	21.0							
168.6	2549	1.8	8.66	36.0	44.0	63.0	21.0							
55.0	14.3	36702	0.9	102.37	104.0	70.0	160.0	70.0	PKD 9390 - 250M/4C	1805	112-113			
	16.0	32887	1.0	91.73	119.0	70.0	160.0	70.0						
	18.3	28677	1.1	79.99	132.0	70.0	160.0	70.0						
	21.2	24749	1.3	69.03	137.0	70.0	160.0	70.0						
	25.0	21048	1.5	58.71	144.0	70.0	160.0	70.0						
	29.4	17836	1.8	49.75	149.0	70.0	160.0	70.0						
	35.9	14616	2.2	40.77	152.0	70.0	160.0	70.0						
	37.4	14032	2.3	39.14	152.0	70.0	160.0	70.0						
	42.9	12236	2.5	34.13	154.0	70.0	160.0	70.0						
	49.9	10522	2.8	29.35	155.0	70.0	160.0	70.0						



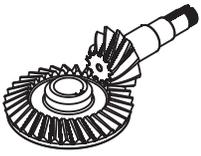
P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm				
55.0	21.7	24231	0.8	67.58	83.0	65.0	120.0	65.0	PKD G 8390 - 250M/4C	1195	110-111				
	24.8	21140	0.9	58.96	94.0	65.0	120.0	65.0							
	29.1	18079	1.1	50.42	95.0	65.0	120.0	65.0							
	34.7	15145	1.3	42.24	94.0	65.0	120.0	65.0							
	41.2	12739	1.4	35.53	92.0	65.0	120.0	65.0							
	49.5	10606	1.9	29.58	90.0	65.0	120.0	65.0							
	57.9	9070	2.2	25.30	88.0	65.0	120.0	65.0							
	69.1	7598	2.6	21.19	86.0	65.0	120.0	63.0							
	82.2	6391	2.8	17.83	82.0	65.0	120.0	61.0							
	89.5	5869	3.0	16.37	81.0	65.0	120.0	60.0							
	99.3	5289	2.6	14.75	78.0	65.0	120.0	58.0							
	118.6	4430	2.8	12.36	76.0	65.0	120.0	56.0							
	126.0	4169	3.1	11.63	75.0	65.0	120.0	56.0							
	153.5	3422	3.0	9.54	71.0	65.0	120.0	53.0							
	32.8	16035	0.8	44.73	66.0	60.0	95.0	55.0	PKD 8390 - 250M/4C	985	108-109				
	35.2	14919	0.9	41.61	66.0	60.0	95.0	55.0							
	40.8	12872	1.0	35.90	66.0	60.0	95.0	55.0							
	46.8	11230	1.2	31.32	66.0	60.0	95.0	55.0							
	54.7	9603	1.4	26.79	65.0	60.0	95.0	54.0							
	65.3	8045	1.6	22.44	64.0	60.0	95.0	53.0							
	72.6	7235	1.8	20.18	63.0	60.0	95.0	52.0							
	84.5	6214	2.1	17.33	61.0	60.0	95.0	51.0							
	100.1	5247	2.5	14.64	60.0	60.0	95.0	49.0							
	118.7	4427	1.9	12.35	57.0	60.0	95.0	47.0							
	181.9	2887	2.5	8.05	52.0	60.0	95.0	43.0							
	75.0	18.4	38840	0.8	79.99	104.0	70.0	160.0				70.0	PKD 9390 - 280S/4	1980	112-113
		21.4	33520	1.0	69.03	120.0	70.0	160.0				70.0			
		25.1	28507	1.1	58.71	130.0	70.0	160.0				70.0			
29.6		24157	1.3	49.75	139.0	70.0	160.0	70.0							
36.2		19796	1.6	40.77	146.0	70.0	160.0	70.0							
37.7		19004	1.7	39.14	147.0	70.0	160.0	70.0							
43.2		16572	1.8	34.13	150.0	70.0	160.0	70.0							
50.3		14250	2.1	29.35	152.0	70.0	160.0	70.0							
59.1		12119	2.1	24.96	154.0	70.0	160.0	70.0							
72.3		9910	2.2	20.41	156.0	70.0	160.0	70.0							
85.3		8398	2.1	17.29	156.0	70.0	160.0	70.0							
104.1		6882	2.2	14.17	157.0	70.0	160.0	70.0							
127.6		5613	2.3	11.56	158.0	70.0	160.0	70.0							
29.3		24485	0.8	50.42	82.0	65.0	120.0	61.0	PKD G 8390 - 280S/4	1410	110-111				
34.9		20512	1.0	42.24	84.0	65.0	120.0	62.0							
41.5		17254	1.0	35.53	82.0	65.0	120.0	61.0							
49.9		14364	1.4	29.58	83.0	65.0	120.0	62.0							
58.3		12284	1.6	25.30	82.0	65.0	120.0	61.0							
69.6		10291	1.9	21.19	80.0	65.0	120.0	59.0							
82.7		8656	2.0	17.83	78.0	65.0	120.0	58.0							
90.1		7949	2.2	16.37	77.0	65.0	120.0	57.0							
100.0		7163	1.9	14.75	75.0	65.0	120.0	55.0							
119.4		6000	2.0	12.36	72.0	65.0	120.0	54.0							
126.9		5646	2.2	11.63	72.0	65.0	120.0	54.0							
154.5		4635	2.2	9.54	69.0	65.0	120.0	51.0							
183.0		3914	2.2	8.06	66.0	65.0	120.0	49.0							
47.1		15209	0.9	31.32	57.0	60.0	95.0	48.0				PKD 8390 - 280S/4	1160	108-109	
55.1		13007	1.0	26.79	58.0	60.0	95.0	48.0							
65.7		10896	1.2	22.44	58.0	60.0	95.0	48.0							
73.1		9800	1.3	20.18	57.0	60.0	95.0	48.0							
85.1		8416	1.5	17.33	57.0	60.0	95.0	47.0							
100.8		7107	1.8	14.64	56.0	60.0	95.0	46.0							
119.5	5996	1.4	12.35	53.0	60.0	95.0	44.0								
183.1	3911	1.8	8.05	50.0	60.0	95.0	41.0								



P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm				
90.0	21.4	40088	0.8	69.03	98.0	70.0	160.0	70.0	PKD 9390 - 280M/4	2030	112-113				
	25.2	34093	0.9	58.71	115.0	70.0	160.0	70.0							
	29.8	28891	1.1	49.75	130.0	70.0	160.0	70.0							
	36.3	23674	1.4	40.77	140.0	70.0	160.0	70.0							
	37.8	22728	1.4	39.14	141.0	70.0	160.0	70.0							
	43.4	19819	1.6	34.13	145.0	70.0	160.0	70.0							
	50.4	17043	1.9	29.35	149.0	70.0	160.0	70.0							
	59.3	14494	2.2	24.96	152.0	70.0	160.0	70.0							
	72.5	11852	2.5	20.41	154.0	70.0	160.0	70.0							
	85.6	10044	2.1	17.29	155.0	70.0	160.0	70.0							
	104.4	8230	2.4	14.17	157.0	70.0	160.0	70.0							
	35.0	24531	0.8	42.24	75.0	65.0	120.0	56.0				PKD G 8390 - 280M/4	1460	110-111	
	41.7	20635	0.9	35.53	76.0	65.0	120.0	56.0							
	50.0	17179	1.2	29.58	77.0	65.0	120.0	57.0							
	58.5	14691	1.4	25.30	77.0	65.0	120.0	57.0							
	69.8	12307	1.6	21.19	76.0	65.0	120.0	56.0							
	83.0	10352	1.8	17.83	74.0	65.0	120.0	55.0							
	90.4	9506	2.0	16.37	74.0	65.0	120.0	55.0							
	100.3	8566	1.8	14.75	71.0	65.0	120.0	53.0							
	119.8	7176	2.0	12.36	70.0	65.0	120.0	52.0							
	127.3	6753	2.5	11.63	70.0	65.0	120.0	52.0							
	155.1	5543	2.3	9.54	67.0	65.0	120.0	50.0							
	183.6	4681	2.6	8.06	65.0	65.0	120.0	48.0							
	55.3	15555	0.8	26.79	52.0	60.0	95.0	44.0	PKD 8390 - 280M/4	1210	108-109				
	66.0	13031	1.0	22.44	53.0	60.0	95.0	44.0							
	73.3	11720	1.1	20.18	53.0	60.0	95.0	45.0							
	85.4	10065	1.3	17.33	53.0	60.0	95.0	44.0							
	101.1	8500	1.5	14.64	53.0	60.0	95.0	44.0							
	119.9	7170	1.2	12.35	50.0	60.0	95.0	42.0							
	183.8	4677	1.5	8.05	48.0	60.0	94.0	40.0							
	110	25.2	41670	0.8	58.71	85.0	70.0	160.0	70.0	PKD 9390 - 315S/4	2200	112-113			
		29.8	35311	0.9	49.75	113.0	70.0	160.0	70.0						
		36.3	28935	1.1	40.77	130.0	70.0	160.0	70.0						
37.8		27779	1.2	39.14	132.0	70.0	160.0	70.0							
43.4		24223	1.3	34.13	139.0	70.0	160.0	70.0							
50.4		20830	1.5	29.35	144.0	70.0	160.0	70.0							
59.3		17715	1.8	24.96	149.0	70.0	160.0	70.0							
72.5		14486	2.0	20.41	152.0	70.0	160.0	70.0							
85.6		12275	1.7	17.29	154.0	70.0	160.0	70.0							
104.4		10059	2.0	14.17	155.0	70.0	160.0	70.0							
128.0		8205	2.2	11.56	157.0	70.0	160.0	70.0							
138.2		7602	2.2	10.71	157.0	70.0	160.0	70.0							
50.0		20997	1.0	29.58	70.0	65.0	120.0	52.0	PKD G 8390 - 315S/4				1630	110-111	
58.5		17956	1.1	25.30	71.0	65.0	120.0	53.0							
69.8		15042	1.3	21.19	71.0	65.0	120.0	53.0							
83.0		12653	1.5	17.83	70.0	65.0	120.0	52.0							
90.4		11618	1.6	16.37	70.0	65.0	120.0	52.0							
100.3		10470	1.4	14.75	67.0	65.0	120.0	50.0							
119.8		8771	1.6	12.36	66.0	65.0	120.0	49.0							
127.3		8253	2.1	11.63	67.0	65.0	120.0	50.0							
155.1		6775	1.9	9.54	64.0	65.0	120.0	48.0							
183.6		5721	2.1	8.06	63.0	65.0	118.0	46.0							

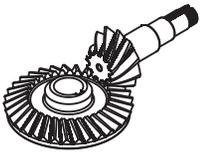


P ₁ [kW]	n ₂ [Min ⁻¹]	M ₂ [Nm]	f _B	i _{ges}	F _R [kN]	F _A [kN]	F _{R GR} [kN]	F _{A GR} [kN]	Tip / Type	Kg	Sayfa Page mm
132	29.8	42373	0.8	49.75	85.0	70.0	160.0	70.0	PKD 9390 - 315M/4	2280	112-113
	36.3	34722	0.9	40.77	116.0	70.0	160.0	70.0			
	50.4	24996	1.3	29.35	138.0	70.0	160.0	70.0			
	59.3	21258	1.5	24.96	144.0	70.0	160.0	70.0			
	72.5	17383	1.8	20.41	149.0	70.0	160.0	70.0			
	85.6	14730	1.4	17.29	152.0	70.0	160.0	70.0			
	104.4	12071	1.6	14.17	154.0	70.0	160.0	70.0			
	128.0	9846	1.9	11.56	156.0	70.0	160.0	69.0			
	138.2	9122	2.0	10.71	156.0	69.0	160.0	68.0			
	58.5	21547	0.9	25.30	64.0	65.0	120.0	47.0	PKD G 8390 - 315M/4	1710	110-111
	69.8	18050	1.1	21.19	65.0	65.0	120.0	48.0			
	83.0	15183	1.3	17.83	65.0	65.0	120.0	48.0			
	90.4	13942	1.4	16.37	66.0	65.0	120.0	49.0			
	100.3	12564	1.2	14.75	63.0	65.0	120.0	47.0			
	119.8	10525	1.3	12.36	62.0	65.0	119.0	46.0			
	127.3	9904	1.7	11.63	64.0	65.0	120.0	47.0			
	155.1	8130	1.6	9.54	61.0	65.0	117.0	45.0			
	183.6	6865	1.7	8.06	60.0	65.0	114.0	45.0			
	160	36.4	41946	0.8	40.77	89.0	70.0	160.0	70.0	PKD 9390 - 315M/4	2430
50.6		30196	1.1	29.35	127.0	70.0	160.0	70.0			
59.5		25681	1.2	24.96	136.0	70.0	160.0	70.0			
72.8		21000	1.5	20.41	144.0	70.0	160.0	70.0			
85.9		17795	1.2	17.29	148.0	70.0	160.0	70.0			
104.8		14582	1.3	14.17	152.0	69.0	160.0	68.0			
128.5		11894	1.6	11.56	154.0	67.0	160.0	67.0			
138.7		11020	1.6	10.71	155.0	67.0	160.0	66.0			
58.7		26030	0.8	25.30	54.0	57.0	107.0	41.0	PKD G 8390 - 315M/4		
70.1		21805	0.9	21.19	57.0	62.0	112.0	43.0			
83.3		18342	1.0	17.83	58.0	63.0	113.0	43.0			
90.7		16843	1.1	16.37	60.0	65.0	116.0	44.0			
100.7		15178	1.0	14.75	57.0	62.0	110.0	42.0			
120.2		12714	1.1	12.36	58.0	64.0	110.0	43.0			
127.7		11964	1.4	11.63	60.0	65.0	114.0	44.0			
155.6		9821	1.3	9.54	58.0	65.0	110.0	43.0			
184.2		8293	1.4	8.06	57.0	65.0	108.0	42.0			

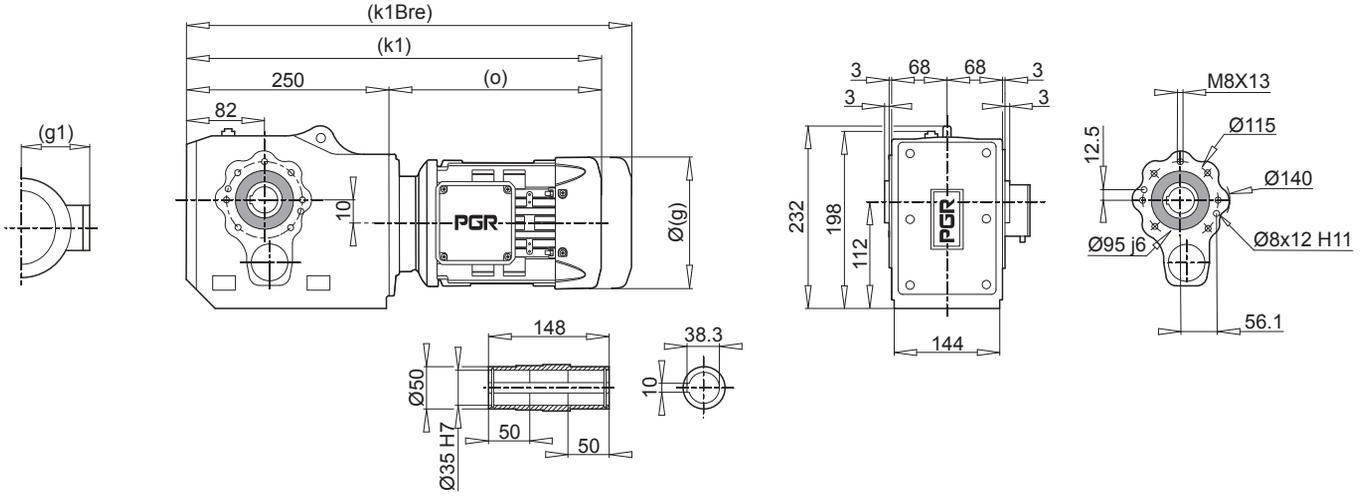


MOTORLU ÖLÇÜ TABLOLARI DIMENSION TABLES OF GEARMOTORS

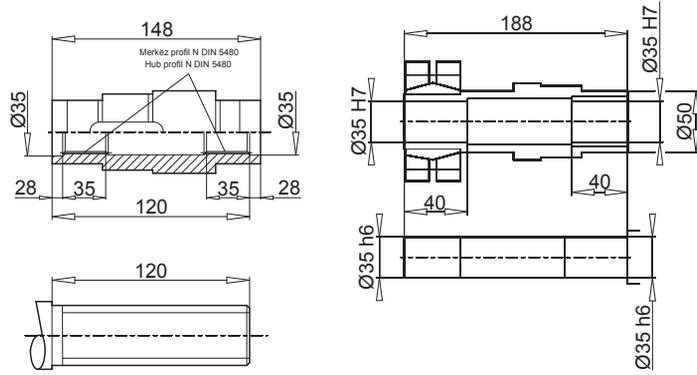




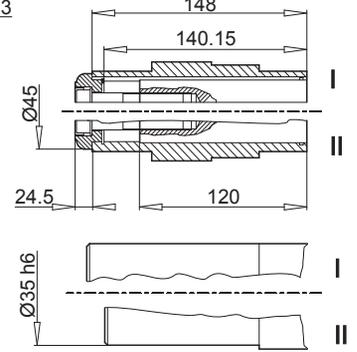
PKD 1390 DG / B14 ...



PKD 1390 DG / DIN 5480 ... PKD 1390 DG / KS ...



PKD 1390 DG / Ç ...



N30 x 1.25 x 30 x 22 x 9H

Konik sıkırma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 35/46	400	3.58	3.11	M6x35*	10	12

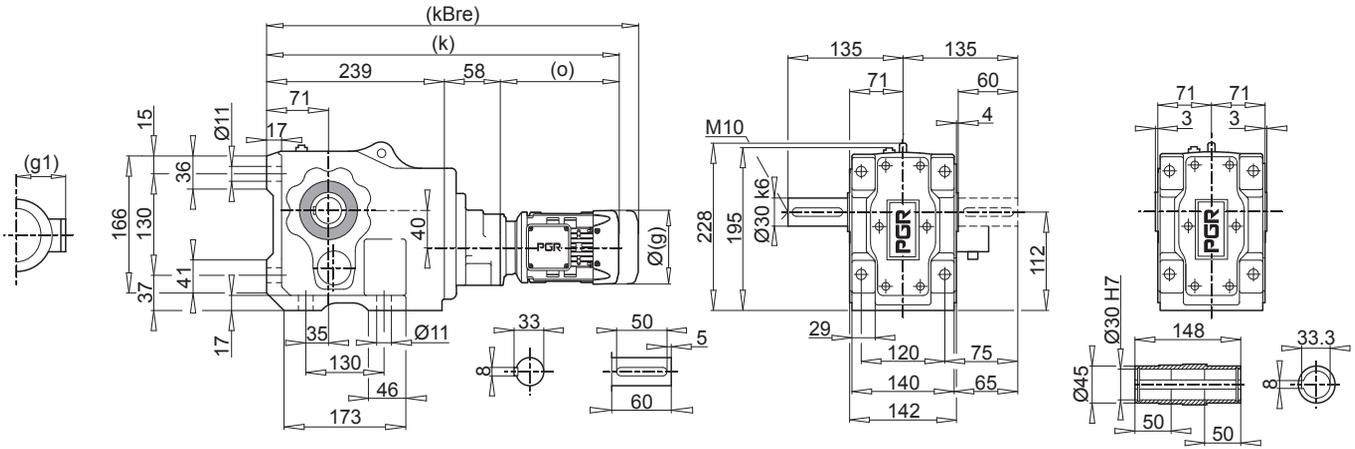
	63 M	71 M	80 M	90 S/L	100 L	112 M		
g	124	140	159	193	217	232		
g1	111	119	127	151	160	168		
k1	448	490	517	540/560	588	633		
k1Bre	500	550	579	613/633	669	713		
o	198	240	267	290/310	338	383		

PKD 1490



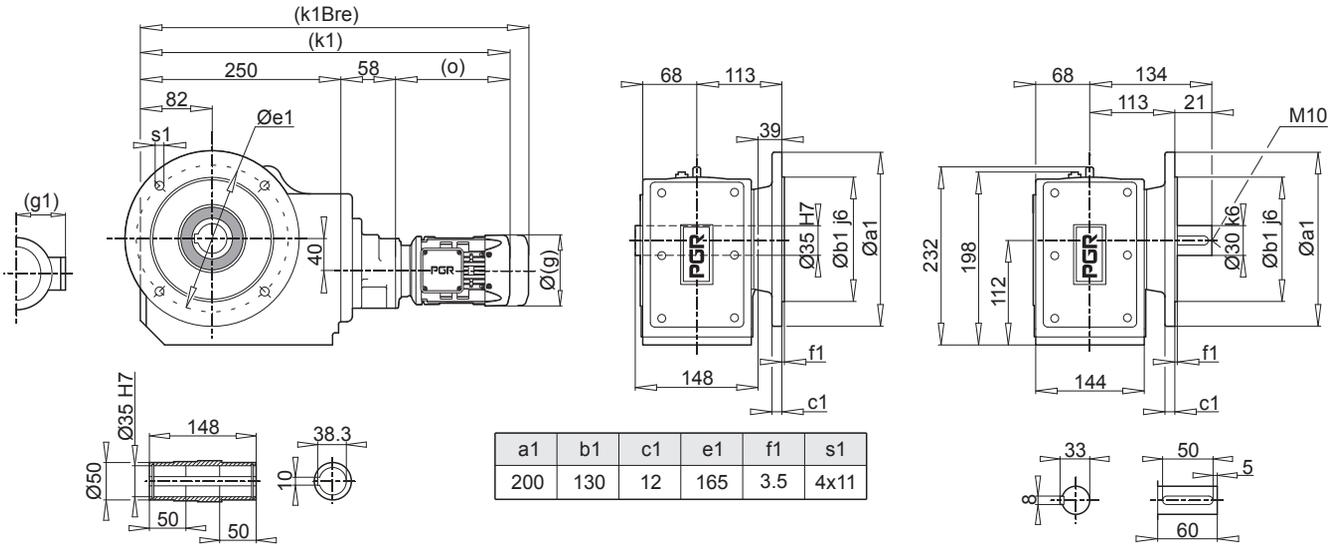
PKD 1490 TMA ...

PKD 1490 DA ...



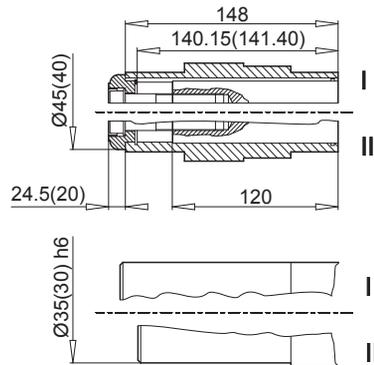
PKD 1490 DG / B5 ...

PKD 1490 TMG / B5 ...



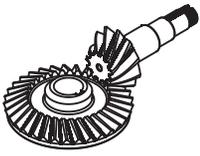
PKD 1490 DG / Ç (DA / Ç) ...

212 - 213

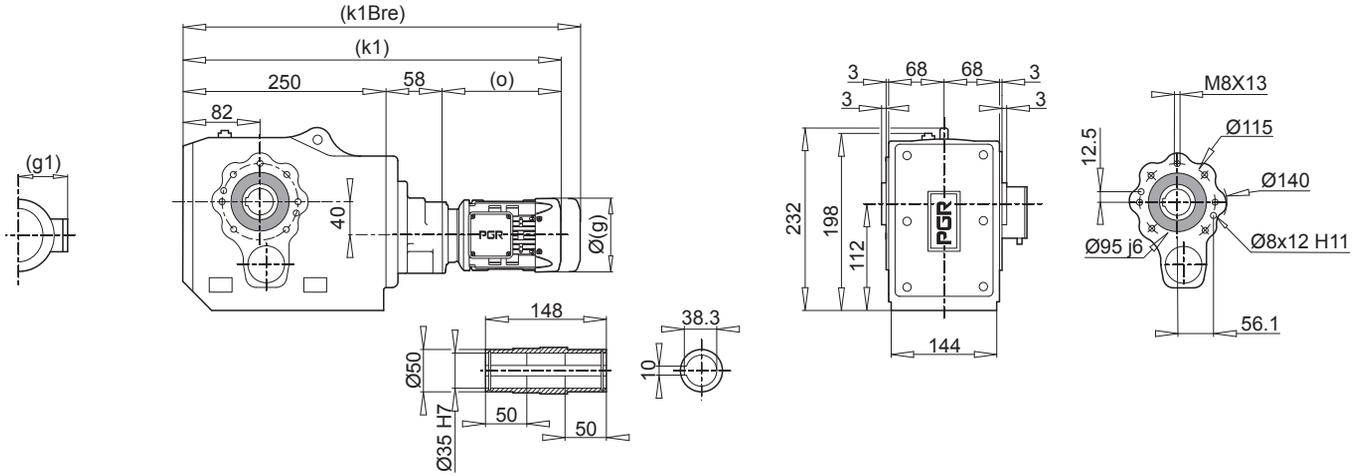


	63 M	71 M					
g	124	140					
g1	111	119					
k	495	537					
kBre	547	597					
o	198	240					

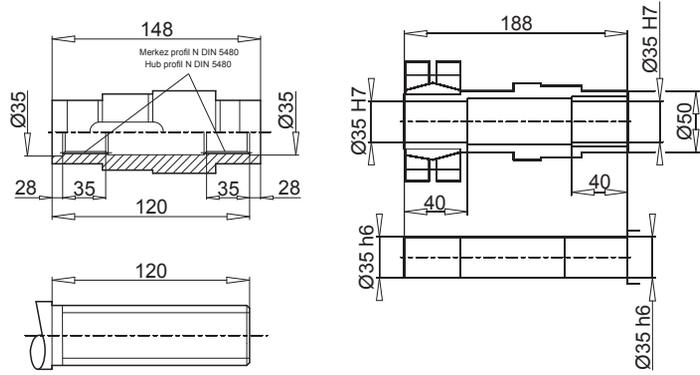
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



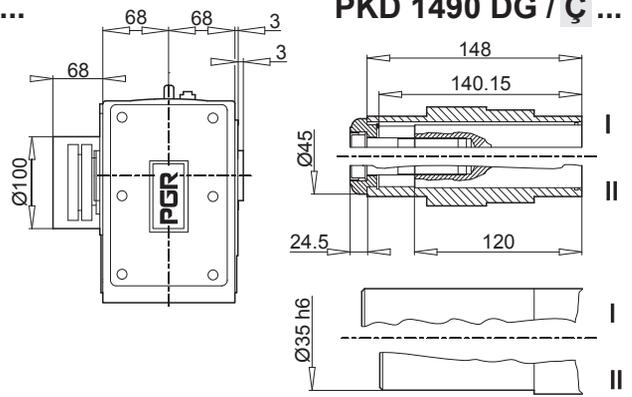
PKD 1490 DG / B14 ...



PKD 1490 DG / DIN 5480 ... PKD 1490 DG / KS ...



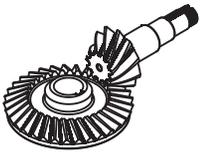
PKD 1490 DG / Ç ...



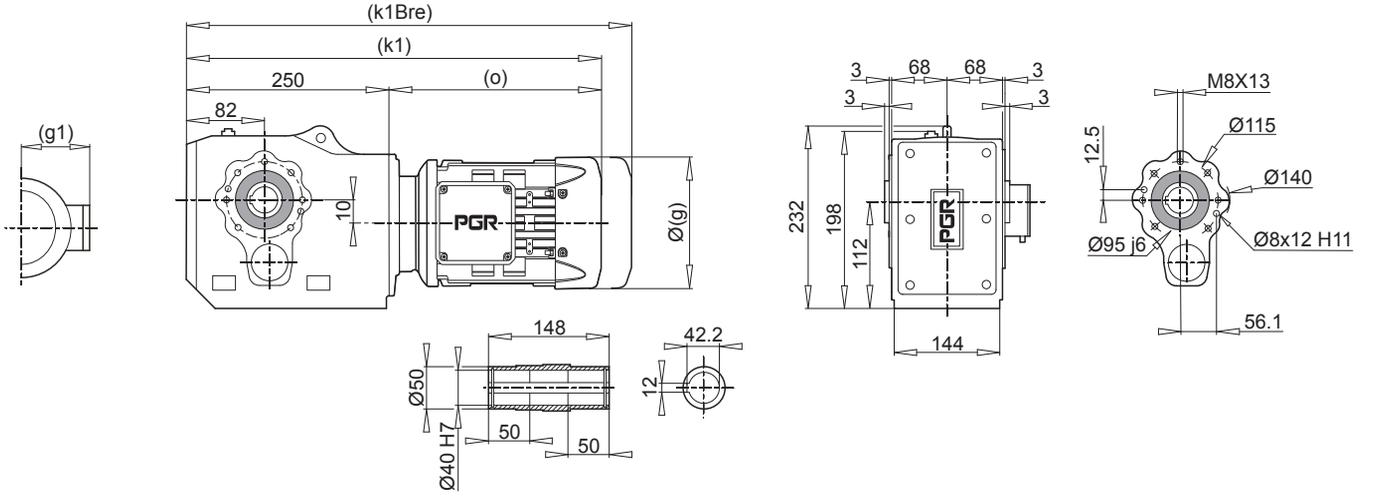
N30 x 1.25 x 30 x 22 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 35/46	400	3.58	3.11	M6x35*	10	12

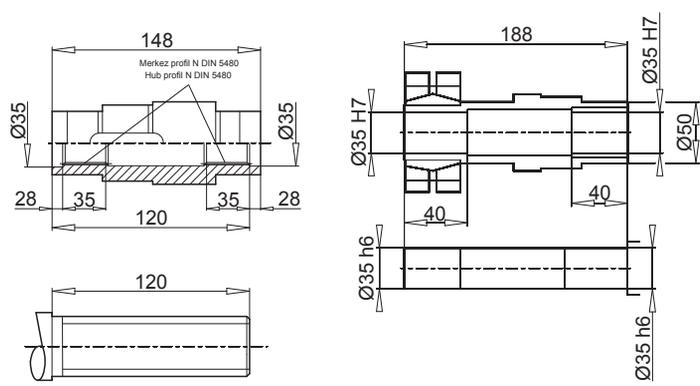
	63 M	71 M					
g	124	140					
g1	111	119					
k1	506	548					
k1Bre	558	608					
o	198	240					



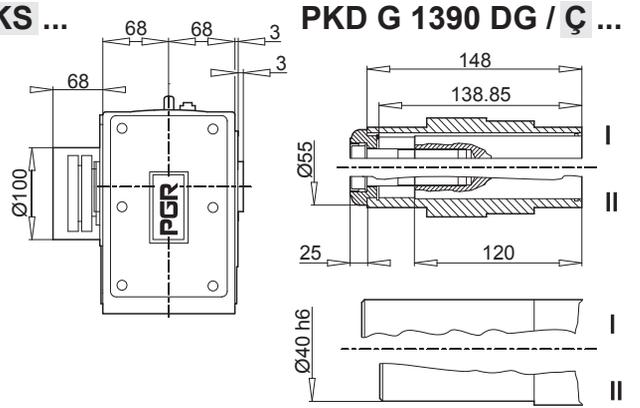
PKD G 1390 DG / B14 ...



PKD G 1390 DG / DIN 5480 ... PKD G 1390 DG / KS ...



PKD G 1390 DG / Ç ...



N30 x 1.25 x 30 x 22 x 9H

Konik sıkırma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 35/46	400	3.58	3.11	M6x35*	10	12

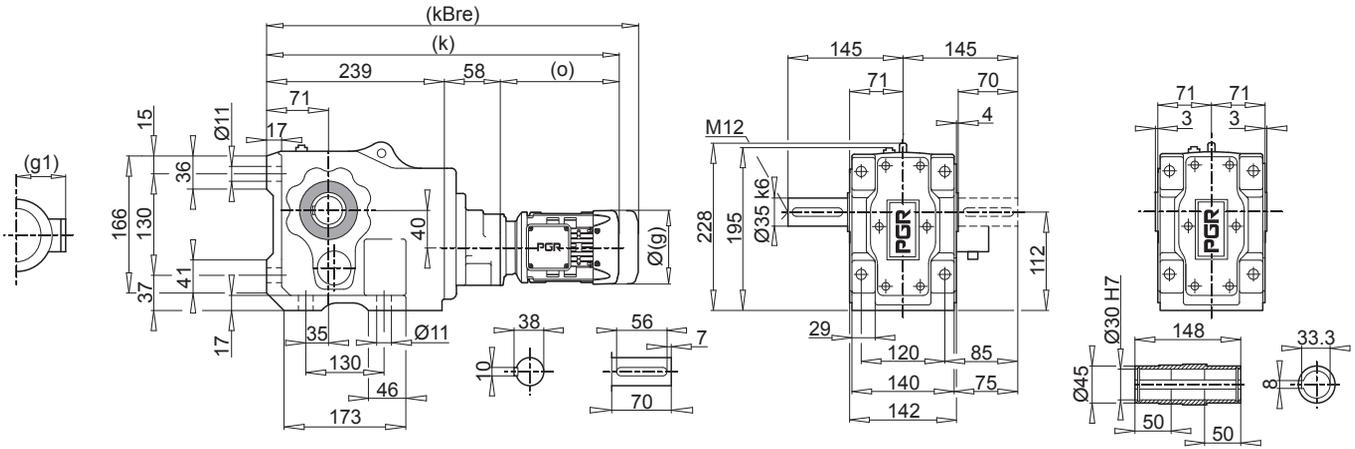
	63 M	71 M	80 M	90 S/L	100 L	112 M		
g	124	140	159	193	217	232		
g1	111	119	127	151	160	168		
k1	448	490	517	540/560	588	633		
k1Bre	500	550	579	613/633	669	713		
o	198	240	267	290/310	338	383		

PKD G 1490



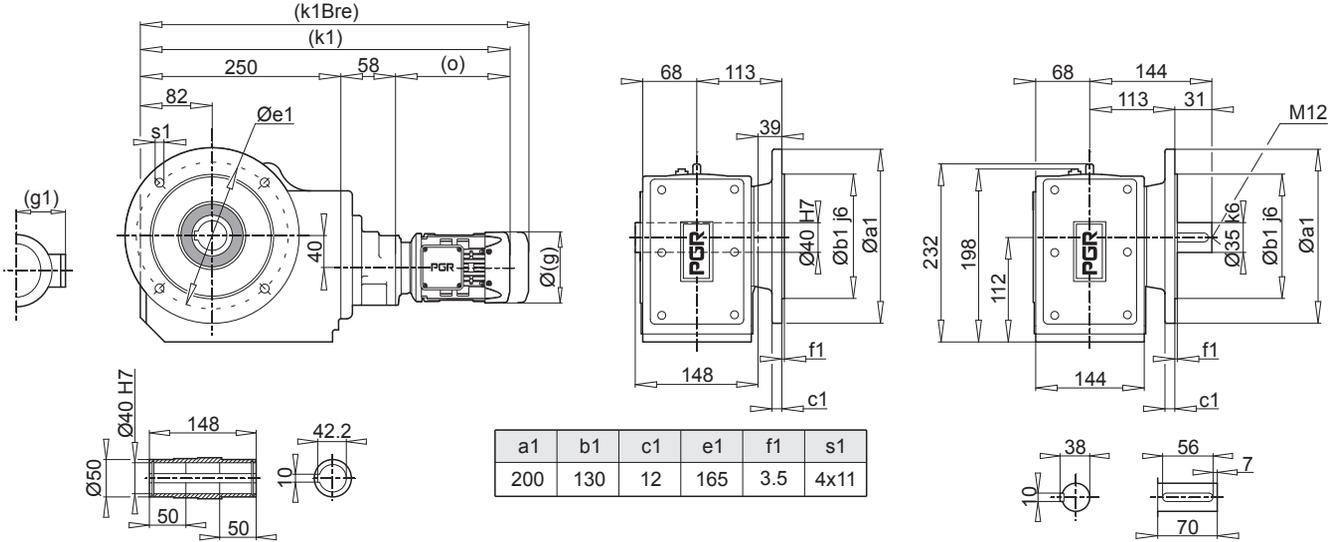
PKD G 1490 TMA ...

PKD G 1490 DA ...

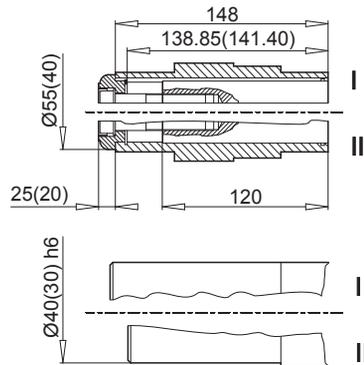


PKD G 1490 DG / B5 ...

PKD G 1490 TMG / B5 ...

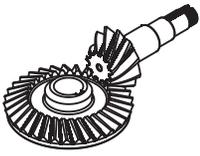


PKD G 1490 DG / Ç (DA / Ç) ... 212 - 213

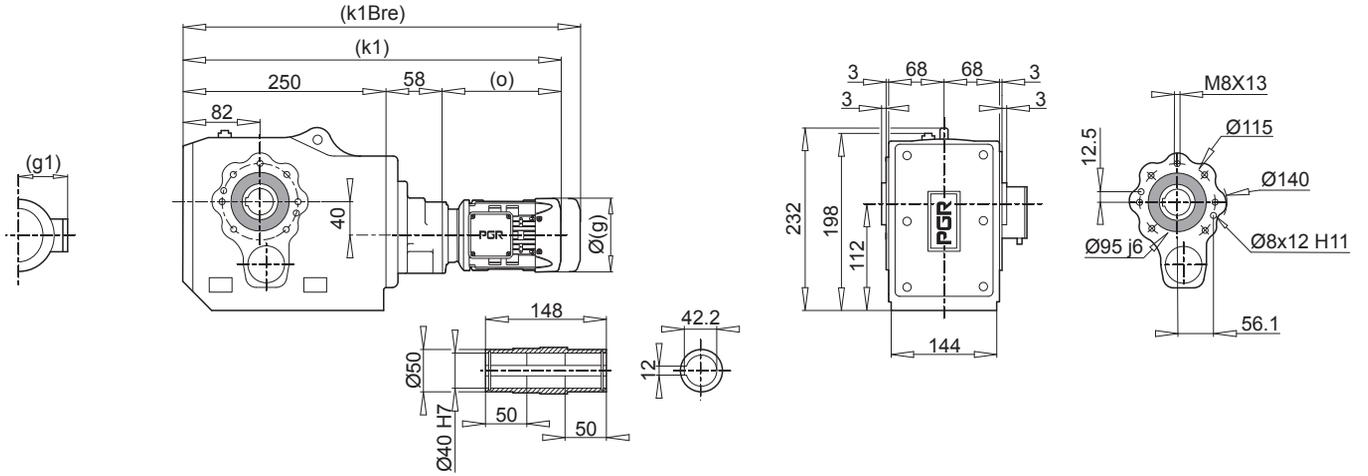


	63 M	71 M					
g	124	140					
g1	111	119					
k	495	537					
kBre	547	597					
o	198	240					

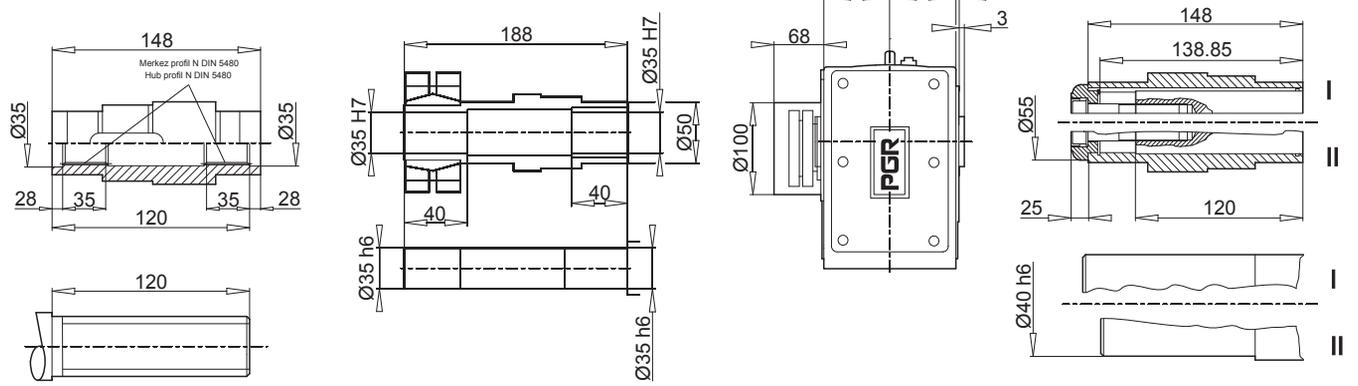
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



PKD G 1490 DG / B14 ...



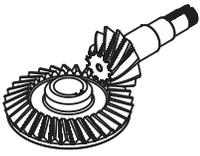
PKD G 1490 DG / DIN 5480 ... PKD G 1490 DG / KS ...



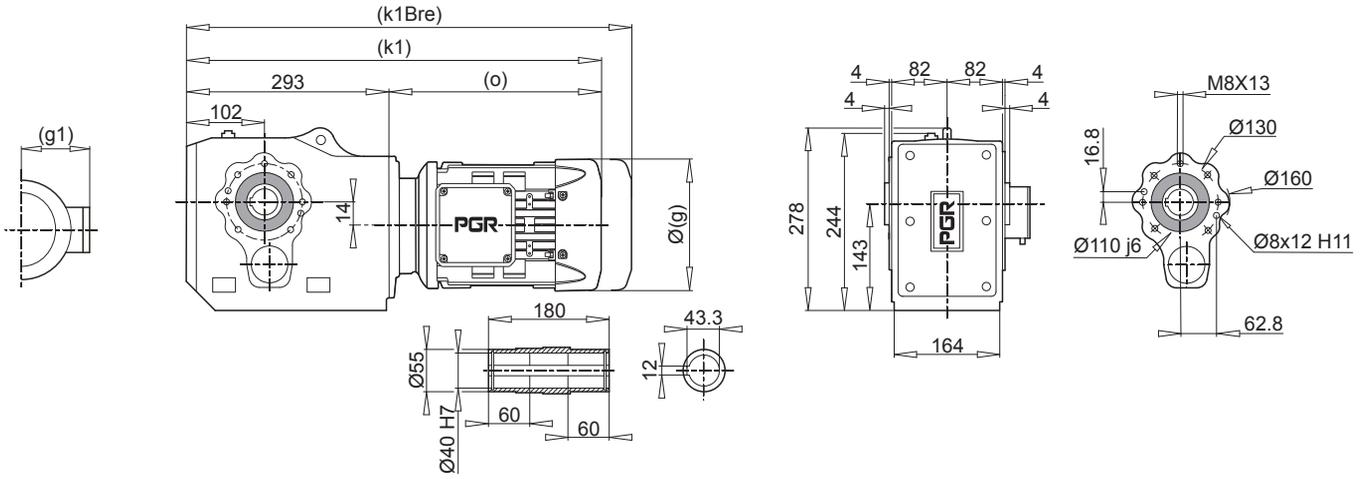
N30 x 1.25 x 30 x 22 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 35/46	400	3.58	3.11	M6x35*	10	12

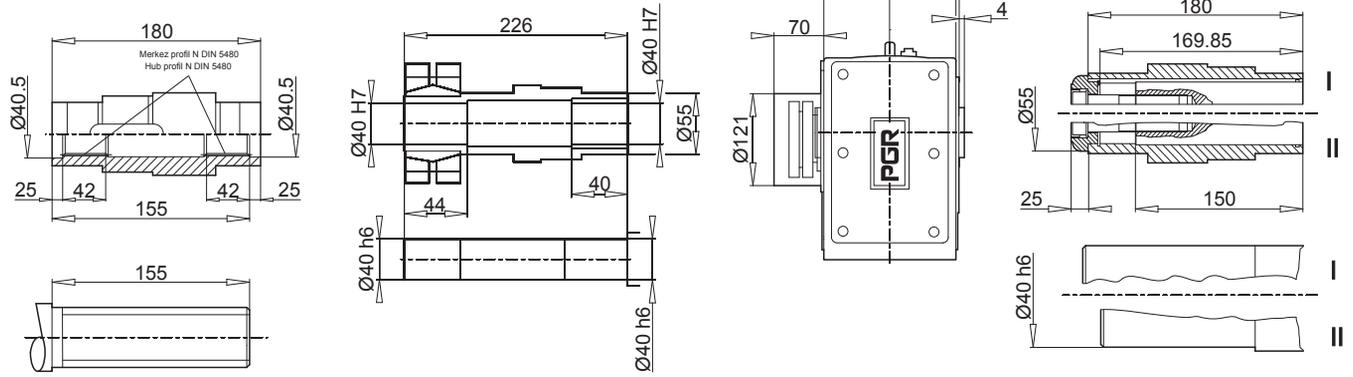
	63 M	71 M					
g	124	140					
g1	111	119					
k1	506	548					
k1Bre	558	608					
o	198	240					



PKD 2390 DG / B14 ...



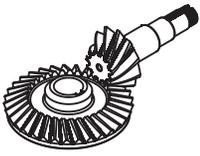
PKD 2390 DG / DIN 5480 ... PKD 2390 DG / KS ...



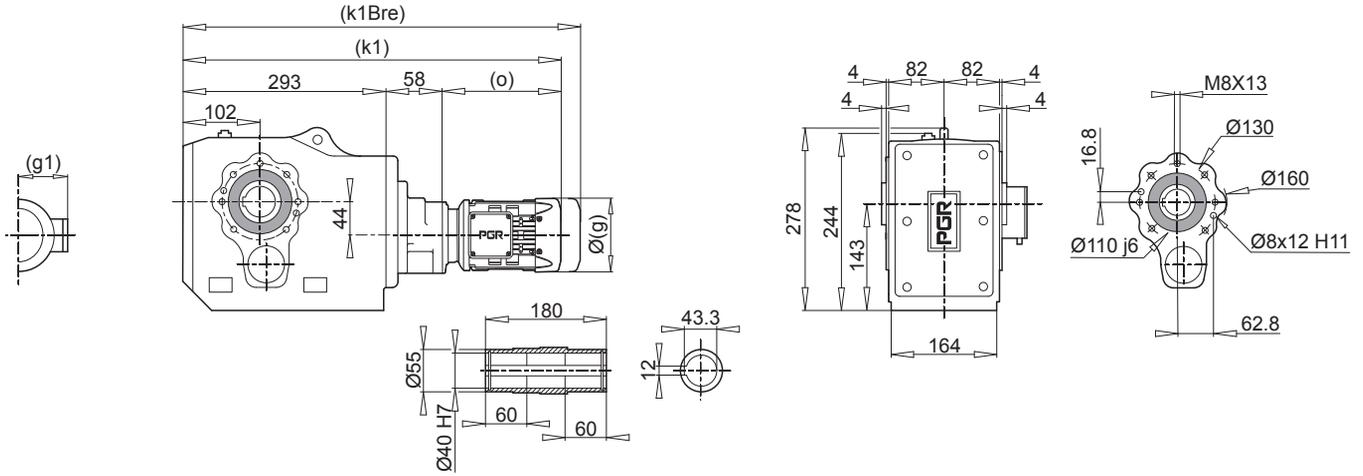
N40 x 2 x 30 x 18 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 40/55	860	2.71	2.37	M8x40	8	30

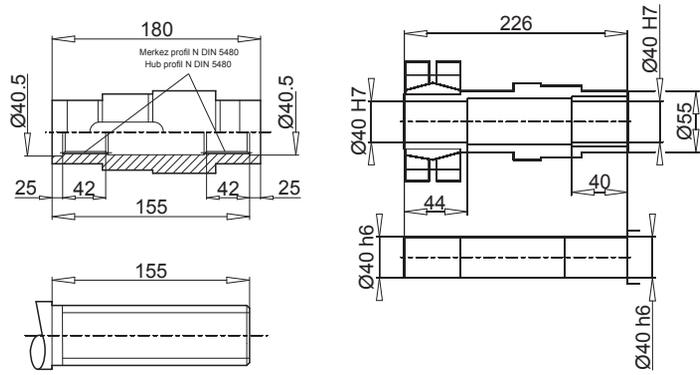
	63 M	71 M	80 M	90 S/L	100 L	112 M		
g	124	140	159	193	217	232		
g1	111	119	127	151	160	168		
k1	491	533	560	583/603	631	676		
k1Bre	543	593	622	656/676	712	756		
o	198	240	267	290/310	338	383		



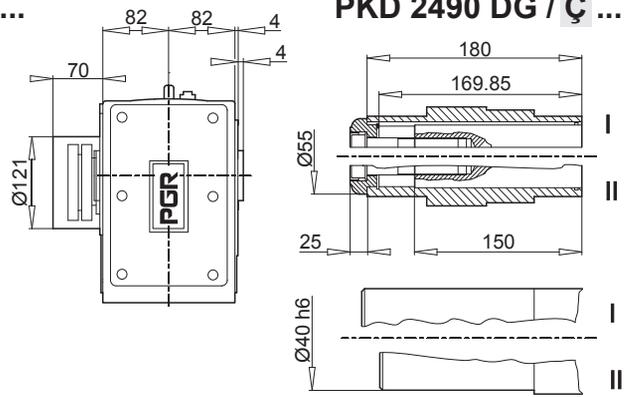
PKD 2490 DG / B14 ...



PKD 2490 DG / DIN 5480 ... PKD 2490 DG / KS ...



PKD 2490 DG / Ç ...



N40 x 2 x 30 x 18 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 40/55	860	2.71	2.37	M8x40	8	30

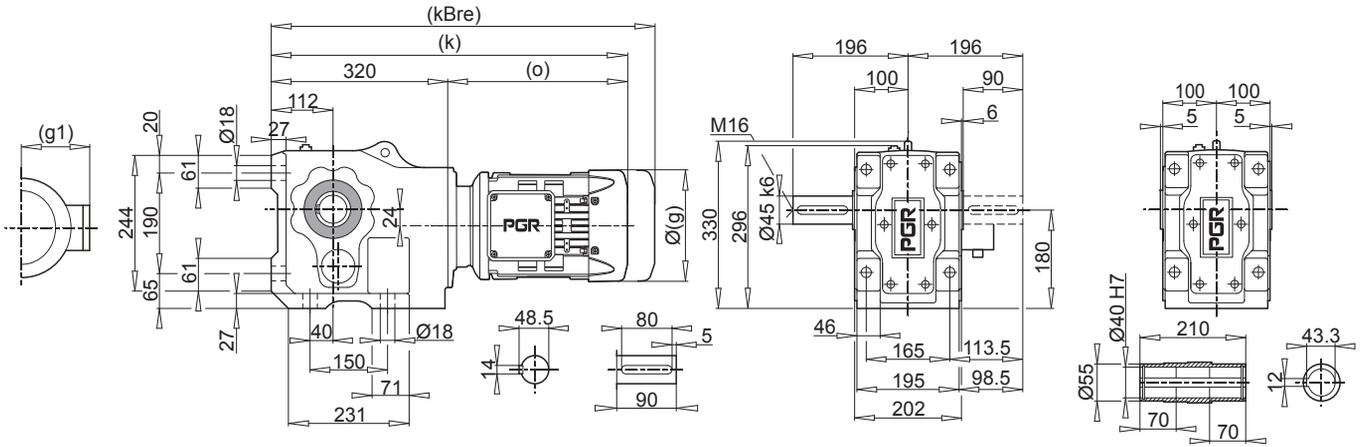
	63 M	71 M					
g	124	140					
g1	111	119					
k1	549	591					
k1Bre	601	651					
o	198	240					

PKD 3390



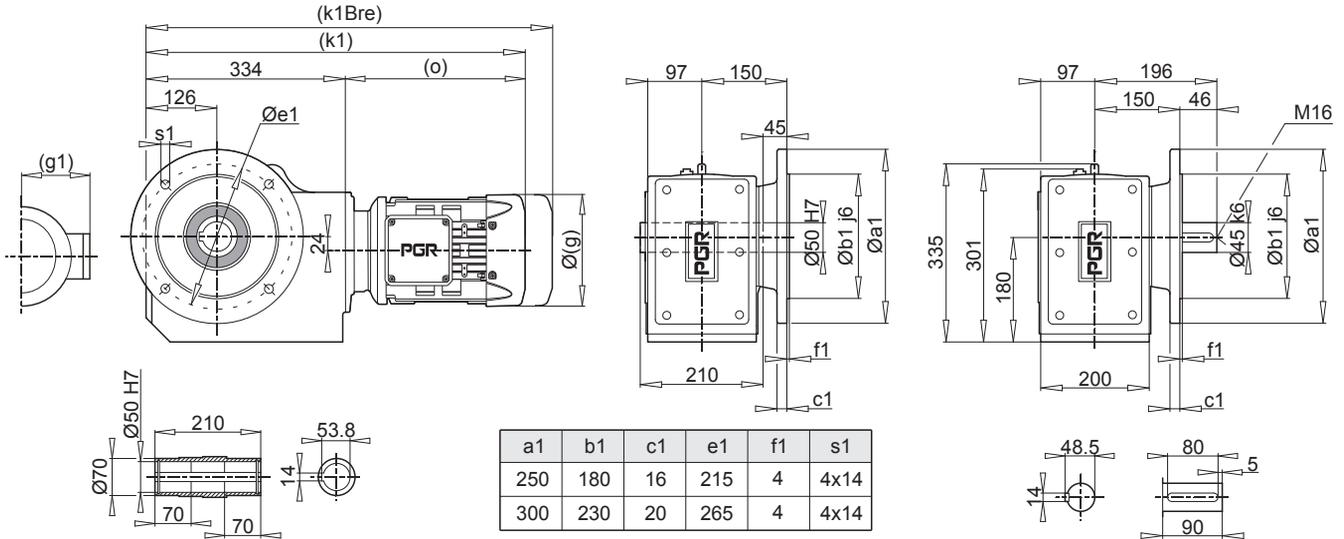
PKD 3390 TMA ...

PKD 3390 DA ...



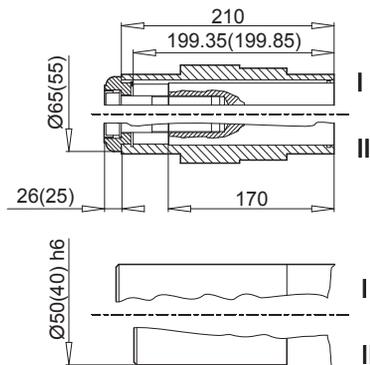
PKD 3390 DG / B5 ...

PKD 3390 TMG / B5 ...



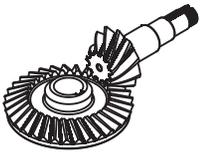
PKD 3390 DG / Ç (DA / Ç) ...

212 - 213

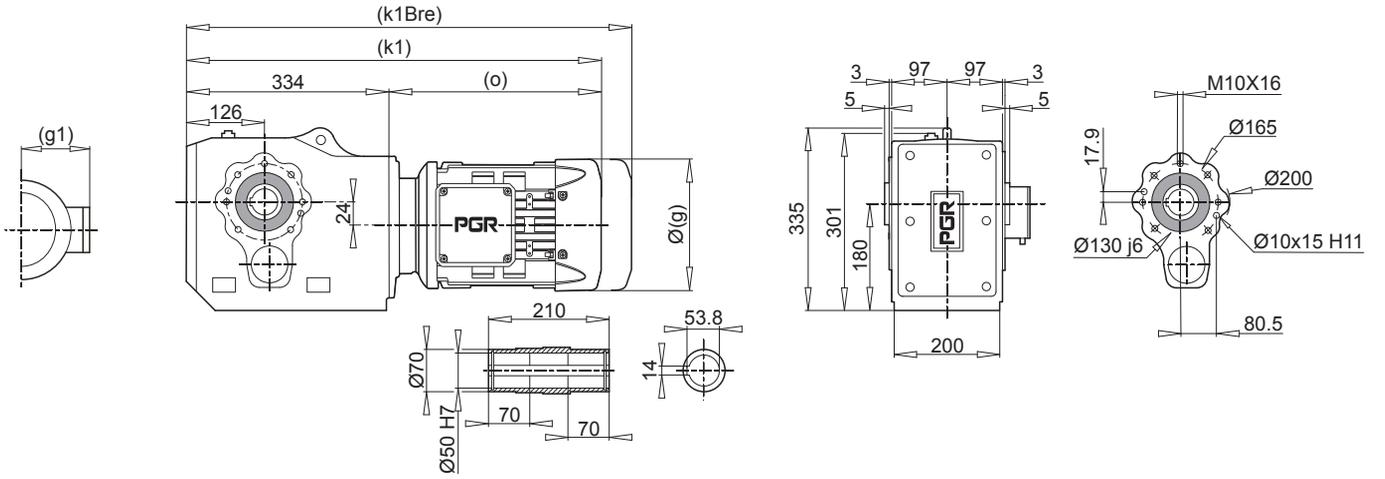


	71 M	80 M	90 S/L	100 L	112 M	132 S/M		
g	140	159	193	217	232	279		
g1	119	127	151	160	168	182		
k	556	582	605/625	653	698	705/740		
kBre	616	644	678/698	734	778	813/848		
o	236	262	285/305	333	378	385/420		

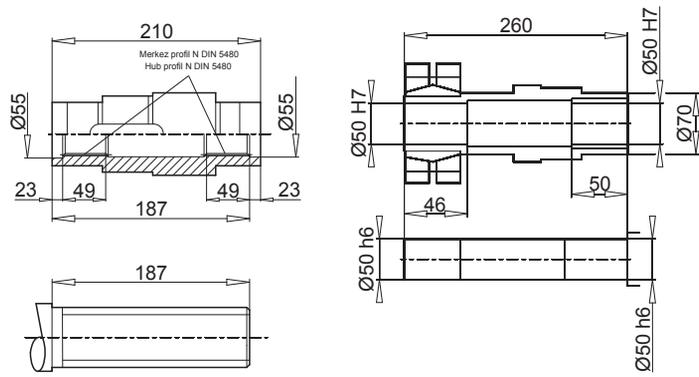
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



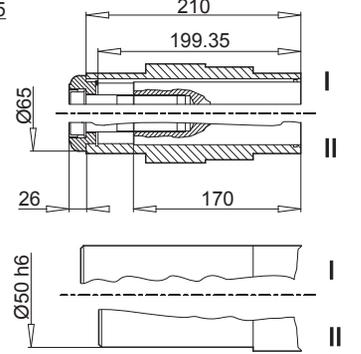
PKD 3390 DG / B14 ...



PKD 3390 DG / DIN 5480 ... PKD 3390 DG / KS ...



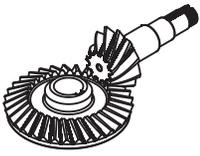
PKD 3390 DG / Ç ...



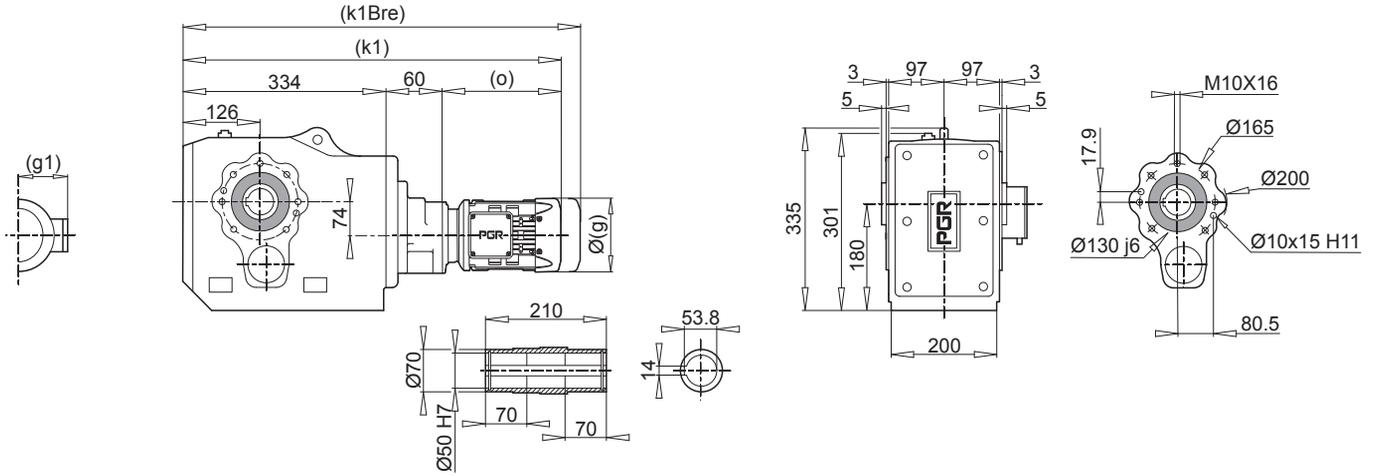
N50 x 2 x 30 x 24 x 9H

Konik sıkırma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 50/62	1550	2.83	2.63	M8x40	10	30

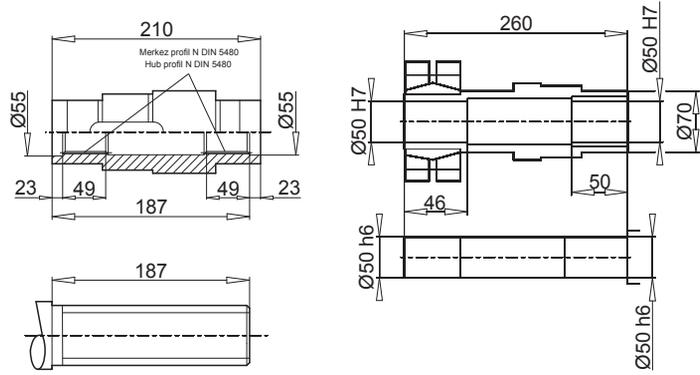
	71 M	80 M	90 S/L	100 L	112 M	132 S/M		
g	140	159	193	217	232	279		
g1	119	127	151	160	168	182		
k1	570	596	619/639	667	712	719/754		
k1Bre	630	658	692/712	748	792	827/862		
o	236	262	285/305	333	378	385/420		



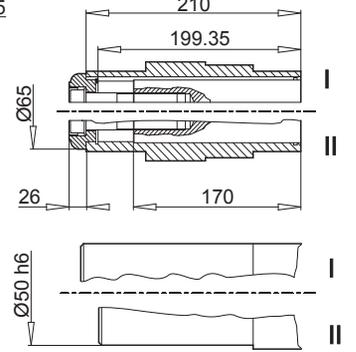
PKD 3490 DG / B14 ...



PKD 3490 DG / DIN 5480 ... PKD 3490 DG / KS ...



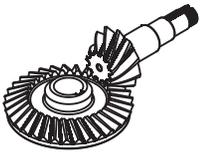
PKD 3490 DG / Ç ...



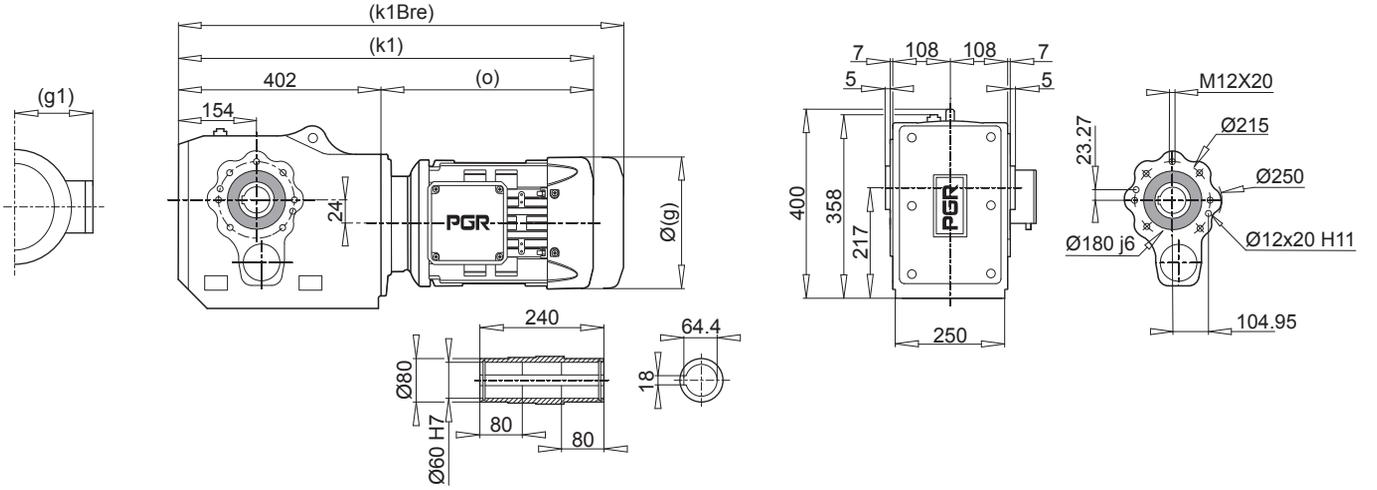
N50 x 2 x 30 x 24 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 50/62	1550	2.83	2.63	M8x40	10	30

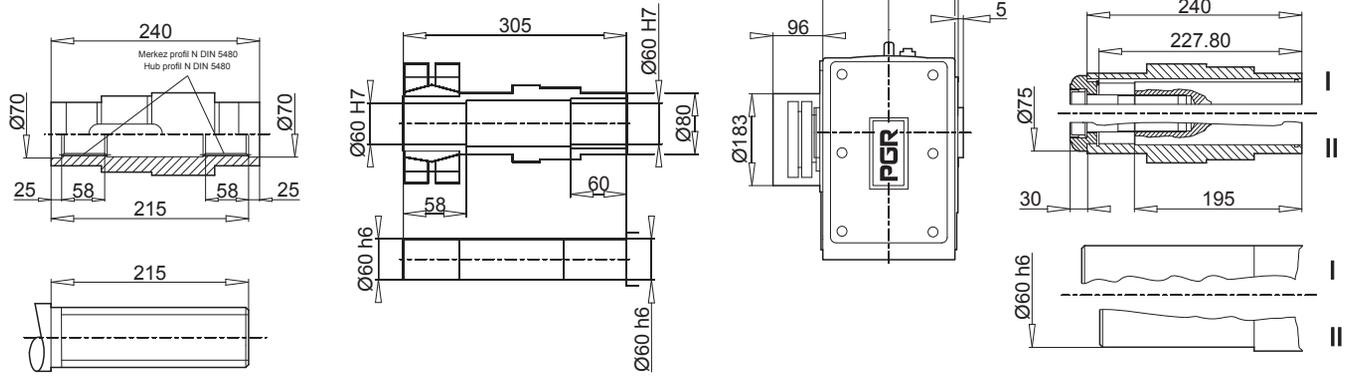
	63 M	71 M	80 M	90 S/L			
g	124	140	159	193			
g1	111	119	127	151			
k1	592	634	661	684/704			
k1Bre	644	694	723	757/777			
o	198	240	267	290/310			



PKD 4390 DG / B14 ...



PKD 4390 DG / DIN 5480 ... PKD 4390 DG / KS ...



N65 x 2 x 30 x 31 x 9H

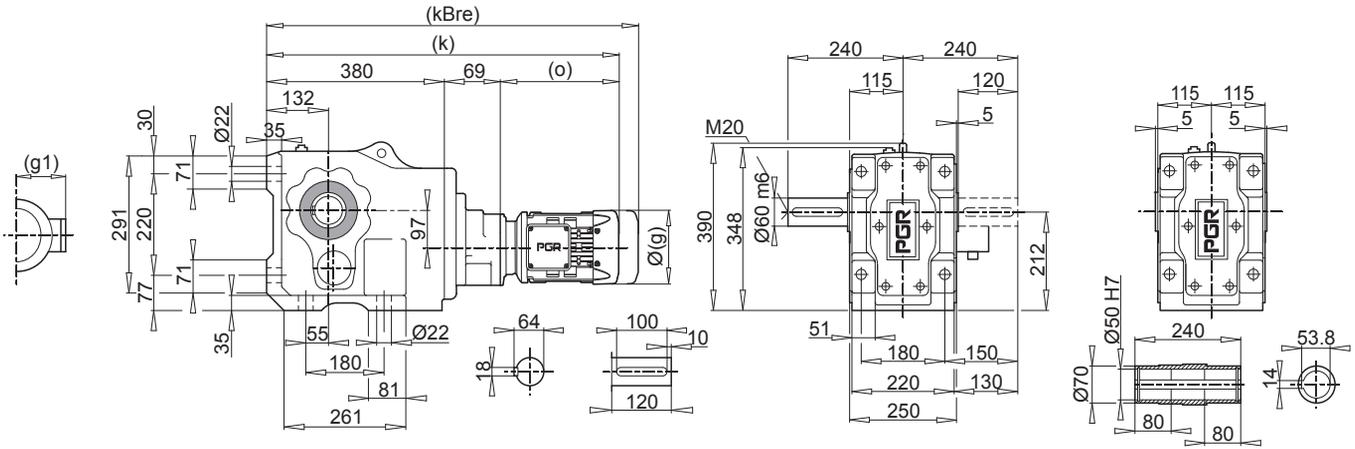
Konik sıkırma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 60/76	2800	2.90	2.69	M10x50	10	59

	90 S/L	100 L	112 M	132 S/M	160 M/L			
g	193	217	232	279	323			
g1	151	160	168	182	200			
k1	667/687	715	760	767/802	907			
k1Bre	740/760	796	840	875/910	1059			
o	265/285	313	358	365/400	505			



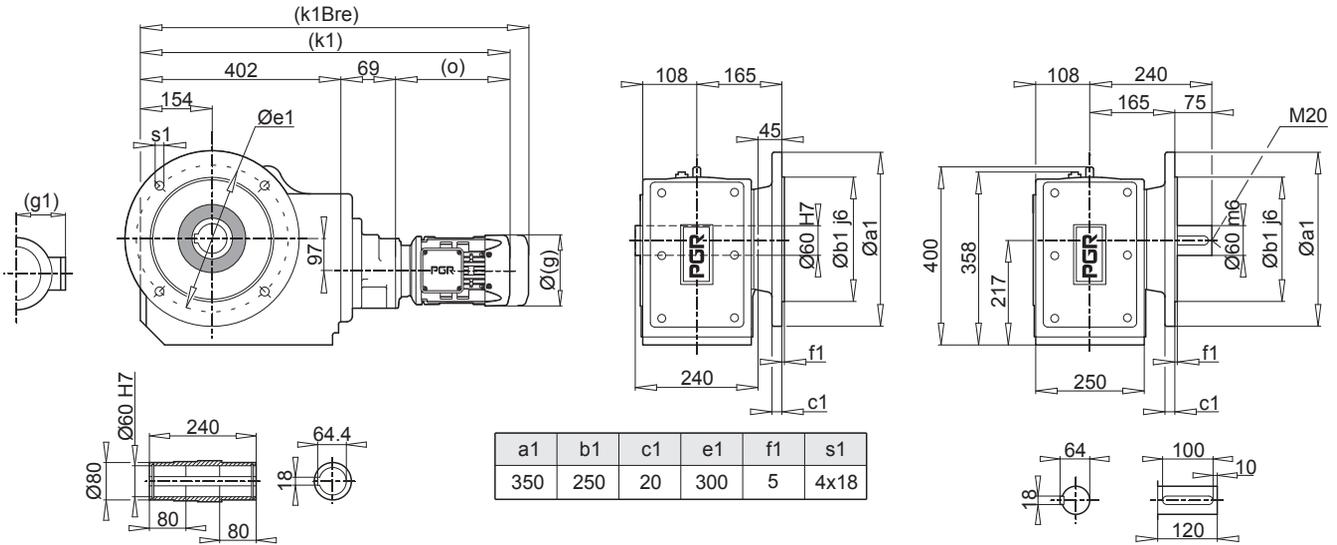
PKD 4490 TMA ...

PKD 4490 DA ...



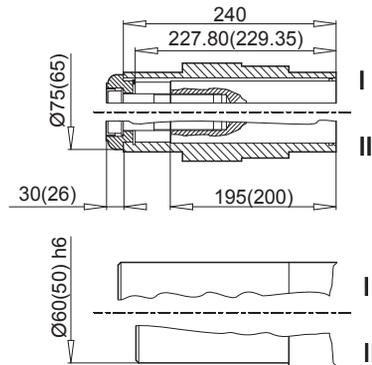
PKD 4490 DG / B5 ...

PKD 4490 TMG / B5 ...



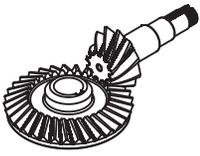
PKD 4490 DG / Ç (DA / Ç) ...

212 - 213

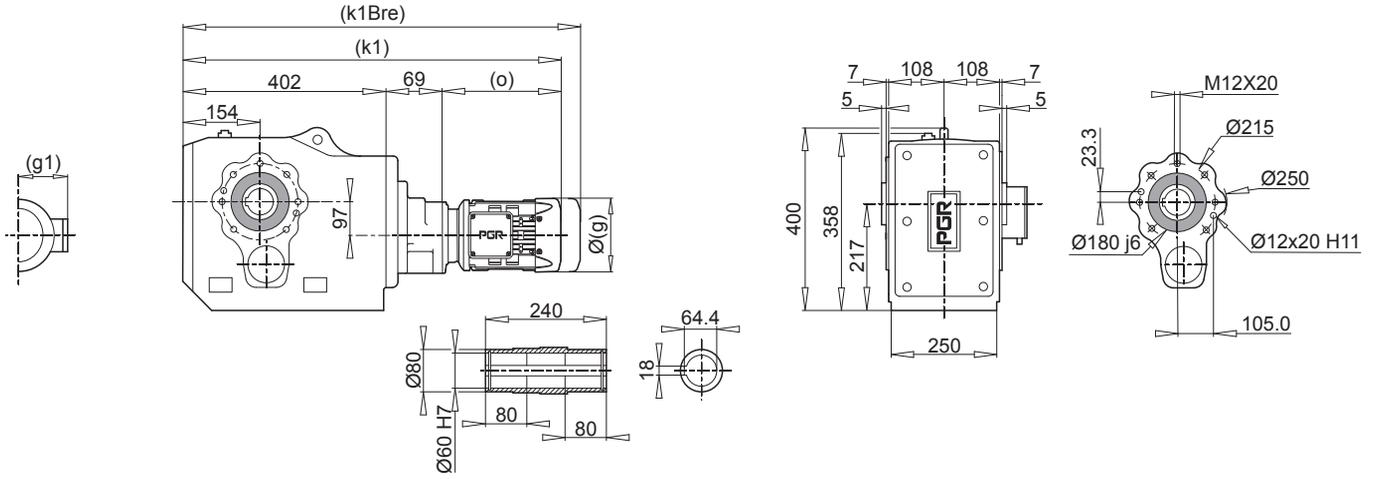


	71 M	80 M	90 S/L	100L			
g	140	159	193	217			
g1	119	127	151	160			
k	685	711	734/754	782			
kBre	745	773	807/827	863			
o	236	262	285/305	333			

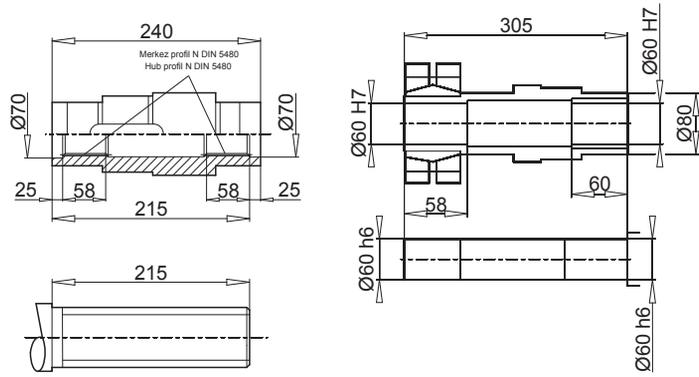
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



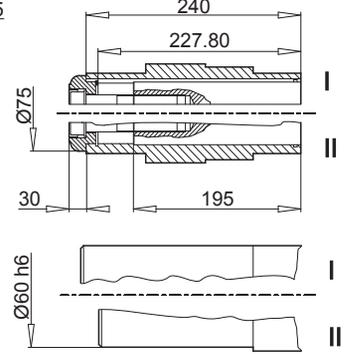
PKD 4490 DG / B14 ...



PKD 4490 DG / DIN 5480 ... PKD 4490 DG / KS ...



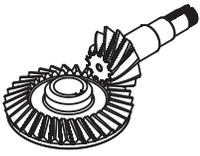
PKD 4490 DG / Ç ...



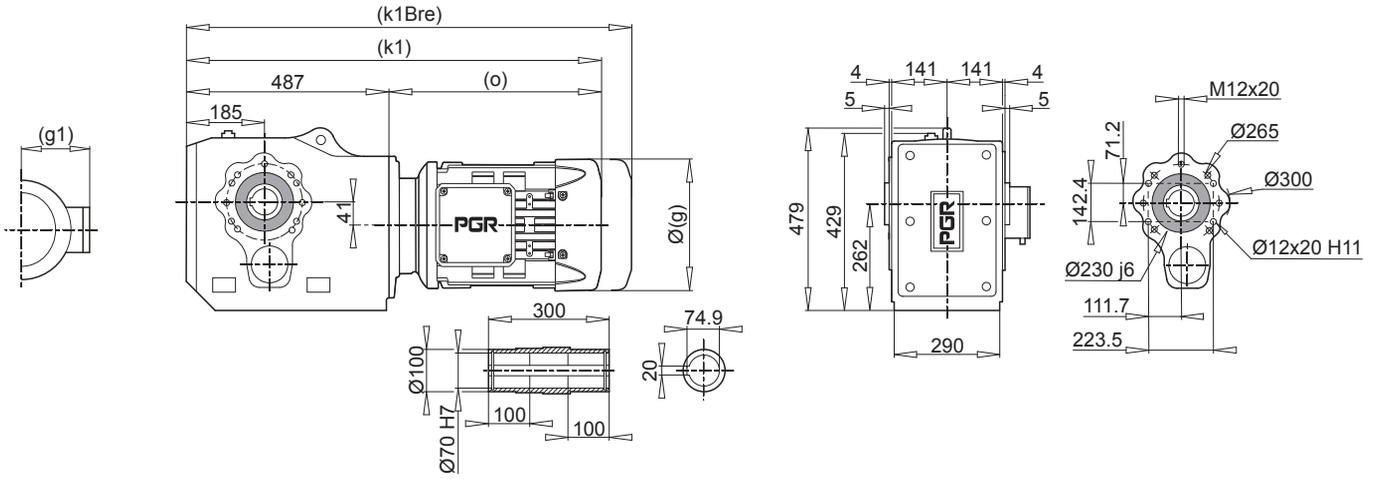
N65 x 2 x 30 x 31 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 60/76	2800	2.90	2.69	M10x50	10	59

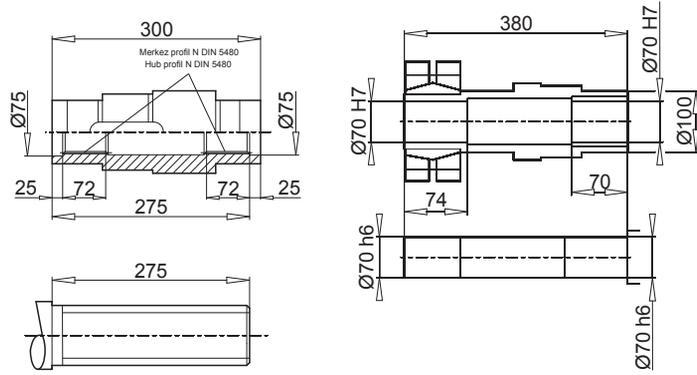
	71 M	80 M	90 S/L	100L				
g	140	159	193	217				
g1	119	127	151	160				
k1	707	733	756/776	804				
k1Bre	767	795	829/849	885				
o	236	262	285/305	333				



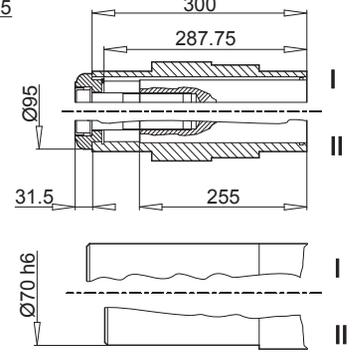
PKD 5390 DG / B14 ...



PKD 5390 DG / DIN 5480 ... PKD 5390 DG / KS ...



PKD 5390 DG / Ç ...



N70 x 2 x 30 x 34 x 9H

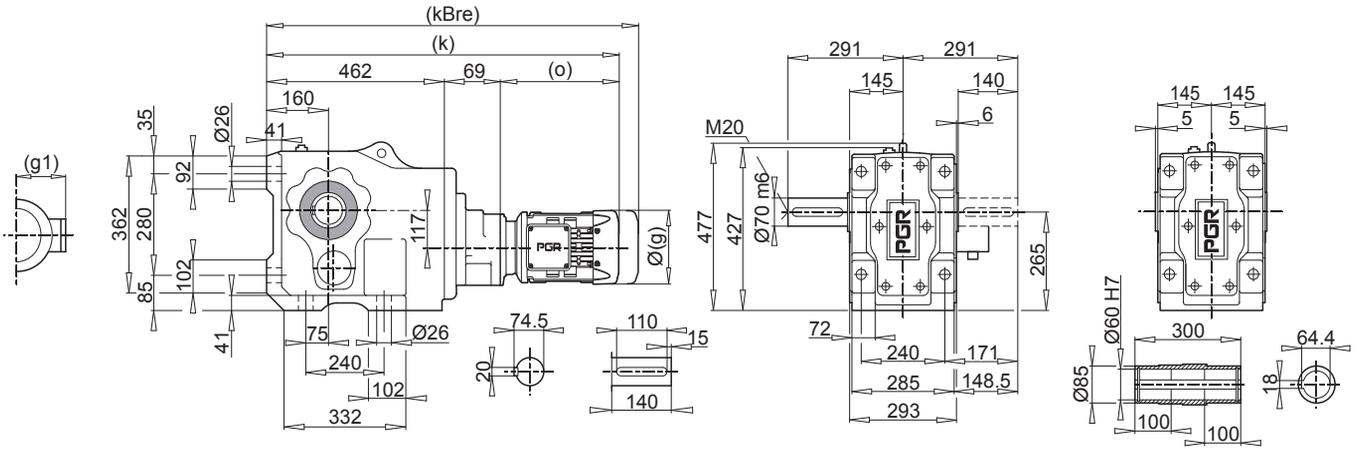
Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{2max} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 70/90	4800	2.87	2.69	M12x70*	10	100

	90 S/L	100 L	112 M	132 S/M	160 M/L	180 M/L		
g	193	217	232	279	323	370		
g1	151	160	168	182	200	248		
k1	752/772	800	845	852/887	992	1066		
k1Bre	825/845	881	925	960/995	1144	1228		
o	265/285	313	358	365/400	505	579		



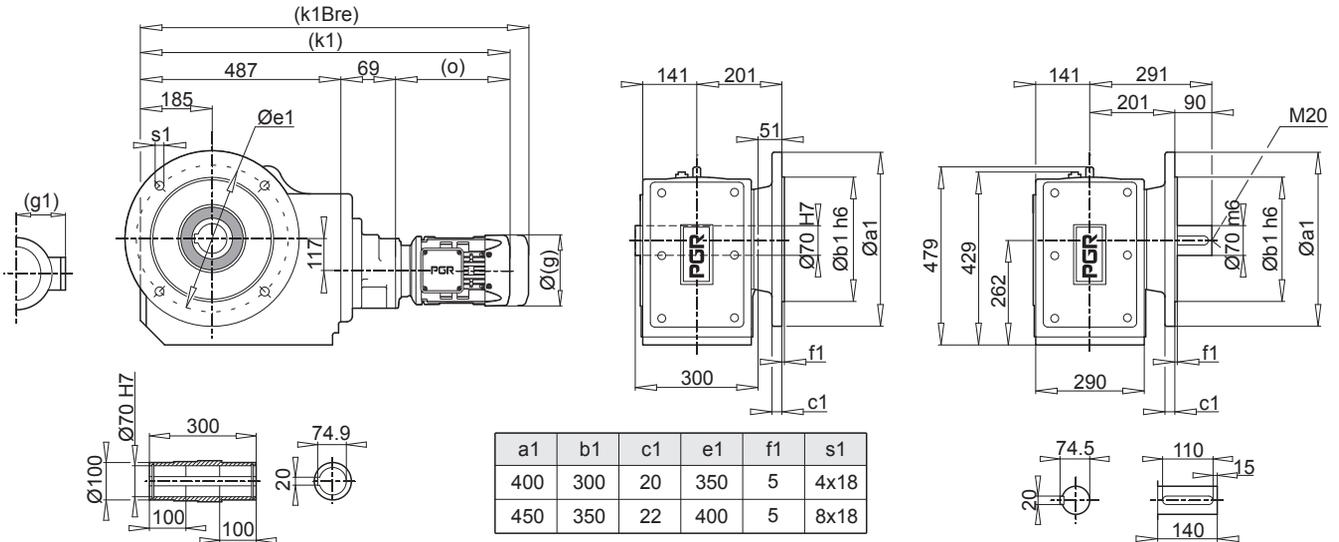
PKD 5490 TMA ...

PKD 5490 DA ...



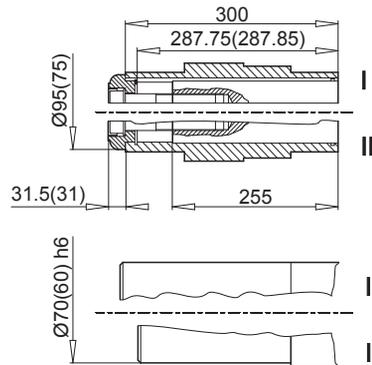
PKD 5490 DG / B5 ...

PKD 5490 TMG / B5 ...



PKD 5490 DG / Ç (DA / Ç) ...

212 - 213



	71 M	80 M	90 S/L	100L	112M			
g	140	159	193	217	232			
g1	119	127	151	160	168			
k	767	793	816/836	864	909			
kBre	827	855	889/909	945	989			
o	236	262	285/305	333	378			

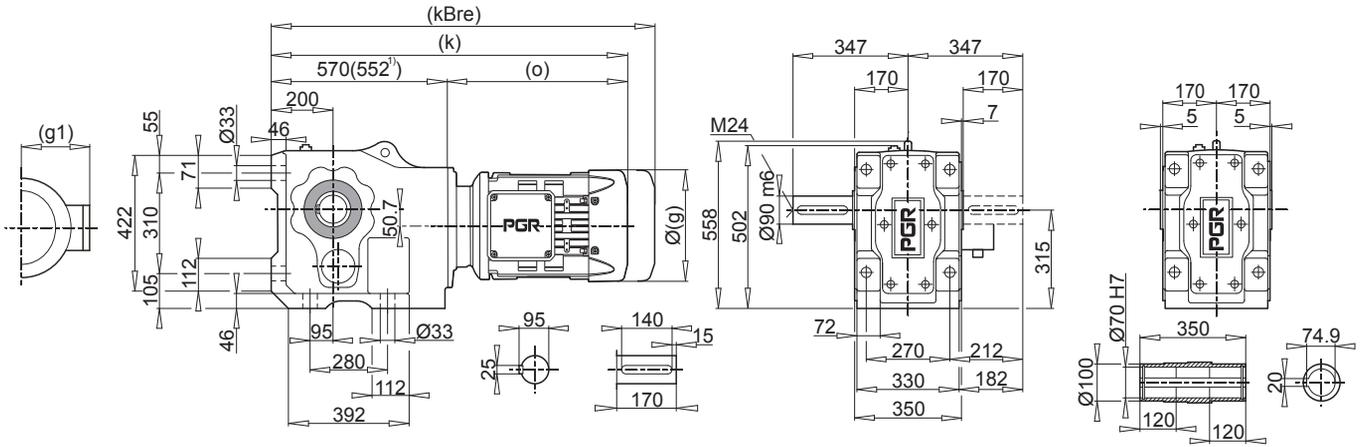
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.

PKD 6390



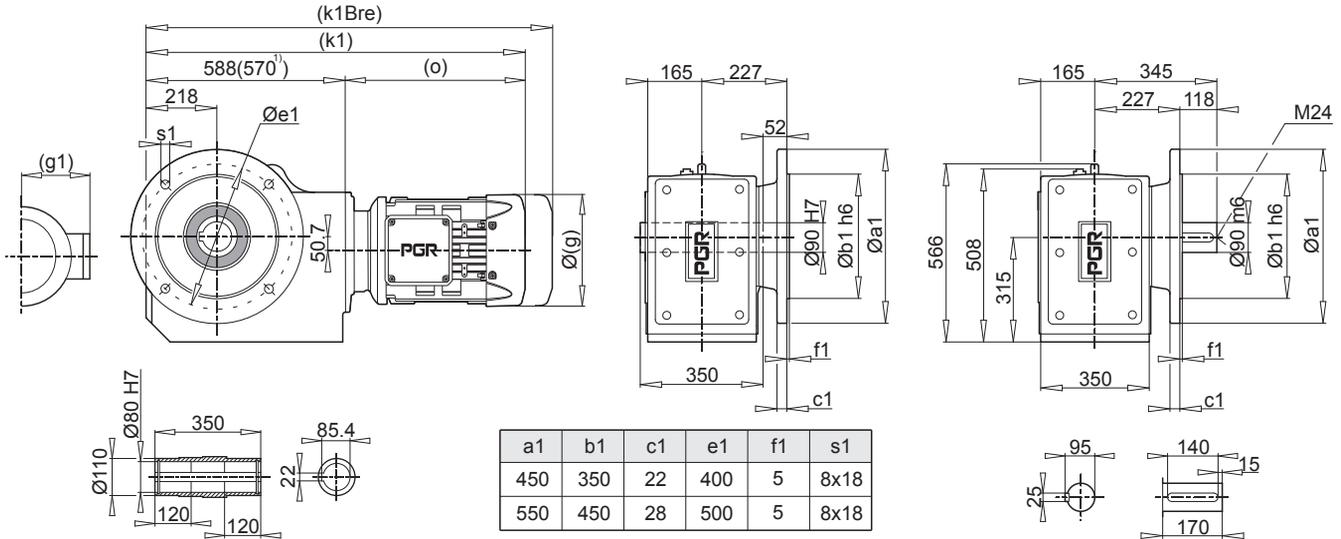
PKD 6390 TMA ...

PKD 6390 DA ...



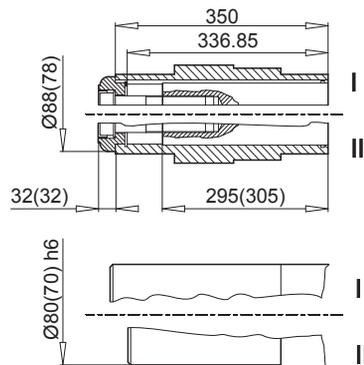
PKD 6390 DG / B5 ...

PKD 6390 TMG / B5 ...



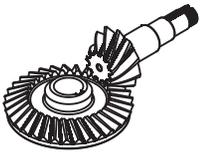
PKD 6390 DG / Ç (DA / Ç) ...

212 - 213

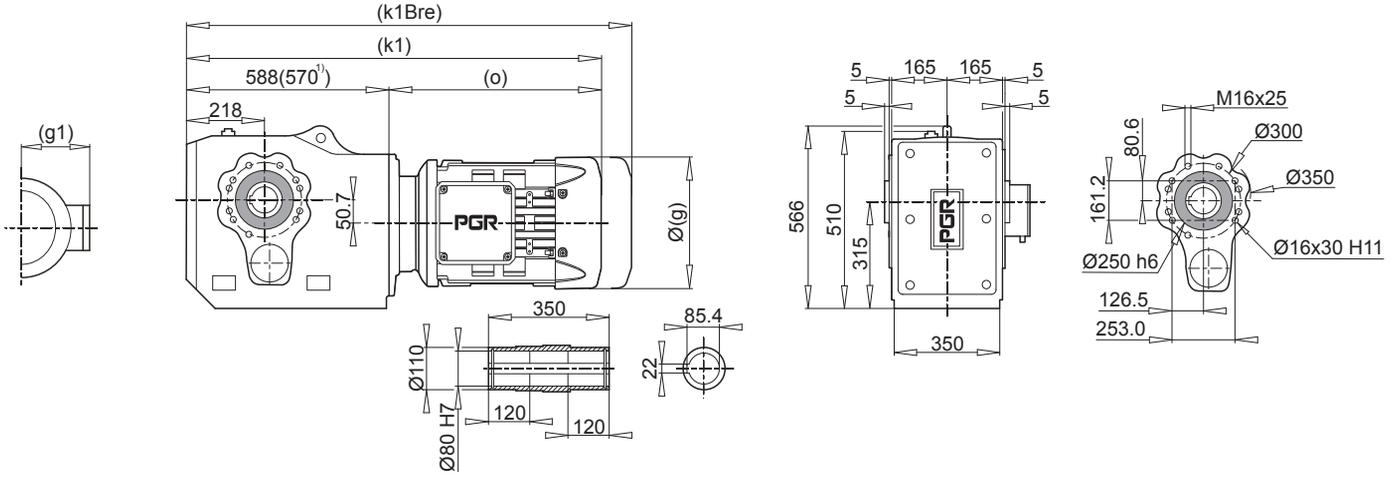


	100 L	112 M	132 S/M	160 M/L ¹⁾	180 M/L ¹⁾	200 L ¹⁾	225 S/M ¹⁾	
g	217	232	279	323	370	415	456	
g1	160	168	182	200	248	260	260	
k	899	927	983	1116	1075	1170	1252	
kBre	980	1007	1091	1168	1237	1317	1424	
o	329	357	413	464	523	618	700	

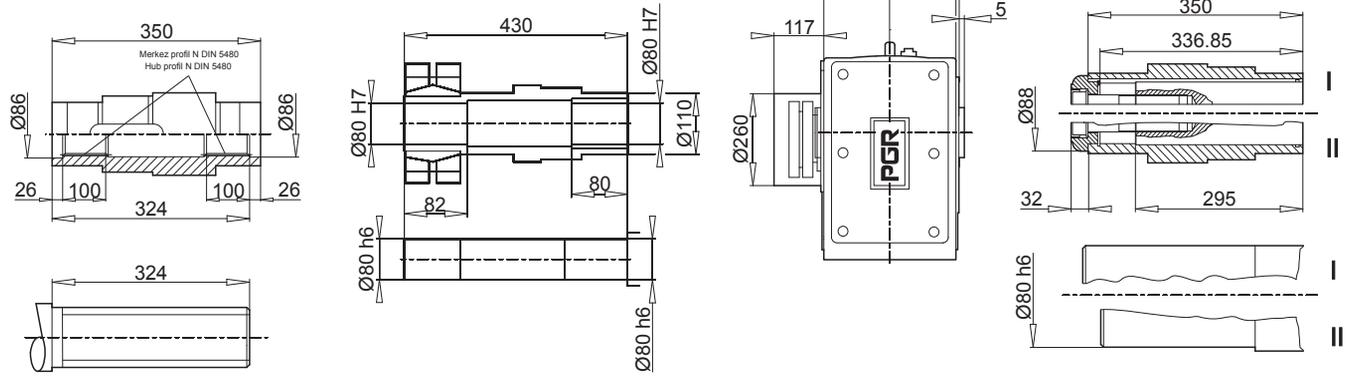
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir/ Note : Dimension which is designated by (...) depends on marks of motor.



PKD 6390 DG / B14 ...



PKD 6390 DG / DIN 5480 ... PKD 6390 DG / KS ...



N85 x 3 x 30 x 27 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 80/108	8500	3.70	3.56	M12x70*	14	100

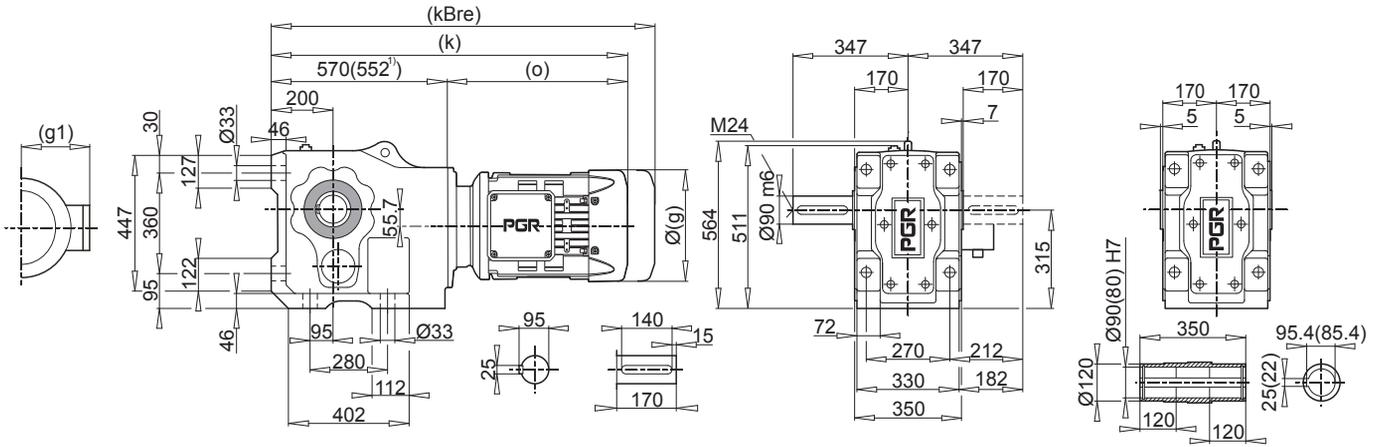
	100 L	112 M	132 S/M	160 M/L ¹⁾	180 M/L ¹⁾	200 L ¹⁾	225 S/M ¹⁾	
g	217	232	279	323	370	415	456	
g1	160	168	182	200	248	260	260	
k1	917	945	1001	1034	1093	1188	1270	
k1Bre	998	1025	1109	1186	1255	1335	1442	
o	329	357	413	464	523	618	700	

PKD 7390



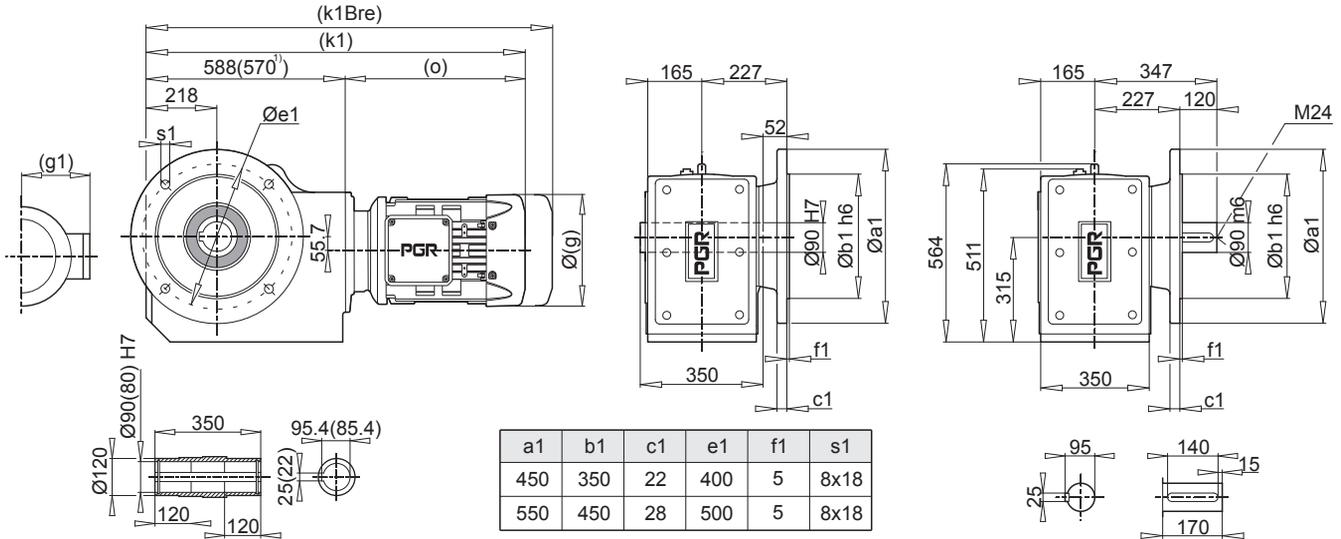
PKD 7390 TMA ...

PKD 7390 DA ...



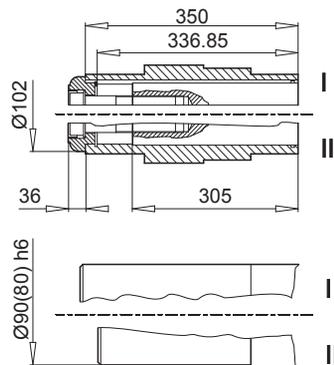
PKD 7390 DG / B5 ...

PKD 7390 TMG / B5 ...



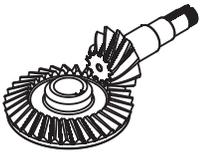
PKD 7390 DG / Ç (DA / Ç) ...

212 - 213

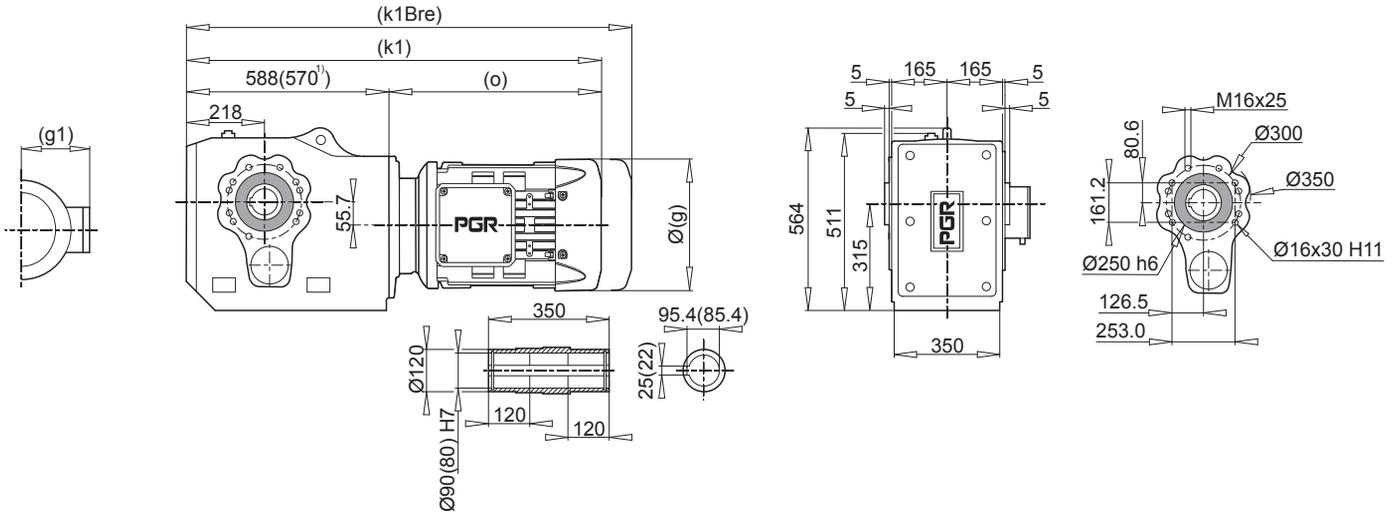


	100 L	112 M	132 S/M	160 M/L ¹⁾	180 M/L ¹⁾	200 L ¹⁾	225 S/M ¹⁾	
g	217	232	279	323	370	415	456	
g1	160	168	182	200	248	260	260	
k	899	927	983	1016	1075	1170	1252	
kBre	980	1007	1091	1168	1237	1317	1424	
o	329	357	413	464	523	618	700	

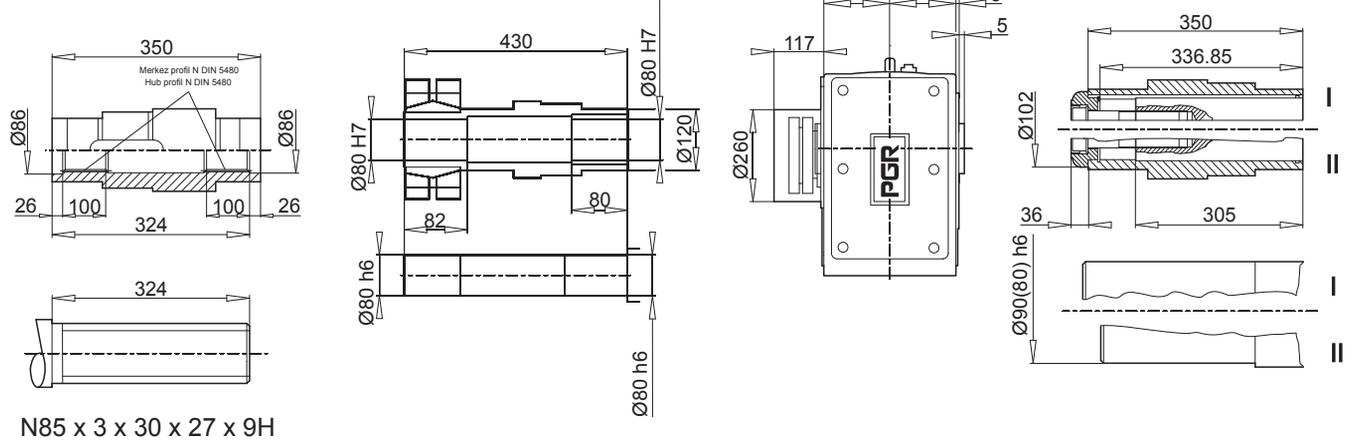
Not : (...) İşaretili olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



PKD 7390 DG / B14 ...



PKD 7390 DG / DIN 5480 ... PKD 7390 DG / KS ...



PKD 7390 DG / Ç ...

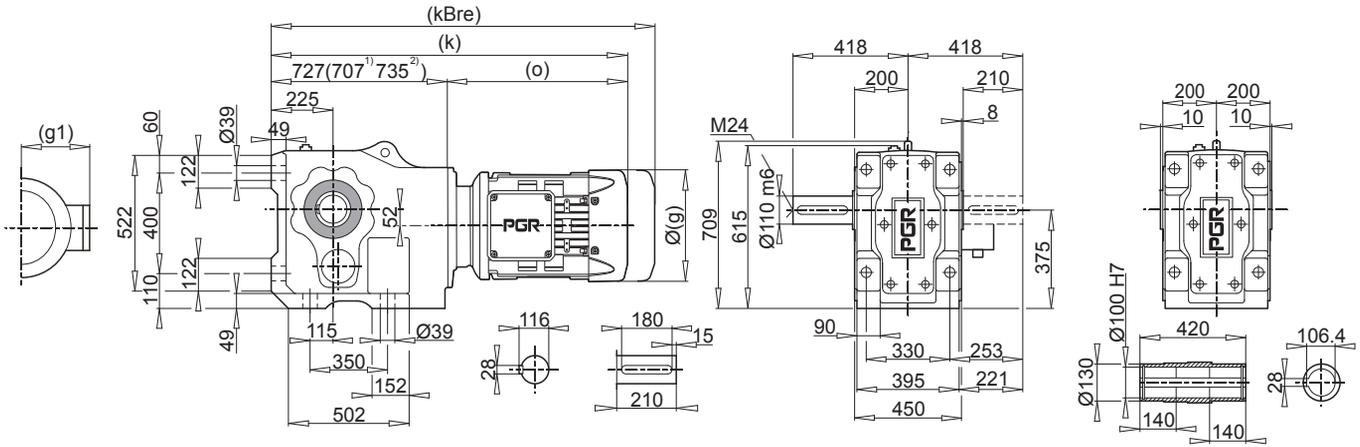
Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 80/108	8500	3.70	3.56	M12x70*	14	100

	100 L	112 M	132 S/M	160 M/L ¹	180 M/L ¹	200 L ¹	225 S/M ¹	
g	217	232	279	323	370	415	456	
g1	160	168	182	200	248	260	260	
k1	917	945	1001	1034	1093	1188	1270	
k1Bre	998	1025	1109	1186	1255	1335	1442	
o	329	357	413	464	523	618	700	



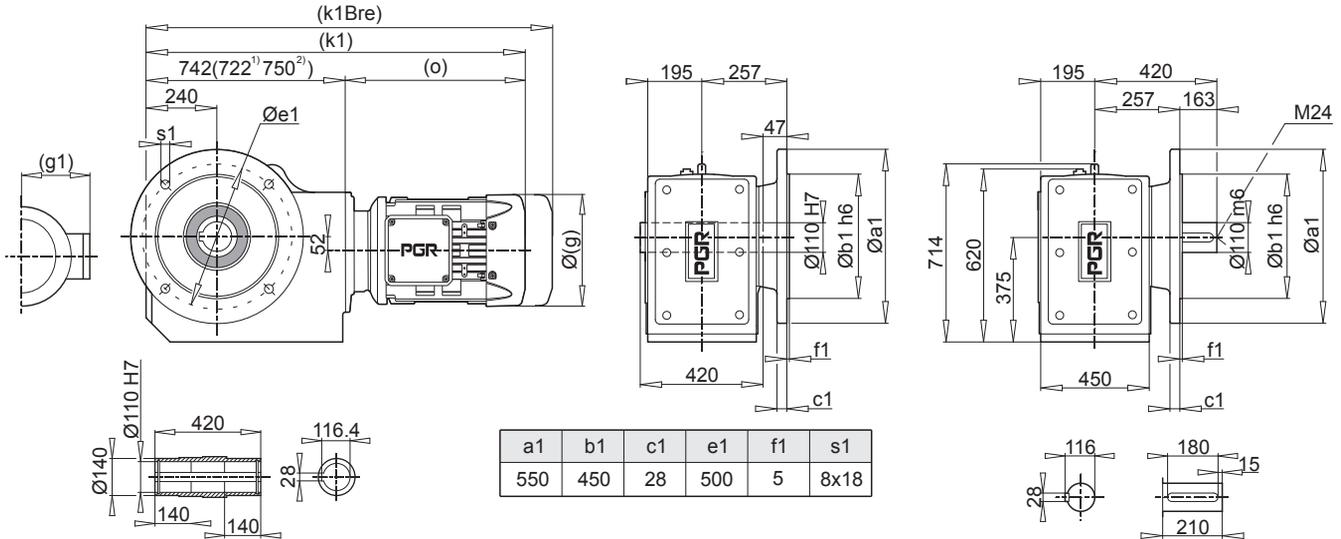
PKD 8390 TMA ...

PKD 8390 DA ...



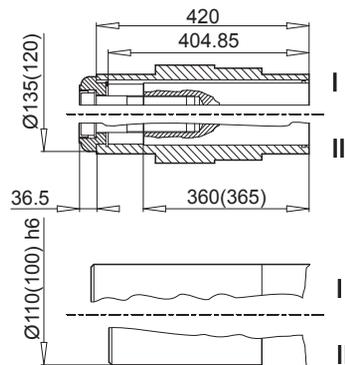
PKD 8390 DG / B5 ...

PKD 8390 TMG / B5 ...



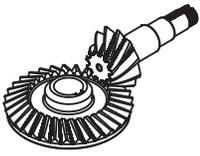
PKD 8390 DG / Ç (DA / Ç) ...

212 - 213

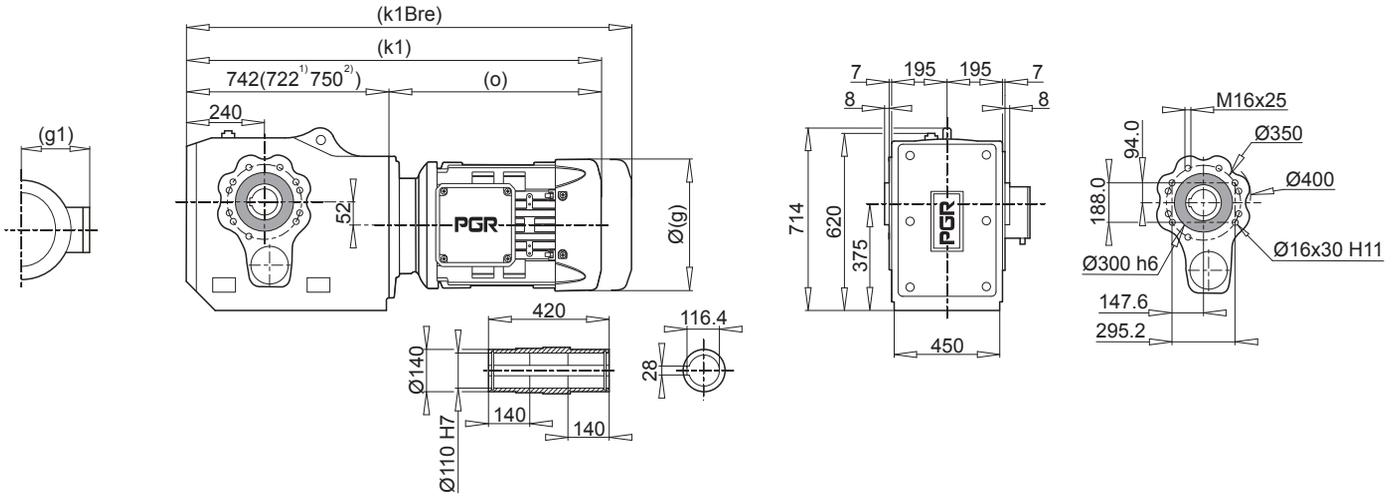


	132 S/M	160 M/L	180 M/L	200 L	225 S/M	250 M ¹⁾	280 S ¹⁾	280 M ²⁾
g	279	323	370	415	456	495	-	-
g1	182	200	248	260	260	392	-	-
k	1140	1191	1250	1345	1427	1351	-	-
kBre	1248	1343	1412	1492	1599	1606	-	-
o	413	464	523	618	700	644	-	-

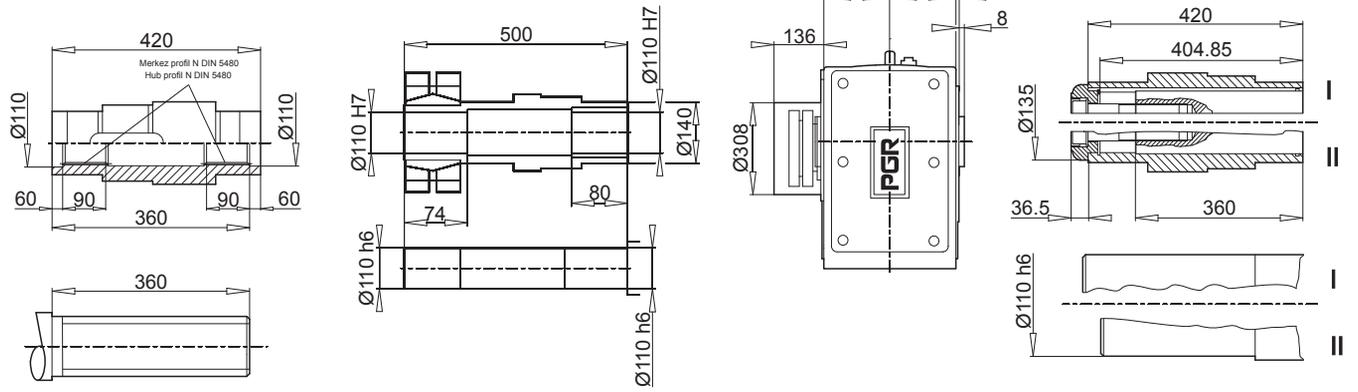
Not : (...) İşaretili olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



PKD 8390 DG / B14 ...



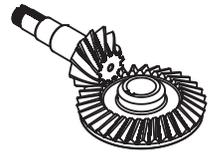
PKD 8390 DG / DIN 5480 ... PKD 8390 DG / KS ...



N105 x 3 x 30 x 34 x 9H

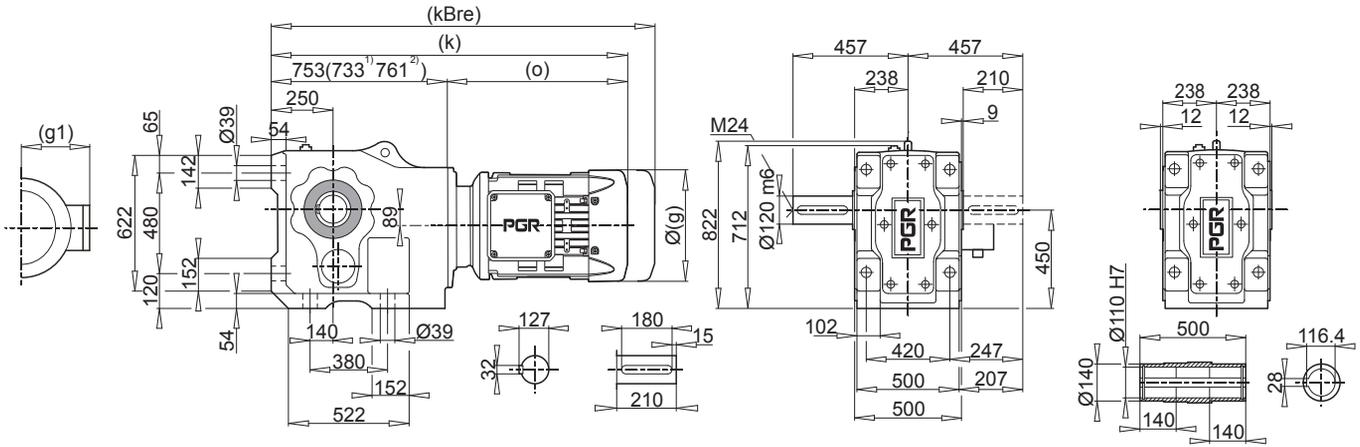
Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw DIN 931 / DIN 933* 10.9Vz		
Tip/Type	M _{amax} (Nm)	s ^{h6}	s ^{f6}	d _{xl}	Zs	MA (Nm)
KS 110/138	13000	2.66	2.54	M16x70	8	250

	132 S/M	160 M/L	180 M/L	200 L	225 S/M	250 M ¹	280 S ¹	280 M ²
g	279	323	370	415	456	495	-	-
g1	182	200	248	260	260	392	-	-
k1	1155	1206	1265	1360	1442	1366	-	-
k1Bre	1263	1358	1427	1507	1614	1621	-	-
o	413	464	523	618	700	644	-	-



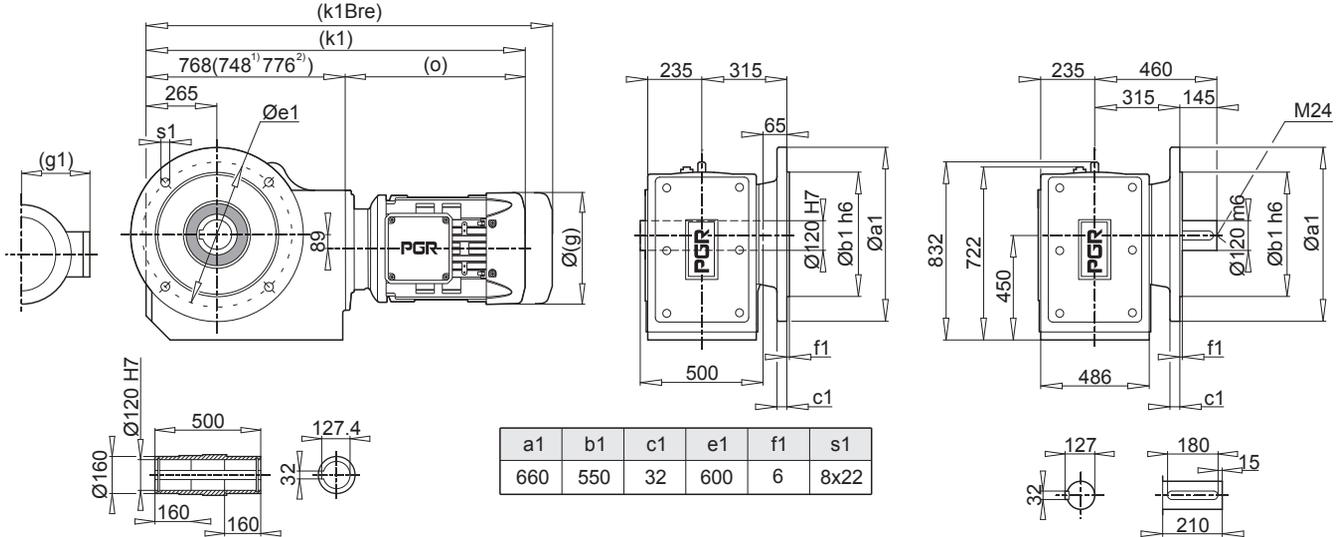
PKD G 8390 TMA ...

PKD G 8390 DA ...

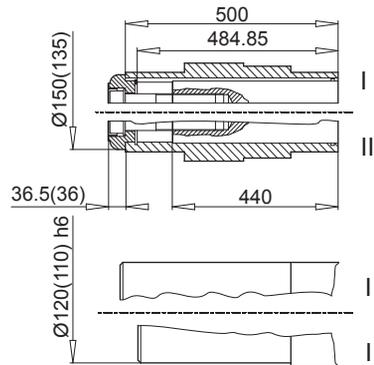


PKD G 8390 DG / B5 ...

PKD G 8390 TMG / B5 ...

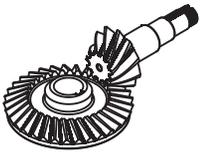


PKD G 8390 DG / Ç (DA / Ç) ... 212 - 213

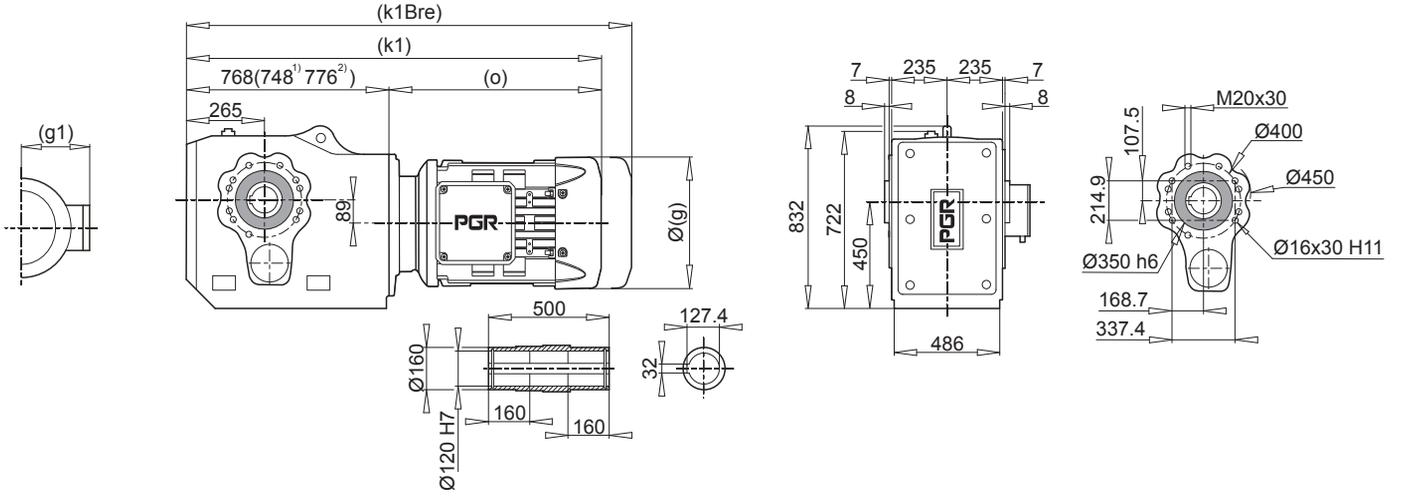


	132 S/M	160 M/L	180 M/L	200 L	225 S/M	250 M ¹⁾	280 S ¹⁾	280 M ²⁾	315 S ²⁾	315 M ²⁾
g	279	323	370	415	456	495	-	-	-	-
g1	182	200	248	260	260	392	-	-	-	-
k	1166	1217	1276	1371	1453	1377	-	-	-	-
kBre	1274	1369	1438	1518	1625	1507	-	-	-	-
o	413	464	523	618	700	644	-	-	-	-

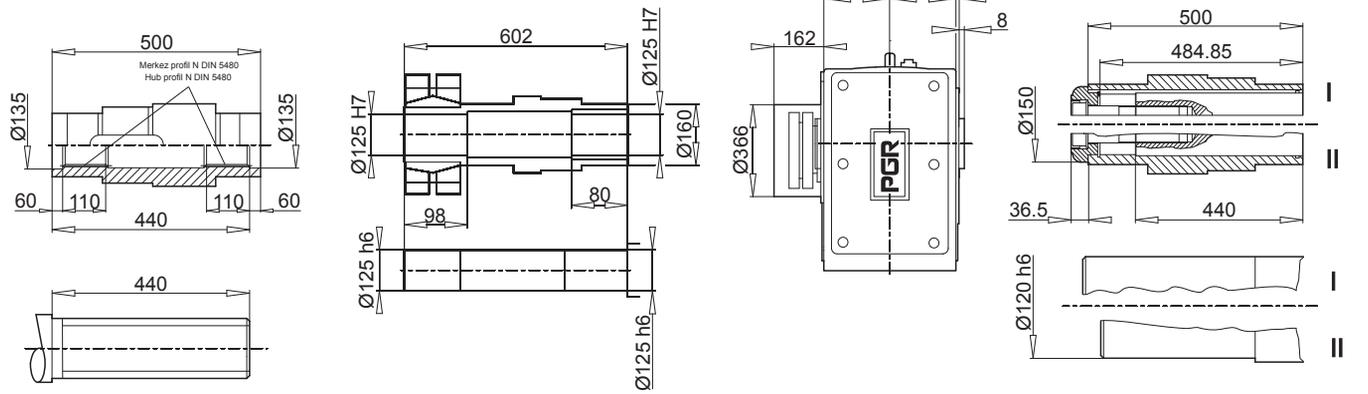
Not : (...) İşaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



PKD G 8390 DG / B14 ...



PKD G 8390 DG / DIN 5480 ... PKD G 8390 DG / KS ...



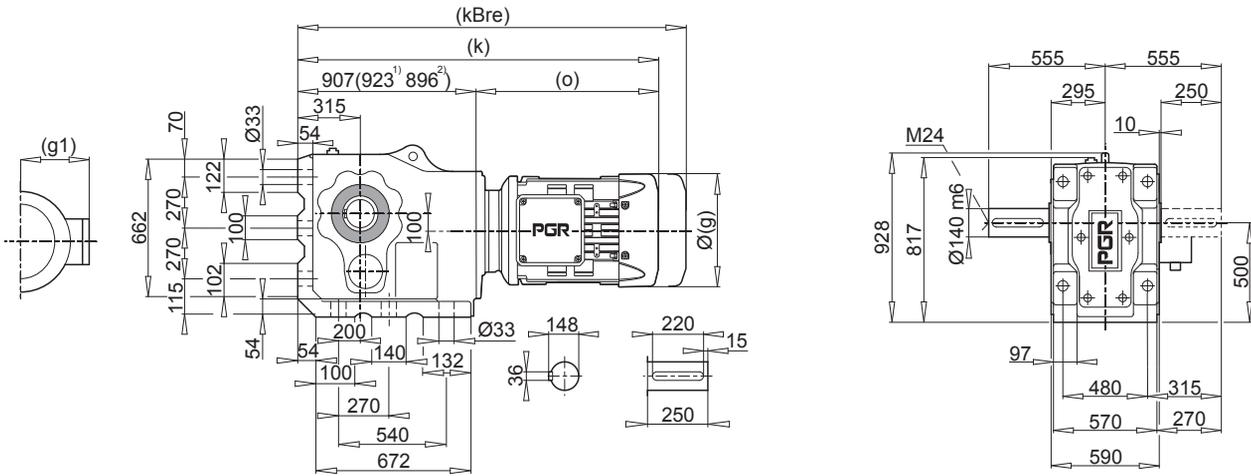
N130 x 5 x 30 x 24 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw		
Type/Tip	M _{amax} (Nm)	s ^{h6}	s ^{f6}	DIN 931 / DIN 933* 10.9Vz		
				d _{xl}	Zs	MA (Nm)
KS 125/158	20000	2.91	2.77	M16x80*	12	250

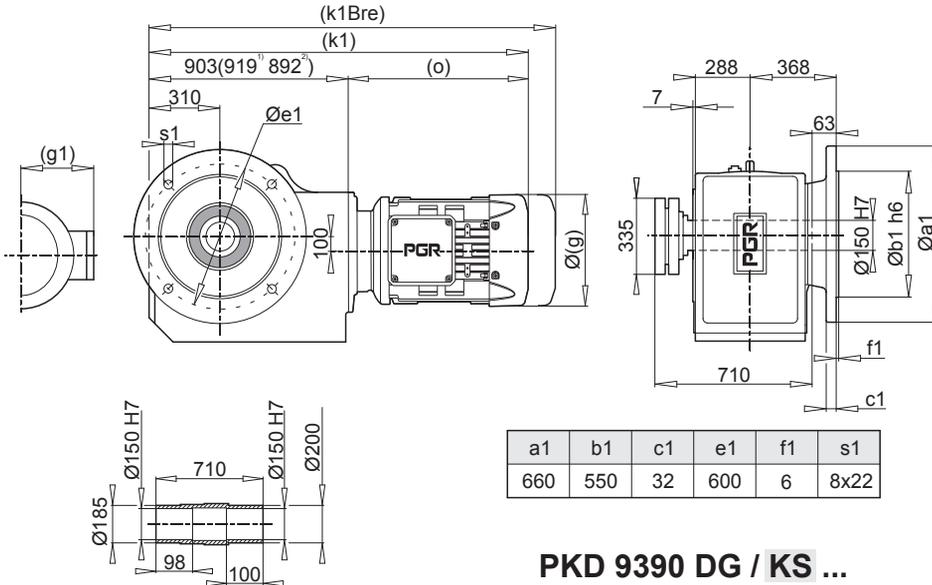
	132 S/M	160 M/L	180 M/L	200 L	225 S/M	250 M ¹⁾	280 S ¹⁾	280 M ²⁾	315 S ²⁾	315 M ²⁾
g	279	323	370	415	456	495	-	-	-	-
g1	182	200	248	260	260	392	-	-	-	-
k1	1181	1232	1291	1386	1469	1392	-	-	-	-
k1Bre	1289	1384	1453	1533	1641	1522	-	-	-	-
o	413	464	523	618	700	644	-	-	-	-



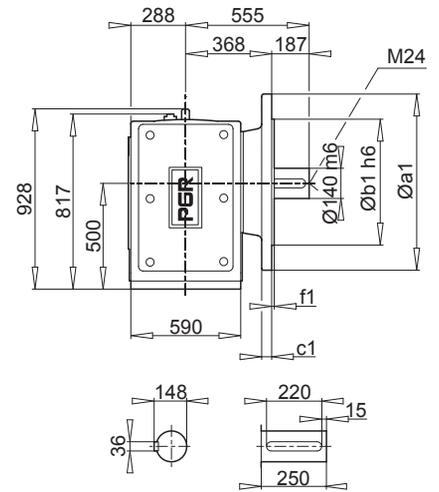
PKD 9390 TMA ...



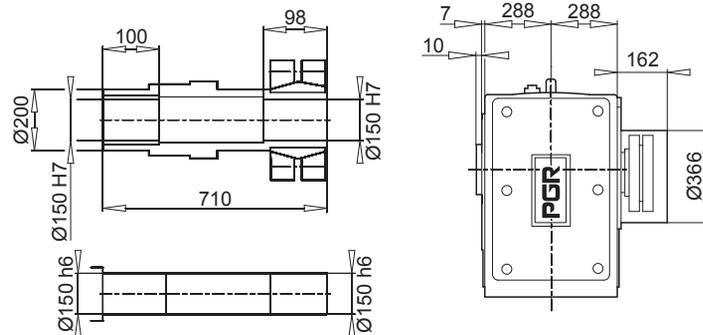
PKD 9390 DG/ KS-B5 ...



PKD 9390 TMG / B5 ...

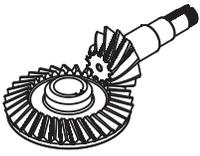


PKD 9390 DG / KS ...

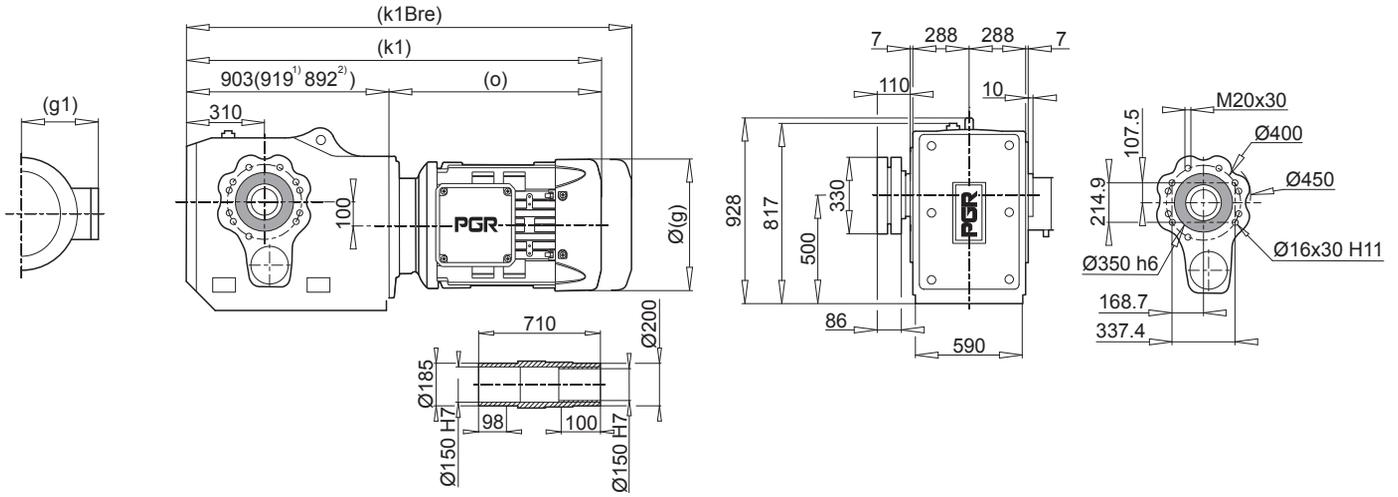


	160 M/L	180 M/L	200 L	225 S/M	250 M ¹	280 S ¹	280 M ²	315 S ²	315 M ²
g	323	370	415	456	495	-	-	-	-
g1	200	248	260	260	392	-	-	-	-
k	1371	1430	1525	1607	1567	-	-	-	-
kBre	1523	1592	1672	1779	1697	-	-	-	-
o	464	523	618	700	644	-	-	-	-

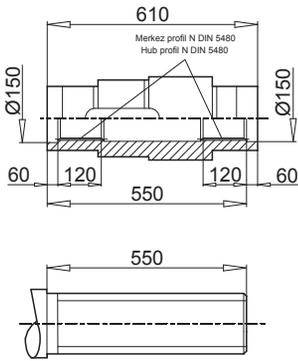
Not : (...) İřaretli olan ölçüler Motor markasına göre farklılık gösterir / Note : Dimension which is designated by (...) depends on marks of motor.



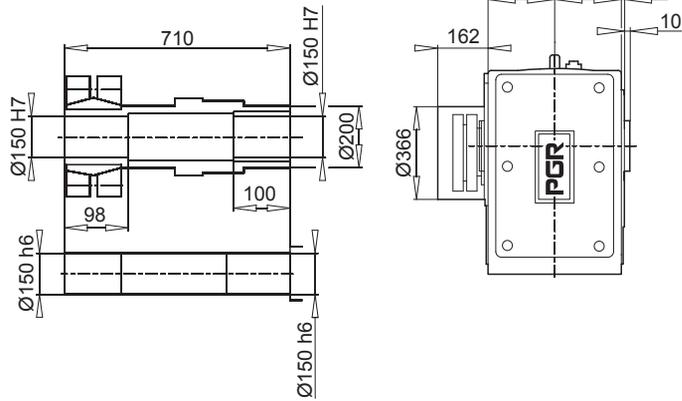
PKD 9390 DG / KS-B14 ...



PKD 9390 DG / DIN 5480 ...



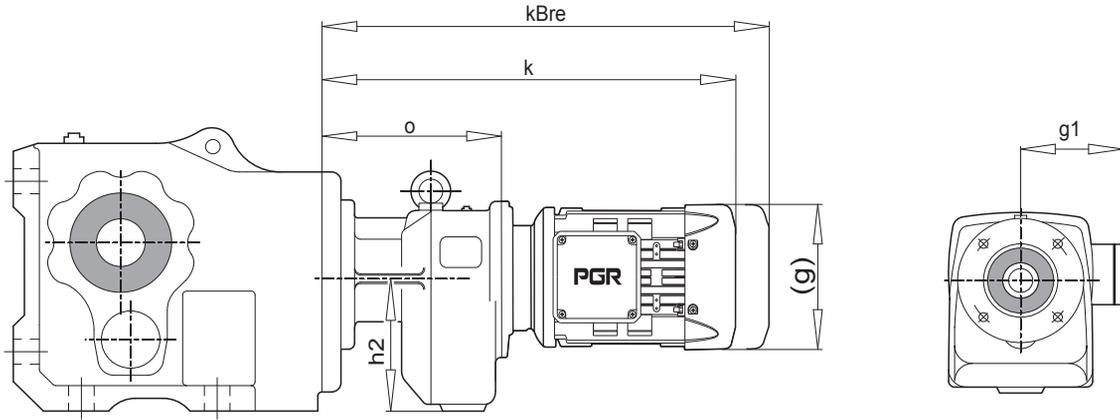
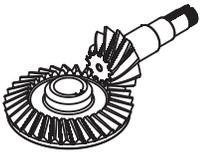
PKD 9390 DG / KS ...



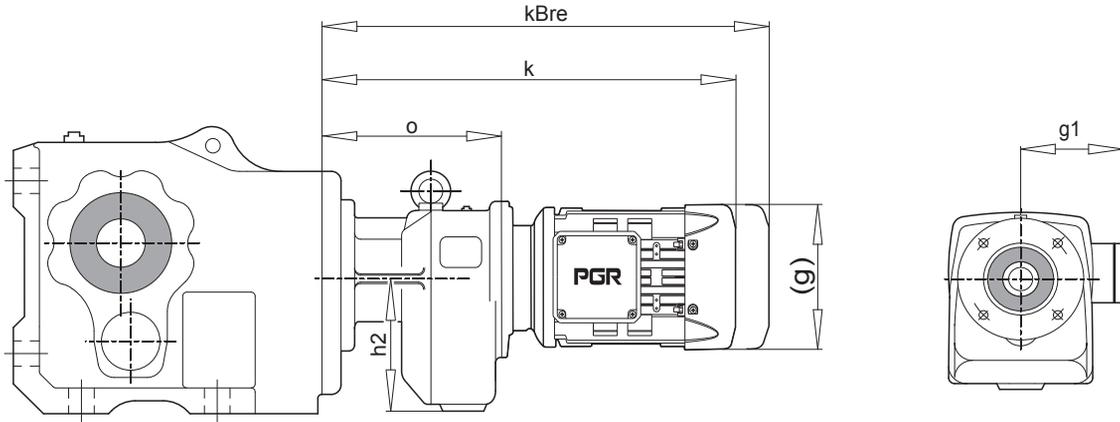
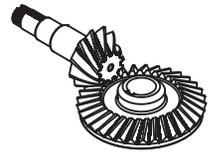
N140 x 3 x 30 x 45 x 9H

Konik sıkırtma / Shrink disc				Altıköşe başlı civata / Hexagonal screw		
Type/Tip	M _{2max} (Nm)	s ^{h6}	s ^{f6}	dxl	Zs	MA (Nm)
KS 150/185	32000	2.66	2.56	M16x80*	14	250

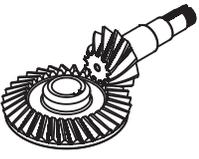
	160 M/L	180 M/L	200 L	225 S/M	250 M ¹	280 S ¹	280 M ²	315 S ²	315 M ²
g	323	370	415	456	495	-	-	-	-
g1	200	248	260	260	392	-	-	-	-
k1	1367	1426	1521	1603	1563	-	-	-	-
k1Bre	1519	1588	1668	1775	1693	-	-	-	-
o	464	523	618	700	644	-	-	-	-



Tip / Type		g	g1	h2	o	k	kBre
PKD 6390/32	71 M	140	119	159	237	473	533
	80 M	159	127			499	587
	90 S/L	193	151			522/542	595/615
	100 L	217	160			570	651
	112 M	232	168			615	695
	132 S/M	279	182			660/694	768/802
PKD 6390/42	90 S/L	193	151	179	279	544/564	617/637
	100 L	217	160			592	673
	112 M	232	168			637	717
	132 S/M	279	182			682/716	790/824
PKD 7390/32	71 M	140	119	159	237	473	533
	80 M	159	127			499	587
	90 S/L	193	151			522/542	595/615
	100 L	217	160			570	651
	112 M	232	168			615	695
	132 S/M	279	182			660/694	768/802
PKD 7390/42	90 S/L	193	151	179	279	544/564	617/637
	100 L	217	160			592	673
	112 M	232	168			637	717
	132 S/M	279	182			682/716	790/824
	160 M/L	323	200			784	936

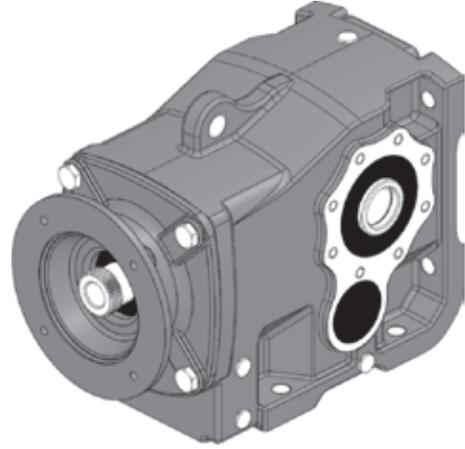
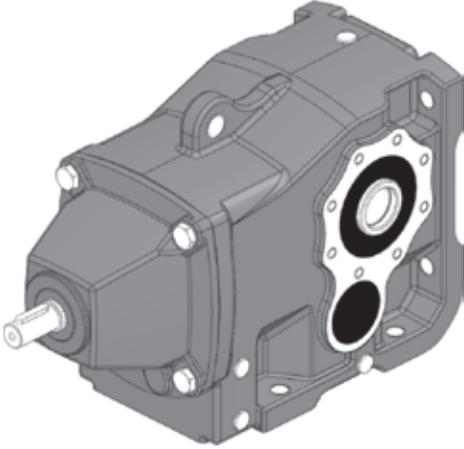


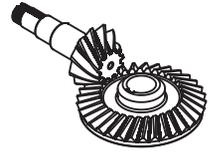
Tip / Type		g	g1	h2	o	k	kBre
PKD 8390/42	90 S/L	193	151			546/566	619/639
	100 L	217	160			594	675
	112 M	232	168	179	281	639	719
	132 S/M	279	182			684/718	792/826
	160 M/L	323	200			786	938
PKD 8390/52 PKD G 8390/52	90 S/L	193	151			585/605	658/678
	100 L	217	160			633	714
	112 M	232	168			678	758
	132 S/M	279	182	218	320	723/757	831/865
	160 M/L	323	200			825	977
	180 M/L	370	248			899	1061
PKD 9390/52	90 S/L	193	151			585/605	658/678
	100 L	217	160			633	714
	112 M	232	168	218	320	678	758
	132 S/M	279	182			757	865
	160 M/L	323	200			825	977
	180 M/L	370	248			899	1061



W ve IEC Adaptörü Seçim Tabloları

Selection Table of W and IEC Adapter





W ve IEC adaptörü için yapısal performans tabloları Structure of the performance tables : Type W and IEC

PKD 3390 → Redüktör Tipi / Gear unit type

Motor gövde büyüklüğü ile IEC gövde büyüklüğü aynı olan IEC montajlı redüktörler için Servis faktörü f_B motor seçim sayfalarından alınabilir.

Operating factors f_B with the IEC version are identical to the those of the same motor output with direct motor mounting. The f_B values are listed on the pages specified.

IEC motor büyüklükleri ve IEC standart çıkışları DIN 50347' e göredir.

IEC motor sizes and IEC standart outputs as per DIN EN 50347

Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	Mamax $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				IEC $f_B \Rightarrow$ 45 - 76	DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu IEC Motor Frame Sizes And Rated Powers According to DIN 42677												
				P_{1max}		W $f_B > 1$			71	80	90*										
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]														
PKD 3390	296.10	4.70	1550	0.77	0.51	0.38	0.25														
	250.01	5.60	1550	0.91	0.60	0.45	0.30	71	80	90*											
	234.13	6.00	1550	0.97	0.64	0.49	0.32		80	90*											
	197.69	7.10	1550	1.15	0.76	0.57	0.38		80	90*											
	188.22	7.40	1550	1.21	0.80	0.60	0.40			90*	100*	112*									
	158.92	8.80	1550	1.43	0.95	0.71	0.47			90*	100*	112*									
	139.49	10.00	1550	1.63	1.08	0.81	0.54														
					9.20	6.07	4.60	3.04													
					9.20	6.07	4.60	3.04													

Tip W azami tahrik gücü hesaplanırken *italik* olmayan değerler alınmıştır. P_{1max} ile $f_B = 1$
Max. drive power type W non *italic* indicates: with P_{1max} the operating factor $f_B = 1$

P_{1max} hesaplanırken *italik* olan değerlerde $f_B > 1$ alınmıştır.
Italic indicates: with P_{1max} the operating factor $f_B > 1$

Max. çıkış momenti
Max. output torque type W with $f_B = 1$

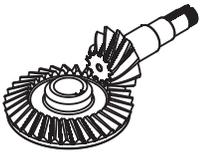
Çıkış Devri
Output speed

Redüktör Tahvili
Reduction ratio

Redüktör Tipi
Gear unit type

Yıldız işareti : Dikkat
Tip W sütunundaki P_{1max} değerlerini aşmamalıdır.
Asterix indicates: caution, don't exceed the max. driver power P_{1max} as per Type W column

Rakamlı alanlar IEC adaptörünün, IEC motor büyüklüğü ve tahvil oranına uygun olduğunu belirtir.
Shaded field indicates IEC adapter is available for this IEC motor size and this reduction ratio



Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu												
				P_{1max}		W		$f_B \geq 1$		IEC $f_B \Rightarrow$ 45 - 76										
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]	IEC Motor Frame Sizes And Rated Powers According to DIN 42677												
PKD 1490 W mm 134-138-141 145-151 + IEC mm 158-166-172 179-187	1690.91	0.83	400	0.03	0.02	0.02	0.01	63*	71*											
	1412.66	1.00	400	0.04	0.03	0.02	0.01	63*	71*											
	1255.89	1.10	400	0.05	0.03	0.02	0.02	63*	71*											
	848.31	1.70	400	0.07	0.05	0.03	0.02	63*	71*											
	668.11	2.10	400	0.09	0.06	0.04	0.03	63*	71*											
	590.51	2.40	400	0.10	0.07	0.05	0.03	63*	71*											
	440.14	3.20	400	0.13	0.09	0.07	0.04	63*	71*											
	320.68	4.40	400	0.18	0.12	0.09	0.06	63	71*											
	282.43	5.00	400	0.21	0.14	0.10	0.07	63	71*											
	213.26	6.60	400	0.27	0.18	0.14	0.09	63	71*											
	178.17	7.90	400	0.33	0.22	0.16	0.11	63	71*											
	141.69	9.90	400	0.41	0.27	0.21	0.14	63	71											
	PKD 1390 W mm 132-137-140 143-148 + IEC mm 154-162-169 175-183	332.51	4.20	400	0.18	0.11	0.09	0.06	63	71*										
		280.80	5.00	400	0.21	0.14	0.10	0.07	63	71*										
246.59		5.70	400	0.24	0.16	0.12	0.08	63	71*											
206.01		6.80	400	0.28	0.19	0.14	0.09	63	71*											
183.15		7.60	400	0.32	0.21	0.16	0.11		71*	80*										
166.82		8.40	400	0.35	0.23	0.18	0.12	63	71*											
140.87		9.90	400	0.42	0.28	0.21	0.14	63	71											
123.71		11.30	400	0.47	0.31	0.24	0.16	63	71											
109.98		12.70	400	0.53	0.35	0.27	0.18		71	80*										
97.43		14.40	400	0.60	0.40	0.30	0.20	63	71	80*	90*									
86.12		16.30	400	0.68	0.45	0.34	0.23	63	71	80*	90*									
76.68		18.30	400	0.76	0.51	0.38	0.25	63	71	80	90*	100*	112*							
62.74		22.30	400	0.93	0.62	0.47	0.31	63	71	80	90*	100*	112*							
55.26		25.30	400	1.06	0.70	0.53	0.35	63	71	80	90*	100*	112*							
48.92		28.60	400	1.20	0.80	0.60	0.40	63	71	80	90*	100*	112*							
41.72		33.60	400	1.41	0.93	0.70	0.47	63	71	80	90*	100*	112*							
34.86		40.20	400	1.68	1.12	0.84	0.56	63	71	80	90	100*	112*							
31.48		44.50	400	1.86	1.24	0.93	0.62	63	71	80	90	100*	112*							
27.72		50.50	400	2.12	1.41	1.06	0.70	63	71	80	90	100*	112*							
24.55		57.00	400	2.39	1.59	1.19	0.79	63	71	80	90	100*	112*							
20.93		66.90	400	2.80	1.86	1.40	0.93	63	71	80	90	100*	112*							
17.49		80.00	380	3.19	2.12	1.59	1.06	63	71	80	90	100*	112*							
15.27		91.70	380	3.65	2.42	1.82	1.21	63	71	80	90	100*	112*							
12.27		114.10	220	2.63	1.75	1.31	0.87	63	71	80	90	100*	112*							
10.86	128.90	200	2.70	1.79	1.35	0.90	63	71	80	90	100*	112*								
9.26	151.20	195	3.09	2.05	1.54	1.03	63	71	80	90	100	112*								
8.09	173.10	180	3.26	2.17	1.63	1.08	63	71	80	90	100	112*								

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk

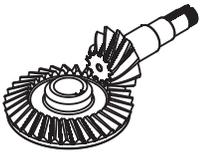


Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				DIN 42677' ye Göre IEC Adaptöre Bağlanacak Motor Boyutu											
				P_{1max} W $f_B > 1$				IEC $f_B \Rightarrow$ 45 - 76 IEC Motor Frame Sizes And Rated Powers According to DIN 42677											
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]												
PKD G 1490 W   134-138-141 145-151 + IEC   158-166-172 179-187	1412.66	1.00	610	0.06	0.04	0.03	0.02	63*	71*										
	1255.89	1.10	610	0.07	0.05	0.04	0.02	63*	71*										
	630.06	2.20	610	0.14	0.09	0.07	0.05	63*	71*										
	558.17	2.50	610	0.16	0.11	0.08	0.05	63*	71*										
	493.33	2.80	610	0.18	0.12	0.09	0.06	63	71*										
	367.72	3.80	610	0.24	0.16	0.12	0.08	63	71*										
	267.91	5.20	610	0.33	0.22	0.17	0.11	63	71*										
	235.95	5.90	610	0.37	0.24	0.19	0.12	63	71										
	178.17	7.90	570	0.37	0.24	0.19	0.12	63	71										
	134.41	10.40	430	0.37	0.24	0.19	0.12	63	71										
PKD G 1390 W   132-137-140 143-148 + IEC   154-162-169 175-183	277.79	5.00	590	0.31	0.21	0.16	0.10	63	71										
	234.59	6.00	590	0.37	0.24	0.18	0.12	63	71										
	206.01	6.80	610	0.43	0.29	0.22	0.14	63	71										
	183.15	7.60	610	0.49	0.32	0.24	0.16		71	80*									
	149.85	9.30	610	0.60	0.40	0.30	0.20		71	80*									
	142.45	9.80	610	0.63	0.42	0.31	0.21		71	80*									
	116.55	12.00	610	0.77	0.51	0.38	0.25		71	80									
	91.88	15.20	500	0.80	0.53	0.40	0.26		71	80									
	81.40	17.20	600	1.08	0.72	0.54	0.36		63	71	80	90*							
	71.94	19.50	600	1.22	0.81	0.61	0.41		63	71	80	90*							
	64.06	21.90	610	1.40	0.93	0.70	0.46		63	71	80	90*	100*	112*					
	52.42	26.70	610	1.71	1.13	0.85	0.57		63	71	80	90	100*	112*					
	46.16	30.30	610	1.94	1.29	0.97	0.64		63	71	80	90	100*	112*					
	40.87	34.30	600	2.15	1.43	1.08	0.71		63	71	80	90	100*	112*					
	34.86	40.20	600	2.52	1.68	1.26	0.84		63	71	80	90	100*	112*					
	30.44	46.00	600	2.89	1.92	1.44	0.96		63	71	80	90	100*	112*					
	26.30	53.20	600	3.34	2.22	1.67	1.11		63	71	80	90	100	112*					
	23.16	60.40	520	3.29	2.19	1.65	1.09		63	71	80	90	100	112*					
	20.51	68.30	580	4.00	2.64	2.00	1.32		63	71	80	90	100	112					
	17.49	80.00	540	4.00	2.64	2.00	1.32		63	71	80	90	100	112					
15.27	91.70	520	4.00	2.64	2.00	1.32		63	71	80	90	100	112						
12.49	112.10	520	4.00	2.64	2.00	1.32		63	71	80	90	100	112						

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk



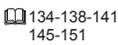
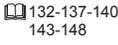
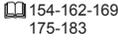
Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				IEC				DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu According to DIN 42677 IEC motor power depend on pole number of motor.								
				P_{1max} W $f_B > 1$				$f_B \rightarrow$ 45 - 76												
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]													
PKD 2490	1898.52	0.74	860	0.07	0.04	0.03	0.02	63*	71*											
	1504.07	0.93	860	0.08	0.06	0.04	0.03	63*	71*											
	1121.09	1.20	860	0.11	0.07	0.06	0.04	63*	71*											
	952.47	1.50	860	0.13	0.09	0.07	0.04	63*	71*											
	754.58	1.90	860	0.17	0.11	0.08	0.06	63*	71*											
	678.31	2.10	860	0.19	0.12	0.09	0.06	63	71*											
	562.44	2.50	860	0.22	0.15	0.11	0.07	63	71*											
	473.11	3.00	860	0.27	0.18	0.13	0.09	63	71*											
	339.72	4.10	860	0.37	0.24	0.19	0.12	63	71											
	297.67	4.70	860	0.37	0.24	0.19	0.12	63	71											
158-166-172 179-187	228.98	6.10	650	0.37	0.24	0.19	0.12	63	71											
PKD 2390	276.87	5.10	800	0.42	0.28	0.21	0.14	63	71											
	232.89	6.00	700	0.44	0.29	0.22	0.15	63	71											
	219.34	6.40	860	0.57	0.38	0.29	0.19		71	80*										
	184.51	7.60	860	0.68	0.45	0.34	0.23		71	80*										
	169.88	8.20	860	0.74	0.49	0.37	0.25		71	80*										
	132-137-140 143-148	137.63	10.20	860	0.92	0.61	0.46	0.30		80										
	115.77	12.10	860	1.09	0.72	0.54	0.36		80											
	98.92	14.20	860	1.27	0.85	0.64	0.42	63	71	80	90*									
	85.23	16.40	860	1.48	0.98	0.74	0.49		71	80										
	154-162-169 175-183	78.85	17.80	860	1.60	1.06	0.80	0.53	63	71	80	90	100*	112*						
	66.47	21.10	860	1.90	1.26	0.95	0.63	0.63	63	71	80	90	100*	112*						
	58.24	24.00	860	2.16	1.44	1.08	0.72	0.72	63	71	80	90	100*	112*						
	52.11	26.90	860	2.42	1.61	1.21	0.80	0.80	63	71	80	90	100*	112*						
	48.99	28.60	860	2.57	1.71	1.29	0.85	0.85	63	71	80	90	100*	112*						
	44.80	31.20	860	2.81	1.87	1.41	0.93	0.93	63	71	80	90	100*	112*						
	39.70	35.30	860	3.18	2.11	1.59	1.05	1.05	63	71	80	90	100	112*						
	33.28	42.10	860	3.79	2.52	1.89	1.26	1.26	63	71	80	90	100	112*						
	31.43	44.50	820	3.82	2.54	1.91	1.27	1.27				90	100	112*						
	29.22	47.90	860	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
	26.14	53.60	860	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
	24.58	57.00	860	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
	22.48	62.30	780	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
	19.92	70.30	760	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
	17.52	79.90	720	4.00	2.64	2.00	1.32	1.32				90	100	112						
	16.29	85.90	620	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
	14.58	96.00	580	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112						
12.53	111.70	540	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112							
11.11	126.00	520	4.00	2.64	2.00	1.32	1.32	63	71	80	90	100	112							
8.79	159.30	480	4.00	2.64	2.00	1.32	1.32				90	100	112							

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk

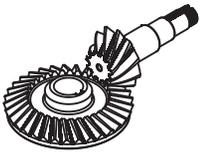


Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power P_{1max} W $f_B > 1$				IEC $f_B \Rightarrow$ 45 - 76				DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu According to DIN 42677 IEC motor power depend on pole number of motor.								
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]	$f_B \Rightarrow$												
PKD 3490 W $\leftarrow \text{mm} \rightarrow$  + IEC $\leftarrow \text{mm} \rightarrow$ 	3637.83	0.38	1550	0.06	0.04	0.03	0.02	63*	71*											
	2429.08	0.58	1550	0.09	0.06	0.05	0.03	63*	71*											
	1825.06	0.77	1550	0.12	0.08	0.06	0.04	63*	71*											
	1363.01	1.00	1550	0.17	0.11	0.08	0.06	63*	71*											
	1151.03	1.20	1550	0.20	0.13	0.10	0.07	63	71*											
	873.20	1.60	1550	0.26	0.17	0.13	0.09	63	71*											
	691.75	2.00	1550	0.33	0.22	0.16	0.11	63	71*											
	538.92	2.60	1550	0.42	0.28	0.21	0.14	63	71											
	399.39	3.50	1550	0.57	0.38	0.28	0.19	63	71	80*	90*									
	$\leftarrow \text{mm} \rightarrow$ 353.00	4.00	1550	0.64	0.43	0.32	0.21	63	71	80*	90*									
	 267.79	5.20	1550	0.85	0.56	0.42	0.28	63	71	80	90*									
	215.12	6.50	1550	1.06	0.70	0.53	0.35	63	71	80	90*									
	167.59	8.40	1550	1.10	0.73	0.55	0.37	63	71	80	90									
	PKD 3390 W $\leftarrow \text{mm} \rightarrow$  + IEC $\leftarrow \text{mm} \rightarrow$ 	296.10	4.70	1550	0.77	0.51	0.38	0.25	71	80	90*									
250.01		5.60	1550	0.91	0.60	0.45	0.30	71	80	90*										
234.13		6.00	1550	0.97	0.64	0.49	0.32		80	90*										
197.69		7.10	1550	1.15	0.76	0.57	0.38		80	90*										
188.22		7.40	1550	1.21	0.80	0.60	0.40			90*	100*	112*								
158.92		8.80	1550	1.43	0.95	0.71	0.47			90*	100*	112*								
139.49		10.00	1550	1.63	1.08	0.81	0.54			90										
117.78		11.90	1550	1.93	1.28	0.96	0.64			90										
$\leftarrow \text{mm} \rightarrow$ 110.94		12.60	1550	2.05	1.36	1.02	0.68		71	80	90	100*	112*							
 93.67		14.90	1550	2.43	1.61	1.21	0.81		71	80	90	100*	112*							
84.16		16.60	1550	2.70	1.79	1.35	0.90		71	80	90	100*	112*							
75.92		18.40	1550	2.99	1.99	1.50	0.99		71	80	90	100*	112*							
64.11		21.80	1550	3.54	2.35	1.77	1.18		71	80	90	100	112*							
59.15		23.70	1550	3.84	2.55	1.92	1.28		71	80	90	100	112*	132*						
49.94		28.00	1550	4.55	3.02	2.27	1.51		71	80	90	100	112	132*						
47.67		29.40	1550	4.77	3.17	2.38	1.58				90	100	112	132*						
40.37		34.70	1550	5.63	3.74	2.81	1.87				90	100	112	132*						
38.09		36.80	1550	5.97	3.96	2.98	1.98		71	80	90	100	112							
35.65		39.30	1550	6.37	4.23	3.19	2.12		71	80	90	100	112							
29.67		47.20	1500	7.41	4.92	3.71	2.46		71	80	90	100	112	132*						
25.06		55.90	1500	8.77	5.83	4.39	2.91		71	80	90	100	112	132*						
23.92		58.50	1550	9.20	6.07	4.60	3.04				90	100	112	132						
20.25		69.10	1500	9.20	6.07	4.60	3.04				90	100	112	132						
17.10		81.90	1450	9.20	6.07	4.60	3.04				90	100	112	132						
15.73		89.00	1400	9.20	6.07	4.60	3.04				90	100	112	132						
13.54		103.40	1350	9.20	6.07	4.60	3.04				90	100	112	132						
12.68	110.40	1000	9.20	6.07	4.60	3.04				90	100	112	132							
10.74	130.40	900	9.20	6.07	4.60	3.04				90	100	112	132							
8.50	164.70	880	9.20	6.07	4.60	3.04				90	100	112	132							

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk



Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power P_{1max} W $f_B > 1$				IEC $f_B \Rightarrow$ 45 - 76					DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu According to DIN 42677 IEC motor power depend on pole number of motor.						
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]	$f_B \Rightarrow$											
PKD 4490 W mm 134-138-141 145-151 + IEC mm 158-166-172 179-187	4243.27	0.33	2800	0.10	0.06	0.05	0.03	71*	80*										
	3361.66	0.42	2800	0.12	0.08	0.06	0.04	71*	80*	90*									
	3023.46	0.46	2800	0.14	0.09	0.07	0.05	71*	80*										
	2395.28	0.58	2800	0.17	0.11	0.09	0.06	71*	80*	90*									
	2128.80	0.66	2800	0.19	0.13	0.10	0.06	71*	80*										
	1516.84	0.92	2800	0.27	0.18	0.14	0.09	71*	80*										
	1113.75	1.30	2800	0.37	0.24	0.18	0.12	71	80*										
	882.35	1.60	2800	0.47	0.31	0.23	0.15	71	80*	90*									
	644.73	2.20	2800	0.64	0.42	0.32	0.21	71	80*	90*									
	567.85	2.50	2800	0.72	0.48	0.36	0.24	71	80*	90*									
	404.53	3.50	2800	1.01	0.67	0.51	0.34			90*	100*	112*							
	350.42	4.00	2800	1.17	0.78	0.59	0.39	71	80	90*	100*	112*							
	278.98	5.00	2800	1.47	0.98	0.74	0.49	71	80	90*	100*	112*							
	204.13	6.90	2800	2.01	1.34	1.01	0.67	71	80	90	100*	112*							
	172.07	8.10	2800	2.20	1.45	1.10	0.73	71	80	90	100*	112*							
PKD 4390 W mm 132-137-140 143-148 + IEC mm 155-163-169 176-183	329.57	4.20	2800	1.25	0.83	0.62	0.41	90*											
	273.80	5.10	2800	1.50	1.00	0.75	0.50	90											
	234.83	6.00	2800	1.75	1.16	0.87	0.58	90	100*	112*									
	195.09	7.20	2800	2.10	1.40	1.05	0.70	90	100*	112*									
	165.34	8.50	1500	1.33	0.88	0.66	0.44	90											
	159.93	8.80	2800	2.57	1.70	1.28	0.85		100*	112*	132*								
	132.86	10.50	2800	3.09	2.05	1.54	1.03		100	112*	132*								
	117.81	11.90	2400	2.99	1.98	1.49	0.99	90	100	112*									
	95.57	14.60	2800	4.29	2.85	2.15	1.43	90	100	112	132*								
	86.50	16.20	2800	4.75	3.15	2.37	1.58	90	100	112	132*								
	76.08	18.40	2800	5.40	3.58	2.70	1.79	90	100	112	132*								
	68.52	20.40	2800	5.99	3.98	3.00	1.99	90	100	112	132	160*							
	63.21	22.10	2800	6.49	4.31	3.25	2.16	90	100	112	132*								
	55.67	25.10	2800	7.37	4.90	3.69	2.45	90	100	112	132	160*							
	47.61	29.40	2800	8.62	5.73	4.31	2.86	90	100	112	132	160*							
	40.56	34.50	2800	10.12	6.72	5.06	3.36	90	100	112	132	160*							
	34.38	40.70	2800	11.94	7.93	5.97	3.97	90	100	112	132	160*							
	27.93	50.10	2800	14.70	9.76	7.35	4.88	90	100	112	132	160*							
	23.88	58.60	2700	15.00	9.90	7.50	4.95	90	100	112	132	160							
	20.35	68.80	2600	15.00	9.90	7.50	4.95	90	100	112	132	160							
	18.25	76.70	2450	15.00	9.90	7.50	4.95				132	160							
	15.69	89.20	2000	15.00	9.90	7.50	4.95	90	100	112	132	160							
	13.42	104.30	2000	15.00	9.90	7.50	4.95	90	100	112	132	160							
	11.43	122.50	1500	15.00	9.90	7.50	4.95	90	100	112	132	160							
	10.25	136.60	1500	15.00	9.90	7.50	4.95				132	160							
9.42	148.60	1500	15.00	9.90	7.50	4.95				132	160								
8.83	158.60	1400	15.00	9.90	7.50	4.95				132	160								

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk

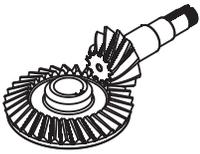


Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power P_{1max} W $f_B > 1$				IEC $f_B \Rightarrow$ 45 - 76					DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu According to DIN 42677 IEC motor power depend on pole number of motor.						
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]	$f_B \Rightarrow$											
PKD 5490 W \leftarrow mm  134-138-141 145-151 + IEC \leftarrow mm  158-166-172 179-187	3736.07	0.37	4800	0.19	0.13	0.09	0.06	71*	80*	90*									
	2954.10	0.47	4800	0.24	0.16	0.12	0.08		80*	90*									
	2023.36	0.69	4800	0.35	0.23	0.17	0.12		80*	90*									
	1874.35	0.75	4800	0.38	0.25	0.19	0.12	71	80*	90*									
	1399.82	1.00	4800	0.50	0.33	0.25	0.17	71	80*	90*	100*	112*							
	1061.93	1.30	4800	0.66	0.44	0.33	0.22	71	80*	90*	100*	112*							
	931.06	1.50	4800	0.76	0.50	0.38	0.25	71	80	90*									
	703.71	2.00	4000	0.83	0.55	0.42	0.28	71	80	90*									
	580.56	2.40	4800	1.21	0.81	0.61	0.40	71	80	90*									
	459.05	3.00	4800	1.53	1.02	0.77	0.51		80	90									
	348.85	4.00	4800	2.02	1.34	1.01	0.67	71	80	90	100*	112*							
	264.64	5.30	4800	2.66	1.77	1.33	0.88	71	80	90	100*	112*							
	228.99	6.10	4800	3.07	2.04	1.54	1.02	71	80	90	100	112*							
	165.02	8.50	4800	4.00	2.64	2.00	1.32	71	80	90	100	112							
PKD 5390 W \leftarrow mm  132-137-140 143-148 + IEC \leftarrow mm  155-163-169 176-183	289.62	4.80	4800	2.43	1.64	1.21	0.82	90	100*	112*									
	247.36	5.70	4800	2.84	1.89	1.42	0.94	90	100*	112*									
	198.37	7.10	4800	3.55	2.36	1.77	1.18		100	112*	132*								
	169.43	8.30	4800	4.15	2.76	2.08	1.38		100	112	132*								
	145.30	9.60	3600	3.63	2.41	1.82	1.21	90	100	112*									
	120.01	11.70	4800	5.86	3.89	2.93	1.95	90	100	112	132								
	102.50	13.70	4800	6.87	4.56	3.43	2.28	90	100	112	132								
	88.12	15.90	4800	7.99	5.30	3.99	2.65	90	100	112	132*	160*							
	72.18	19.40	4800	9.75	6.48	4.87	3.24	90	100	112	132	160*							
	62.45	22.40	4800	11.27	7.48	5.63	3.74	90	100	112	132	160*							
	54.55	25.70	4800	12.90	8.57	6.45	4.28	90	100	112	132	160*	180*						
	45.00	31.10	4800	15.64	10.39	7.82	5.19		100	112	132	160	180*						
	39.74	35.20	4800	17.71	11.76	8.85	5.88	90	100	112	132	160	180*						
	36.21	38.70	4800	19.43	12.91	9.72	6.45	90	100	112	132	160							
	31.33	44.70	4800	22.00	14.52	11.00	7.26	90	100	112	132	160							
	27.37	51.20	4600	22.00	14.52	11.00	7.26	90	100	112	132	160	180						
	23.38	59.90	4300	22.00	14.52	11.00	7.26		100	112	132	160	180						
	22.58	62.00	4300	22.00	14.52	11.00	7.26		100	112	132	160	180						
	19.94	70.20	4300	22.00	14.52	11.00	7.26					132	160	180					
	17.95	78.00	4300	22.00	14.52	11.00	7.26	90	100	112	132	160	180						
	16.37	85.50	4300	22.00	14.52	11.00	7.26		100	112	132	160	180						
	13.50	103.50	4300	22.00	14.52	11.00	7.26		100	112	132	160	180						
	11.92	117.40	3900	22.00	14.52	11.00	7.26					160	180						
	10.74	130.40	2900	22.00	14.52	11.00	7.26					160	180						
10.07	139.00	2800	22.00	14.52	11.00	7.26					160	180							
9.46	148.00	2600	22.00	14.52	11.00	7.26					160	180							
8.13	172.20	2600	22.00	14.52	11.00	7.26					160	180							

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk



Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				IEC		DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu								
				P_{1max} W $f_B > 1$				$f_B \Rightarrow$ 45 - 76		According to DIN 42677 IEC motor power depend on pole number of motor.								
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]											
PKD 6390/32	4318.33	0.32	8200	0.28	0.18	0.14	0.09		80*	90*								
	3863.44	0.36	8200	0.31	0.21	0.16	0.10		80*	90*								
	3110.88	0.45	8200	0.39	0.26	0.19	0.13		80*	90*								
	2217.63	0.63	8200	0.54	0.36	0.27	0.18		80*	90*								
	W 1830.71	0.76	8200	0.66	0.44	0.33	0.22		71	80*	90*	100*	112*					
	$\leftarrow \text{mm} \rightarrow$ 1388.82	1.00	8200	0.87	0.57	0.43	0.29		71	80	90*	100*	112*					
	$\leftarrow \text{mm} \rightarrow$ 1118.29	1.10	8200	0.92	0.71	0.46	0.36		71	80	90*	100*	112*					
	$\leftarrow \text{mm} \rightarrow$ 932.46	1.50	8200	1.29	0.86	0.64	0.43		71	80	90*	100*	112*					
	+ IEC	733.69	1.90	8200	1.64	1.09	0.82	0.54		71	80	90	100*	112*				
	$\leftarrow \text{mm} \rightarrow$ 571.60	2.40	8200	2.10	1.40	1.05	0.70		71	80	90	100*	112*	132*				
$\leftarrow \text{mm} \rightarrow$ 451.55	3.10	8200	2.66	1.77	1.33	0.88				90	100*	112*	132*					
$\leftarrow \text{mm} \rightarrow$ 368.93	3.80	8200	3.26	2.16	1.63	1.08		71	80	90	100	112*	132*					
$\leftarrow \text{mm} \rightarrow$ 297.35	4.70	8200	4.00	2.64	2.00	1.32				90	100	112	132*					
PKD 6390/42	258.36	5.40	8200	4.65	3.09	2.33	1.55		90	100	112	132*	160*					
	W 188.23	7.40	7200	5.61	3.72	2.80	1.86		90	100	112	132*	160*					
	$\leftarrow \text{mm} \rightarrow$ 150.60	9.30	6200	6.04	4.01	3.02	2.00		90	100	112	132*	160*					
	+ IEC	128.79	10.90	6000	6.83	4.54	3.41	2.27		90	100	112	132*	160*				
	$\leftarrow \text{mm} \rightarrow$ 128.79																	
PKD 6390	235.45	5.90	8200	5.11	3.39	2.55	1.70		100	112	132*							
	198.23	7.10	8200	6.06	4.03	3.03	2.01		100	112	132*							
	179.11	7.80	8200	6.71	4.46	3.36	2.23				132*	160*	180*					
	150.79	9.30	8200	7.97	5.30	3.99	2.65				132*	160*	180*					
	129.36	10.80	6600	7.48	4.97	3.74	2.48		100	112	132							
	W 105.58	13.30	8200	11.39	7.56	5.69	3.78		100	112	132							
	$\leftarrow \text{mm} \rightarrow$ 87.70	16.00	8200	13.71	9.11	6.85	4.55		100	112	132	160*	180*					
	$\leftarrow \text{mm} \rightarrow$ 76.33	18.30	8200	15.75	10.46	7.87	5.23		100	112	132	160	180*					
	+ IEC	67.20	20.80	8200	17.89	11.88	8.94	5.94		100	112	132	160	180*	200*	225*		
	$\leftarrow \text{mm} \rightarrow$ 56.03	25.00	8200	21.45	14.25	10.73	7.13		100	112	132	160	180*	200*	225*			
	$\leftarrow \text{mm} \rightarrow$ 48.23	29.00	7900	24.01	15.95	12.01	7.98		100	112	132	160	180	200*	225*			
	$\leftarrow \text{mm} \rightarrow$ 42.97	32.60	7400	25.25	16.77	12.62	8.39						180	200*	225*			
	$\leftarrow \text{mm} \rightarrow$ 39.35	35.60	7400	27.57	18.31	13.78	9.16						132	160	180	200*	225*	
	$\leftarrow \text{mm} \rightarrow$ 33.71	41.50	8200	35.66	23.69	17.83	11.84		100	112	132	160	180	200	225*			
	$\leftarrow \text{mm} \rightarrow$ 28.11	49.80	8200	42.76	28.41	21.38	14.20		100	112	132	160	180	200	225*			
	$\leftarrow \text{mm} \rightarrow$ 24.19	57.90	8200	45.00	29.70	22.50	14.85		100	112	132	160	180	200	225			
	$\leftarrow \text{mm} \rightarrow$ 21.56	64.90	8200	45.00	29.70	22.50	14.85						180	200	225			
	$\leftarrow \text{mm} \rightarrow$ 19.74	70.90	8200	45.00	29.70	22.50	14.85						132	160	180	200	225	
	$\leftarrow \text{mm} \rightarrow$ 17.62	79.50	7500	45.00	29.70	22.50	14.85						132	160	180	200	225	
	$\leftarrow \text{mm} \rightarrow$ 15.76	88.80	7200	45.00	29.70	22.50	14.85							180	200	225		
	$\leftarrow \text{mm} \rightarrow$ 14.83	94.40	7200	45.00	29.70	22.50	14.85							132	160	180	200	225
	$\leftarrow \text{mm} \rightarrow$ 13.29	105.30	5000	45.00	29.70	22.50	14.85		100	112	132	160	180	200	225			
	$\leftarrow \text{mm} \rightarrow$ 11.84	118.20	4800	45.00	29.70	22.50	14.85							180	200	225		
	$\leftarrow \text{mm} \rightarrow$ 11.42	122.60	4800	45.00	29.70	22.50	14.85							132	160	180	200	225
	$\leftarrow \text{mm} \rightarrow$ 10.85	129.00	4800	45.00	29.70	22.50	14.85							132	160	180	200	225
$\leftarrow \text{mm} \rightarrow$ 9.68	144.60	4500	45.00	29.70	22.50	14.85							132	160	180	200	225	
$\leftarrow \text{mm} \rightarrow$ 8.66	161.70	4500	45.00	29.70	22.50	14.85							180	200	225			

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk

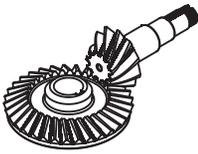


Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				IEC $f_B \Rightarrow$ 45 - 76								
				P_{1max} W $f_B > 1$				DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu								
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]	According to DIN 42677 IEC motor power depend on pole number of motor.								
PKD 7390/32	4503.40	0.31	8500	0.28	0.18	0.14	0.09		80*	90*						
	4029.01	0.35	8500	0.31	0.21	0.15	0.10		80*	90*						
	3244.21	0.43	8500	0.38	0.26	0.19	0.13		80*	90*						
	2312.67	0.61	8500	0.54	0.36	0.27	0.18		80*	90*						
	W 1909.17	0.73	8500	0.65	0.43	0.33	0.22	71	80*	90*	100*	112*				
	\leftarrow mm 1448.34	0.97	8500	0.86	0.57	0.43	0.29	71	80	90*	100*	112*				
	\leftarrow mm 1166.22	1.20	8500	1.07	0.71	0.53	0.35	71	80	90*	100*	112*				
	135-139-142 146-152	972.42	8500	1.28	0.85	0.64	0.43	71	80	90*	100*	112*				
	+	765.14	8500	1.63	1.08	0.81	0.54	71	80	90	100*	112*	132*			
	IEC	596.10	8500	2.09	1.39	1.05	0.69	71	80	90	100*	112*	132*			
\leftarrow mm 470.91	3.00	8500	2.65	1.76	1.32	0.88			90	100*	112*	132*				
159-167-173 180-188	384.74	8500	3.24	2.15	1.62	1.08	71	80	90	100	112*	132*				
	310.09	8500	4.00	2.64	2.00	1.32			90	100	112	132*				
PKD 7390/42	269.43	5.20	8500	4.62	3.07	2.31	1.54		90	100	112	132*	160*			
	W 196.30	7.10	7400	5.53	3.67	2.76	1.84	90	100	112	132*	160*				
	135-139-142 146-152	157.05	6400	5.97	3.97	2.99	1.98	90	100	112	132*	160*				
	+	134.31	6200	6.77	4.49	3.38	2.25									
	IEC															
159-167-173 180-188																
PKD 7390	245.55	5.70	8500	5.07	3.37	2.54	1.69	100	112	132*						
	206.98	6.80	8500	6.02	4.00	3.01	2.00	100	112	132*						
	186.78	7.50	8500	6.67	4.43	3.34	2.22			132*	160*	180*				
	157.44	8.90	8500	7.91	5.26	3.96	2.63			132*	160*	180*				
	W 136.65	10.20	6700	7.19	4.77	3.59	2.39	100	112	132*						
	\leftarrow mm 110.10	12.70	8500	11.32	7.52	5.66	3.76	100	112	132						
	132-137-140 143-149	91.45	8500	13.63	9.05	6.81	4.53	100	112	132	160*	180*				
	+	79.61	8500	15.65	10.40	7.83	5.20	100	112	132	160	180*				
	IEC	70.08	8500	17.78	11.81	8.89	5.91	100	112	132	160	180*	200*	225*		
	\leftarrow mm 58.44	24.00	8500	21.32	14.16	10.66	7.08	100	112	132	160	180*	200*	225*		
	156-164-170 177-184	50.29	8200	23.90	15.88	11.95	7.94	100	112	132	160	180	200*	225*		
	+	44.81	7700	25.19	16.73	12.60	8.37					180	200*	225*		
	IEC	41.04	7700	27.50	18.27	13.75	9.14					132	160	180	200*	225*
	\leftarrow mm 35.16	39.80	8500	35.44	23.54	17.72	11.77	100	112	132	160	180	200	225*		
	29.32	47.70	8500	42.50	28.23	21.25	14.12	100	112	132	160	180	200	225*		
	25.23	55.50	8500	45.00	29.70	22.50	14.85	100	112	132	160	180	200	225		
	22.48	62.30	8500	45.00	29.70	22.50	14.85					180	200	225		
	20.59	68.00	8500	45.00	29.70	22.50	14.85					132	160	180	200	225
	18.37	76.20	7800	45.00	29.70	22.50	14.85					132	160	180	200	225
	16.44	85.20	7500	45.00	29.70	22.50	14.85					180	200	225		
	15.49	90.40	7500	45.00	29.70	22.50	14.85					132	160	180	200	225
	14.04	99.70	5200	45.00	29.70	22.50	14.85	100	112	132	160	180	200	225		
	12.51	111.90	5000	45.00	29.70	22.50	14.85					180	200	225		
12.06	116.10	5000	45.00	29.70	22.50	14.85					132	160	180	200	225	
11.46	122.20	5000	45.00	29.70	22.50	14.85					132	160	180	200	225	
10.22	137.00	4700	45.00	29.70	22.50	14.85					132	160	180	200	225	
9.15	153.00	4700	45.00	29.70	22.50	14.85					180	200	225			

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk



Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				IEC		DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu							
				P_{1max} W $f_B > 1$				$f_B \Rightarrow$ 45 - 76		According to DIN 42677 IEC motor power depend on pole number of motor.							
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]										
PKD 8390/42	4674.44	0.30	13000	0.41	0.27	0.20	0.14	90*	100*	112*							
	3348.70	0.42	13000	0.57	0.38	0.28	0.19	90*	100*	112*							
	2688.01	0.52	13000	0.71	0.47	0.35	0.24	90*	100*	112*							
	2046.84	0.68	13000	0.93	0.62	0.47	0.31	90*	100*	112*							
	w	1812.03	0.77	13000	1.05	0.70	0.53	0.35	90*	100*	112*	132*	160*				
	\leftarrow mm \rightarrow	1467.49	0.95	13000	1.30	0.86	0.65	0.43	90*	100*	112*	132*	160*				
		1017.96	1.40	13000	1.87	1.24	0.94	0.62	90	100*	112*	132*	160*				
	135-139-142 146-152	845.40	1.70	13000	2.25	1.50	1.13	0.75	90	100*	112*	132*	160*				
	+	705.03	2.00	13000	2.70	1.80	1.35	0.90	90	100*	112*	132*	160*				
	IEC	602.92	2.30	13000	3.16	2.10	1.58	1.05	90	100	112*	132*	160*				
\leftarrow mm \rightarrow	444.35	3.20	13000	4.29	2.85	2.14	1.42	90	100	112	132*	160*					
	379.99	3.70	13000	5.01	3.33	2.51	1.67	90	100	112	132*	160*					
160-168-174 181-189	286.02	4.90	13000	6.66	4.43	3.33	2.21	90	100	112	132*	160*					
PKD 8390/52	246.45	5.70	13000	7.73	5.14	3.87	2.57										
	w	182.32	13000	10.45	6.94	5.23	3.47	100	112	132*	160*	180*					
		146.35	13000	13.02	8.65	6.51	4.33	100	112	132	160*	180*					
	135-139-142 146-152	123.64	11.30	12000	14.23	9.45	7.11	4.73	100	112	132	160*	180*				
	+																
IEC																	
160-168-174 181-189																	
PKD 8390	296.68	4.70	12600	6.23	4.14	3.11	2.07	132*	160*	180*							
	244.25	5.70	13000	7.80	5.18	3.90	2.59	132*	160*	180*							
	148.84	9.40	13000	12.80	8.51	6.40	4.25	132	160*	180*							
	122.54	11.40	13000	15.55	10.33	7.78	5.17	132	160*	180*							
	w	116.55	12.00	13000	16.35	10.86	8.18	5.43	132	160	180*	200*	225*				
	\leftarrow mm \rightarrow	95.96	14.60	13000	19.86	13.19	9.93	6.60	132	160	180*	200*	225*				
		82.95	16.90	13000	22.97	15.26	11.49	7.63	132	160	180	200*	225*	250*			
	132-137-140 143-149	71.56	19.60	13000	26.63	17.69	13.32	8.85	132	160	180	200*	225*	250*	280*		
	+	62.43	22.40	13000	30.53	20.28	15.26	10.14	132	160	180	200*	225*	250*	280*	315*	
	\leftarrow mm \rightarrow	53.39	26.20	13000	35.70	23.71	17.80	11.86	132	160	180	200	225*	250*	280*	315*	
		44.73	31.30	13000	42.61	28.30	21.30	14.15	132	160	180	200	225*	250*	280*	315*	
	156-165-170 177-185	41.61	33.60	13000	45.80	30.42	22.90	15.21	132	160	180	200	225	250*			
	35.90	39.00	13000	53.09	35.26	26.54	17.63	132	160	180	200	225	250*	280*			
	31.32	44.70	13000	60.85	40.42	30.42	20.21	132	160	180	200	225	250	280*	315*		
	26.79	52.30	13000	71.14	47.26	35.57	23.63	132	160	180	200	225	250	280*	315*		
	22.44	62.40	13000	84.93	56.42	42.46	28.21	132	160	180	200	225	250	280*	315*		
	20.18	69.40	13000	90.00	59.40	45.00	29.70					225	250	280			
	17.33	80.80	13000	90.00	59.40	45.00	29.70			180	200	225	250	280	315*		
	14.64	95.60	13000	90.00	59.40	45.00	29.70		132	160	180	200	225	250	280	315*	
	12.35	113.40	8400	90.00	59.40	45.00	29.70		132	160	180	200	225	250	280	315*	
8.05	173.90	7200	90.00	59.40	45.00	29.70		132	160	180	200	225	250	280	315*		

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk

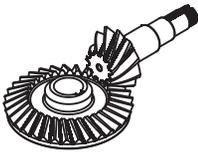


Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power				IEC $f_B \Rightarrow$  45 - 76								DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu			
				P_{1max} W $f_B > 1$				4 - pol. 1400 rpm [kW]		6 - pol. 930 rpm [kW]		8 - pol. 700 rpm [kW]		12 - pol. 465 rpm [kW]		According to DIN 42677 IEC motor power depend on pole number of motor.			
PKD G 8390/52	4830.19	0.29	20000	0.61	0.40	0.30	0.20	90*	100*	112*									
	3603.72	0.39	20000	0.81	0.54	0.41	0.27	90*	100*	112*									
	3018.87	0.46	20000	0.97	0.65	0.49	0.32	90	100*	112*									
	2114.13	0.66	20000	1.39	0.92	0.69	0.46	90	100*	112*									
	1786.51	0.78	20000	1.64	1.09	0.82	0.55	90	100*	112*	132*	160*							
	1463.24	0.96	20000	2.00	1.33	1.00	0.67	90	100*	112*	132*	160*							
	 135-139-142 146-152	1203.73	1.20	20000	2.44	1.62	1.22	0.81	90	100*	112*	132*	160*						
		909.80	1.50	20000	3.22	2.14	1.61	1.07	90	100	112*	132*	160*	180*					
	+	714.84	2.00	20000	4.10	2.72	2.05	1.36	90	100	112	132*	160*	180*					
	IEC	623.65	2.20	20000	4.70	3.12	2.35	1.56	90	100	112	132*	160*	180*					
		434.96	3.20	20000	6.74	4.48	3.37	2.24		100	112	132*	160*	180*					
	 160-168-174 181-189	379.47	3.70	20000	7.73	5.13	3.86	2.57		100	112	132	160*	180*					
		271.85	5.10	20000	10.79	7.16	5.39	3.58		100	112	132	160*	180*					
		236.35	5.90	20000	12.41	8.24	6.20	4.12	90	100	112	132	160*	180*					
	172.19	8.10	20000	17.03	11.31	8.51	5.66		100	112	132	160	180*						
	144.85	9.70	18000	18.22	12.10	9.11	6.05		100	112	132	160	180*						
PKD G 8390	230.68	6.10	20000	12.71	8.44	6.35	4.22	132	160*	180*									
	194.04	7.20	20000	15.11	10.04	7.55	5.02	132	160	180*									
	151.87	9.20	20000	19.31	12.82	9.65	6.41		160	180*	200*								
	127.75	11.00	20000	22.95	15.25	11.48	7.62		160	180	200*								
	116.62	12.00	20000	25.14	16.70	12.57	8.35	132	160	180									
	 132-137-140 143-149	90.63	15.40	20000	32.35	21.49	16.18	10.75	132	160	180	200	225*						
		78.34	17.90	20000	37.43	24.86	18.71	12.43	132	160	180	200	225*	250*					
	+	67.58	20.70	20000	43.38	28.82	21.69	14.41	132	160	180	200	225*	250*	280*				
	IEC	58.96	23.70	20000	49.73	33.03	24.86	16.52	132	160	180	200	225	250*	280*	315*			
		50.42	27.80	20000	58.15	38.63	29.08	19.31	132	160	180	200	225	250	280*	315*			
	 156-165-170 177-185	42.24	33.10	20000	69.41	46.11	34.71	23.05	132	160	180	200	225	250	280*	315*			
		35.53	39.40	18000	74.27	49.34	37.13	24.67	132	160	180	200	225	250	280*	315*			
		29.58	47.30	20000	99.12	65.84	49.56	32.92	132	160	180	200	225	250	280	315*			
		25.30	55.30	20000	115.89	76.98	57.94	38.49	132	160	180	200	225	250	280	315*			
		21.19	66.10	20000	138.36	91.91	69.18	45.96	132	160	180	200	225	250	280	315*			
		17.83	78.50	19000	156.22	103.77	78.11	51.89	132	160	180	200	225	250	280	315*			
		16.37	85.50	19000	160.00	105.60	80.00	52.80					225	250	280	315*			
		14.75	94.90	15000	149.08	99.03	74.54	49.52	132	160	180	200	225	250	280	315*			
		12.36	113.30	14000	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*			
	11.63	120.40	17000	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
	9.54	146.80	13000	160.00	105.60	80.00	52.80			180	200	225	250	280	315*				
	8.06	173.70	12000	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				

IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk

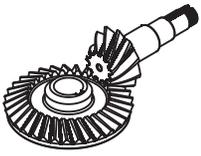


Tip Type	Tahvil Reduction i_{ges}	Çıkış Hızı Output speed 4-pol. 50 Hz 1400 rpm n_2 [min ⁻¹]	M_{amax} $f_B=1$ 4 - pol. [Nm]	Max. Giriş Gücü Max. Input Power P_{1max} W $f_B > 1$				IEC $f_B \Rightarrow$ 45 - 76 DIN 42677' ye göre IEC Adaptöre Bağlanacak Motor Boyutu According to DIN 42677 IEC motor power depend on pole number of motor.											
				4 - pol. 1400 rpm [kW]	6 - pol. 930 rpm [kW]	8 - pol. 700 rpm [kW]	12 - pol. 465 rpm [kW]												
PKD 9390/52	4933.39	0.28	32000	0.95	0.63	0.48	0.32	90*	100*	112*									
	3555.41	0.39	26000	1.07	0.71	0.54	0.36	90*	100*	112*									
	2913.46	0.48	26000	1.31	0.87	0.65	0.43	90	100*	112*									
	2114.30	0.66	32000	2.22	1.47	1.11	0.74	90	100*	112*	132*	160*							
	1795.13	0.78	32000	2.61	1.74	1.31	0.87	90	100*	112*	132*	160*							
	1424.59	0.98	32000	3.29	2.19	1.65	1.09	90	100	112*	132*	160*							
	1119.32	1.30	32000	4.19	2.78	2.10	1.39	90	100	112	132*	160*							
	846.00	1.70	32000	5.55	3.68	2.77	1.84	90	100	112	132*	160*	180*						
	706.54	2.00	32000	6.64	4.41	3.32	2.21	90	100	112	132*	160*	180*						
	609.75	2.30	32000	7.69	5.11	3.85	2.56	90	100	112	132*	160*	180*						
	444.25	3.20	32000	10.56	7.01	5.28	3.51	90	100	112	132	160*							
	386.23	3.60	32000	12.15	8.07	6.07	4.03	90	100	112	132	160*	180*						
	281.40	5.00	32000	16.67	11.07	8.34	5.54		100	112	132	160	180*						
	223.16	6.30	32000	21.02	13.96	10.51	6.98					160	180*						
191.78	7.30	32000	22.00	14.52	11.00	7.26					160	180							
PKD 9390	297.79	4.70	32000	15.75	10.46	7.88	5.23	132	160	180*									
	253.26	5.50	32000	18.52	12.30	9.26	6.15	132	160	180*									
	197.62	7.10	32000	23.74	15.77	11.87	7.88		160	180	200*								
	153.11	9.10	32000	30.64	20.35	15.32	10.18	132	160	180									
	120.24	11.60	32000	39.01	25.92	19.51	12.96	132	160	180	200	225*							
	102.37	13.70	32000	45.82	30.44	22.91	15.22	132	160	180	200	225	250*						
	91.73	15.30	32000	51.14	33.97	25.57	16.99	132	160	180	200	225	250*	280*					
	79.99	17.50	32000	58.65	38.96	29.32	19.48	132	160	180	200	225	250	280*	315*				
	69.03	20.30	32000	67.96	45.14	33.98	22.57	132	160	180	200	225	250	280*	315*				
	58.71	23.80	32000	79.90	53.08	39.95	26.54	132	160	180	200	225	250	280	315*				
	49.75	28.10	32000	94.29	62.64	47.15	31.32	132	160	180	200	225	250	280	315*				
	40.77	34.30	32000	115.06	76.43	57.53	38.22	132	160	180	200	225	250	280	315*				
	39.14	35.80	32000	119.85	79.62	59.93	39.81	132	160	180	200	225	250	280					
	34.13	41.00	32000	137.45	91.30	68.72	45.65	132	160	180	200	225	250	280	315*				
	29.35	47.70	32000	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
	24.96	56.10	32000	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
	20.41	68.60	32000	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
	17.29	81.00	20500	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
	14.17	98.80	19400	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
	11.56	121.10	18400	160.00	105.60	80.00	52.80	132	160	180	200	225	250	280	315*				
10.71	130.70	18000	160.00	105.60	80.00	52.80						250	280	315*					

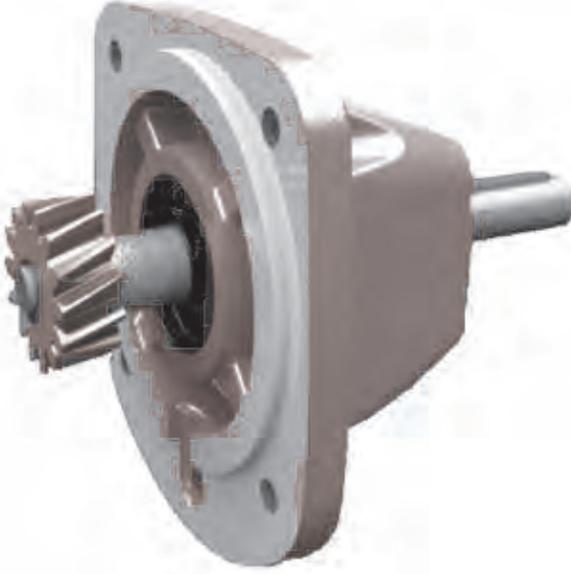
IEC bağlantısı yoktur - No IEC assembling on empty fields

63 IEC bağlantısı yapılır - IEC assembling available on numbered fields

80* IEC bağlantısı yapılacaksa P_{1max} değerleri aşılmamalıdır - Do not exceed the P_{1max} values indicated on fields with asterisk



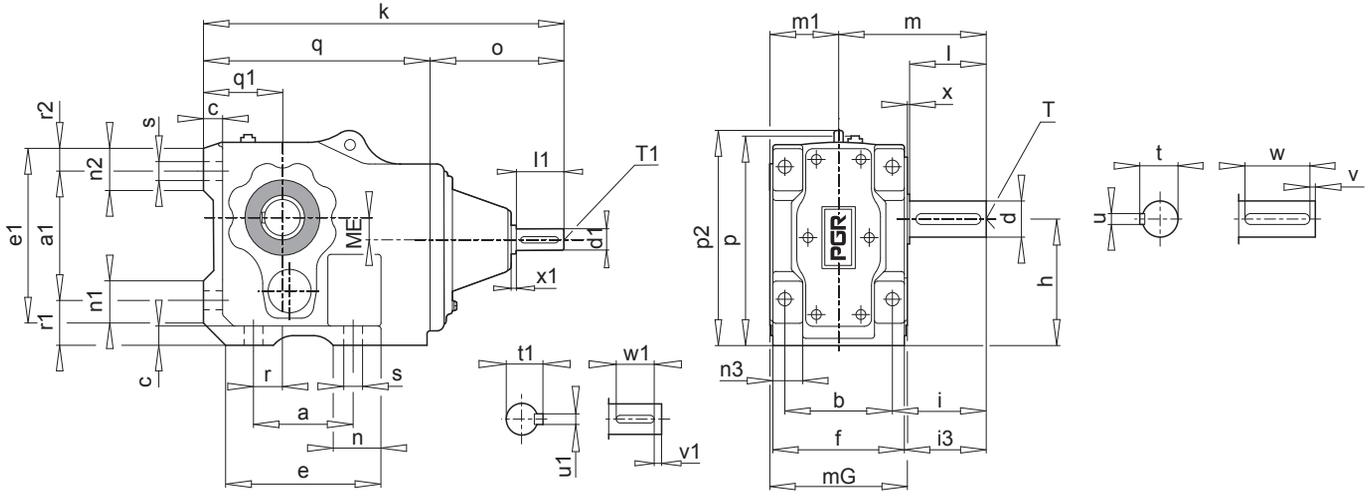
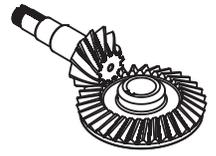
W - IEC Ölçü Sayfaları Dimension Tables of W - IEC



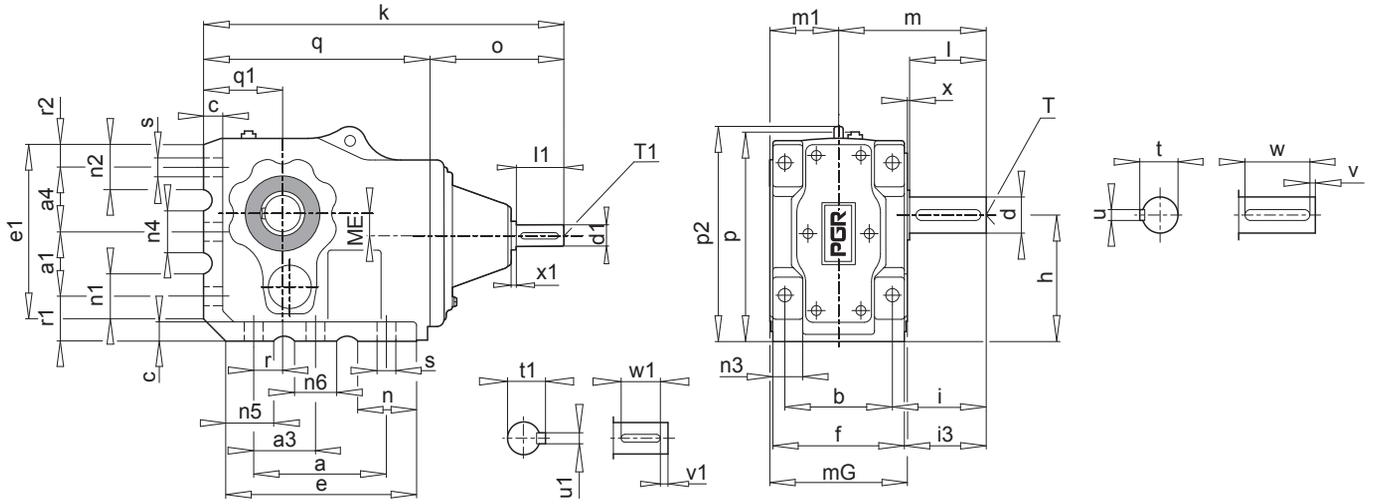
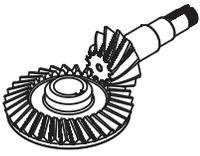
W



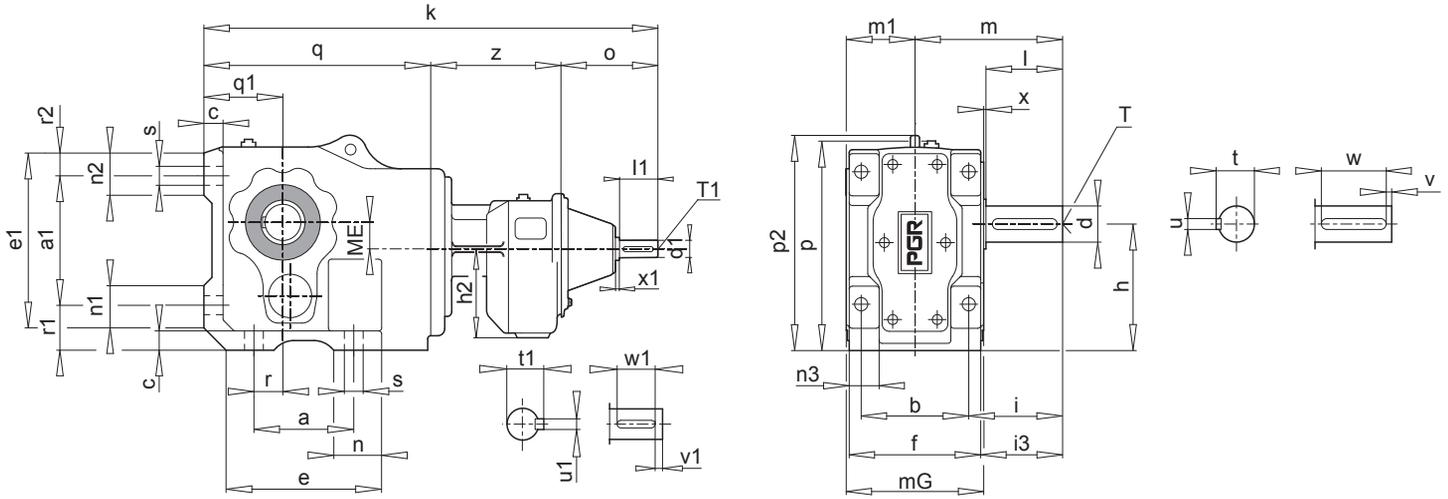
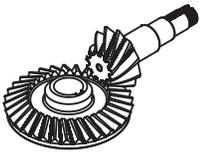
IEC



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions							Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft					
	a	b	c	e	f	n	n1	r	s	h	i	k	m	m1	o	p	q	ME	d	t	v	x	d1	t1	v1	x1
	a1			e1		n	n2	r1	s		i3			mG		p2	q1		l	u	w	T	l1	u1	w1	T1
PKD 1390 TMA +W	130 130	120	17	173 166	140	46	41 36 29	35 37 15	11	112	75 65	361	135	71 142	122	195 228	239 71	10	30 60	33.0 8	5 50	4 M10	16 40	18.0 5	4 32	7 M5
PKD G 1390 TMA +W	130 130	120	17	173 166	140	46	41 36 29	35 37 15	11	112	85 75	361	145	71 142	122	195 228	239 71	10	35 70	38.0 10	7 56	4 M12	16 40	18.0 5	4 32	7 M5
PKD 2390 TMA +W	120 130	140	26	191 189	166	61	51 59 39	30 50 30	14	140	91 78	413	161	86 172	122	237 271	291 100	14	35 70	38.0 10	7 56	5 M12	16 40	18.0 5	4 32	7 M5
PKD 3390 TMA +W	150 190	165	27	231 244	195	71	61 61 46	40 65 20	18	180	114 98	492	196	100 202	172	296 330	320 112	24	45 90	48.5 14	5 80	6 M16	24 50	27.0 8	5 40	8 M8
PKD 4390 TMA +W	180 220	180	35	261 291	220	81	71 71 51	55 77 30	22	212	150 130	593	240	115 250	213	348 390	380 132	36	60 120	64.0 18	10 100	5 M20	38 80	41.0 10	5 70	8 M12
PKD 5390 TMA +W	240 280	240	41	332 362	285	102	102 92 72	75 85 35	26	265	171 148	675	291	145 293	213	427 477	462 160	41	70 140	74.5 20	15 110	6 M20	38 80	41.0 10	5 70	8 M12
PKD 6390 TMA +W	280 310	270	46	392 422	330	112	112 112 72	95 105 55	33	315	212 182	840	347	170 350	288	502 558	552 200	50.7	90 170	95.0 25	15 140	7 M24	42 110	45.0 12	10 90	8 M16
PKD 7390 TMA +W	280 360	270	46	402 447	330	112	122 127 72	95 95 30	33	315	212 182	840	347	170 350	288	511 564	552 200	55.7	90 170	95.0 25	15 140	7 M24	42 110	45.0 12	10 90	8 M16
PKD 8390 TMA +W	350 400	330	49	502 522	395	152	122 122 90	115 110 60	39	375	253 221	1104	418	200 450	397	615 709	707 225	52	110 210	116 28	15 180	8 M24	65 140	69.0 18	15 110	12 M20
PKD G 8390 TMA +W	380 480	420	54	522 622	500	152	152 142 102	140 120 65	39	450	247 207	1130	457	238 500	397	712 822	733 250	89	120 210	127 32	15 180	9 M24	65 140	69.0 18	15 110	12 M20

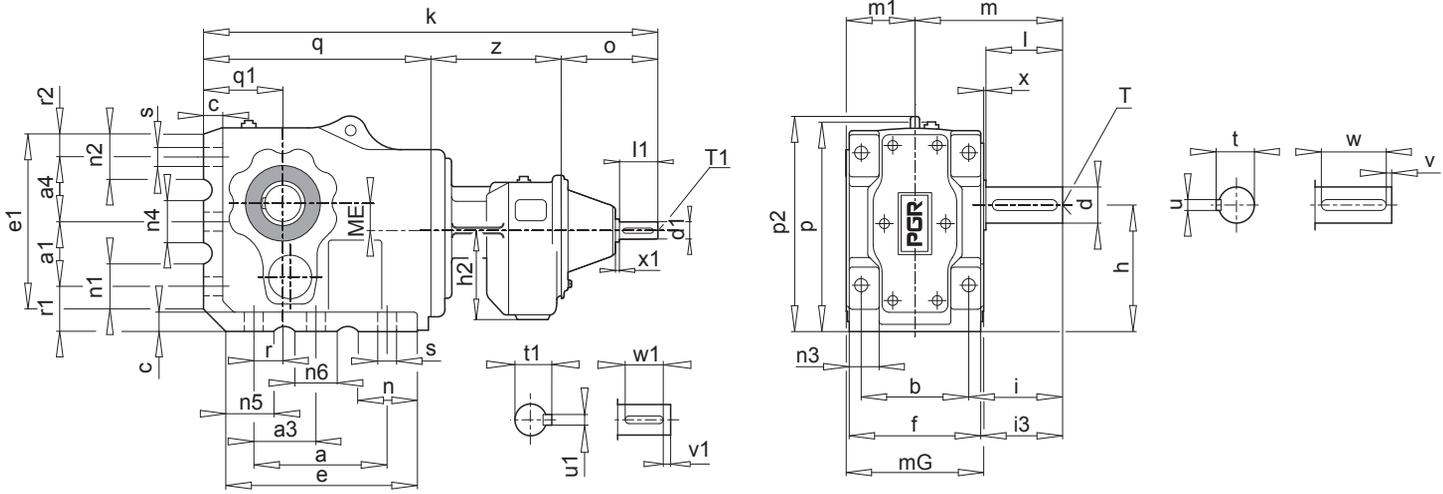
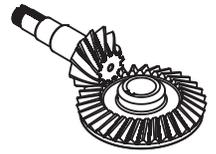


Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions						Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft						
	a	a4	b	e	n	n3	r	n1	n3	r1	s	i	k	m	m1	o	p	q	ME	d	t	v	x	d1	t1	v1	x1
	a1	a3	c	e1	f	n1	n4	n6	r2	s	h	i3	k	m	mG	o	p2	q1	ME	l	u	w	T	l1	u1	w1	T1
PKD 9390 TMA	540	270	480	672	570	132	97	140	200	33	500	315	1320	555	295	397	817	923	100	140	148	15	10	65	69.0	15	12
+W	270	270	54	662		102	100		115		270				590		928	315		250	36	220	M24	140	18	110	M20

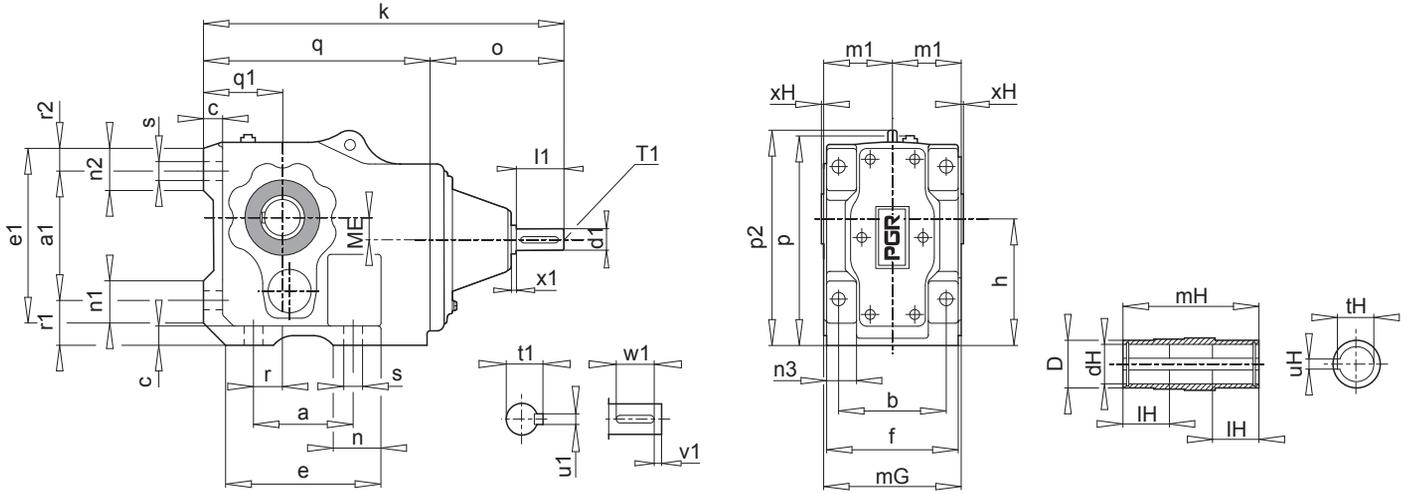
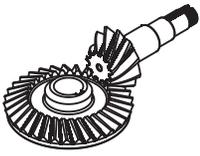


Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions								Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft				
	a	b	c	e	f	n	n1	r	s	h	i	k	m	o	p	q	z	ME	d	t	v	x	d1	t1	v1	x1
	a1			e1		n	n2	r1	s	h2	i3		m1		p2	q1			i	u	w	T	l1	u1	w1	T1
PKD 6390/32 TMA + W	280	270	46	392	330	112	112	95	33	315	212	961	347	172	502	552	237	50.7	90	95.0	15	7	24	27.0	5	8
	310			422			112	105		159	182		170		558	200			170	25	140	M24	50	8	40	M8
							72	55					350													
PKD 6390/42 TMA + W	280	270	46	392	330	112	112	95	33	315	212	1044	347	213	502	552	279	50.7	90	95.0	15	7	38	41.0	5	8
	310			422			112	105		179	182		170		558	200			170	25	140	M24	80	10	70	M12
							72	55					350													
PKD 7390/32 TMA + W	280	270	46	402	330	112	122	95	33	315	212	961	347	172	511	552	237	55.7	90	95.0	15	7	24	27.0	5	8
	360			447			127	95		159	182		170		564	200			170	25	140	M24	50	8	40	M8
							72	30					350													
PKD 7390/42 TMA + W	280	270	46	402	330	112	122	95	33	315	212	1044	347	213	511	552	279	55.7	90	95.0	15	7	38	41.0	5	8
	360			447			127	95		179	182		170		564	200			170	25	140	M24	80	10	70	M12
							72	30					350													
PKD 8390/42 TMA + W	350	330	49	502	395	152	122	115	39	375	253	1201	418	213	615	707	281	52	110	116	15	8	38	41.0	5	8
	400			522			122	110		179	221		200		709	225			210	28	180	M24	80	10	70	M12
							90	60					450													
PKD 8390/52 TMA + W	350	330	49	502	395	152	122	115	39	375	253	1240	418	213	615	707	320	52	110	116	15	8	38	41.0	5	8
	400			522			122	110		218	221		200		709	225			210	28	180	M24	80	10	70	M12
							90	60					450													
PKD G 8390/52 TMA + W	380	420	54	522	500	152	152	115	39	450	247	1266	457	213	712	733	320	89	120	127	15	9	38	41.0	5	8
	480			622			142	120		218	207		238		822	250			210	32	180	M24	80	10	70	M12
							102	65					500													

BEŞ KADEME
QUINTUPLE REDUCTION

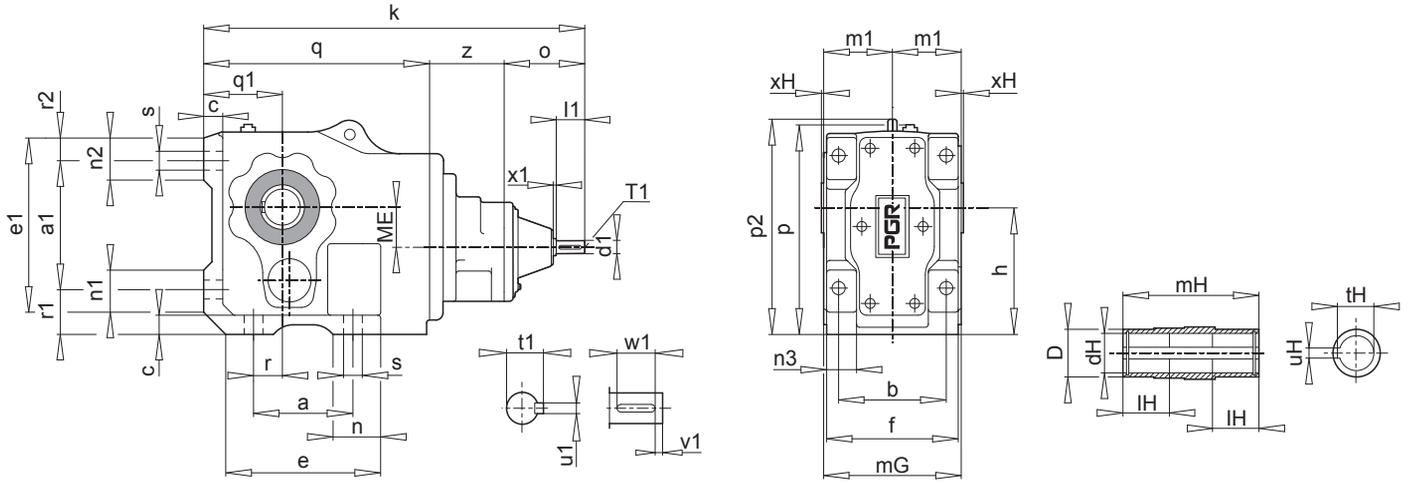


Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions							Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft																									
	a	a4	b	e	f	n	n1	n3	n4	n5	n6	r	r1	r2	s	h	i	k	m	m1	mG	o	p	q	z	ME	d	t	v	x	d1	t1	v1	x1													
	a1	a3	c	e1		n2	n5				r1	r2			h2	i3		m1	mG			p2	q1				l	u	w	T	l1	u1	w1	T1													
PKD 9390/52 TMA + W	540	270	480	672	570	132	97	140	200	33	500	315	1429	555	213	817	896	320	100	140	148	15	10	38	41.0	5	8	270	270	54	662	102	100	115	218	270	295	928	315	250	36	220	M24	80	10	70	M12

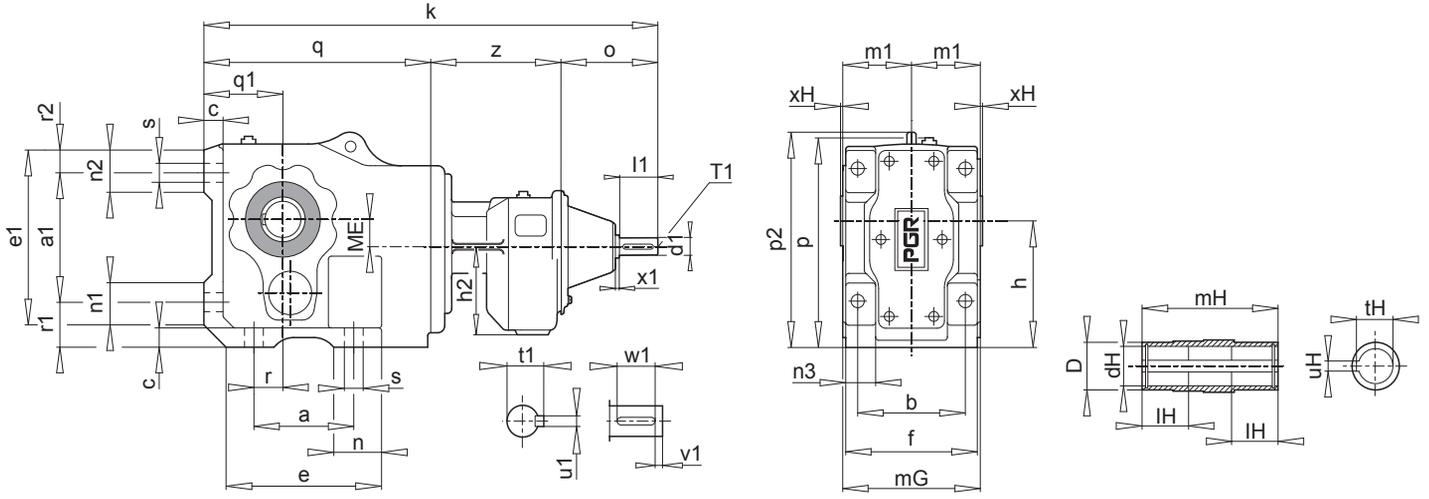
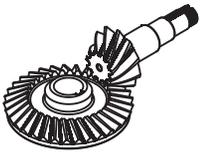


Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions						Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft				
	a a1	b	c	e e1	f	n	n1 n2 n3	r r1 r2	s	h	k	m1 mG	o	p p2	q q1	ME	dH D	tH uH	IH mH	xH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 1390 DA +W	130 130	120	17	173 166	140	46	41 36 29	35 37 15	11	112	361	71 142	122	195 228	239 71	10	30 45	33.3 8	50 148	3	16 40	18.0 5	4 32	7 M5
PKD G 1390 DA +W	130 130	120	17	173 166	140	46	41 36 29	35 37 15	11	112	361	71 142	122	195 228	239 71	10	30 45	33.3 8	50 148	3	16 40	18.0 5	4 32	7 M5
PKD 2390 DA +W	120 130	140	26	191 189	166	61	51 59 39	30 50 30	14	140	413	86 172	122	237 271	291 100	14	35 50	38.3 10	60 180	4	16 40	18.0 5	4 32	7 M5
PKD 3390 DA +W	150 190	165	27	231 244	195	71	61 61 46	40 65 20	18	180	492	100 202	172	296 330	320 112	24	40 55	43.3 12	70 210	5	24 50	27.0 8	5 40	8 M8
PKD 4390 DA +W	180 220	180	35	261 291	220	81	71 71 51	55 77 30	22	212	593	115 250	213	348 390	380 132	36	50 70	53.8 14	80 240	5	38 80	41.0 10	5 70	8 M12
PKD 5390 DA +W	240 280	240	41	332 362	285	102	102 92 72	75 85 35	26	265	675	145 293	213	427 477	462 160	41	60 85	64.4 18	100 300	5	38 80	41.0 10	5 70	8 M12
PKD 6390 DA +W	280 310	270	46	392 422	330	112	112 112 72	95 105 55	33	315	840	170 350	288	502 558	552 200	50.7	70 100	74.9 20	120 350	5	42 110	45.0 12	10 90	8 M16
PKD 7390 DA +W	280 360	270	46	402 447	330	112	122 127 72	95 95 30	33	315	840	170 350	288	511 564	552 200	55.7	80 120	85.4 22	120 350	5	42 110	45.0 12	10 90	8 M16
PKD 7390 DA +W	280 360	270	46	402 447	330	112	122 127 72	95 95 30	33	315	840	170 350	288	511 564	552 200	55.7	90 120	95.4 25	120 350	5	42 110	45.0 12	10 90	8 M16
PKD 8390 DA +W	350 400	330	49	502 522	395	152	122 122 90	115 110 60	39	375	1104	200 450	397	615 709	707 225	52	100 130	106.4 28	140 420	10	65 140	69.0 18	15 110	12 M20
PKD G 8390 DA +W	380 480	420	54	522 622	500	152	152 142 102	140 120 65	39	450	1130	238 500	397	712 822	733 250	89	110 140	116.4 28	140 500	12	65 140	69.0 18	15 110	12 M20

DÖRT KADEME
QUADRUPLE REDUCTION

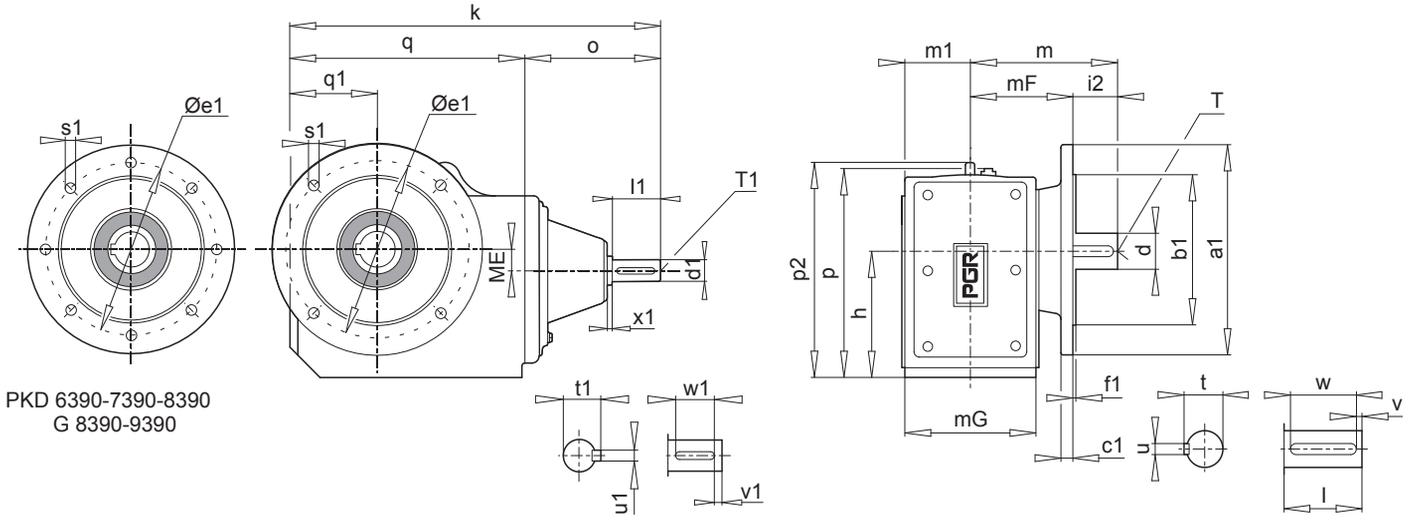
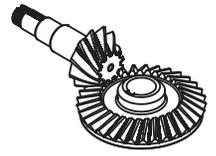


Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions							Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft				
	a	b	c	e	f	n	n1	r	s	h	k	m1	o	p	q	z	ME	dH	tH	IH	xH	d1	t1	v1	x1
	a1		e1			n3	n2	r1	r2			mG		p2	q1			D	uH	mH		l1	u1	w1	T1
PKD 1490 DA +W	130	120	17	173	140	46	41	35	11	112	419	71	122	195	239	58	40	30	33.3	50	3	16	18.0	4	7
	130		166				36	37				142		228	71			45	8	148		40	5	32	M5
PKD G 1490 DA +W	130	120	17	173	140	46	41	35	11	112	419	71	122	195	239	58	40	30	33.3	50	3	16	18.0	4	7
	130		166				36	37				142		228	71			45	8	148		40	5	32	M5
							29	15																	
PKD 2490 DA +W	120	140	26	191	166	61	51	30	14	140	473	86	122	237	291	58	44	35	38.3	60	4	16	18.0	4	7
	130		189				59	50				172		271	100			50	10	180		40	5	32	M5
							39	30																	
PKD 3490 DA +W	150	165	27	231	195	71	61	40	18	180	502	100	122	296	320	60	74	40	43.3	70	5	16	18.0	4	7
	190		244				61	65				202		330	112			55	12	210		40	5	32	M5
							46	20																	
PKD 4490 DA +W	180	180	35	261	220	81	71	55	22	212	621	115	172	348	380	69	97	50	53.8	80	5	24	27.0	5	8
	220		291				71	77				250		390	132			70	14	240		50	8	40	M8
							51	30																	
PKD 5490 DA +W	240	240	41	332	285	102	102	75	26	265	703	145	172	427	462	69	117	60	64.4	100	5	24	27.0	5	8
	280		362				92	85				293		477	160			85	18	300		50	8	40	M8
							72	35																	



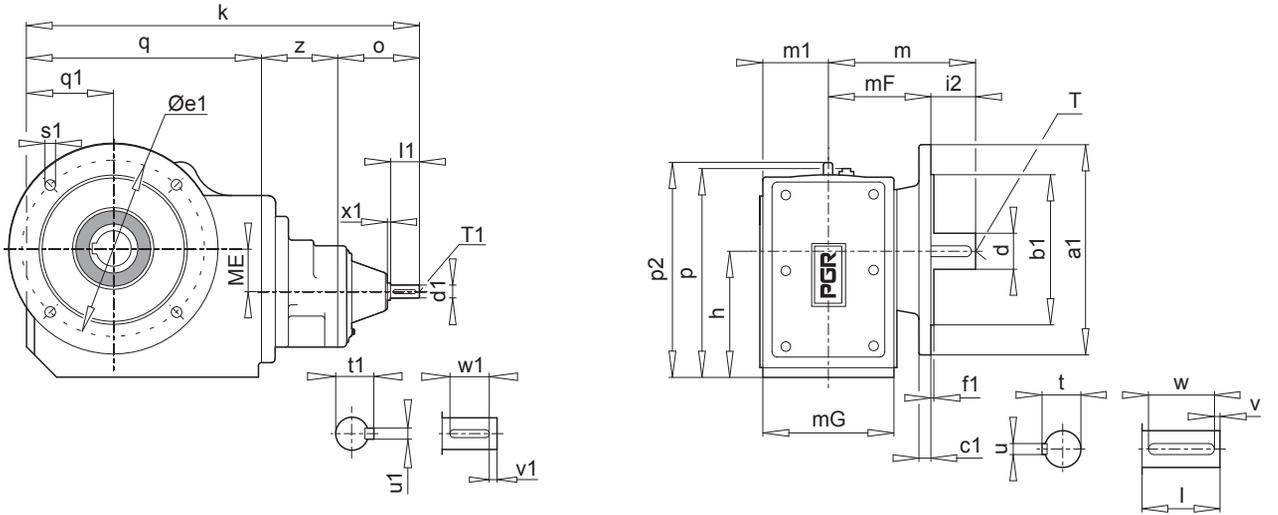
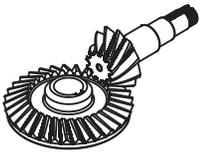
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions							Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a	b	c	e	f	n	n1	r	n2	s	h	k	m1	o	p	q	z	ME	dH	tH	IH	xH	d1	t1	v1
	a1		e1			n3	r1	r2		h2		mG		p2	q1			D	uH	mH		l1	u1	w1	T1
PKD 6390/32 DA + W	280	270	46	392	330	112	112	95	33	315	961	170	172	502	552	237	50.7	70	74.9	120	5	24	27.0	5	8
	310		422				112	105		159		350		558	200			100	20	350		50	8	40	M8
							72	55																	
PKD 6390/42 DA + W	280	270	46	392	330	112	112	95	33	315	1044	170	213	502	552	279	50.7	70	74.9	120	5	38	41.0	5	8
	310		422				112	105		179		350		558	200			100	20	350		80	10	70	M12
							72	55																	
PKD 7390/32 DA + W	280	270	46	402	330	112	122	95	33	315	961	170	172	511	552	237	55.7	80	85.4	120	5	24	27.0	5	8
	360		447				127	95		159		350		564	200			120	22	350		50	8	40	M8
							72	30																	
PKD 7390/42 DA + W	280	270	46	402	330	112	122	95	33	315	1044	170	213	511	552	279	55.7	80	85.4	120	5	38	41.0	5	8
	360		447				127	95		179		350		564	200			120	22	350		80	10	70	M12
							72	30																	
PKD 7390/32 DA + W	280	270	46	402	330	112	122	95	33	315	961	170	172	511	552	237	55.7	90	95.4	120	5	24	27.0	5	8
	360		447				127	95		159		350		564	200			120	25	350		50	8	40	M8
							72	30																	
PKD 7390/42 DA + W	280	270	46	402	330	112	122	95	33	315	1044	170	213	511	552	279	55.7	90	95.4	120	5	38	41.0	5	8
	360		447				127	95		179		350		564	200			120	25	350		80	10	70	M12
							72	30																	
PKD 8390/42 DA + W	350	330	49	502	395	152	122	115	39	375	1201	200	213	615	707	281	52	100	106.4	140	10	38	41.0	5	8
	400		522				122	110		179		450		709	225			130	28	420		80	10	70	M12
							90	60																	
PKD 8390/52 DA + W	350	330	49	502	395	152	122	115	39	375	1240	200	213	615	707	320	52	100	106.4	140	10	38	41.0	5	8
	400		522				122	110		218		450		709	225			130	28	420		80	10	70	M12
							90	60																	
PKD G 8390/52 DA + W	380	420	54	522	500	152	152	115	39	450	1266	238	213	712	733	320	89	110	116.4	140	12	38	41.0	5	8
	480		622				142	120		218		500		822	250			140	28	500		80	10	70	M12
							102	65																	

ÜÇ KADEME
TRIPLE REDUCTION



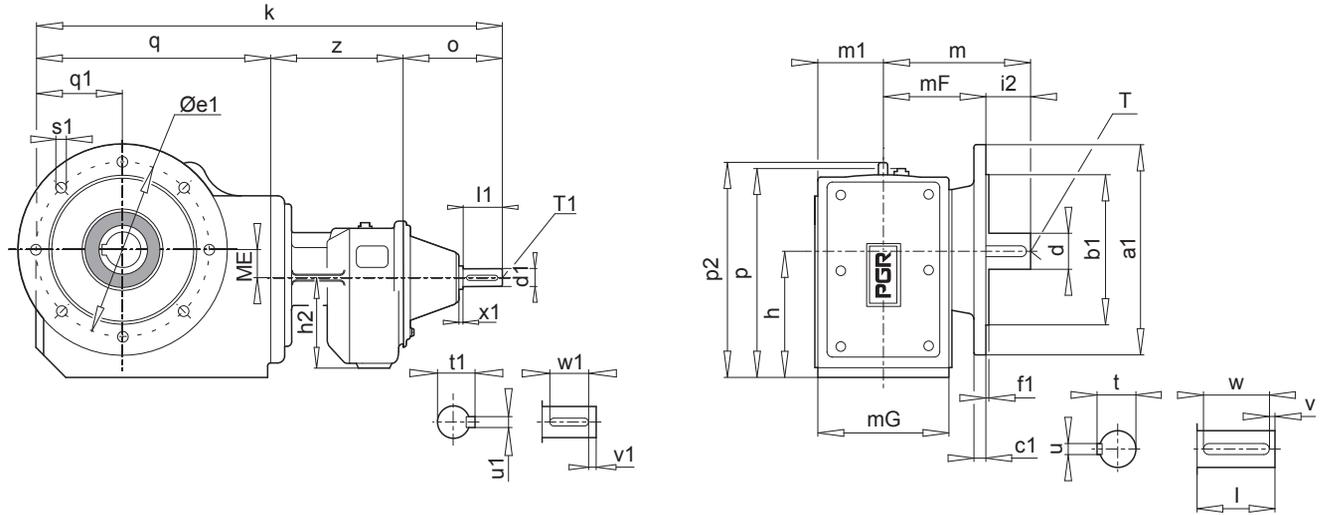
PKD 6390-7390-8390
G 8390-9390

Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a1	b1	c1	e1	f1	s1	h	i2	k	m	m1 mF mG	o	p p2	q	q1	ME	d l	t u	v w	T	d1 l1	t1 u1	v1 w1	x1 T1
PKD 1390 TMG/B5 + W	200	130	12	165	3.5	4x11	112	21	372	134	68 113 144	122	198 232	250	82	10	30 60	33.0 8	5 50	M10	16 40	18.0 5	4 32	7 M5
PKD G 1390 TMG/B5 + W	200	130	12	165	3.5	4x11	112	31	372	144	68 113 144	122	198 232	250	82	10	35 70	38.0 10	7 56	M12	16 40	18.0 5	4 32	7 M5
PKD 2390 TMG/B5 + W	250	180	16	215	4.0	4x14	143	26	415	160	82 134 164	122	244 278	293	102	14	35 70	38.0 10	7 56	M12	16 40	18.0 5	4 32	7 M5
PKD 3390 TMG/B5 + W	250 300	180 230	16 20	215 265	4.0 4.0	4x14 4x14	180	46	506	196	97 150 200	172	301 335	334	126	24	45 90	48.5 14	5 80	M16	24 50	27.0 8	5 40	8 M8
PKD 4390 TMG/B5 + W	350	250	20	300	5.0	4x18	217	75	615	240	108 165 250	213	358 400	402	154	36	60 120	64.0 18	10 100	M20	38 80	41.0 10	5 70	8 M12
PKD 5390 TMG/B5 + W	400 450	300 350	20 22	350 400	5.0 5.0	4x18 8x18	262	90	700	291	141 201 290	213	429 479	487	185	41	70 140	74.5 20	15 110	M20	38 80	41.0 10	5 70	8 M12
PKD 6390 TMG/B5 + W	450 550	350 450	22 28	400 500	5.0 5.0	8x18 8x18	315	118	858	345	165 227 350	288	510 566	570	218	50.7	90 170	95.0 25	15 140	M24	42 110	45.0 12	10 90	8 M16
PKD 7390 TMG/B5 + W	450 550	350 450	22 28	400 500	5.0 5.0	8x18 8x18	315	120	858	347	165 227 350	288	511 564	570	218	55.7	90 170	95.0 25	15 140	M24	42 110	45.0 12	10 90	8 M16
PKD 8390 TMG/B5 + W	550	450	28	500	5.0	8x18	375	163	1119	420	195 257 450	397	620 714	722	240	52	110 210	116 28	15 180	M24	65 140	69.0 18	15 110	12 M20
PKD G 8390 TMG/B5 + W	660	550	32	600	6.0	8x22	450	145	1145	460	235 315 486	397	722 832	748	265	89	120 210	127 32	15 180	M24	65 140	69.0 18	15 110	12 M20
PKD 9390 TMG/B5 + W	660	550	32	600	6.0	8x22	500	187	1316	555	288 368 590	397	817 928	919	310	100	140 250	148 36	15 220	M24	65 140	69.0 18	15 110	12 M20

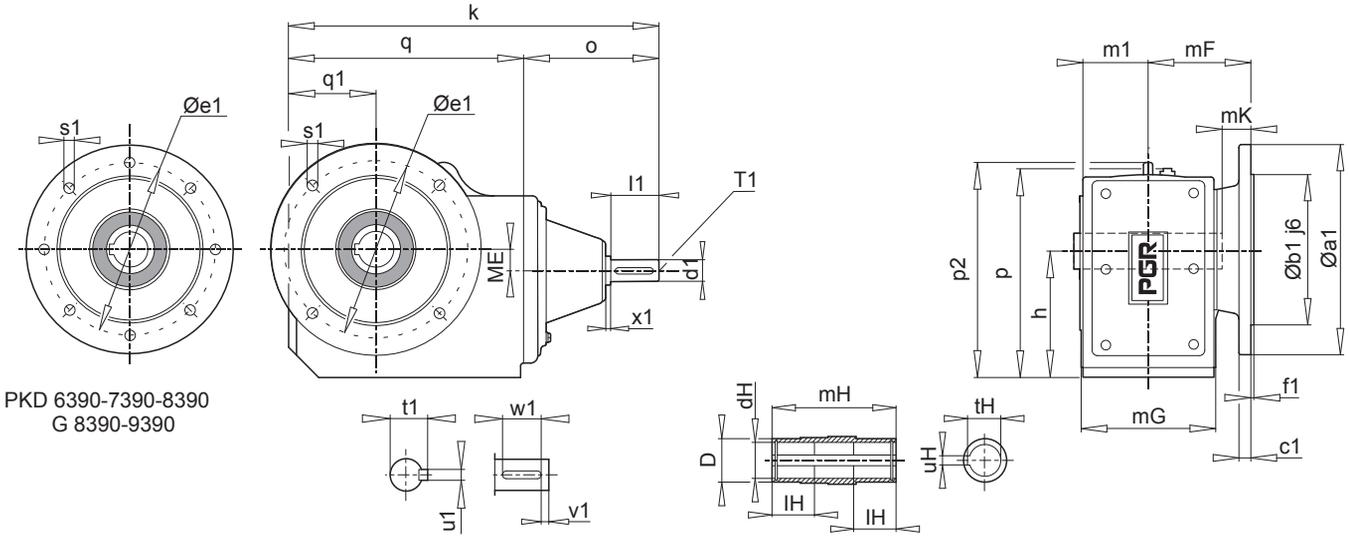
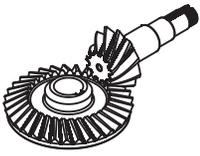


Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft				
	a1	b1	c1	e1	f1	s1	h	i2	k	m	m1 mF mG	o	p p2	q	q1	z	ME	d l	t u	v w	T	d1 l1	t1 u1	v1 w1	x1 T1
PKD 1490 TMG/B5 + W	200	130	12	165	3.5	4x11	112	21	430	134	68 113 144	122	198 232	250	82	58	40	30 60	33.0 8	5 50	M10	16 40	18.0 5	4 32	7 M5
PKD G1490 TMG/B5 + W	200	130	12	165	3.5	4x11	112	31	430	144	68 113 144	122	198 232	250	82	58	40	35 70	38.0 10	7 56	M12	16 40	18.0 5	4 32	7 M5
PKD 2490 TMG/B5 + W	250	180	16	215	4	4x14	143	26	475	160	82 134 164	122	244 278	293	102	58	44	35 70	38.0 10	7 56	M12	16 40	18.0 5	4 32	7 M5
PKD 3490 TMG/B5 + W	250 300	180 230	16 20	215 265	4 4	4x14 4X14	180	46	516	196	97 150 200	122	301 335	334	126	60	74	45 90	48.5 14	5 80	M16	16 40	18.0 5	4 32	7 M5
PKD 4490 TMG/B5 + W	350	250	20	300	5	4x18	217	75	643	240	108 165 250	172	358 400	402	154	69	97	60 120	64.0 18	10 100	M20	24 50	27.0 8	5 40	8 M8
PKD 5490 TMG/B5 + W	400 450	300 350	20 22	350 400	5 5	4x18 8x18	262	90	728	291	141 201 290	172	429 479	487	185	69	117	70 140	74.5 20	15 110	M20	24 50	27.0 8	5 40	8 M8

BEŞ KADEME
QUINTUPLE REDUCTION

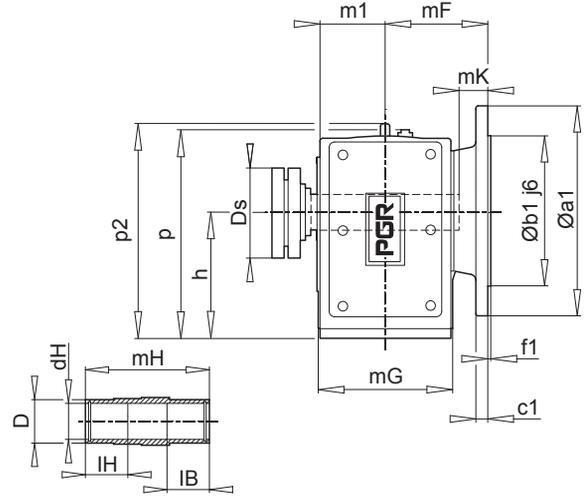
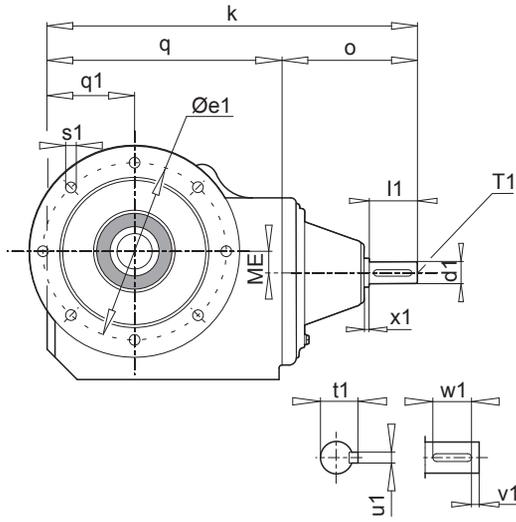


Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a1	b1	c1	e1	f1	s1	h h2	i2	k	m	m1 mF mG	o	p p2	q q1	z	ME	d l	t u	v w	T	d1 l1	t1 u1	v1 w1	x1 T1
PKD 6390/32 TMG/B5 + W	450	350	22	400	5	8x18	315	118	979	345	165	172	510	570	237	50.7	90	95.0	15	M24	24	27.0	5	8
	550	450	28	500	5	8x18	159				227		566	218			170	25	140		50	8	40	M8
PKD 6390/42 TMG/B5 + W	450	350	22	400	5	8x18	315	118	1062	345	165	213	510	570	279	50.7	90	95.0	15	M24	38	41.0	5	8
	550	450	28	500	5	8x18	179				227		566	218			170	25	140		80	10	70	M12
PKD 7390/32 TMG/B5 + W	450	350	22	400	5	8x18	315	120	979	347	165	172	511	570	237	55.7	90	95.0	15	M24	24	27.0	5	8
	550	450	28	500	5	8x18	159				227		564	218			170	25	140		50	8	40	M8
PKD 7390/42 TMG/B5 + W	450	350	22	400	5	8x18	315	120	1062	347	165	213	511	570	279	55.7	90	95.0	15	M24	38	41.0	5	8
	550	450	28	500	5	8x18	179				227		564	218			170	25	140		80	10	70	M12
PKD 8390/42 TMG/B5 + W	550	450	28	500	5	8x18 8x18	375	163	1216	420	195	213	620	722	281	52	110	116	15	M24	38	41.0	5	8
							179				257		714	240			210	28	180		80	10	70	M12
PKD 8390/52 TMG/B5 + W	550	450	28	500	5	8x18 8x18	375	163	1255	420	195	213	620	722	320	52	110	116	15	M24	38	41.0	5	8
							218				257		714	240			210	28	180		80	10	70	M12
PKD G8390/52 TMG/B5 + W	660	550	32	600	6	8x22 8x22	450	145	1281	460	235	213	722	748	320	89	120	127	15	M24	38	41.0	5	8
							218				315		832	265			210	32	180		80	10	70	M12
PKD 9390/52 TMG/B5 + W	660	550	32	600	6	8x22 8x22	500	187	1425	555	288	213	817	892	320	100	140	148	15	M24	38	41.0	5	8
							218				368		928	310			250	36	220		80	10	70	M12
											590													

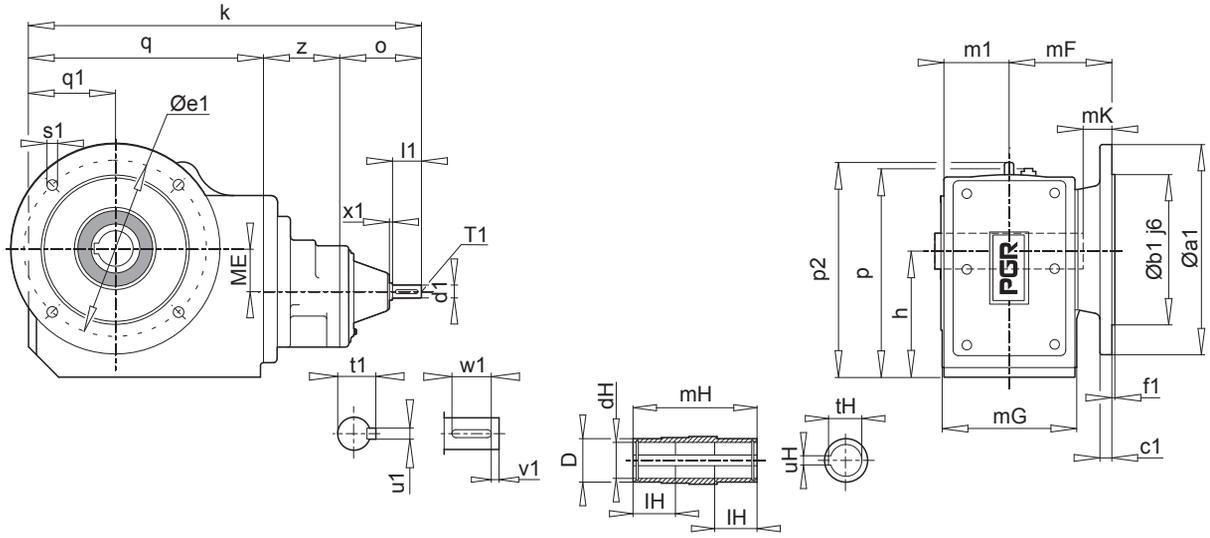
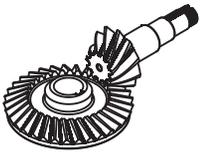


PKD 6390-7390-8390
G 8390-9390

Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Çıkış Şaftı Output Shaft			Giriş Şaftı Input Shaft			
	a1	b1	c1	e1	f1	s1	h	i2	k	m1 mF mG	mK	o	p p2	q	q1	ME	dH D	tH uH	IH mH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 1390 DG/B5 + W	200	130	12	165	3.5	4x11	112	21	372	68 113 144	39	122	198 232	250	82	10	35 50	38.3 10	50 148	16 40	18.0 5	4 32	7 M5
PKD G 1390 DG/B5 + W	200	130	12	165	3.5	4x11	112	31	372	68 113 144	39	122	198 232	250	82	10	40 50	42.2 12	50 148	16 40	18.0 5	4 32	7 M5
PKD 2390 DG/B5 + W	250	180	16	215	4.0	4x14	143	26	415	82 134 164	44	122	244 278	293	102	14	40 55	43.3 12	60 180	16 40	18.0 5	4 32	7 M5
PKD 3390 DG/B5 + W	250 300	180 230	16 20	215 265	4.0	4x14 4x14	180	46	506	97 150 200	45	172	301 335	334	126	24	50 70	53.8 14	70 210	24 50	27.0 8	5 40	8 M8
PKD 4390 DG/B5 + W	350	250	20	300	5.0	4x18	217	75	615	108 165 250	45	213	358 400	402	154	36	60 80	64.4 18	80 240	38 80	41.0 10	5 70	8 M12
PKD 5390 DG/B5 + W	400 450	300 350	20 22	350 400	5.0	4x18 8x18	262	90	700	141 201 290	51	213	429 479	487	185	41	70 100	74.9 20	100 300	38 80	41.0 10	5 70	8 M12
PKD 6390 DG/B5 + W	450 550	350 450	22 28	400 500	5.0	8x18 8x18	315	118	858	165 227 350	52	288	510 566	570	218	50.7	80 110	85.4 22	120 350	42 110	45.0 12	10 90	8 M16
PKD 7390 DG/B5 + W	450 550	350 450	22 28	400 500	5.0	8x18 8x18	315	120	858	165 227 350	52	288	511 564	570	218	55.7	80 120	85.4 22	120 350	42 110	45.0 12	10 90	8 M16
PKD 7390 DG/B5 + W	450 550	350 450	22 28	400 500	5.0	8x18 8x18	315	120	858	165 227 350	52	288	511 564	570	218	55.7	90 120	95.4 25	120 350	42 110	45.0 12	10 90	8 M16
PKD 8390 DG/B5 + W	550	450	28	500	5.0	8x18	375	163	1119	195 257 450	47	397	620 714	722	240	52	110 140	116.4 28	140 420	65 140	69.0 18	15 110	12 M20
PKD G 8390 DG/B5 + W	660	550	32	600	6.0	8x22	450	145	1145	235 315 486	65	397	722 832	748	265	89	120 160	127.4 32	160 500	65 140	69.0 18	15 110	12 M20

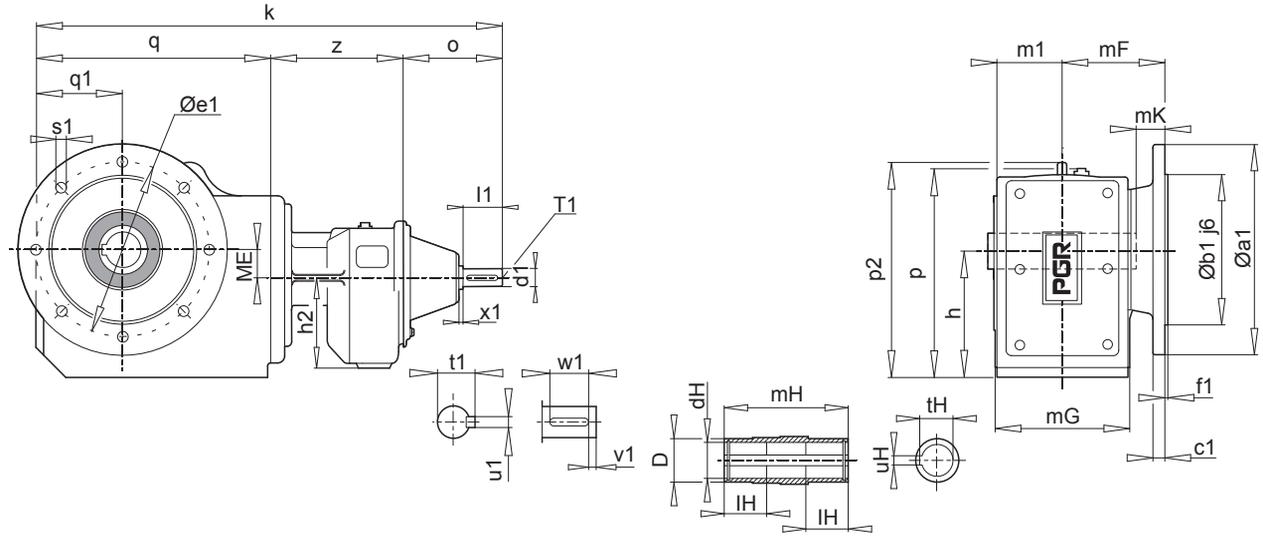


Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions								Çıkış Şaftı Output Shaft			Giriş Şaftı Input Shaft						
	a1	b1	c1	e1	f1	s1	h	i2	k	m1	mF	mK	o	p	q	q1	ME	dH	Ds	IH	d1	t1	v1	x1
										mG				p2				D	mH	IB	l1	u1	w1	T1
PKD 9390 DG/B5 + W	660	550	32	600	6.0	8x22	500	187	1316	288	63	397	817	919	310	100		150	335	98	65	69.0	15	12
										368				928				185	710	100	140	18	110	M20
										590														

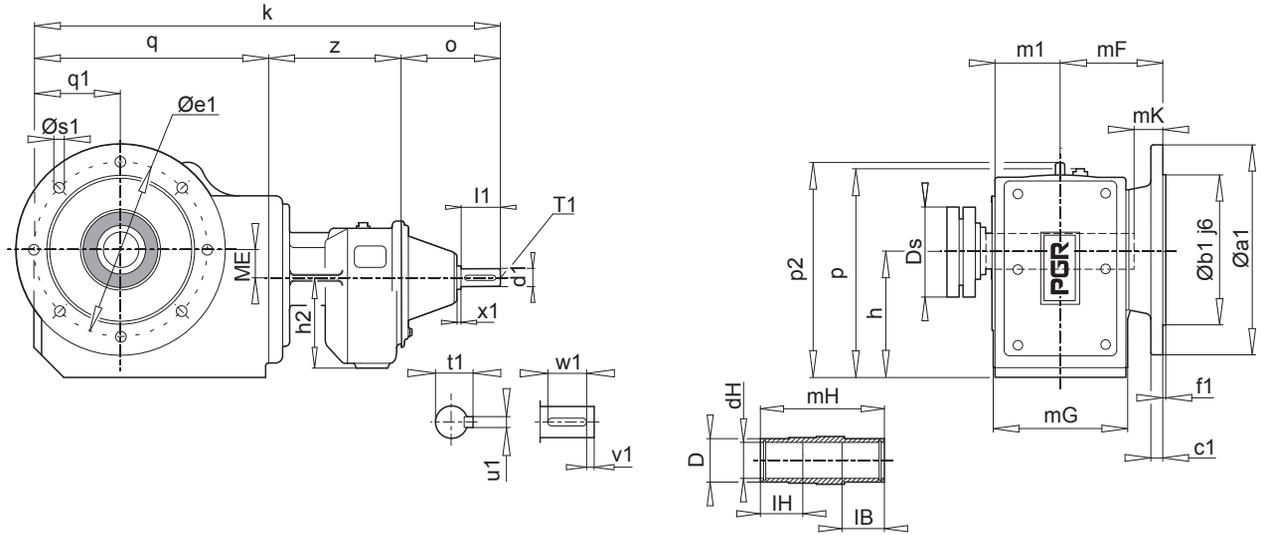
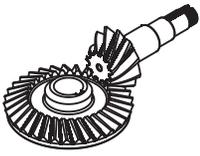


Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Çıkış Şaftı Output Shaft			Giriş Şaftı Input Shaft			
	a1	b1	c1	e1	f1	s1	h	k	m1 mF mG	mK	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 1490 DG/B5 + W	200	130	12	165	3.5	4x11	112	430	68 113 144	39	122	198 232	250	82	58	40	35 50	38.3 10	50 148	16 40	18.0 5	4 32	7 M5
PKD G1490 DG/B5 + W	200	130	12	165	3.5	4x11	112	430	68 113 144	39	122	198 232	250	82	58	40	40 50	42.2 12	50 148	16 40	18.0 5	4 32	7 M5
PKD 2490 DG/B5 + W	250	180	16	215	4	4x14	143	475	82 134 164	44	122	244 278	293	102	58	44	40 55	43.3 12	60 180	16 40	18.0 5	4 32	7 M5
PKD 3490 DG/B5 + W	250 300	180 230	16 20	215 265	4 4	4x14 4x14	180	516	97 150 200	45	122	301 335	334	126	60	74	50 70	53.8 14	70 210	16 40	18.0 5	4 32	7 M5
PKD 4490 DG/B5 + W	350	250	20	300	5	4x18	217	643	108 165 250	45	172	358 400	402	154	69	97	60 80	64.4 18	80 240	24 50	27.0 8	5 40	8 M8
PKD 5490 DG/B5 + W	400 450	300 350	20 22	350 400	5 5	4x18 8x18	262	728	141 201 290	51	172	429 479	487	185	69	117	70 100	74.9 20	100 300	24 50	27.0 8	5 40	8 M8

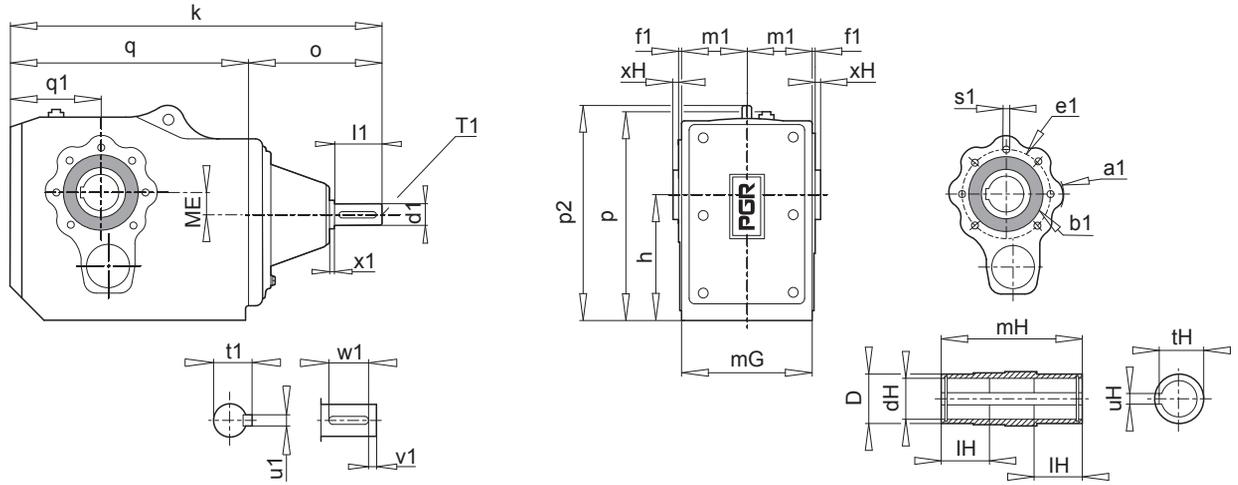
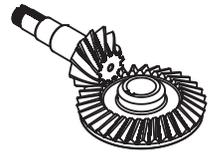
BEŞ KADEME
QUINTUPLE REDUCTION



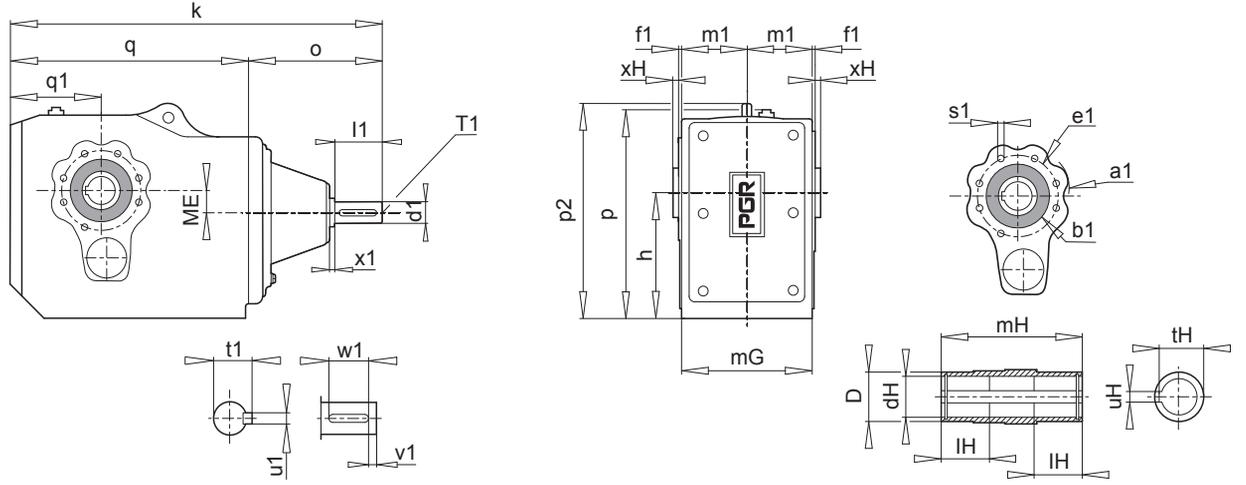
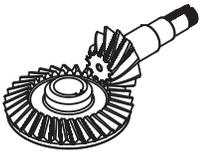
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions									Çıkış Şaftı Output Shaft			Giriş Şaftı Input Shaft			
	a1	b1	c1	e1	f1	s1	h h2	k	m1 mF mG	mK	o	p p2	q q1	z	ME	dH D	tH uH	IH mH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 6390/32 DG/B5 + W	450	350	22	400	5	8x18	315 159	979	165 227 350	52	172	510 566	570 218	237	50.7	80 110	85.4 22	120 350	24 50	27.0 8	5 40	8 M8
PKD 6390/42 DG/B5 + W	450	350	22	400	5	8x18	315 179	1062	165 227 350	52	213	510 566	570 218	279	50.7	80 110	85.4 22	120 350	38 80	41.0 10	5 70	8 M12
PKD 7390/32 DG/B5 + W	450	350	22	400	5	8x18	315 159	979	165 227 350	52	172	511 564	570 218	237	55.7	80 120	85.4 22	120 350	24 50	27.0 8	5 40	8 M8
PKD 7390/42 DG/B5 + W	450	350	22	400	5	8x18	315 179	1062	165 227 350	52	213	511 564	570 218	279	55.7	80 120	85.4 22	120 350	38 80	41.0 10	5 70	8 M12
PKD 7390/32 DG/B5 + W	450	350	22	400	5	8x18	315 159	979	165 227 350	52	172	511 564	570 218	237	55.7	90 120	95.4 25	120 350	24 50	27.0 8	5 40	8 M8
PKD 7390/42 DG/B5 + W	450	350	22	400	5	8x18	315 179	1062	165 227 350	52	213	511 564	570 218	279	55.7	90 120	95.4 25	120 350	38 80	41.0 10	5 70	8 M12
PKD 8390/42 DG/B5 + W	550	450	28	500	5	8x18 8x18	375 179	1216	195 257 450	47	213	620 714	722 240	281	52	110 140	116.4 28	140 420	38 80	41.0 10	5 70	8 M12
PKD 8390/52 DG/B5 + W	550	450	28	500	5	8x18 8x18	375 218	1255	195 257 450	47	213	620 714	722 240	320	52	110 140	116.4 28	140 420	38 80	41.0 10	5 70	8 M12
PKD G8390/52 DG/B5 + W	660	550	32	600	6	8x22 8x22	450 218	1281	235 315 486	460	213	722 832	748 265	320	89	120 160	127.4 32	160 500	38 80	41.0 10	5 70	8 M12



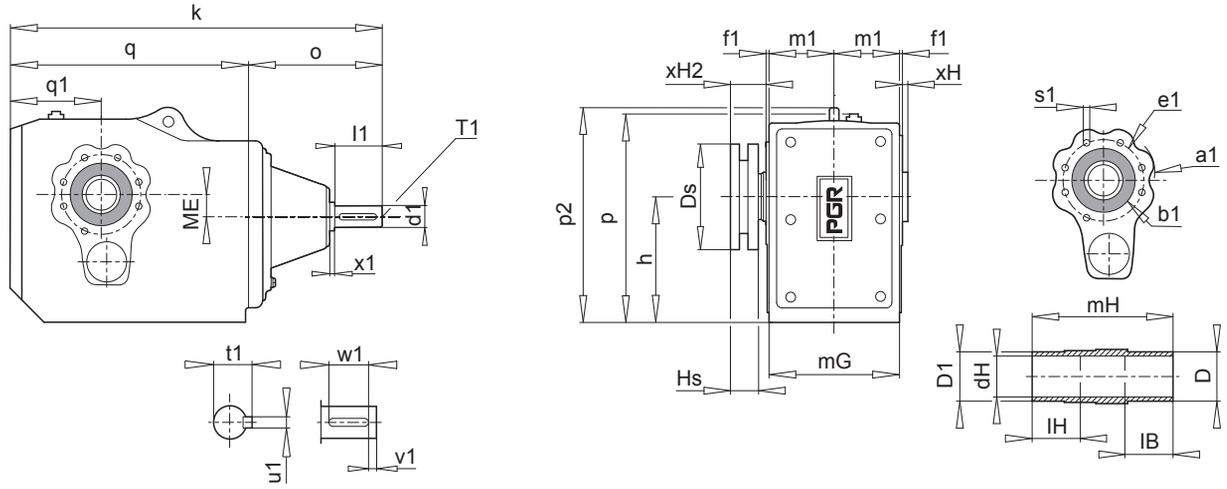
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions								Çıkış Şaftı Output Shaft			Giriş Şaftı Input Shaft				
	a1	b1	c1	e1	f1	s1	h h2	k	m1 mF mG	mK	o	p p2	q q1	z	ME	dH D	Ds mH	IH IB	d1 l1	t1 u1	v1 w1	x1 T1
PKD 9390/52 DG/KS-B5 + W	660	550	32	600	6	8x22 8x22	500 218	1425	288 368 590	555	213	817 928	892 310	320	100	150 185	335 710	98 100	38 80	41.0 10	5 70	8 M12



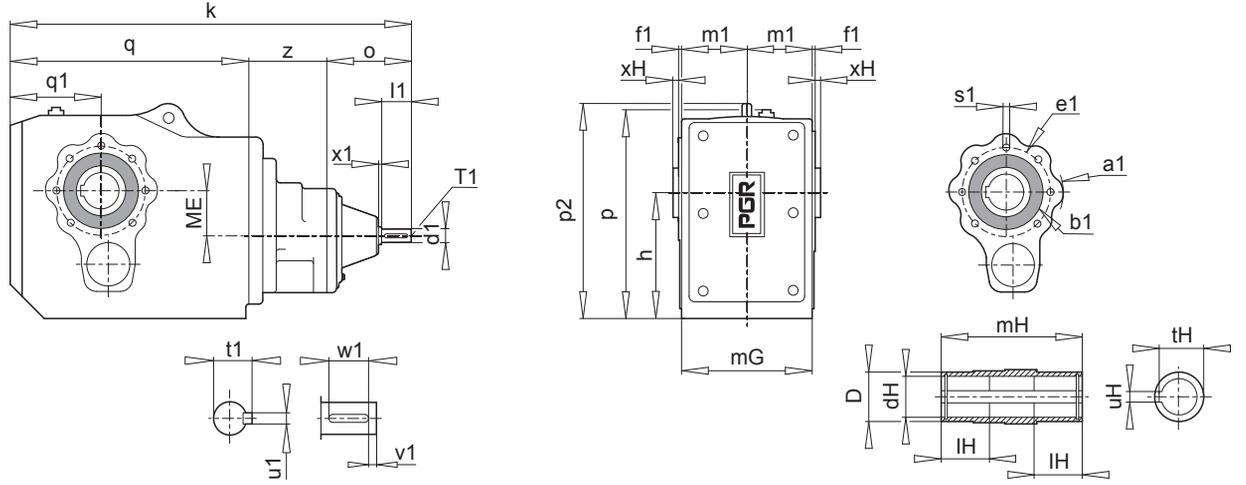
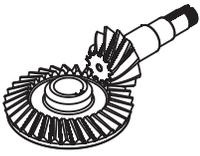
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions									Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p	q	q1	ME	dH	tH	IH	xH	d1	t1	v1	x1
											p2				D	uH	mH		l1	u1	w1	T1
PKD 1390 DG/B14 + W	140	95	115	3	M8x13	112	372	68	144	122	198 232	250	82	10	35 50	38.3 10	50 148	3	16 40	18.0 5	4 32	7 M5
PKD G 1390 DG/B14 + W	140	95	115	3	M8x13	112	372	68	144	122	198 232	250	82	10	40 50	42.2 12	50 148	3	16 40	18.0 5	4 32	7 M5
PKD 2390 DG/B14 + W	160	110	130	4	M8x13	143	415	82	164	122	244 278	293	102	14	40 55	43.3 12	60 180	4	16 40	18.0 5	4 32	7 M5
PKD 3390 DG/B14 + W	200	130	165	3	M10x16	180	506	97	200	172	301 335	334	126	24	50 70	53.8 14	70 210	5	24 50	27.0 8	5 40	8 M8
PKD 4390 DG/B14 + W	250	180	215	7	M12x20	217	615	108	250	213	358 400	402	154	36	60 80	64.4 18	80 240	5	38 80	41.0 10	5 70	8 M12
PKD 5390 DG/B14 + W	300	230	265	4	M12x20	262	700	141	290	213	429 479	487	185	41	70 100	74.9 20	100 300	5	38 80	41.0 10	5 70	8 M12



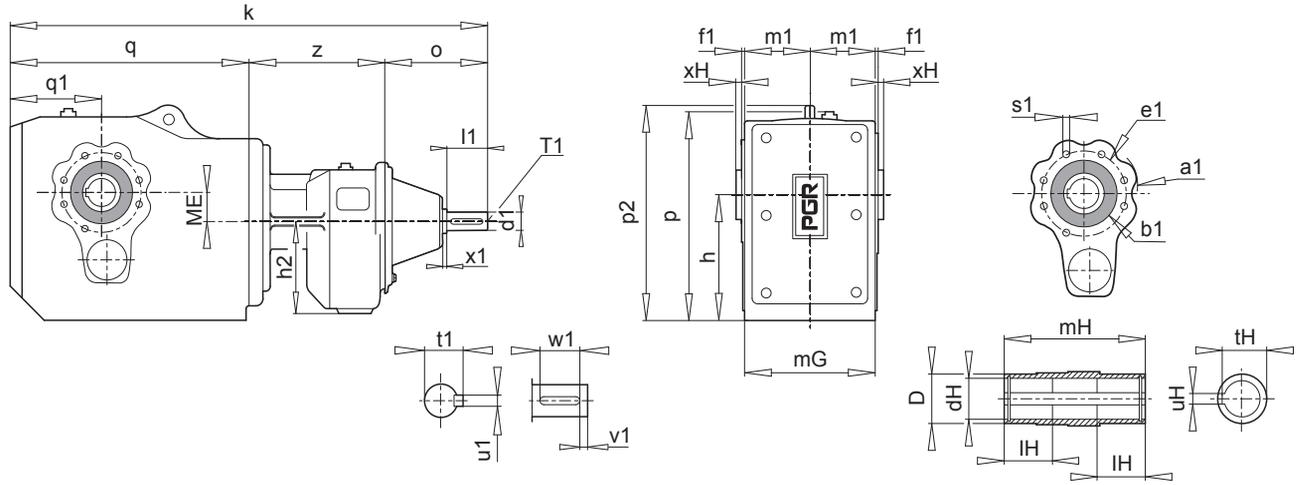
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions								Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a1	b1	e1	f1	s1	h	k	m1 mG	o	p p2	q	q1	ME	dH D	tH uH	IH mH	xH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 6390 DG/B14 + W	350	250	300	5	M16x25	315	858	165 350	288	510 566	570	218	50.7	80 110	85.4 22	120 350	5	42 110	45.0 12	10 90	8 M16
PKD 7390 DG/B14 + W	350	250	300	5	M16x25	315	858	165 350	288	511 564	570	218	55.7	80 120	85.4 22	120 350	5	42 110	45.0 12	10 90	8 M16
PKD 7390 DG/B14 + W	350	250	300	5	M16x25	315	858	165 350	288	511 564	570	218	55.7	90 120	95.4 25	120 350	5	42 110	45.0 12	10 90	8 M16
PKD 8390 DG/B14 + W	400	300	350	7	M16x25	375	1119	195 450	397	620 714	722	240	52	110 140	116.4 28	140 420	8	65 140	69.0 18	15 110	12 M20
PKD G8390 DG/B14 + W	450	350	400	7	M20x30	450	1145	235 486	397	722 832	748	265	89	120 160	127.4 32	160 500	8	65 140	69.0 18	15 110	12 M20



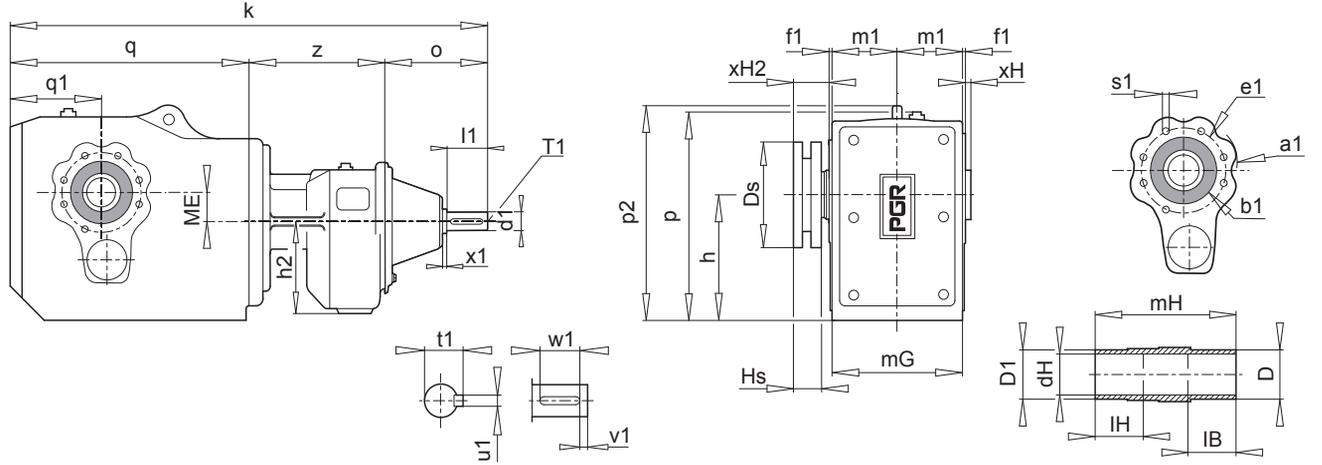
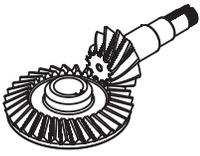
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions							Çıkış Şaftı Output Shaft					Giriş Şaftı Input Shaft										
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	ME	Ds Hs	D D1	dH IH	IB IH	mH xH2	xH	d1 l1	t1 u1	v1 w1	x1 T1				
PKD 9390 DG/KS-B14 + W	450	350	400	7	M20x30	500	1300	288	590	397	817	919	310	100	330 86	200 185	150	100 98	710	10 110	65	69	15	12	140	18	110	M20



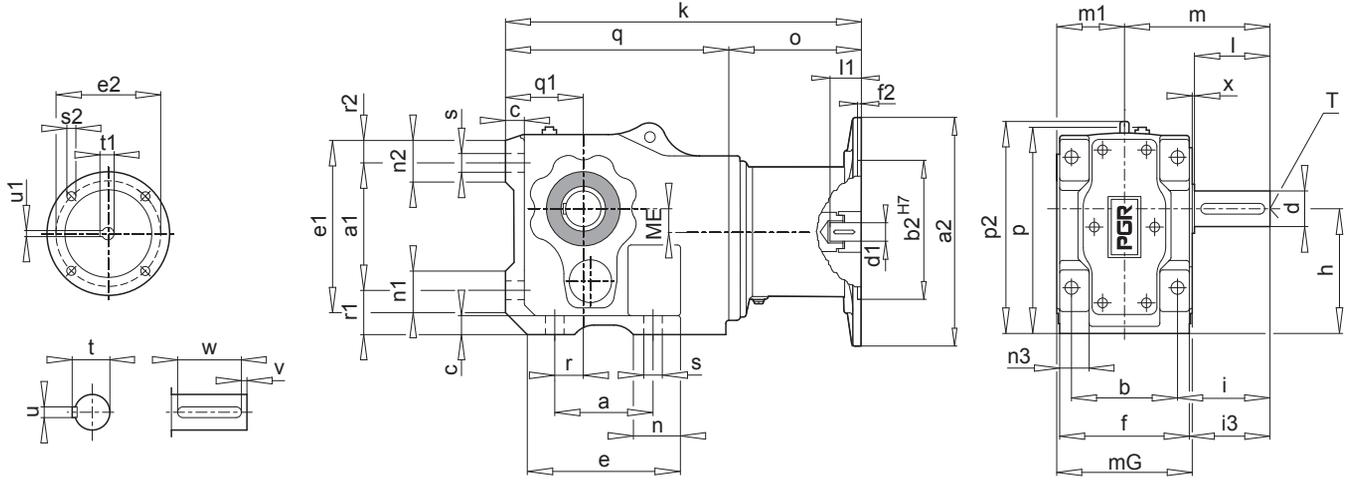
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions										Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH	xH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 1490 DG/B14 + W	140	95	115	3	M8x13	112	430	68	144	122	198 232	250	82	58	40	35 50	38.3 10	50 148	3	16 40	18 5	4 32	7 M5
PKD G 1490 DG/B14 + W	140	95	115	3	M8x13	112	430	68	144	122	198 232	250	82	58	40	40 50	42.2 12	50 148	3	16 40	18 5	4 32	7 M5
PKD 2490 DG/B14 + W	160	110	130	4	M8x13	143	475	82	164	122	244 278	293	102	58	44	40 55	43.3 12	60 180	4	16 40	18 5	4 32	7 M5
PKD 3490 DG/B14 + W	200	130	165	3	M10x16	180	516	97	200	122	301 335	334	126	60	74	50 70	53.8 14	70 210	5	16 40	18 5	4 32	7 M5
PKD 4490 DG/B14 + W	250	180	215	7	M12x20	217	643	108	250	172	358 400	402	154	69	97	60 80	64.4 18	80 240	5	24 50	27 8	5 40	8 M8
PKD 5490 DG/B14 + W	300	230	265	4	M12x20	262	728	141	290	172	429 479	487	185	69	117	70 100	74.9 20	100 300	5	24 50	27 8	5 40	8 M8



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions								Çıkış Şaftı Output Shaft				Giriş Şaftı Input Shaft			
	a1	b1	e1	f1	s1	h h2	k	m1 mG	o	p p2	q q1	z	ME	dH D	tH uH	IH mH	xH	d1 l1	t1 u1	v1 w1	x1 T1
PKD 6390/32 DG/B14 + W	350	250	300	5	M16x25	315 159	979	165 350	172	510 566	570 218	237	50.7	80 110	85.4 22	120 350	5	24 50	27.0 8	5 40	8 M8
PKD 6390/42 DG/B14 + W	350	250	300	5	M16x25	315 179	1062	165 350	213	510 566	570 218	279	50.7	80 110	85.4 22	120 350	5	38 80	41.0 10	5 70	8 M12
PKD 7390/32 DG/B14 + W	350	250	300	5	M16x25	315 159	979	165 350	172	511 564	570 218	237	55.7	80 120	85.4 22	120 350	5	24 50	27.0 8	5 40	8 M8
PKD 7390/42 DG/B14 + W	350	250	300	5	M16x25	315 179	1062	165 350	213	511 564	570 218	279	55.7	80 120	85.4 22	120 350	5	38 80	41.0 10	5 70	8 M12
PKD 7390/32 DG/B14 + W	350	250	300	5	M16x25	315 159	979	165 350	172	511 564	570 218	237	55.7	90 120	95.4 25	120 350	5	24 50	27.0 8	5 40	8 M8
PKD 7390/42 DG/B14 + W	350	250	300	5	M16x25	315 179	1062	165 350	213	511 564	570 218	279	55.7	90 120	95.4 25	120 350	5	38 80	41.0 10	5 70	8 M12
PKD 8390/42 DG/B14 + W	400	300	350	7	M16x25	375 179	1216	195 450	213	620 714	722 240	281	52	110 140	116.4 28	140 420	8	38 80	41.0 10	5 70	8 M12
PKD 8390/52 DG/B14 + W	400	300	350	7	M16x25	375 218	1255	195 450	213	620 714	722 240	320	52	110 140	116.4 28	140 420	8	38 80	41.0 10	5 70	8 M12
PKD G 8390/52 DG/B14 + W	450	350	400	7	M20x30	450 218	1281	235 486	213	722 832	748 265	320	89	120 160	127.4 32	160 500	8	38 80	41.0 10	5 70	8 M12

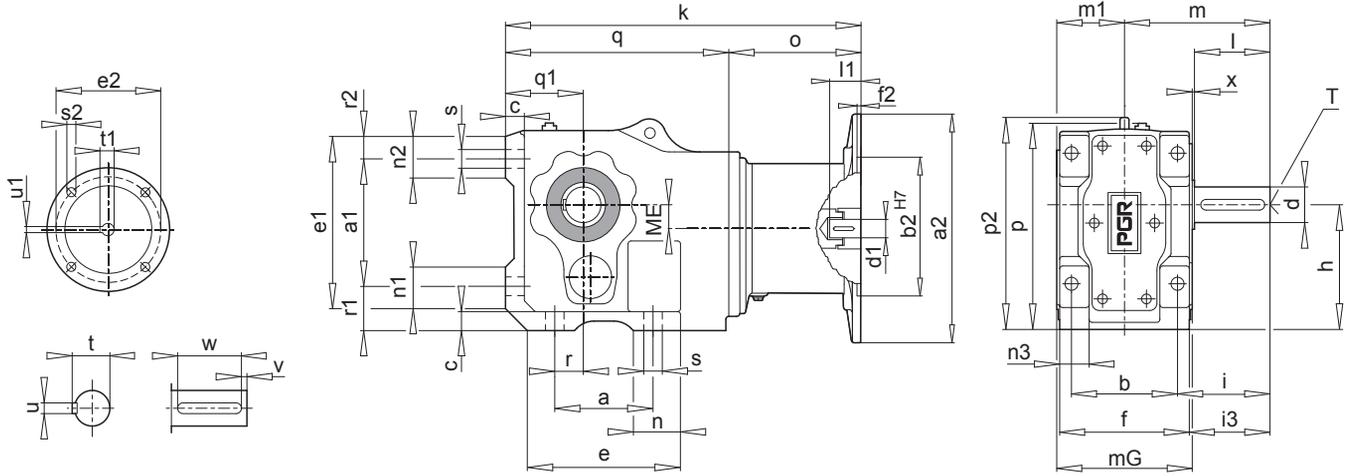
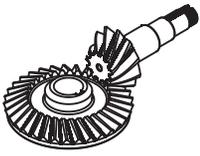


Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions								Çıkış Şaftı Output Shaft					Giriş Şaftı Input Shaft				
	a1	b1	e1	f1	s1	h h2	k	m1 mG	o	p p2	q q1	z	ME	Ds Hs	D D1	dH	IB IH	mH	xH xH2	d1 l1	t1 u1	v1 w1	x1 T1
PKD 9390/52 DG/KS-B14 + W	450	350	400	7	M20x30	500 218	1425	288 590	213	817 928	892 310	320	100	330 86	200 185	150	100 98	710	10 110	38 80	41.0 10	5 70	8 M12



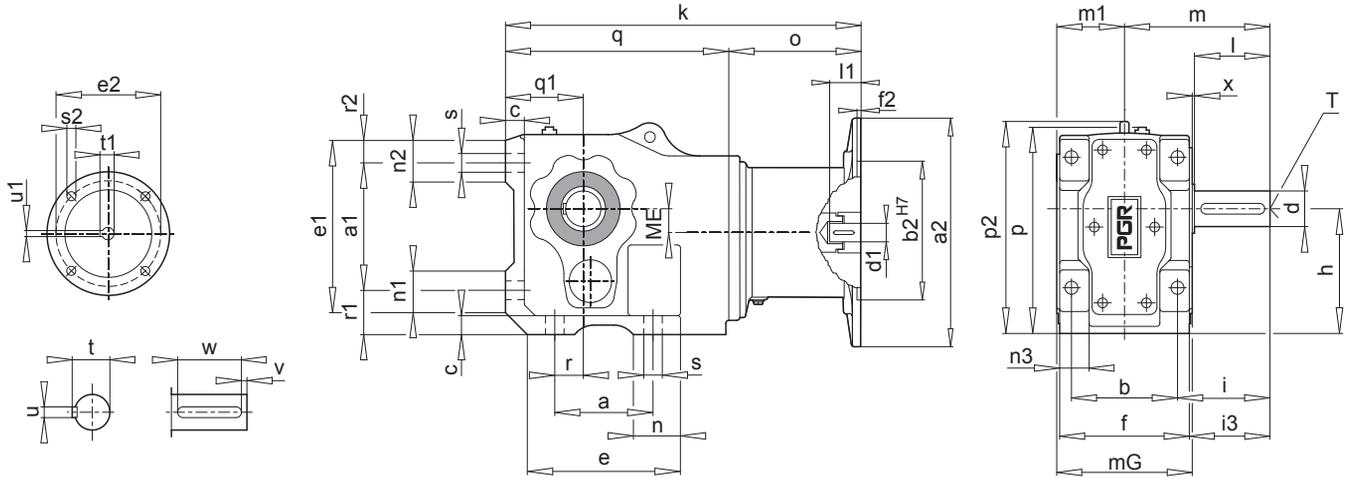
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions						
	a	b	c	e	f	n	n1	r	s	h	i	k	m	m1	o	p	q	ME	d	t	v	x		
	a1			e1		n	n2	r1	s		i3		mG		p2	q1		l	u	w	T			
PKD 1390 TMA + IEC	- IEC 63	130	120	17	173	140	46	41	35	11	112	75	324	135	71	85	195	239	10	30	33.0	5	4	
	- IEC 71	130			166			36	37		65	328	142	89	228	71			60	8	50	M10		
	- IEC 80							29	15			344		105										
	- IEC 90											344		105										
	- IEC 100											369		130										
- IEC 112											369		130											
PKD G 1390 TMA + IEC	- IEC 63	130	120	17	173	140	46	41	35	11	112	85	324	145	71	85	195	239	10	35	38.0	7	4	
	- IEC 71	130			166			36	37		75	328	142	89	228	71			70	10	56	M12		
	- IEC 80							29	15			344		105										
	- IEC 90											344		105										
	- IEC 100											369		130										
- IEC 112											369		130											
PKD 2390 TMA + IEC	- IEC 63	120	140	26	191	166	61	51	30	14	140	91	376	161	86	85	237	291	14	35	38.0	7	5	
	- IEC 71	130			189			59	50		78	380	172	89	271	100			70	10	56	M12		
	- IEC 80							39	30			396		105										
	- IEC 90											396		105										
	- IEC 100											421		130										
- IEC 112											421		130											
PKD 3390 TMA + IEC	- IEC 71	150	165	27	231	195	71	61	40	18	180	114	408	196	100	88	296	320	24	45	48.5	5	6	
	- IEC 80	190			244			61	65		98	427	202	107	330	112			90	14	80	M16		
	- IEC 90							46	20			427		107										
	- IEC 100											444		124										
	- IEC 112											444		124										
- IEC 132											476		156											

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
63	140	95	115	3.5	M8	11	23	12.8	4	A 4x4x18	DK - 14	BJ - 14
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38



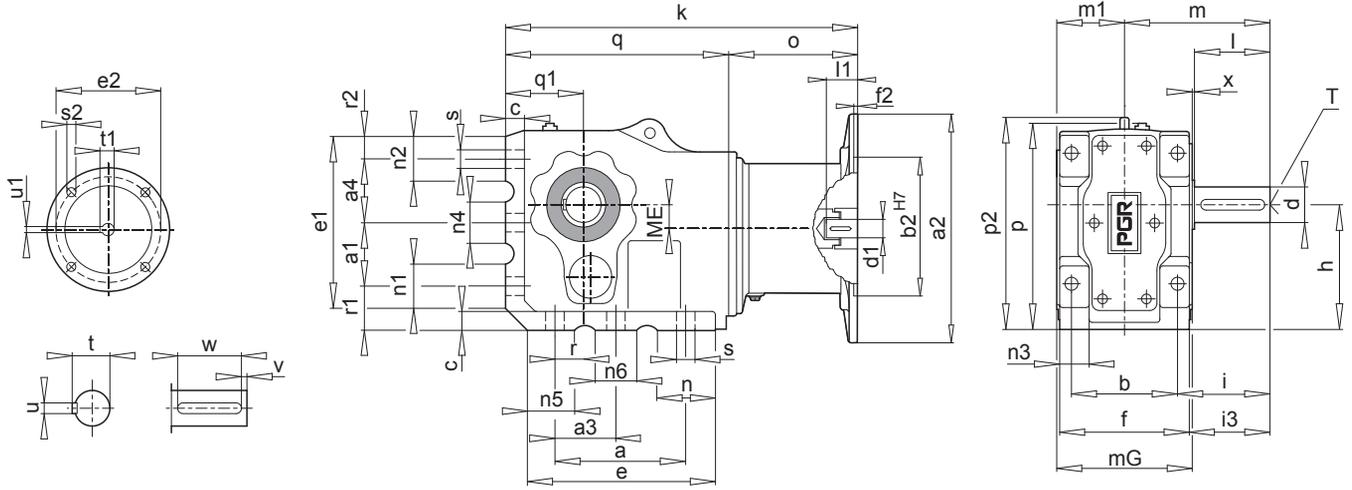
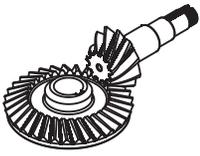
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions									Şaft Ölçüleri Shaft Dimensions			
	a	b	c	e	f	n	n1	r	s	h	i	k	m	m1	o	p	q	ME	d	t	v	x
	a1			e1		n	n2	r1	s		i3			mG		p2	q1		l	u	w	T
PKD 4390 - IEC 90 TMA + IEC - IEC 100 - IEC 112 - IEC 132 - IEC 160	180	180	35	261	220	81	71	55	22	212	150	489	240	115	109	348	380	36	60	64.0	10	5
	220			291			71	77		130	513		250	133	390	132		120	18	100	M20	
							51	30			513			133								
											570			190								
											574			194								
PKD 5390 - IEC 90 TMA + IEC - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	240	240	41	332	285	102	102	75	26	265	171	571	291	145	109	427	462	41	70	74.5	15	6
	280			362			92	85		148	595		293	133	477	160		140	20	110	M20	
							72	35			595			133								
											652			190								
											656			194								
											656			194								

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions					
	a	b	c	e	f	n	n1	r	s	h	i	k	m	m1	o	p	q1	d	t	v	x		
	a1			e1		n	n2	r1	s		i3			mG		p2	q	ME	l	u	w	T	
PKD 6390 TMA + IEC	- IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180 - IEC 200 - IEC 225	280 310	270	46	392 422	330	112	112 112 72	95 105 55	33	315	212 182	697 697 747 818 818 781 855	347 350	170	127 127 177 266 266 229 303	502 558	570 50.7	200	90 170	95 25	15 140	7 M24
PKD 7390 TMA + IEC	- IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180 - IEC 200 - IEC 225	280 360	270	46	402 447	330	112	122 127 72	95 95 30	33	315	212 182	697 697 747 818 818 781 855	347 350	170	127 127 177 266 266 229 303	511 564	570 55.7	200	90 170	95 25	15 140	7 M24
PKD 8390 TMA + IEC	- IEC 132 - IEC 160 - IEC 180 - IEC 200 - IEC 225 - IEC 250 - IEC 280 - IEC 315	350 400	330	49	502 522	395	152	122 122 90	115 110 60	39	375	253 221	904 993 993 956 1030 1010 1010 1116	418 450	200	177 266 266 229 303 303 303 381	615 709	727 52	225	110 210	116 28	15 180	8 M24
PKD G 8390 TMA + IEC	IEC 132 - IEC 160 - IEC 180 - IEC 200 - IEC 225 - IEC 250 - IEC 280 - IEC 315	380 480	420	54	522 622	500	152	152 142 102	115 120 65	39	450	247 207	930 1019 1019 982 1056 1036 1036 1142	457 500	238	177 266 266 229 303 303 303 381	712 822	753 89	250	120 210	127 32	15 180	9 M24

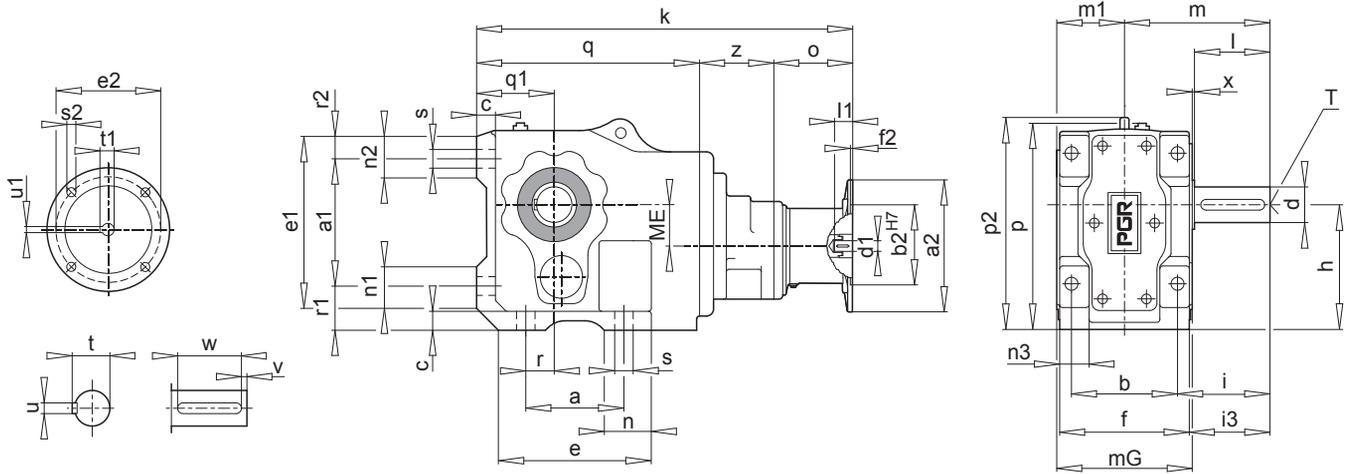
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65
250	550	450	500	6.0	M16	65	140	69.4	18	A 18x11x100	-	R - 75
280	550	450	500	6.0	M16	75	140	79.9	20	A 20x12x110	-	R - 90
315	660	550	600	7.0	M20	80	170	85.4	22	A 22x14x130	-	R - 90



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions							Şaft Ölçüleri Shaft Dimensions					
	a	a4	b	e	n	n3	r	s	n1	n2	h	i	k	m	m1	o	p	q	q1	d	t	v	x
	a1	a3	c	e1	f	n4	n5	n6	r1	r2		i3			mG		p2	ME		l	u	w	T
PKD 9390	540	270	480	672	570	132	97	140	200	33	500	315	1084	555	295	177	817	907	315	140	148	15	10
TMA + IEC	270	270	54	662		102	100		115		270	1173		590	266	266	928	100	250	36	220	M24	
- IEC 132						122	100		70			1173			266	229							
- IEC 160												1136			229	303							
- IEC 180												1210			303	303							
- IEC 200												1226			303	303		923					
- IEC 225												1226			303	303							
- IEC 250												1277			381	896							
- IEC 280																							
- IEC 315																							

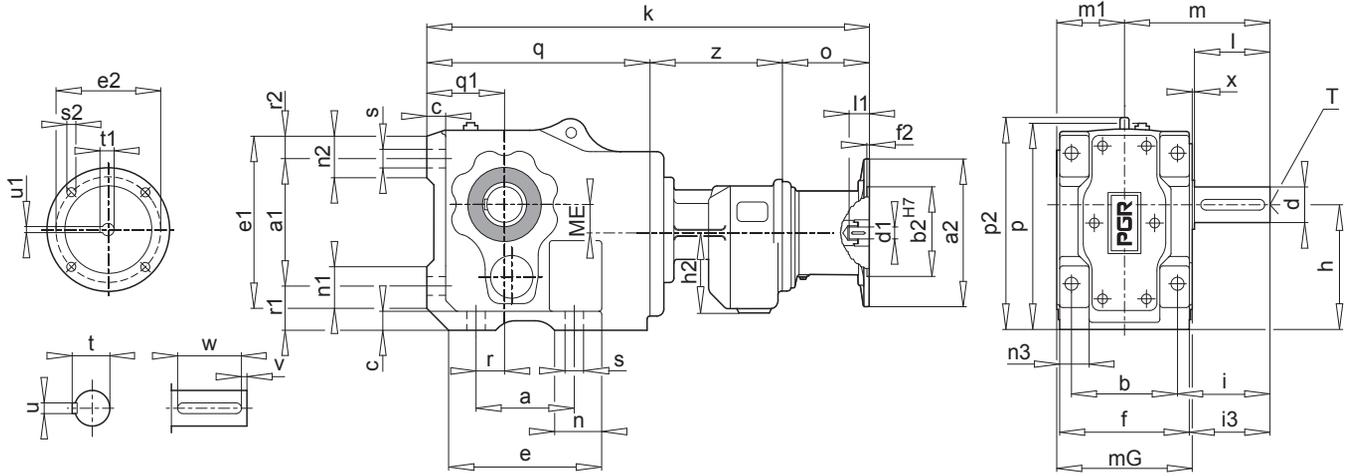
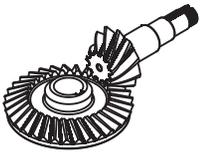
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65
250	550	450	500	6.0	M16	65	140	69.4	18	A 18x11x100	-	R - 75
280	550	450	500	6.0	M16	75	140	79.9	20	A 20x12x110	-	R - 90
315	660	550	600	7.0	M20	80	170	85.4	22	A 22x14x130	-	R - 90

DÖRT KADEME
QUADRUPLE REDUCTION



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions			
	a	b	c	e	f	n	n1	r	s		h	i	k	m	m1	o	p	q	z	ME	d	t	v	x
	a1			e1		n	n2	r1	s		i3			mG		p2	q1			l	u	w	T	
PKD 1490 - IEC 63 TMA + IEC - IEC 71	130	120	17	173	140	46	41	35	11	112	75	382	135	71	85	195	239	58	40	30	33.0	5	4	
	130			166			36	37			65	386		142	89	228	71			60	8	50	M10	
							29	15																
PKD G 1490 IEC 63 TMA + IEC - IEC 71	130	120	17	173	140	46	41	35	11	112	85	382	145	71	85	195	239	58	40	35	38.0	7	4	
	130			166			36	37			75	386		142	89	228	71			70	10	56	M12	
							29	15																
PKD 2490 - IEC 63 TMA + IEC - IEC 71	120	140	26	191	166	61	51	30	14	140	91	434	161	86	85	237	291	58	44	35	38.0	7	5	
	130			189			59	50			78	438		172	89	271	100			70	10	56	M12	
							39	30																
PKD 3490 - IEC 63 TMA + IEC - IEC 71 - IEC 80 - IEC 90	150	165	27	231	195	71	61	40	18	180	114	465	196	100	85	296	320	60	74	45	48.5	5	6	
	190			244			61	65			98	469		202	89	330	112			90	14	80	M16	
							46	20				485			105									
												485			105									
PKD 4490 - IEC 71 TMA + IEC - IEC 80 - IEC 90 - IEC 100 - IEC 112	180	180	35	261	220	81	71	55	22	212	150	537	240	115	88	348	380	69	97	60	64.0	10	5	
	220			291			71	77			130	556		250	107	390	132			120	18	100	M20	
							51	30				556			107									
												556			107									
												573			124									
												573			124									
PKD 5490 - IEC 71 TMA + IEC - IEC 80 - IEC 90 - IEC 100 - IEC 112	240	240	41	332	285	102	102	75	26	265	171	619	291	145	88	427	462	69	117	70	74.5	15	6	
	280			362			92	85			148	638		293	107	477	160			140	20	110	M20	
							72	35				638			107									
												638			107									
												655			124									
												655			124									

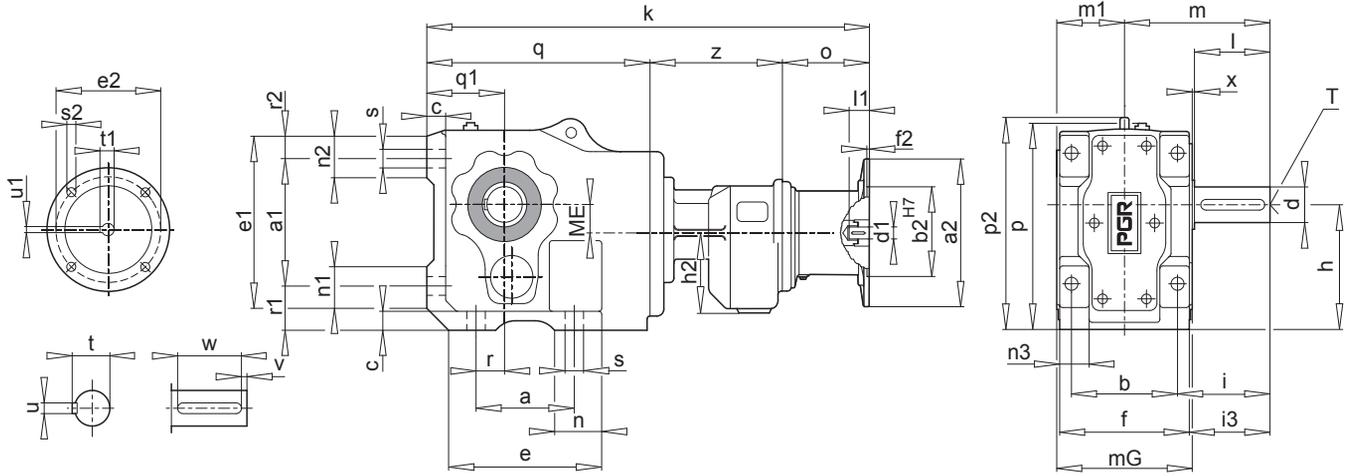
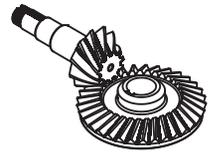
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1	Çiftel		KTR	
63	140	95	115	3.5	M8	11	23	12.8	4	A 4x4x18	DK - 14	BJ - 14	
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14	
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24	
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28	



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions			
	a	b	c	e	f	n	n1	r	s	h	i	k	m	m1	o	p	q	z	ME	d	t	v	x
	a1			e1	f	n	n2	r1	s	h2	i3			mG		p2	q1			l	u	w	T
PKD 6390/32 - IEC 71 - IEC 80 - IEC 90 TMA + IEC - IEC 100 - IEC 112 - IEC 132	280 310	270	46	392 422	330	112	112 112	95 105	33	315 159	212 182	877 896 913 913 945	347	170 350	88 107 124 124 156	502 558	552 200	237	50.7	90 170	95.0 25	15 140	7 M24
PKD 6390/42 - IEC 90 - IEC 100 - IEC 112 TMA + IEC - IEC 132 - IEC 160	280 310	270	46	392 422	330	112	112 112	95 105	33	315 179	212 182	940 964 964 1021 1025	347	170 350	109 133 133 190 194	502 558	552 200	279	50.7	90 170	95.0 25	15 140	7 M24
PKD 7390/32 - IEC 71 - IEC 80 - IEC 90 TMA + IEC - IEC 100 - IEC 112 - IEC 132	280 310	270	46	402 447	330	112	122 127	95 95	33	315 159	212 182	877 896 913 913 945	347	170 350	88 107 124 124 156	511 564	552 200	237	55.7	90 170	95.0 25	15 140	7 M24
PKD 7390/42 - IEC 90 - IEC 100 - IEC 112 TMA + IEC - IEC 132 - IEC 160	280 360	270	46	402 447	330	112	122 127	95 95	33	315 179	212 182	940 964 964 1021 1025	347	170 350	109 133 133 190 194	511 564	552 200	279	55.7	90 170	95.0 25	15 140	7 M24

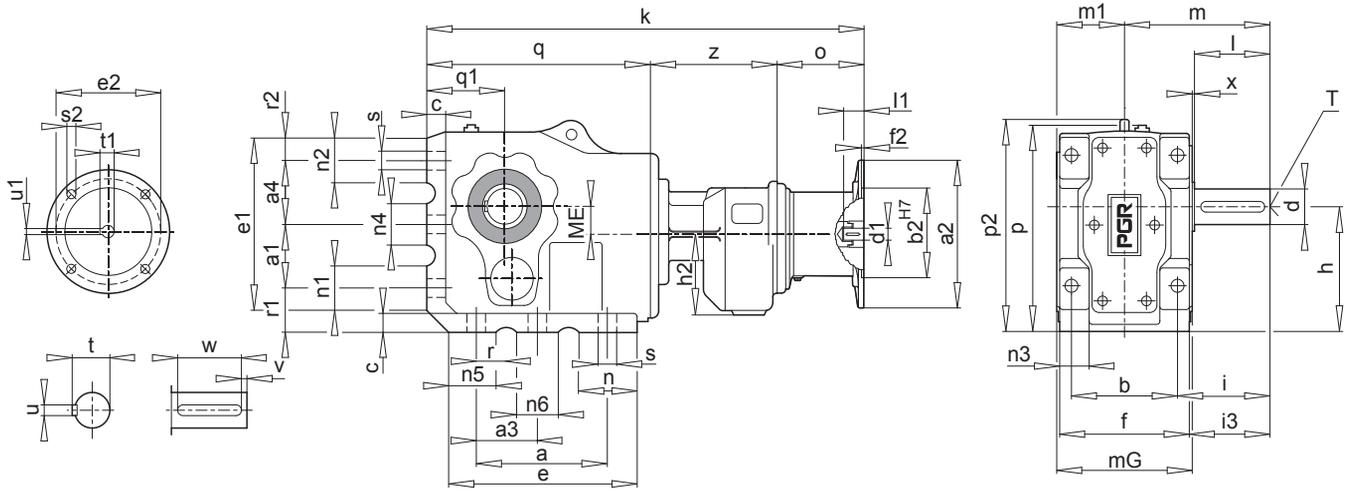
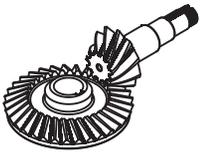
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42

BEŞ KADEME
QUINTUPLE REDUCTION



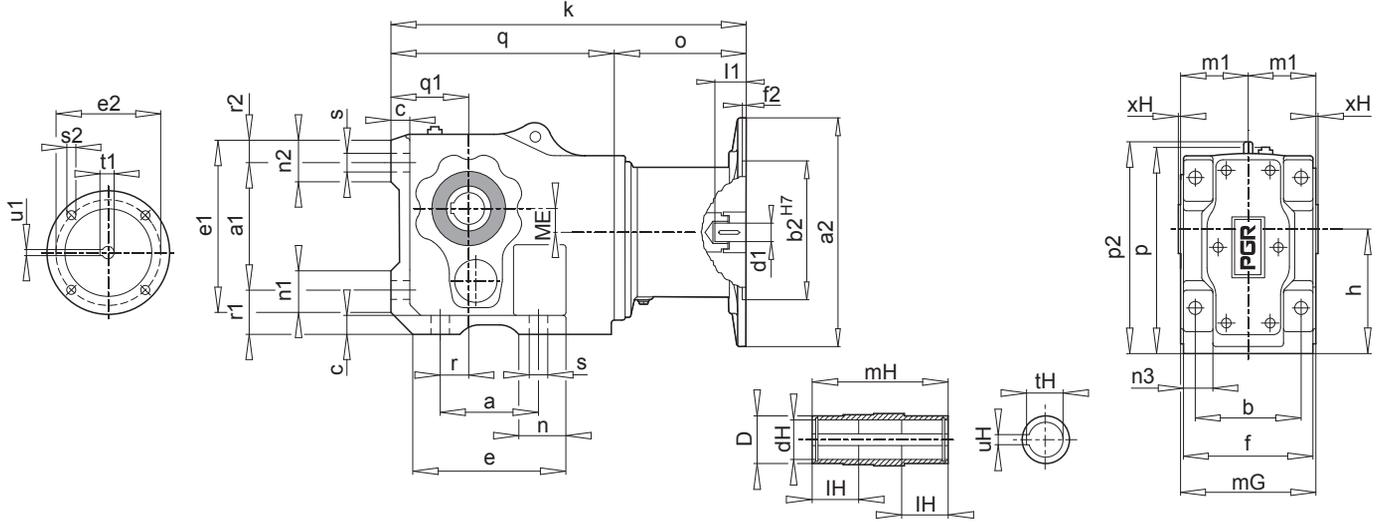
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions				
	a	b	c	e	f	n	n1	r	s		h	i	k	m	m1	o	p	q	z	ME	d	t	v
	a1			e1		n	n2	r1	s	h2	i3			mG		p2	q1			l	u	w	T
PKD 8390/42 - IEC 90 - IEC 100 - IEC 112 TMA + IEC - IEC 132 - IEC 160	350	330	49	502	395	152	122	115	39	375	253	1097	418	200	109	615	707	281	52	110	116	15	8
PKD 8390/52 - IEC 100 - IEC 112 - IEC 132 TMA + IEC - IEC 160 - IEC 180	350	330	49	502	395	152	122	115	39	375	253	1160	418	200	133	615	707	320	52	110	116	15	8
PKD G 8390/52 - IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	380	420	54	522	500	152	152	140	39	450	247	1162	457	238	109	712	733	320	89	120	127	15	9

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1				Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A	8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8	A	8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8	A	8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10	A	10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12	A	12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14	A	14x9x80	DK - 48	BM - 48	



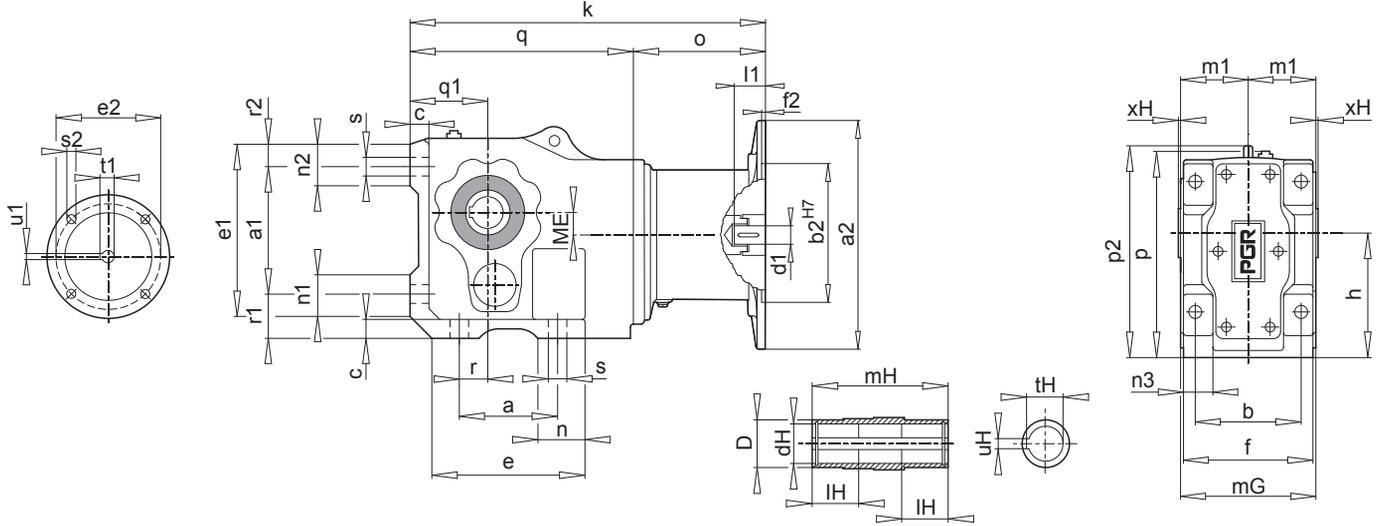
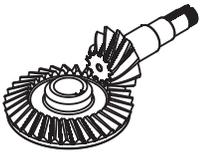
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions						
	a	a4	b	e	f	n	n3	n4	n6	r	s	h	i	k	m	m1	o	p	q	z	ME	d	t	v	x
	a1	a3	c	e1		n1	n2	n5	r1	r2	h2	i3			mG		p2	q1			l	u	w	T	
PKD	- IEC 90	540	270	480	672	570	132	97	140	200	33	500	315	1325	555	295	109	817	896	320	100	140	148	15	10
9390/52	- IEC 100	270	270	54	662		102	100		115	218	270	1349		590	133	928	315			250	36	220	M24	
TMA + IEC	- IEC 112						122	100		70			1349			133									
	- IEC 132												1406			190									
	- IEC 160												1410			194									
	- IEC 180												1410			194									

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1	Çiftel		KTR	
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48	



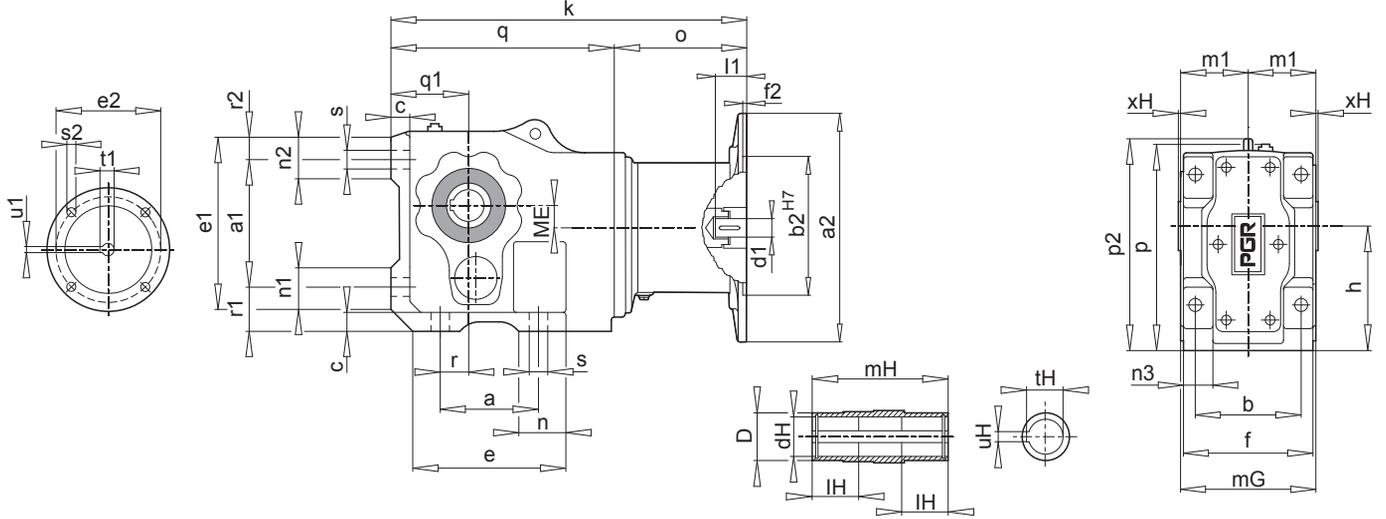
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions						Şaft Ölçüleri Shaft Dimensions						
	a	b	c	e	f	n	n1	r	s		h	k	m1	o	p	q	ME	dH	tH	IH	xH		
	a1			e1		n	n2	r1	s			mG		p2	q1		D	uH	mH				
PKD 1390 DA + IEC	- IEC 63	130	120	17	173	140	46	41	35	11	112	324	71	85	195	239	10	30	33.3	50	3		
	- IEC 71	130			166			36	37			328	142	89	228	71		45	8	148			
	- IEC 80								29	15		344		105									
	- IEC 90											344		105									
	- IEC 100											369		130									
	- IEC 112											369		130									
PKD G 1390 DA + IEC	- IEC 63	130	120	17	173	140	46	41	35	11	112	324	71	85	195	239	10	30	33.3	50	3		
	- IEC 71	130			166			36	37			328	142	89	228	71		45	8	148			
	- IEC 80								29	15		344		105									
	- IEC 90											344		105									
	- IEC 100											369		130									
	- IEC 112											369		130									
PKD 2390 DA + IEC	- IEC 63	120	140	26	191	166	61	51	30	14	140	376	86	85	237	291	14	35	38.3	60	4		
	- IEC 71	130			189			59	50			380	172	89	271	100		50	10	180			
	- IEC 80								39	30		396		105									
	- IEC 90											396		105									
	- IEC 100											421		130									
	- IEC 112											421		130									
PKD 3390 DA + IEC	- IEC 71	150	165	27	231	195	71	61	40	18	180	408	100	88	296	320	24	40	43.3	70	5		
	- IEC 80	190			244			61	65			427	202	107	330	112		55	12	210			
	- IEC 90							46	20			427		107									
	- IEC 100											444		124									
	- IEC 112											444		124									
	- IEC 132											476		156									

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		A		Çiftel	KTR
63	140	95	115	3.5	M8	11	23	12.8	4		A 4x4x18		DK - 14	BJ - 14
71	160	110	130	4.0	M8	14	30	16.3	5		A 5x5x25		DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6		A 6x6x35		DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8		A 8x7x40		DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50		DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50		DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10		A 10x8x60		DK - 38	BM - 38



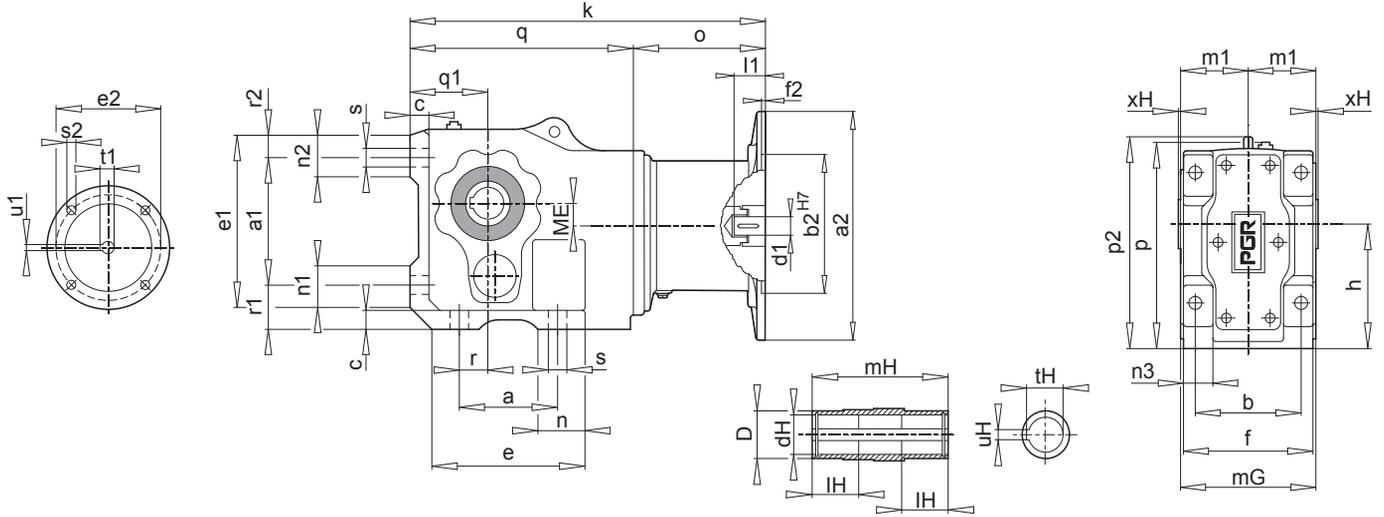
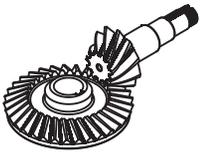
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions						Şaft Ölçüleri Shaft Dimensions					
	a	b	c	e	f	n	n1	r	s	h	k	m1	o	p	q	ME	dH	tH	IH	xH	
	a1			e1		n	n2	r1	s			mG		p2	q1		D	uH	mH		
PKD 4390 DA + IEC	- IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160	180 220	180	35	261 291	220	81	71 77 51	55 30	22	212	489 513 513 570 574	115 250	109 133 133 190 194	348 390	380 132	36	50 70	53.8 14	80 240	5
PKD 5390 DA + IEC	- IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	240 280	240	41	332 362	285	102	102 92 72	75 85 35	26	265	571 595 595 652 656 656	145 293	109 133 133 190 194 194	427 477	462 160	41	60 85	64.4 18	100 300	5

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions						Şaft Ölçüleri Shaft Dimensions					
	a	b	c	e	f	n	n1	r	s	h	k	m1	o	p	q	q1	dH	tH	IH	xH	
	a1			e1			n2	r1	s			mG		p2		ME	D	uH	mH		
PKD 6390 DA + IEC	- IEC 100	280	270	46	392	330	112	112	95	33	315	697	170	127	502	570	200	70	74.9	120	5
	- IEC 112	310			422			112	105			350	127	558		50.7	100	20	350		
	- IEC 132							72	55			747	177								
	- IEC 160											818	266		552						
	- IEC 180											818	266								
	- IEC 200											781	229								
- IEC 225											855	303									
PKD 7390 DA + IEC	- IEC 100	280	270	46	402	330	112	122	95	33	315	697	170	127	511	570	200	80	85.4	120	5
	- IEC 112	360			447			127	95			697	350	127	564		55.7	120	22	350	
	- IEC 132							72	30			747	177								
	- IEC 160											818	266		552						
	- IEC 180											818	266								
	- IEC 200											781	229								
- IEC 225											855	303									
PKD 7390 DA + IEC	- IEC 100	280	270	46	402	330	112	122	95	33	315	697	170	127	511	570	200	90	95.4	120	5
	- IEC 112	360			447			127	95			697	350	127	564		55.7	120	25	350	
	- IEC 132							72	30			747	177								
	- IEC 160											818	266		552						
	- IEC 180											818	266								
	- IEC 200											781	229								
- IEC 225											855	303									

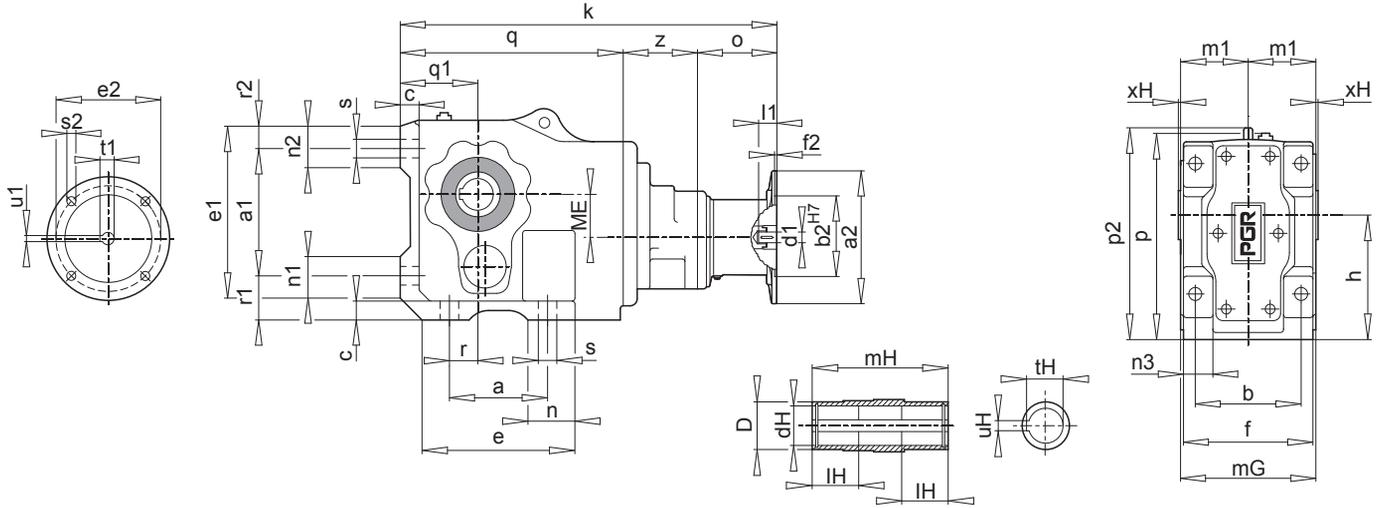
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions						Şaft Ölçüleri Shaft Dimensions					
	a	b	c	e	f	n	n1	r	s	h	k	m1	o	p	q	q1	dH	tH	IH	xH	
	a1			e1		n	n2	r1	s			mG		p2		ME	D	uH	mH		
PKD 8390 DA + IEC	- IEC 132	350	330	49	502	395	152	122	115	39	375	904	200	177	615	727	225	100	106.4	140	10
	- IEC 160	400			522			122	110			993	450	266	709	52		130	28	420	
	- IEC 180							90	60				993		266						
	- IEC 200												956		229						
	- IEC 225												1030		303						
	- IEC 250												1010		303	707					
	- IEC 280												1010		303						
	- IEC 315												1116		381		735				
PKD G 8390 DA + IEC	- IEC 132	380	420	54	522	500	152	152	115	39	450	930	238	177	712	753	250	110	116.4	140	12
	- IEC 160	480			622			142	120			1019	500	266	822	89		140	28	500	
	- IEC 180							102	65				1019		266						
	- IEC 200												982		229						
	- IEC 225												1056		303						
	- IEC 250												1036		303	733					
	- IEC 280												1036		303						
	- IEC 315												1142		381		761				

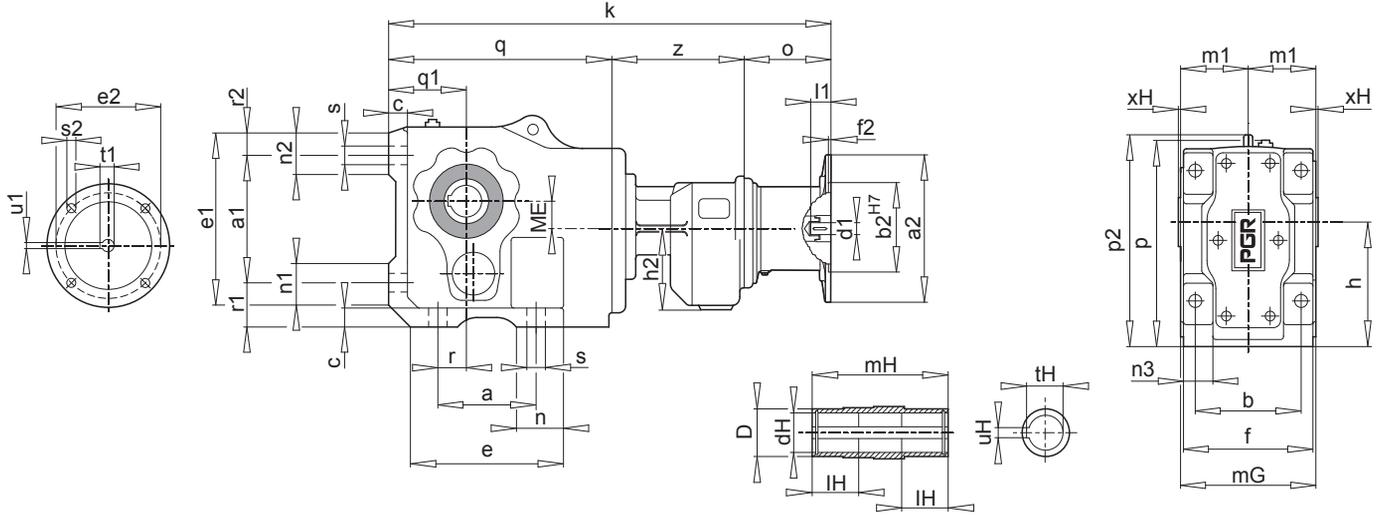
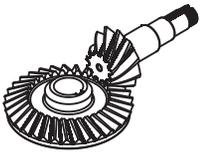
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65
250	550	450	500	6.0	M16	65	140	69.4	18	A 18x11x100	-	R - 75
280	550	450	500	6.0	M16	75	140	79.9	20	A 20x12x110	-	R - 90
315	660	550	600	7.0	M20	80	170	85.4	22	A 22x14x130	-	R - 90

DÖRT KADEME
QUADRUPLE REDUCTION



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions							Şaft Ölçüleri Shaft Dimensions			
	a	b	c	e	f	n	n1	r	s		h	k	m1	o	p	q	z	ME	dH	tH	IH
	a1			e1		n	n2	r1	s			mG		p2	q1			D	uH	mH	
PKD 1490 - IEC 63 DA + IEC - IEC 71	130	120	17	173	140	46	41	35	11	112	382	71	85	195	239	58	40	30	33.3	50	3
	130			166			36	37			386	142	89	228	71			45	8	148	
							29	15													
PKD G 1490 IEC 63 DA + IEC - IEC 71	130	120	17	173	140	46	41	35	11	112	382	71	85	195	239	58	40	30	33.3	50	3
	130			166			36	37			386	142	89	228	71			45	8	148	
							29	15													
PKD 2490 - IEC 63 DA + IEC - IEC 71	120	140	26	191	166	61	51	30	14	140	434	86	85	237	291	58	44	35	38.3	60	4
	130			189			59	50			438	172	89	271	100			50	10	180	
							39	30													
PKD 3490 - IEC 63 DA + IEC - IEC 71 - IEC 80 - IEC 90	150	165	27	231	195	71	61	40	18	180	465	100	85	296	320	60	74	40	43.3	70	5
	190			244			61	65			469	202	89	330	112			55	12	210	
							46	20			485		105								
											485		105								
PKD 4490 - IEC 71 DA + IEC - IEC 80 - IEC 90 - IEC 100 - IEC 112	180	180	35	261	220	81	71	55	22	212	537	115	88	348	380	69	97	50	53.8	80	5
	220			291			71	77			556	250	107	390	132			70	14	240	
							51	30			556		107								
											573		124								
											573		124								
PKD 5490 - IEC 71 DA + IEC - IEC 80 - IEC 90 - IEC 100 - IEC 112	240	240	41	332	285	102	102	75	26	265	619	145	88	427	462	69	117	60	64.4	100	5
	280			362			92	85			638	293	107	477	160			85	18	300	
							72	35			638		107								
											655		124								
											655		124								

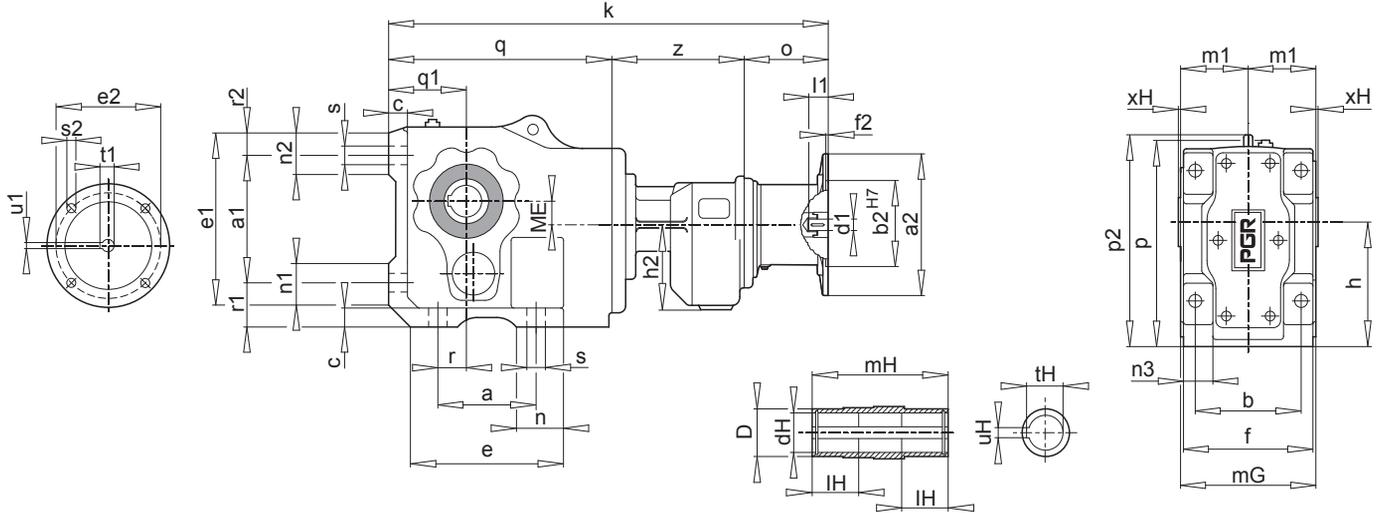
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1				Çiftel	KTR
63	140	95	115	3.5	M8	11	23	12.8	4			A 4x4x18	DK - 14	BJ - 14
71	160	110	130	4.0	M8	14	30	16.3	5			A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6			A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8			A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8			A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8			A 8x7x50	DK - 28	BJ - 28



Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)										Ana ölçüler Outline dimensions							Şaft Ölçüleri Shaft Dimensions			
	a	b	c	e	f	n	n1	r	s	ME	h	k	m1	o	p	q	z	ME	dH	tH	IH
	a1			e1		n2	r1	s		h2		mG		p2	q1			D	uH	mH	
PKD 6390/32 - IEC 71 - IEC 80 - IEC 90 - IEC 100 - IEC 112 - IEC 132	280 310	270	46	392 422	330	112	112 112	95 105	33	315 159	877 896	170 350	88 107	502 558	552 200	237	50.7	70 100	74.9 20	120 350	5
PKD 6390/42 - IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160	280 310	270	46	392 422	330	112	112 112	95 105	33	315 179	940 964	170 350	109 133	502 558	552 200	279	50.7	70 100	74.9 20	120 350	5
PKD 7390/32 - IEC 71 - IEC 80 - IEC 90 - IEC 100 - IEC 112 - IEC 132	280 310	270	46	402 447	330	112	122 127	95 95	33	315 159	877 896	170 350	88 107	511 564	552 200	237	55.7	80 120	85.4 22	120 350	5
PKD 7390/42 - IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160	280 360	270	46	402 447	330	112	122 127	95 95	33	315 179	940 964	170 350	109 133	511 564	552 200	279	55.7	80 120	85.4 22	120 350	5
PKD 7390/32 - IEC 71 - IEC 80 - IEC 90 - IEC 100 - IEC 112 - IEC 132	280 310	270	46	402 447	330	112	122 127	95 95	33	315 159	877 896	170 350	88 107	511 564	552 200	237	55.7	90 120	95.4 25	120 350	5
PKD 7390/42 - IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160	280 360	270	46	402 447	330	112	122 127	95 95	33	315 179	940 964	170 350	109 133	511 564	552 200	279	55.7	90 120	95.4 25	120 350	5

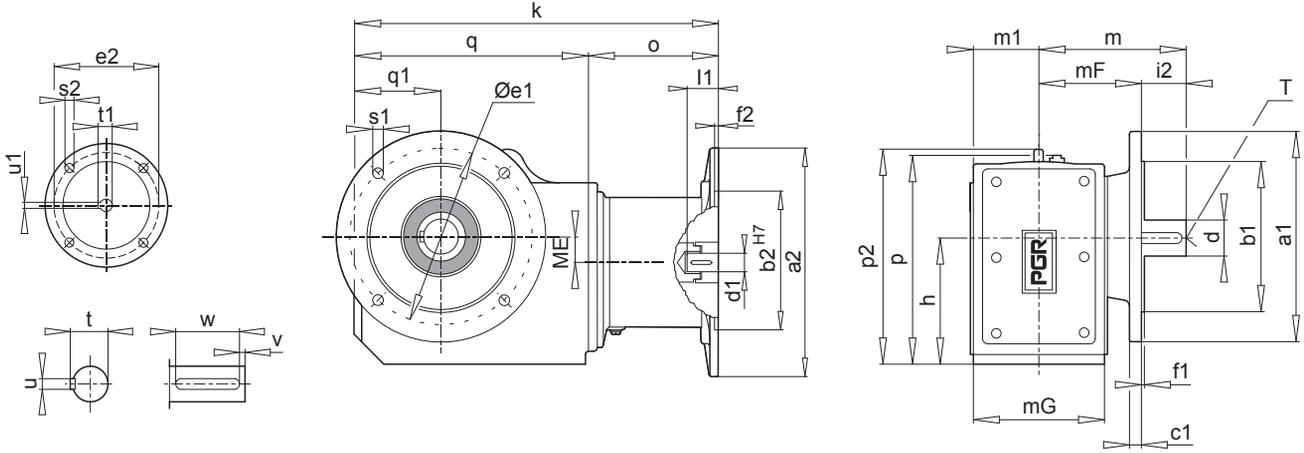
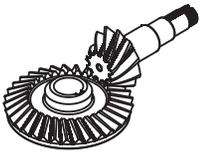
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
71	160	110	130	4.0	M8	14	30	16.3	5		A 5x5x25	DK - 14	BJ - 14	
80	200	130	165	4.0	M10	19	40	21.8	6		A 6x6x35	DK - 24	BJ - 24	
90	200	130	165	4.0	M10	24	50	27.3	8		A 8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10		A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12		A 12x8x75	DK - 42	BM - 42	

BEŞ KADEME
QUINTUPLE REDUCTION



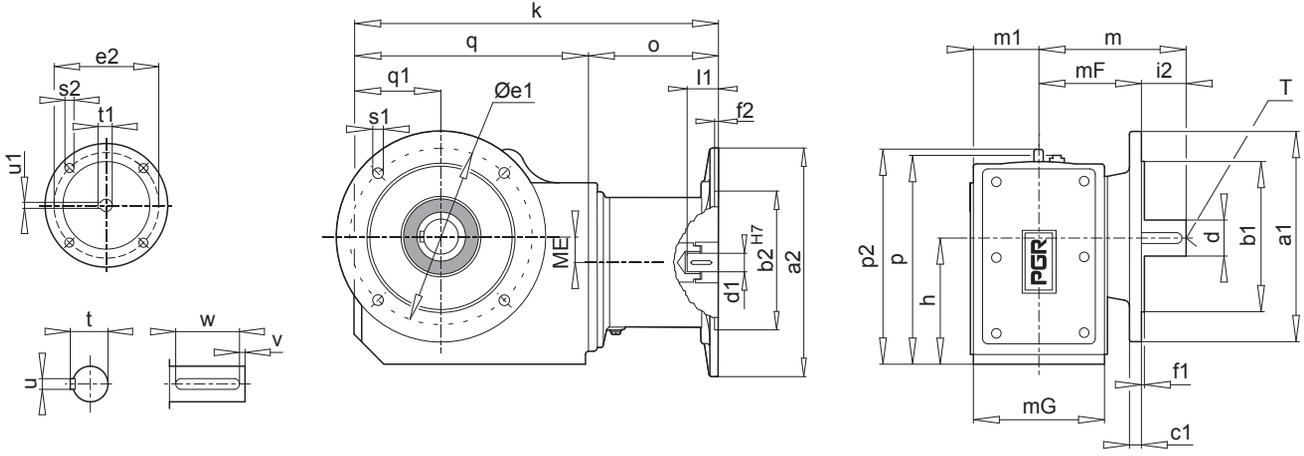
Tip Type	Montaj ölçüleri (Ayak) Mounting dimensions (Foot)									Ana ölçüler Outline dimensions							Şaft Ölçüleri Shaft Dimensions				
	a	b	c	e	f	n	n1	r	s	h	k	m1	o	p	q	z	ME	dH	tH	IH	xH
	a1			e1		n	n2	r1	s	h2		mG		p2	q1			D	uH	mH	
PKD 8390/42 - IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160	350	330	49	502	395	152	122	115	39	375	1097	200	109	615	707	281	52	100	106.4	140	10
DA + IEC	400			522			122	110		179	1121	450	133	709	225			130	28	420	
PKD 8390/52 - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	350	330	49	502	395	152	122	115	39	375	1160	200	133	615	707	320	52	100	106.4	140	10
DA + IEC	400			522			122	110		218	1160	450	133	709	225			130	28	420	
PKD G 8390/52 - IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	380	420	54	522	500	152	152	140	39	450	1162	238	109	712	733	320	89	110	116.4	140	12
DA + IEC	480			622			142	120		218	1186	500	133	822	250			140	28	500	
							102	65			1186		133								
											1243		190								
											1247		194								
											1247		194								

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48



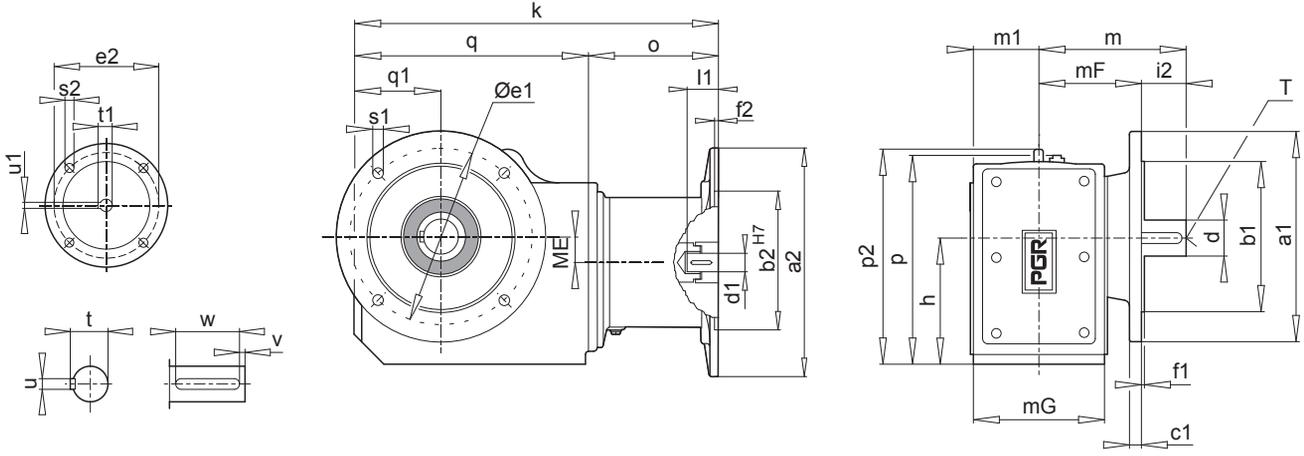
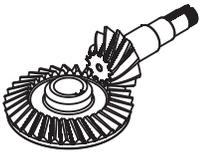
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions				
	a1	b1	c1	e1	f1	s1	h	i2	k	m	m1 mF mG	o	p p2	q	q1	ME	d l	t u	v w	T	
PKD 1390 TMG/B5 + IEC	- IEC 63	200	130	12	165	3.5	4x11	112	21	335	134	68	85	198	250	82	10	30	33.0	5	M10
	- IEC 71									339		113	89	232				60	8	50	
	- IEC 80									355		144	105								
	- IEC 90									355			105								
	- IEC 100									380			130								
- IEC 112									380			130									
PKD G 1390 TMG/B5 + IEC	- IEC 63	200	130	12	165	3.5	4x11	112	31	335	144	68	85	198	250	82	10	35	38.0	7	M12
	- IEC 71									339		113	89	232				70	10	56	
	- IEC 80									355		144	105								
	- IEC 90									355			105								
	- IEC 100									380			130								
- IEC 112									380			130									
PKD 2390 TMG/B5 + IEC	- IEC 63	250	180	16	215	4	4x14	143	26	378	160	82	85	244	293	102	14	35	38.0	7	M12
	- IEC 71									382		134	89	278				70	10	56	
	- IEC 80									398		164	105								
	- IEC 90									398			105								
	- IEC 100									423			130								
- IEC 112									423			130									
PKD 3390 TMG/B5 + IEC	- IEC 71	250	180	16	215	4	4x14	180	46	422	196	97	88	301	334	126	24	45	48.5	5	M16
	- IEC 80	300	230	20	265	4	4x14			441		150	107	335				90	14	80	
	- IEC 90									441		200	107								
	- IEC 100									458			124								
	- IEC 112									458			124								
- IEC 132									490			156									
PKD 4390 TMG/B5 + IEC	- IEC 90	350	250	20	300	5	4x18	217	75	511	240	108	109	358	402	154	36	60	64.0	10	M20
	- IEC 100									535		165	133	400				120	18	100	
	- IEC 112									535		250	133								
	- IEC 132									592			190								
	- IEC 160									596			194								
PKD 5390 TMG/B5 + IEC	- IEC 90	400	300	20	350	5	4x18	262	90	596	291	141	109	429	487	185	41	70	74.5	15	M20
	- IEC 100	450	350	22	400	5	8x18			620		201	133	479				140	20	110	
	- IEC 112									620		290	133								
	- IEC 132									677			190								
	- IEC 160									681			194								
- IEC 180									681			194									

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
63	140	95	115	3.5	M8	11	23	12.8	4			DK - 14	BJ - 14	
71	160	110	130	4.0	M8	14	30	16.3	5			DK - 14	BJ - 14	
80	200	130	165	4.0	M10	19	40	21.8	6			DK - 24	BJ - 24	
90	200	130	165	4.0	M10	24	50	27.3	8			DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8			DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8			DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10			DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12			-	R - 48	
180	350	250	300	6.0	M16	48	110	51.8	14			-	R - 48	



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions				
	a1	b1	c1	e1	f1	s1	h	i2	k	m	m1 mF mG	o	p p2	q	q1	ME	d l	t u	v w	T	
PKD 6390 TMG/B5 + IEC	- IEC 100	450	350	22	400	5	8x18	315	118	715	345	165	127	510	588	218	50.7	90	95.0	15	M24
	- IEC 112	550	450	28	500	5	8x18			715		227	127	566				170	25	140	
	- IEC 132									765		350	177								
	- IEC 160									836			266		570						
	- IEC 180									836			266								
	- IEC 200									799			229								
- IEC 225									873			303									
PKD 7390 TMG/B5 + IEC	- IEC 100	450	350	22	400	5	8x18	315	120	715	347	165	127	511	588	218	55.7	90	95.0	15	M24
	- IEC 112	550	450	28	500	5	8x18			715		227	127	564				170	25	140	
	- IEC 132									765		350	177								
	- IEC 160									836			266		570						
	- IEC 180									836			266								
	- IEC 200									799			229								
- IEC 225									873			303									
PKD 8390 TMG/B5 + IEC	- IEC 132	550	450	28	500	5	8x18	375	163	919	420	195	177	620	742	240	52	110	116	15	M24
	- IEC 160									1008		257	266	714				210	28	180	
	- IEC 180									1008		450	266								
	- IEC 200									971			229								
	- IEC 225									1045			303								
	- IEC 250									1025			303		722						
- IEC 280									1025			303									
- IEC 315									1131			381		750							
PKD G 8390 TMG/B5 + IEC	- IEC 132	660	550	32	600	6	8x22	450	145	945	460	235	177	722	768	265	89	120	127	15	M24
	- IEC 160									1034		315	266	832				210	32	180	
	- IEC 180									1034		486	266								
	- IEC 200									997			229								
	- IEC 225									1071			303								
	- IEC 250									1051			303		748						
- IEC 280									1051			303									
- IEC 315									1157			381		776							

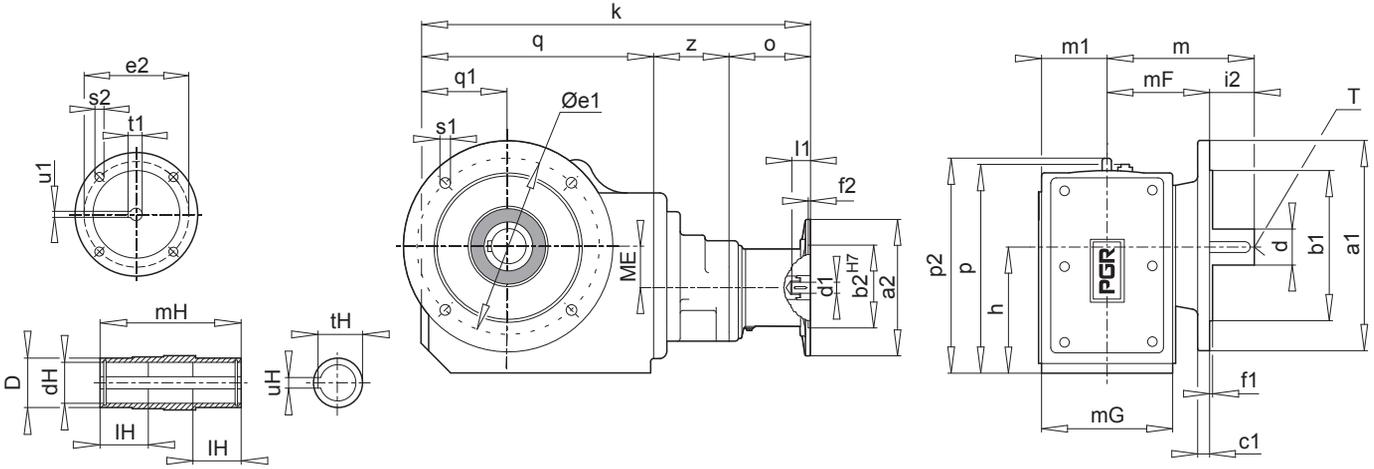
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65
250	550	450	500	6.0	M16	65	140	69.4	18	A 18x11x100	-	R - 75
280	550	450	500	6.0	M16	75	140	79.9	20	A 20x12x110	-	R - 90
315	660	550	600	7.0	M20	80	170	85.4	22	A 22x14x130	-	R - 90



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)	Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions									
		a1	b1	c1	e1	f1	s1	h	i2	k	m	m1 mF mG	o	p p2	q	q1	ME	d l	t u	v w	T
PKD 9390 TMG/B5 + IEC	- IEC 132	660	550	32	600	6	8x22	500	187	1080	555	288	177	817	903	310	100	140	148	15	M24
	- IEC 160											368	266	928				250	36	220	
	- IEC 180											590	266								
	- IEC 200												229								
	- IEC 225												303								
	- IEC 250												303		919						
	- IEC 280												303								
	- IEC 315												381		892						

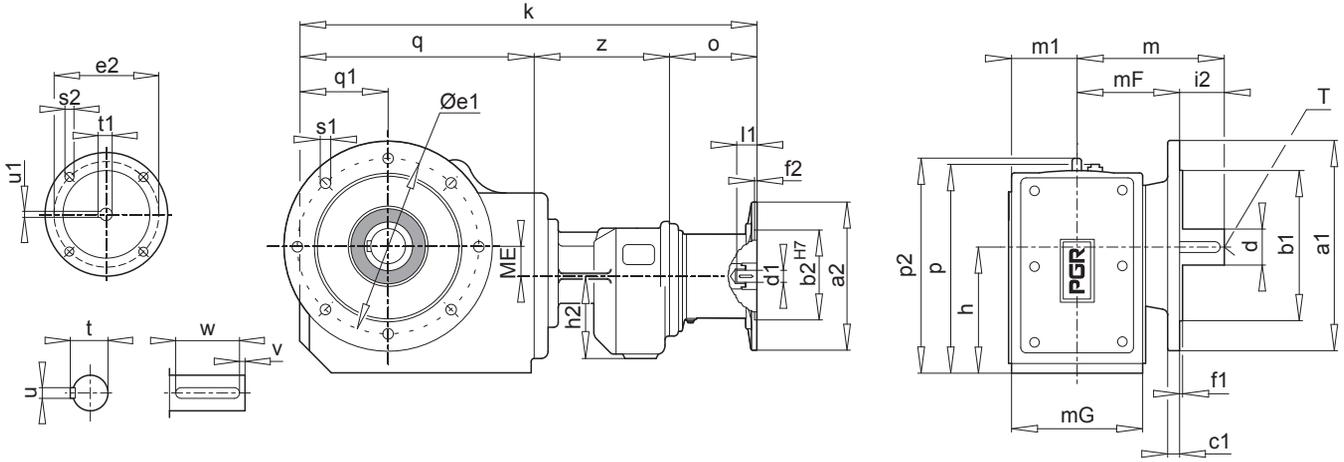
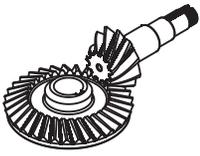
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
132	300	230	265	5.0	M12	38	80	41.3	10		A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12		A 12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14		A 14x9x80	DK - 48	BM - 48	
200	400	300	350	6.0	M16	55	110	59.3	16		A 16x10x95	-	R - 65	
225	450	350	400	6.0	M16	60	140	64.4	18		A 18x11x100	-	R - 65	
250	550	450	500	6.0	M16	65	140	69.4	18		A 18x11x100	-	R - 75	
280	550	450	500	6.0	M16	75	140	79.9	20		A 20x12x110	-	R - 90	
315	660	550	600	7.0	M20	80	170	85.4	22		A 22x14x130	-	R - 90	

DÖRT KADEME
QUADRUPLE REDUCTION



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions											Şaft Ölçüleri Shaft Dimensions			
	a1	b1	c1	e1	f1	s1	h	i2	k	m	m1 mF mG	o	p p2	q	q1	z	ME	d l	t u	v w	T
PKD 1490 - IEC 63 TMG/B5 - IEC 71 + IEC	200	130	12	165	3.5	4x11	112	21	393	134	68 113 144	85 89	198 232	250	82	58	40	30 60	33.0 8	5 50	M10
PKD G 1490 - IEC 63 TMG/B5 - IEC 71 + IEC	200	130	12	165	3.5	4x11	112	31	393	144	68 113 144	85 89	198 232	250	82	58	40	35 70	38.0 10	7 56	M12
PKD 2490 - IEC 63 TMG/B5 - IEC 71 + IEC	250	180	16	215	4	4x14	143	26	436	160	82 134 164	85 89	244 278	293	102	58	44	35 70	38.0 10	7 56	M12
PKD 3490 - IEC 63 TMG/B5 - IEC 71 + IEC	250	180	16	215	4	4x14	180	46	479	196	97 150 200 499	85 89 105	301 335	334	126	60	74	45 90	48.5 14	5 80	M16
PKD 4490 - IEC 71 TMG/B5 - IEC 80 + IEC	350	250	20	300	5	4x18	217	75	559	240	108 165 250 595	88 107 107 124	358 400	402	154	69	97	60 120	64.0 18	10 100	M20
PKD 5490 - IEC 71 TMG/B5 - IEC 80 + IEC	400	300	20	350	5	4x18	262	90	644	291	141 201 290 663 680	88 107 107 124	429 479	487	185	69	117	70 140	74.5 20	15 110	M20

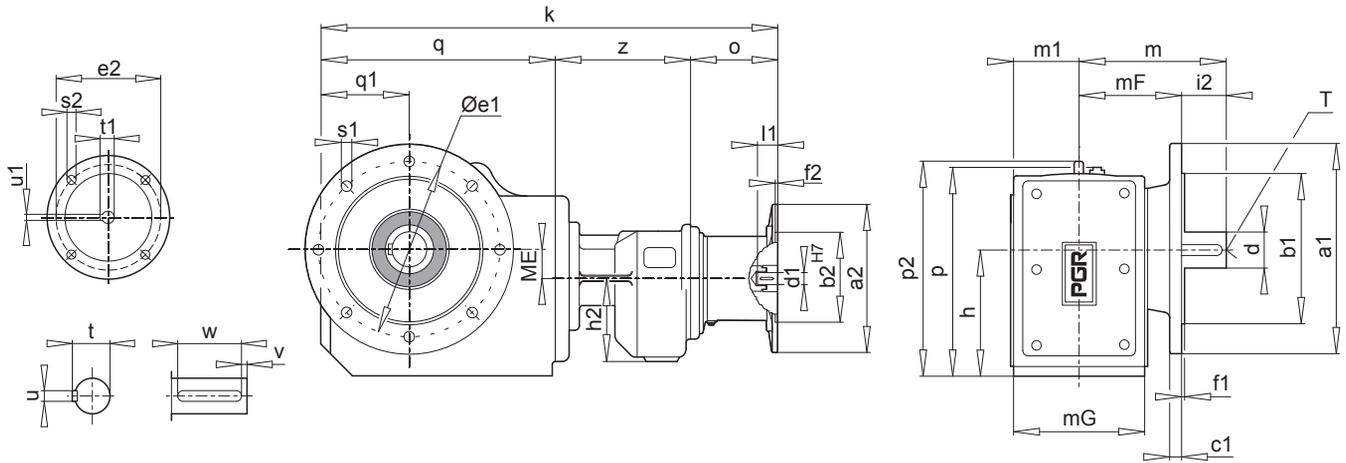
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
63	140	95	115	3.5	M8	11	23	12.8	4	A 4x4x18	DK - 14	BJ - 14
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)	Ana ölçüler Outline dimensions													Şaft Ölçüleri Shaft Dimensions								
		a1	b1	c1	e1	f1	s1	h h2	i2	k	m	m1 mF mG	o	p p2	q	q1	z	ME	d l	t u	v w	T	
PKD 6390/32 TMG/B5 + IEC	- IEC 71	450	350	22	400	5	8x18	315	118	895	345	165	88	510	570	218	237	50.7	90	95.0	15	M24	
	- IEC 80	550	450	28	500	5	8x18	159		914		227	107	566					170	25	140		
	- IEC 90									914		350	107										
	- IEC 100									931			124										
	- IEC 112									931			124										
- IEC 132									963			156											
PKD 6390/42 TMG/B5 + IEC	- IEC 90	450	350	22	400	5	8x18	315	118	958	345	165	109	510	570	218	279	50.7	90	95.0	15	M24	
	- IEC 100	550	450	28	500	5	8x18	179		982		227	133	566					170	25	140		
	- IEC 112									982		350	133										
	- IEC 132									1039			190										
	- IEC 160									1043			194										
PKD 7390/32 TMG/B5 + IEC	- IEC 71	450	350	22	400	5	8x18	315	120	895	347	165	88	511	570	218	237	55.7	90	95.0	15	M24	
	- IEC 80	550	450	28	500	5	8x18	159		914		227	107	564					170	25	140		
	- IEC 90									914		350	107										
	- IEC 100									931			124										
	- IEC 112									931			124										
- IEC 132									963			156											
PKD 7390/42 TMG/B5 + IEC	- IEC 90	450	350	22	400	5	8x18	315	120	958	347	165	109	511	570	218	279	55.7	90	95.0	15	M24	
	- IEC 100	550	450	28	500	5	8x18	179		982		227	133	564					170	25	140		
	- IEC 112									982		350	133										
	- IEC 132									1039			190										
	- IEC 160									1043			194										

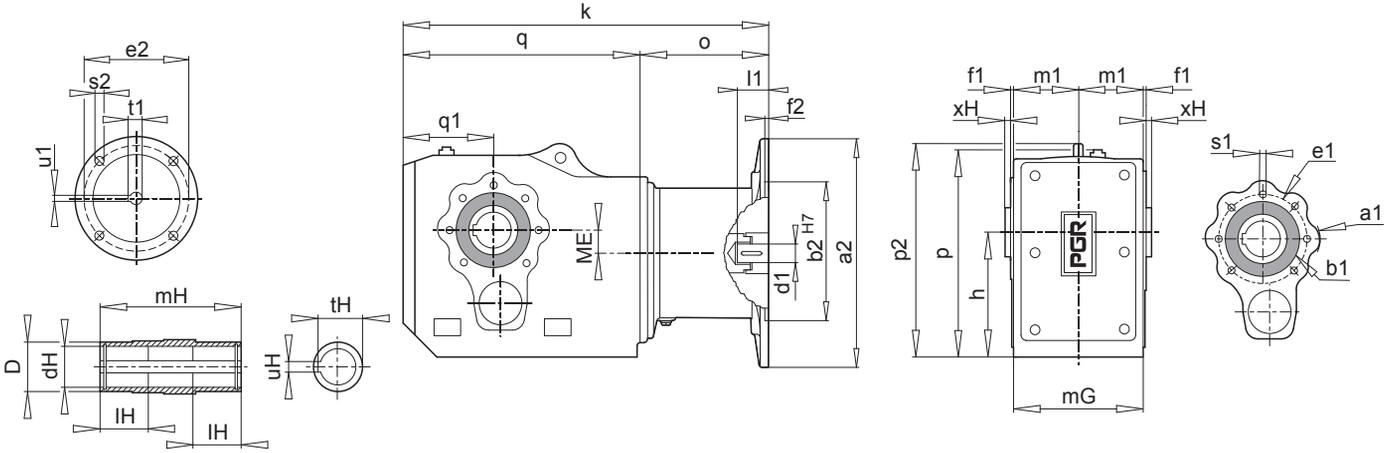
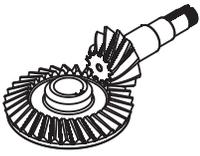
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
71	160	110	130	4.0	M8	14	30	16.3	5			DK - 14	BJ - 14	
80	200	130	165	4.0	M10	19	40	21.8	6			DK - 24	BJ - 24	
90	200	130	165	4.0	M10	24	50	27.3	8			DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8			DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8			DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10			DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12			DK - 42	BM - 42	

BEŞ KADEME
QUINTUPLE REDUCTION



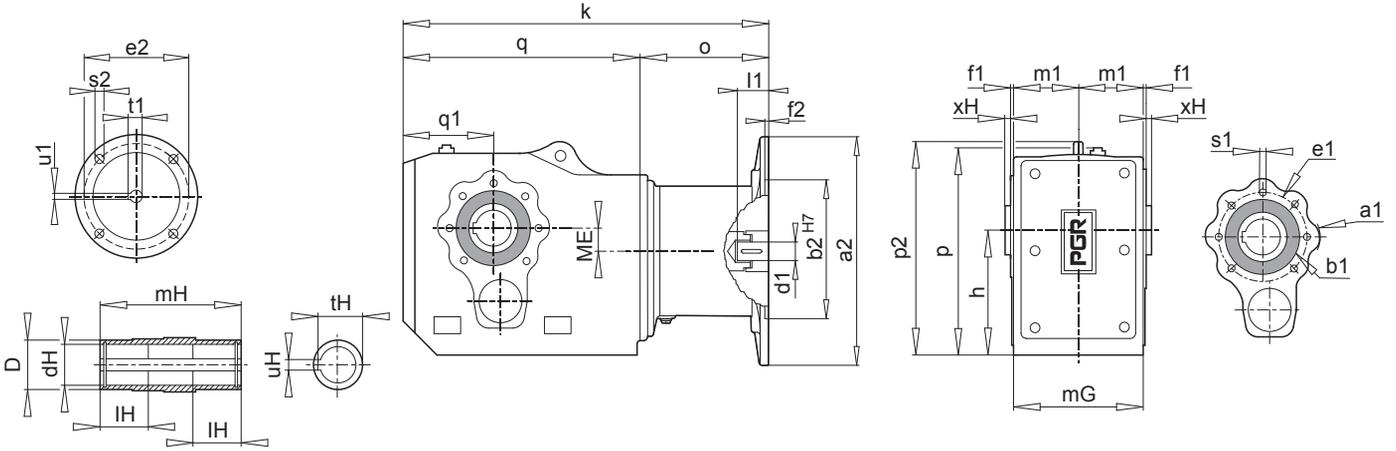
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)	Ana ölçüler Outline dimensions															Şaft Ölçüleri Shaft Dimensions						
		a1	b1	c1	e1	f1	s1	h h2	i2	k	m	m1 mF mG	o	p p2	q	q1	z	ME	d l	t u	v w	T	
PKD 8390/42 TMG/B5 + IEC	- IEC 90	550	450	28	500	5	8x18	375	163	1112	420	195	109	620	722	240	281	52	110	116	15	M24	
	- IEC 100							179		1136		257	133	714					210	28	180		
	- IEC 112									1136		450	133										
	- IEC 132									1193			190										
	- IEC 160									1197			194										
PKD 8390/52 TMG/B5 + IEC	- IEC 100	550	450	28	500	5	8x18	375	163	1195	420	195	133	620	722	240	320	52	110	116	15	M24	
	- IEC 112							218		1195		257	133	714					210	28	180		
	- IEC 132									1252		450	190										
	- IEC 160									1256			194										
	- IEC 180									1256			194										
PKD G8390/52 TMG/B5 + IEC	- IEC 90	660	550	32	600	6	8x22	450	145	1177	460	235	109	722	748	265	320	89	120	127	15	M24	
	- IEC 100							218		1201		315	133	832					210	32	180		
	- IEC 112									1201		486	133										
	- IEC 132									1258			190										
	- IEC 160									1262			194										
	- IEC 180									1262			194										
PKD 9390/52 TMG/B5 + IEC	- IEC 90	660	550	32	600	6	8x22	500	187	1321	555	288	109	817	892	310	320	100	140	148	15	M24	
	- IEC 100							218		1345		368	133	928					250	36	220		
	- IEC 112									1345		590	133										
	- IEC 132									1402			190										
	- IEC 160									1406			194										
	- IEC 180									1406			194										

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48



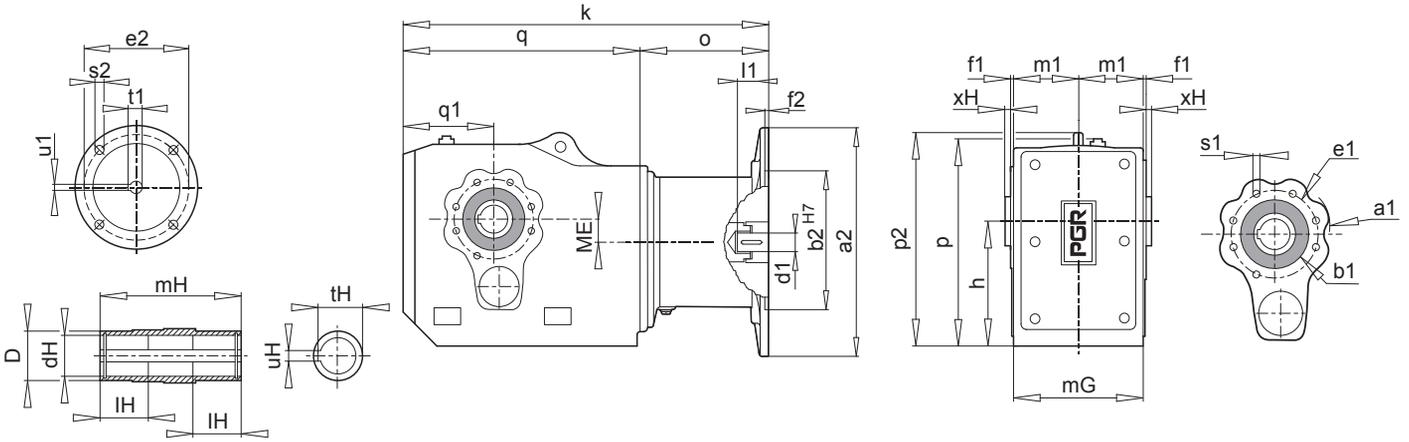
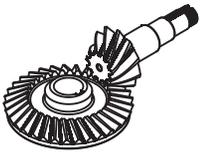
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions					
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	ME	dH D	tH uH	IH mH	xH	
PKD 1390 DG/B14 + IEC	- IEC 63	140	95	115	3	M8x13	112	335	68	144	85	198	250	82	10	35	38.3	50	3
	- IEC 71							339			89	232				50	10	148	
	- IEC 80							355			105								
	- IEC 90							355			105								
	- IEC 100							380			130								
- IEC 112							380			130									
PKD G1390 DG/B14 + IEC	- IEC 63	140	95	115	3	M8x13	112	335	68	144	85	198	250	82	10	40	42.2	50	3
	- IEC 71							339			89	232				50	12	148	
	- IEC 80							355			105								
	- IEC 90							355			105								
	- IEC 100							380			130								
- IEC 112							380			130									
PKD 2390 DG/B14 + IEC	- IEC 63	160	110	130	4	M8x13	143	378	82	164	85	244	293	102	14	40	43.3	60	4
	- IEC 71							382			89	278				55	12	180	
	- IEC 80							398			105								
	- IEC 90							398			105								
	- IEC 100							423			130								
- IEC 112							423			130									
PKD 3390 DG/B14 + IEC	- IEC 71	200	130	165	3	M10x16	180	422	97	200	88	301	334	126	24	50	53.8	70	5
	- IEC 80							441			107	335				70	14	210	
	- IEC 90							441			107								
	- IEC 100							458			124								
	- IEC 112							458			124								
- IEC 132							490			156									

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
63	140	95	115	3.5	M8	11	23	12.8	4	A 4x4x18	DK - 14	BJ - 14
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38



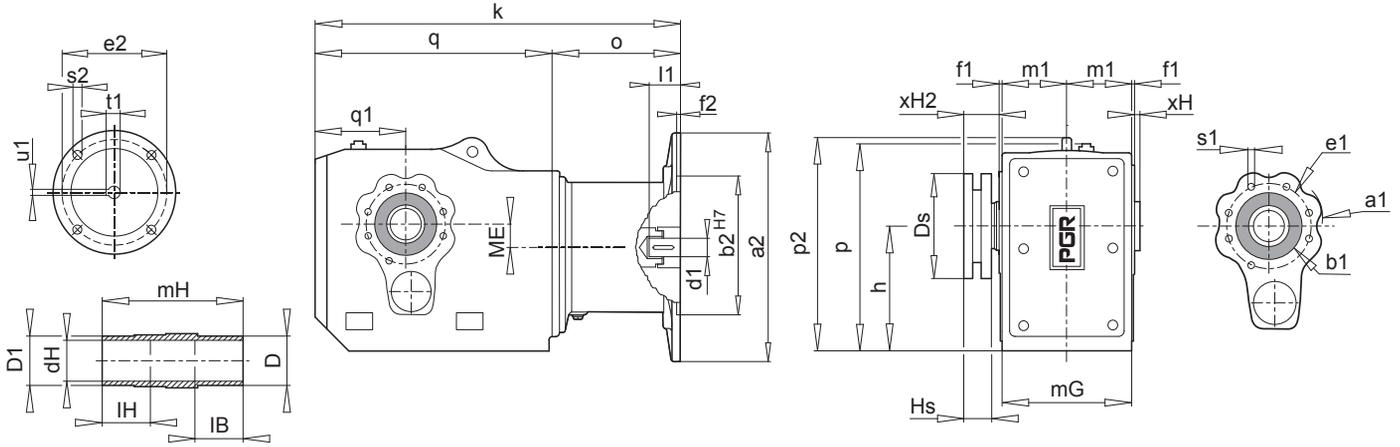
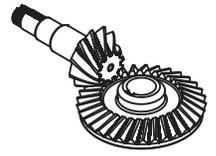
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions									Şaft Ölçüleri Shaft Dimensions			
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	ME	dH D	tH uH	IH mH	xH
PKD 4390 - IEC 90 DG/B14 - IEC 100 + IEC - IEC 112 - IEC 132 - IEC 160	250	180	215	7	M12x20	217	511	108	250	109	358	402	154	36	60	64.4	80	5
							535				400				80	18	240	
							535											
							592											
							596											
PKD 5390 - IEC 90 DG/B14 - IEC 100 + IEC - IEC 112 - IEC 132 - IEC 160 - IEC 180	300	230	265	4	M12x20	262	596	141	290	109	429	487	185	41	70	74.9	100	5
							620				479				100	20	300	
							620											
							677											
							681											

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48



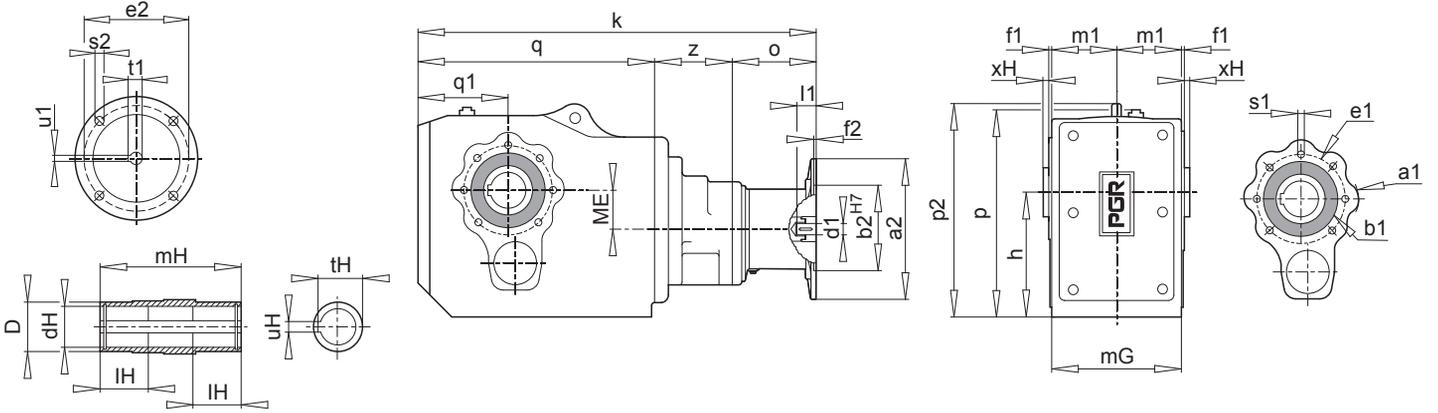
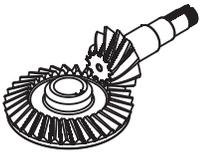
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions					
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	ME	dH D	tH uH	IH mH	xH	
PKD 6390 DG/B14 + IEC	- IEC 100	350	250	300	5	M16x25	315	715	165	350	127	510	588	218	50.7	80	85.4	120	5
	- IEC 112							715			127	566				110	22	350	
	- IEC 132							765											
	- IEC 160							836					570						
	- IEC 180							836											
	- IEC 200							799											
- IEC 225							873												
PKD 7390 DG/B14 + IEC	- IEC 100	350	250	300	5	M16x25	315	715	165	350	127	511	588	218	55.7	90	95.4	120	5
	- IEC 112							715			127	564				120	25	350	
	- IEC 132							765											
	- IEC 160							836					570						
	- IEC 180							836											
	- IEC 200							799											
- IEC 225							873												
PKD 8390 DG/B14 + IEC	- IEC 132	400	300	350	7	M16x25	375	919	195	450	177	620	742	240	52	110	116.4	140	8
	- IEC 160							1008			266	714				140	28	420	
	- IEC 180							1008			266								
	- IEC 200							971			229								
	- IEC 225							1045			303								
	- IEC 250							1025			303		722						
- IEC 280							1025			303									
- IEC 315							1131			381			750						
PKD G 8390 DG/B14 + IEC	- IEC 132	450	350	400	7	M20x30	450	945	235	486	177	722	768	265	89	120	127.4	160	8
	- IEC 160							1034			266	832				160	32	500	
	- IEC 180							1034			266								
	- IEC 200							997			229								
	- IEC 225							1071			303								
	- IEC 250							1051			303		748						
- IEC 280							1051			303									
- IEC 315							1157			381			776						

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65
250	550	450	500	6.0	M16	65	140	69.4	18	A 18x11x100	-	R - 75
280	550	450	500	6.0	M16	75	140	79.9	20	A 20x12x110	-	R - 90
315	660	550	600	7.0	M20	80	170	85.4	22	A 22x14x130	-	R - 90



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions						
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	ME	Ds Hs	D D1	dH	IB IH	mH	xH xH2
PKD 9390 - IEC 132	450	350	400	7	M20x30	500	1080	288	590	177	817	903	310	100	330	200	150	100	710	10
DG/KS-B14 - IEC 160							1169				266	928			86	185		98		110
+ IEC							1169				266									
- IEC 180							1132				229									
- IEC 200							1206				303									
- IEC 225							1222				303	919								
- IEC 250							1222				303									
- IEC 280							1273				381	892								
- IEC 315																				

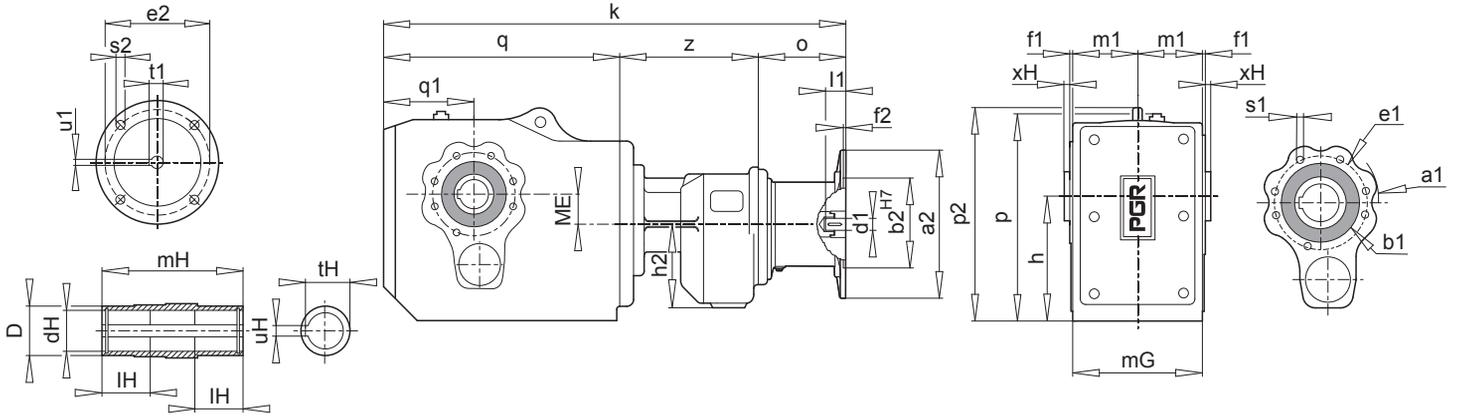
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
132	300	230	265	5.0	M12	38	80	41.3	10		A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12		A 12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14		A 14x9x80	DK - 48	BM - 48	
200	400	300	350	6.0	M16	55	110	59.3	16		A 16x10x95	-	R - 65	
225	450	350	400	6.0	M16	60	140	64.4	18		A 18x11x100	-	R - 65	
250	550	450	500	6.0	M16	65	140	69.4	18		A 18x11x100	-	R - 75	
280	550	450	500	6.0	M16	75	140	79.9	20		A 20x12x110	-	R - 90	
315	660	550	600	7.0	M20	80	170	85.4	22		A 22x14x130	-	R - 90	



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions			
	a1	b1	e1	f1	s1	h	k	m1	mG	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH	xH
PKD 1490 - IEC 63 DG/B14 - IEC 71 + IEC	140	95	115	3	M8x13	112	393	68	144	85	198	250	82	58	40	35	38.3	50	3
PKD G 1490 - IEC 63 DG/B14 - IEC 71 + IEC	140	95	115	3	M8x13	112	393	68	144	85	198	250	82	58	40	40	42.2	50	3
PKD 2490 - IEC 63 DG/B14 - IEC 71 + IEC	160	110	130	4	M8x13	143	436	82	164	85	244	293	102	58	44	40	43.3	60	4
PKD 3490 - IEC 63 DG/B14 - IEC 71 + IEC	200	130	165	3	M10x16	180	479	97	200	85	301	334	126	60	74	50	53.8	70	5
PKD 4490 - IEC 71 DG/B14 - IEC 80 + IEC	250	180	215	7	M12x20	217	559	108	250	88	358	402	154	69	97	60	64.4	80	5
PKD 5490 - IEC 71 DG/B14 - IEC 80 + IEC	300	230	265	4	M12x20	262	644	141	290	88	429	487	185	69	117	70	74.9	100	5

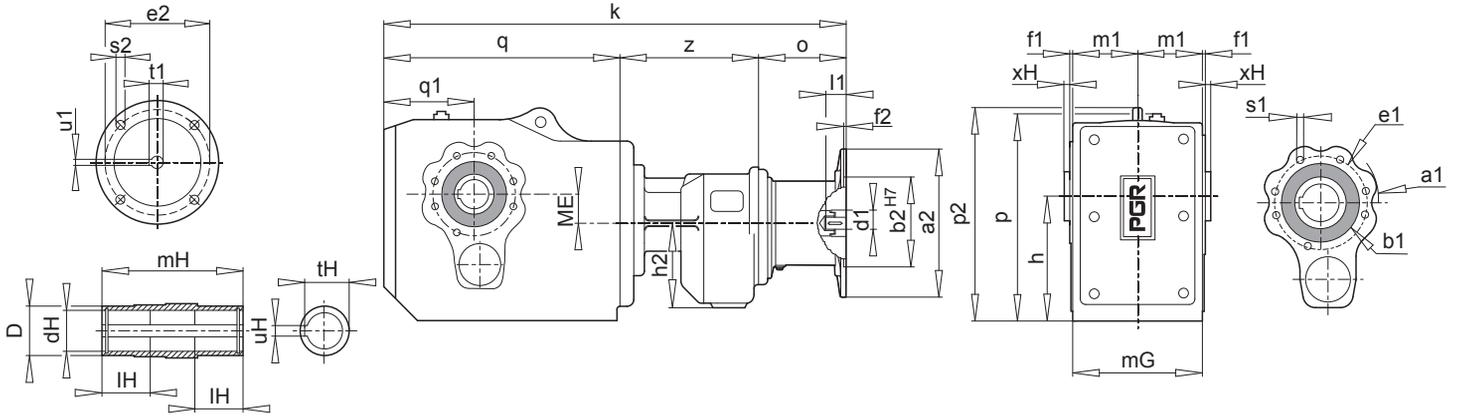
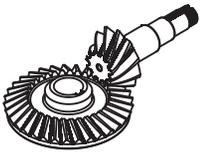
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
63	140	95	115	3.5	M8	11	23	12.8	4	A	4x4x18	DK - 14	BJ - 14	
71	160	110	130	4.0	M8	14	30	16.3	5	A	5x5x25	DK - 14	BJ - 14	
80	200	130	165	4.0	M10	19	40	21.8	6	A	6x6x35	DK - 24	BJ - 24	
90	200	130	165	4.0	M10	24	50	27.3	8	A	8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8	A	8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8	A	8x7x50	DK - 28	BJ - 28	

BEŞ KADEME
QUINTUPLE REDUCTION



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions			
	a1	b1	e1	f1	s1	h h2	k	m1	mG	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH	xH
PKD 6390/32 - IEC 71 - IEC 80 DG/B14 - IEC 90 + IEC - IEC 100 - IEC 112 - IEC 132	350	250	300	5	M16x25	315 159	895 914 914	165	350	88 107 107	510 566	570	218	237	50.7	80 110	85.4 22	120 350	5
PKD 6390/42 - IEC 90 - IEC 100 DG/B14 - IEC 112 - IEC 132 + IEC - IEC 160	350	250	300	5	M16x25	315 179	958 982 982	165	350	109 133 133	510 566	570	218	279	50.7	80 110	85.4 22	120 350	5
PKD 7390/32 - IEC 71 - IEC 80 - IEC 90 DG/B14 - IEC 100 + IEC - IEC 112 - IEC 132	350	250	300	5	M16x25	315 159	895 914 914	165	350	88 107 107	511 564	570	218	237	55.7	90 120	95.4 25	120 350	5
PKD 7390/42 - IEC 90 - IEC 100 DG/B14 - IEC 112 - IEC 132 + IEC - IEC 160	350	250	300	5	M16x25	315 179	958 982 982	165	350	109 133 133	511 564	570	218	279	55.7	90 120	95.4 25	120 350	5

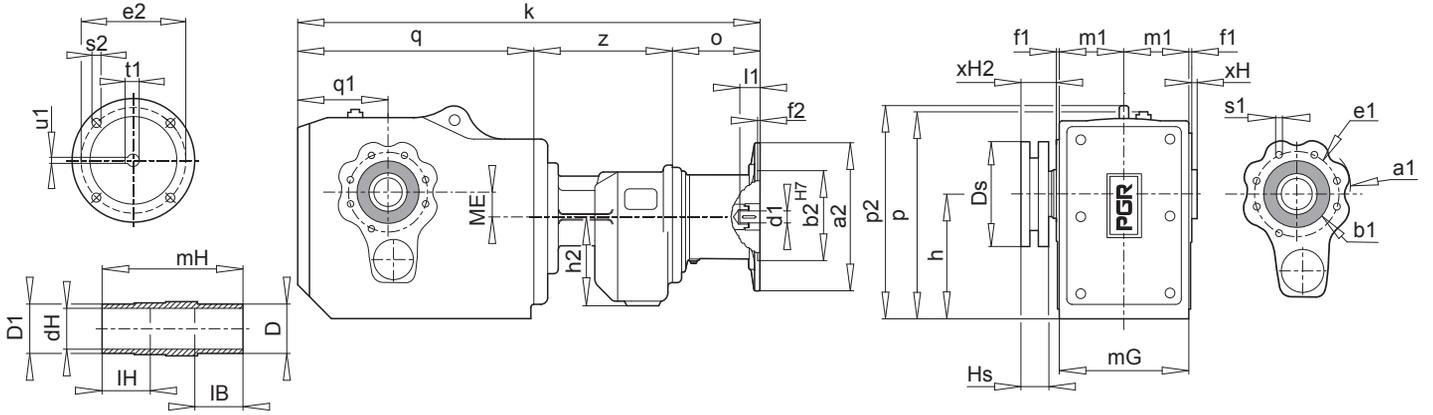
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
71	160	110	130	4.0	M8	14	30	16.3	5		A 5x5x25	DK - 14	BJ - 14	
80	200	130	165	4.0	M10	19	40	21.8	6		A 6x6x35	DK - 24	BJ - 24	
90	200	130	165	4.0	M10	24	50	27.3	8		A 8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10		A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12		A 12x8x75	DK - 42	BM - 42	



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions				
	a1	b1	e1	f1	s1	h h2	k	m1	mG	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH	xH	
PKD 8390/42 DG/B14 + IEC	- IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160	400	300	350	7	M16x25	375 179	1112 1136 1136 1193 1197	195	450	109 133 133 190 194	620 714	722	240	281	52	110 140	116.4 28	140 420	8
PKD 8390/52 DG/B14 + IEC	- IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	400	300	350	7	M16x25	375 218	1175 1175 1232 1236 1236	195	450	133 133 190 194 194	620 714	722	240	320	52	110 140	116.4 28	140 420	8
PKD G8390/52 DG/B14 + IEC	IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	450	350	400	7	M20x30	450 218	1127 1201 1201 1258 1262 1262	235	486	109 133 133 190 194 194	722 832	748	265	320	89	120 160	127.4 32	160 500	8

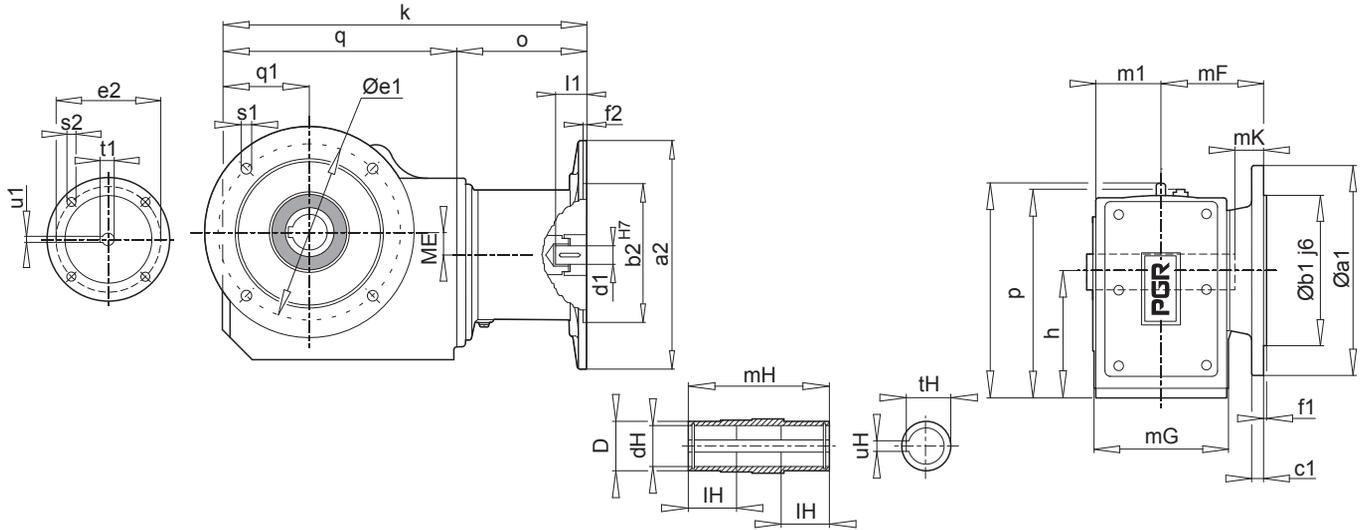
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
90	200	130	165	4.0	M10	24	50	27.3	8	A	8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8	A	8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8	A	8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10	A	10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12	A	12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14	A	14x9x80	DK - 48	BM - 48	

BEŞ KADEME
QUINTUPLE REDUCTION



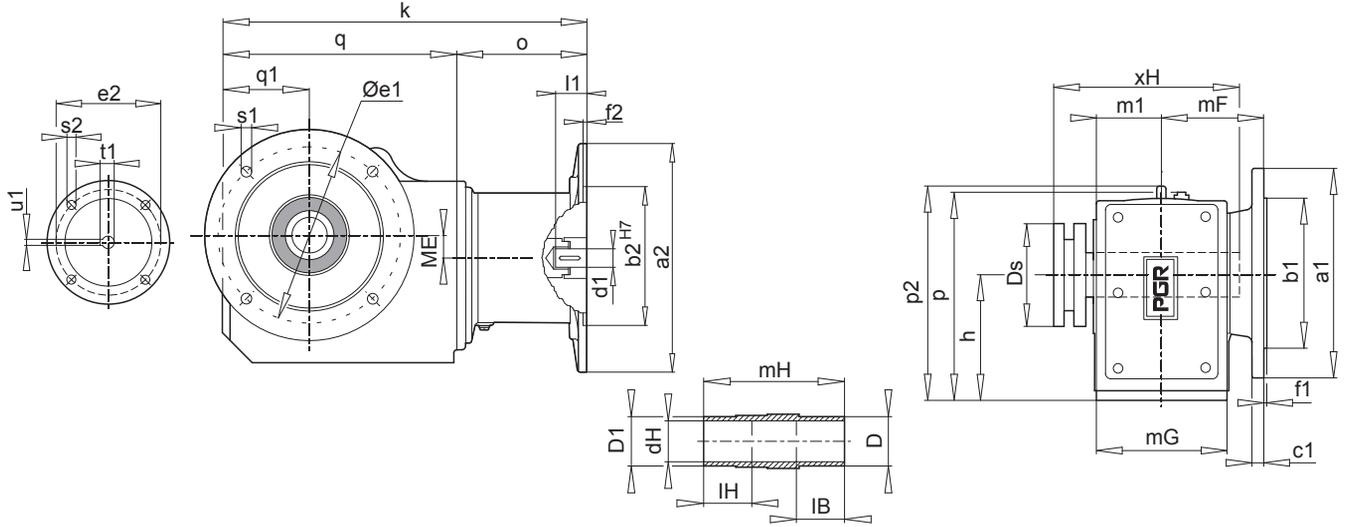
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)					Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions						
	a1	b1	e1	f1	s1	h h2	k	m1	mG	o	p p2	q	q1	z	ME	Ds Hs	D D1	IB dH	IH	xH mH	xH2	
PKD 9390/52 DG/KS-B14 + IEC	- IEC 90 - IEC 100 - IEC 112 - IEC 132 - IEC 160 - IEC 180	450	350	400	7	M20x30	500	1321	288	590	109	817	892	310	320	100	330	200	150	100	710	10
							218	1345			133	928					86	185	98		110	
								1345			133											
								1402			190											
								1406			194											
								1406			194											

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1	Çiftel		KTR	
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48	



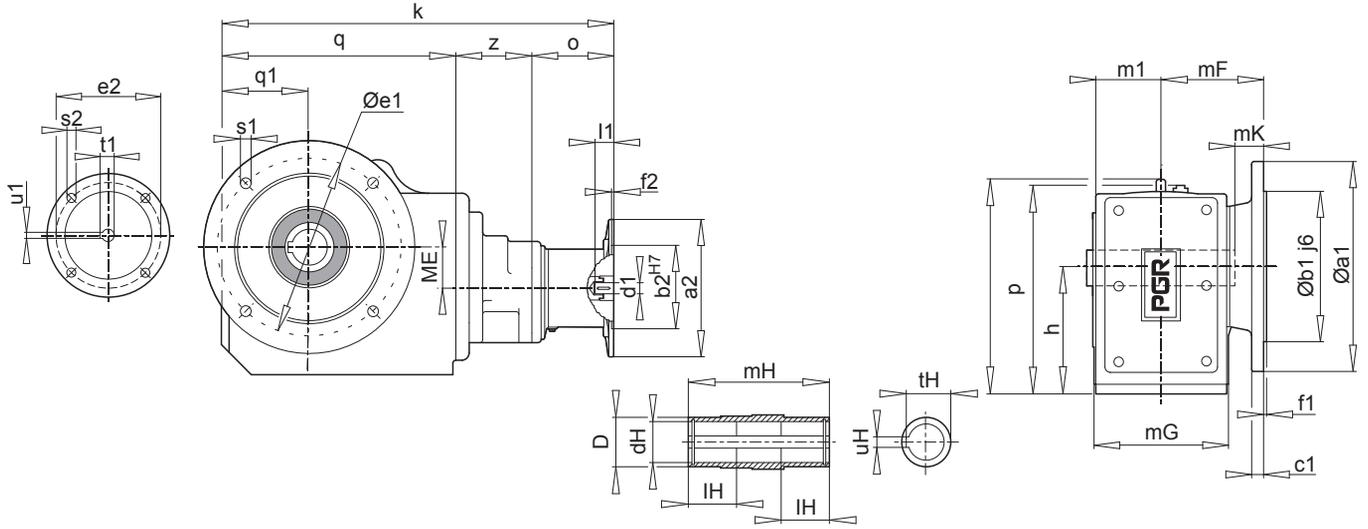
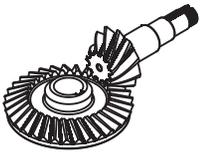
Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions								Şaft Ölçüleri Shaft Dimensions				
	a1	b1	c1	e1	f1	s1	h	k	m1 mF mG	mK	o	p p2	q	q1	ME	dH D	tH uH	IH mH	
PKD 6390 DG/B5 + IEC	- IEC 100	450	350	22	400	5	8x18	315	715	165	52	127	510	588	218	50.7	80	85.4	120
	- IEC 112	550	450	28	500	5	8x18		715	227		127	566				110	22	350
	- IEC 132								765	350		177							
	- IEC 160								836			266	570						
	- IEC 180								836			266							
	- IEC 200								799			229							
- IEC 225								873			303								
PKD 7390 DG/B5 + IEC	- IEC 100	450	350	22	400	5	8x18	315	715	165	52	127	511	588	218	55.7	80	85.4	120
	- IEC 112	550	450	28	500	5	8x18		715	227		127	564				120	22	350
	- IEC 132								765	350		177							
	- IEC 160								836			266	570						
	- IEC 180								836			266							
	- IEC 200								799			229							
- IEC 225								873			303								
PKD 7390 DG/B5 + IEC	- IEC 100	450	350	22	400	5	8x18	315	715	165	52	127	511	588	218	55.7	90	95.4	120
	- IEC 112	550	450	28	500	5	8x18		715	227		127	564				120	25	350
	- IEC 132								765	350		177							
	- IEC 160								836			266	570						
	- IEC 180								836			266							
	- IEC 200								799			229							
- IEC 225								873			303								

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions				
	a1	b1	c1	e1	f1	s1	h	k	m1 mF mG	mK	o	p p2	q	q1	ME	Ds	xH	dH D	D1	IH IB	mH
PKD 9390 - IEC 132	660	550	32	600	6	8x22	500	1080	288	63	177	817	903	310	100	335	710	150	200	98	710
DG/KS - B5 - IEC 160											266	928						185		100	
+ IEC - IEC 180									590		266										
- IEC 200											229										
- IEC 225											303										
- IEC 250											303	919									
- IEC 280											303										
- IEC 315											381	892									

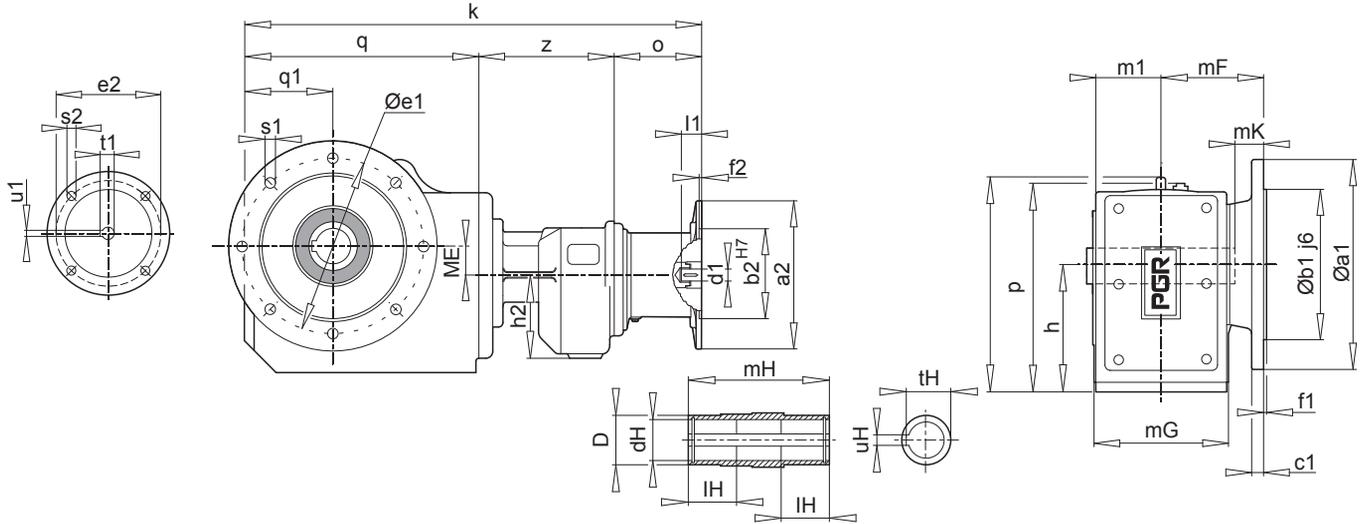
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48
200	400	300	350	6.0	M16	55	110	59.3	16	A 16x10x95	-	R - 65
225	450	350	400	6.0	M16	60	140	64.4	18	A 18x11x100	-	R - 65
250	550	450	500	6.0	M16	65	140	69.4	18	A 18x11x100	-	R - 75
280	550	450	500	6.0	M16	75	140	79.9	20	A 20x12x110	-	R - 90
315	660	550	600	7.0	M20	80	170	85.4	22	A 22x14x130	-	R - 90



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions		
	a1	b1	c1	e1	f1	s1	h	k	m1 mF mG	mK	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH
PKD 1490 - IEC 63 DG/B5 - IEC 71 + IEC	200	130	12	165	3.5	4x11	112	393 397	68 113 144	39	85 89	198 232	250	82	58	40	35 50	38.3 10	50 148
PKD G 1490 - IEC 63 DG/B5 - IEC 71 + IEC	200	130	12	165	3.5	4x11	112	393 397	68 113 144	39	85 89	198 232	250	82	58	40	40 50	42.2 12	50 148
PKD 2490 - IEC 63 DG/B5 - IEC 71 + IEC	250	180	16	215	4	4x14	143	436 440	82 134 164	44	85 89	244 278	293	102	58	44	40 55	43.3 12	60 180
PKD 3490 - IEC 63 DG/B5 - IEC 71 - IEC 80 + IEC - IEC 90	250 300	180 230	16 20	215 265	4	4x14	180	479 483 499 499	97 150 200	45	85 89 105 105	301 335	334	126	60	74	50 70	53.8 14	70 210
PKD 4490 - IEC 71 DG/B5 - IEC 80 - IEC 90 + IEC - IEC 100 - IEC 112	350	250	20	300	5	4x18	217	559 578 578 595 595	108 165 250	45	88 107 107 124 124	358 400	402	154	69	97	60 80	64.4 18	80 240
PKD 5490 - IEC 71 DG/B5 - IEC 80 - IEC 90 + IEC - IEC 100 - IEC 112	400 450	300 350	20 22	350 400	5	4x18	262	644 663 663 680 680	141 201 290	51	88 107 107 124 124	429 479	487	185	69	117	70 100	74.9 20	100 300

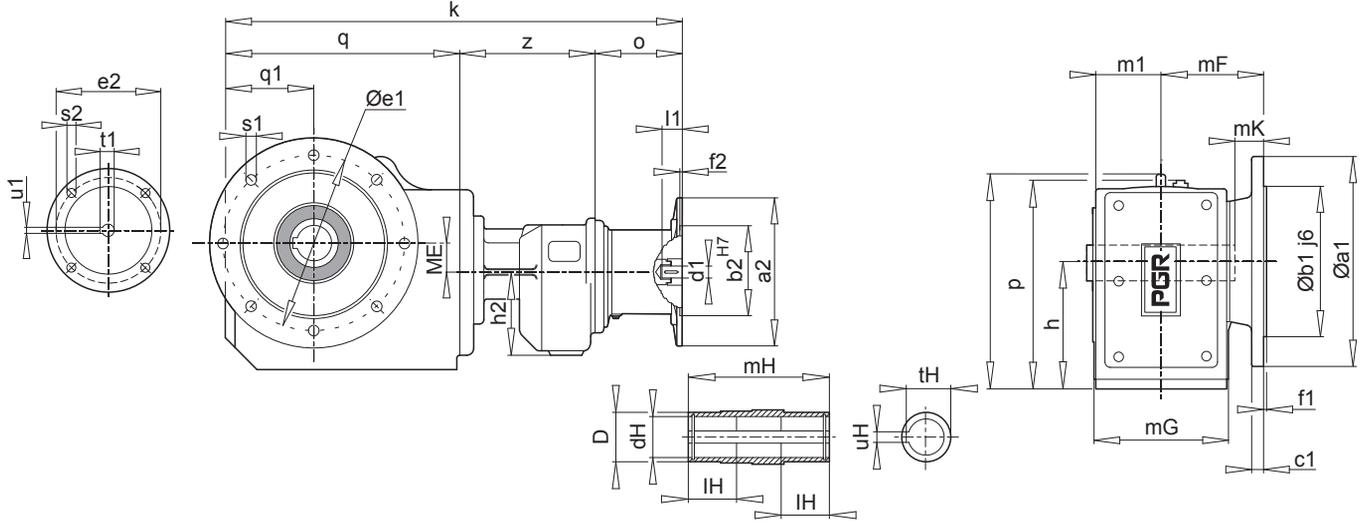
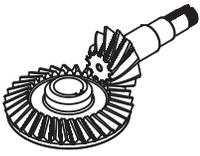
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
63	140	95	115	3.5	M8	11	23	12.8	4	A 4x4x18	DK - 14	BJ - 14
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28

BEŞ KADEME
QUINTUPLE REDUCTION



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions										Şaft Ölçüleri Shaft Dimensions			
	a1	b1	c1	e1	f1	s1	h h2	k	m1 mF mG	mK	o	p p2	q	q1	z	ME	dH D	tH uH	IH mH	
PKD 6390/32 DG/B5 + IEC	- IEC 71	450	350	22	400	5	8x18	315	895	165	52	88	510	570	218	237	50.7	80	85.4	120
	- IEC 80	550	450	28	500	5	8x18	159	914	227	107	566					110	22	350	
	- IEC 90								914	350		107								
	- IEC 100								931			124								
	- IEC 112								931			124								
- IEC 132								963			156									
PKD 6390/42 DG/B5 + IEC	- IEC 90	450	350	22	400	5	8x18	315	958	165	52	109	510	570	218	279	50.7	80	85.4	120
	- IEC 100	550	450	28	500	5	8x18	179	982	227	133	566					110	22	350	
	- IEC 112								982	350		133								
	- IEC 132								1039			190								
	- IEC 160								1043			194								
PKD 7390/32 DG/B5 + IEC	- IEC 71	450	350	22	400	5	8x18	315	895	165	52	88	511	570	218	237	55.7	80	85.4	120
	- IEC 80	550	450	28	500	5	8x18	159	914	227	107	564					120	22	350	
	- IEC 90								914	350		107								
	- IEC 100								931			124								
	- IEC 112								931			124								
- IEC 132								963			156									
PKD 7390/42 DG/B5 + IEC	- IEC 90	450	350	22	400	5	8x18	315	958	165	52	109	511	570	218	279	55.7	80	85.4	120
	- IEC 100	550	450	28	500	5	8x18	179	982	227	133	564					120	22	350	
	- IEC 112								982	350		133								
	- IEC 132								1039			190								
	- IEC 160								1043			194								
PKD 7390/32 DG/B5 + IEC	- IEC 71	450	350	22	400	5	8x18	315	895	165	52	88	511	570	218	237	55.7	90	95.4	120
	- IEC 80	550	450	28	500	5	8x18	159	914	227	107	564					120	25	350	
	- IEC 90								914	350		107								
	- IEC 100								931			124								
	- IEC 112								931			124								
- IEC 132								963			156									
PKD 7390/42 DG/B5 + IEC	- IEC 90	450	350	22	400	5	8x18	315	958	165	52	109	511	570	218	279	55.7	90	95.4	120
	- IEC 100	550	450	28	500	5	8x18	179	982	227	133	564					120	25	350	
	- IEC 112								982	350		133								
	- IEC 132								1039			190								
	- IEC 160								1043			194								

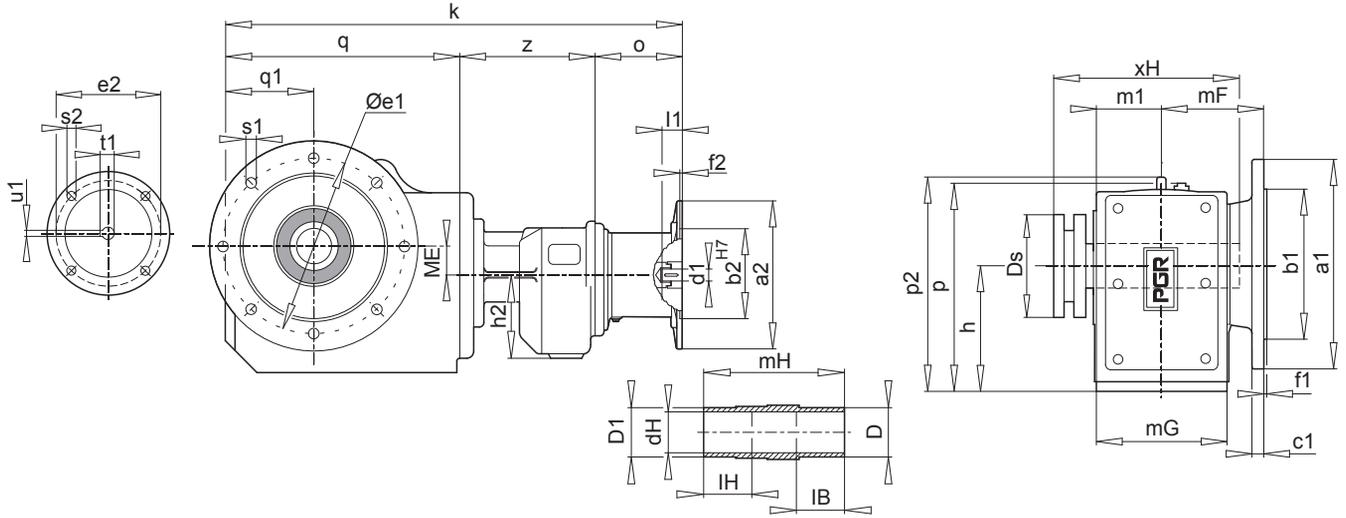
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
71	160	110	130	4.0	M8	14	30	16.3	5	A 5x5x25	DK - 14	BJ - 14
80	200	130	165	4.0	M10	19	40	21.8	6	A 6x6x35	DK - 24	BJ - 24
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42



Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)	Ana ölçüler Outline dimensions											Şaft Ölçüleri Shaft Dimensions						
		a1	b1	c1	e1	f1	s1	h h2	k	m1 mF mG	mK	o	p p2	q	q1	z	ME	dH D	tH uH
PKD 8390/42 DG/B5 + IEC	- IEC 90	550	450	28	500	5	8x18	375	1112	195	109	620	722	240	281	52	110	116.4	140
	- IEC 100							179	1136	257	133	714					140	28	420
	- IEC 112								1136	450	133								
	- IEC 132								1193		190								
	- IEC 160								1197		194								
PKD 8390/52 DG/B5 + IEC	- IEC 100	550	450	28	500	5	8x18	375	1195	195	133	620	722	240	320	52	110	116.4	140
	- IEC 112							218	1195	257	133	714					140	28	420
	- IEC 132								1252	450	190								
	- IEC 160								1256		194								
	- IEC 180								1256		194								
PKD G8390/52 DG/B5 + IEC	- IEC 90	660	550	32	600	6	8x22	450	1177	235	109	722	748	265	320	89	120	127.4	160
	- IEC 100							218	1201	315	133	832					160	32	500
	- IEC 112								1201	486	133								
	- IEC 132								1258		190								
	- IEC 160								1262		194								
- IEC 180								1262		194									

Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions									Kama Ölçüleri Key	Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1		Çiftel	KTR
90	200	130	165	4.0	M10	24	50	27.3	8	A 8x7x40	DK - 24	BJ - 24
100	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
112	250	180	215	5.0	M12	28	60	31.3	8	A 8x7x50	DK - 28	BJ - 28
132	300	230	265	5.0	M12	38	80	41.3	10	A 10x8x60	DK - 38	BM - 38
160	350	250	300	6.0	M16	42	110	45.3	12	A 12x8x75	DK - 42	BM - 42
180	350	250	300	6.0	M16	48	110	51.8	14	A 14x9x80	DK - 48	BM - 48

BEŞ KADEME
QUINTUPLE REDUCTION

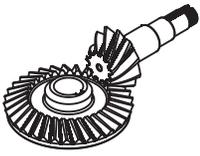


Tip Type	Montaj ölçüleri (Flanş) Mounting dimensions (Flange)						Ana ölçüler Outline dimensions											Şaft Ölçüleri Shaft Dimensions				
	a1	b1	c1	e1	f1	s1	h h2	k	m1 mF mG	mK	o	p p2	q	q1	z	ME	Ds	xH	dH D	D1	IH IB	mH
PKD - IEC 90	660	550	32	600	6	8x22	500	1321	288	63	109	817	892	310	320	100	335	710	150	200	98	710
9390/52 - IEC 100							218	1345	368		133	928							185		100	
DG/KS - B5 - IEC 112								1345	590		133											
+ IEC - IEC 132								1402			190											
								1406			194											
								1406			194											

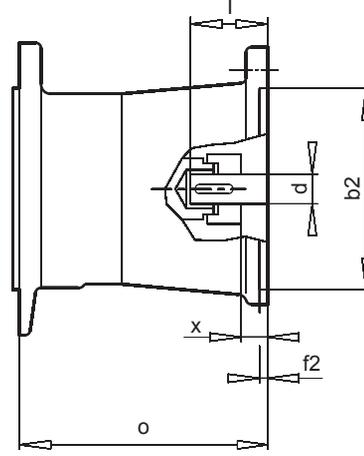
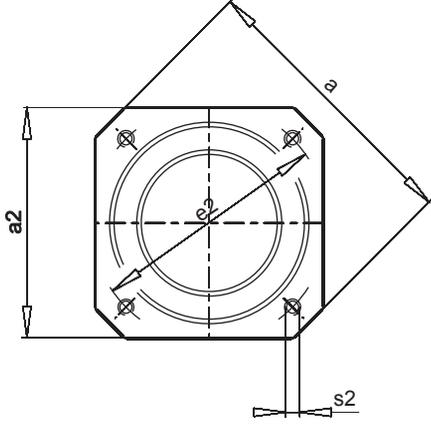
Motor Büyüklüğü Motor Frame Size	Motor Bağlantı Ölçüleri Motor Mounting Dimensions										Kama Ölçüleri Key		Kaplın Tipi Type of coupling	
	a2	b2	e2	f2	s2	d1	l1	t1	u1			Çiftel	KTR	
90	200	130	165	4.0	M10	24	50	27.3	8		A 8x7x40	DK - 24	BJ - 24	
100	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50	DK - 28	BJ - 28	
112	250	180	215	5.0	M12	28	60	31.3	8		A 8x7x50	DK - 28	BJ - 28	
132	300	230	265	5.0	M12	38	80	41.3	10		A 10x8x60	DK - 38	BM - 38	
160	350	250	300	6.0	M16	42	110	45.3	12		A 12x8x75	DK - 42	BM - 42	
180	350	250	300	6.0	M16	48	110	51.8	14		A 14x9x80	DK - 48	BM - 48	



Ağırlıklar (Yaklaşık) / Approx. Weights															
TİP TYPE	W	IEC													
		63	71	80	90	100	112	132	160	180	200	225	250	280	315
PKD 1490	41	42	43												
PKD 1390	35	36	37	41	41	48	48								
PKD G 1490	42	43	44												
PKD G 1390	36	37	38	42	42	49	49								
PKD 2490	49	50	51												
PKD 2390	44	45	46	49	49	56	56								
PKD 3490	73	74	75	78	78										
PKD 3390	71		69	73	73	77	77	86							
PKD 4490	137		134	139	139	143	143								
PKD 4390	131				126	133	133	148	159						
PKD 5490	218		216	221	221	225	225								
PKD 5390	210				205	212	212	227	237	237					
PKD 6390/32	382		380	384	384	389	389	398							
PKD 6390/42	411				405	413	413	427	438						
PKD 6390	378					365	365	379	405	405	420	436			
PKD 7390/32	382		380	384	384	389	389	398							
PKD 7390/42	411				405	413	413	427	438						
PKD 7390	378					365	365	379	405	405	420	436			
PKD 8390/42	690				685	692	692	707	718						
PKD 8390/52	717					719	719	734	744	744					
PKD 8390	737							658	685	685	700	716	774	774	859
PKD G 8390/52	982				976	984	984	999	1009	1009					
PKD G 8390	1002							923	950	950	965	981	1039	1039	1124
PKD 9390/52	1586				1580	1588	1588	1603	1613	1613					
PKD 9390	1606							1527	1554	1554	1569	1585	1643	1643	1728



SERVOMOTOR MONTAJI İÇİN ADAPTÖR
ADAPTER FOR MOUNTING SERVOMOTOR



Redüktör Tipi Gear Unit Type	Motor Büyüklüğü / Motor Size							Şaft Ebatı Shaft Size		Silindir Cylinder	M_{knom} [Nm]	Adaptör tipi Adapter type
	a	a2	b2	e2	f2	s2	x	d	l	o		
PKD 1390, G 1390, 2390	120	96	80	100	4	M6	15	19	40	124	10	Servo 100 / 160 S
PKD 1390, G 1390, 2390	165	126	110	130	4	M8	20	24	50	136	35	Servo 130 / 160 S
PKD 3390	155	126	110	130	4	M8	20	24	50	150	35	Servo 130 / 250 S
PKD 1390, G 1390, 2390	186	155	130	165	5	M10	23	32	58	151	95	Servo 165 / 160 S
PKD 3390	186	155	130	165	5	M10	23	32	58	166	95	Servo 165 / 250 S
PKD 3390	240	192	180	215	5	M12	45	38	80	187	95	Servo 215/ 250 S
PKD 4390, 5390	240	192	180	215	5	M12	24	38	80	229	310	Servo 215/ 300 S
PKD 4390, 5390	350	260	250	300	5	M16	26	48	82	231	310	Servo 300/ 300 S
PKD 6390, 7390, 8390, G 8390, 9390	350	260	250	300	5	M16	26	48	82	249	310	Servo 300/ 350 S

SEP tipi servo motor bağlantı adaptörünün bağlantısı kamalı olarak yapılmaktadır. SEK tiplerinde ise servo motor adaptörünün bağlantısı setuskur civata sıkırtması ile yapılmaktadır.

Servo motor bağlantı adaptörünün bağlantı flanşının farklı olması durumunda yüksek adetteki siparişler üretime alınır.

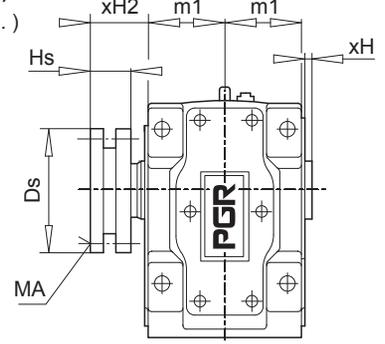
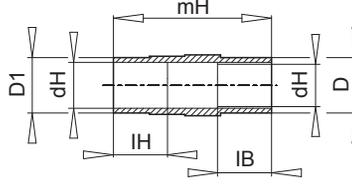
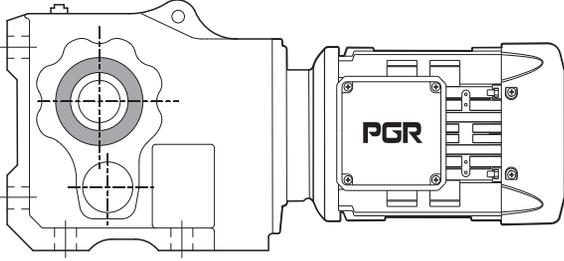
For connecting SEP adapter which is shown above on this page, servo motor's output shaft is designed with locking key. For connecting SEK type adapter, connecting is supplied with a clamp coupling sleeve.

An intermediate flange is required when other servo motor types are used with IEC adapter. Offers are manufactured gladly by PGR.



Bu tasarım gövdeden yapılacak montaj için uygun değildir. (Gövdeden montaj için Tip DG/KS-B14)

Shrink disc connector design is suitable for case mounting. (Type DG/KS-B14 is used for case mounting.)



Daha iyi ve kolay montaj ve demontaj için konik sıkırtmalı tavsiye edilebilir.

PGR recommends to use shrink disc for easier installation and disassembly

Tip Type	Konik sıkırtma diski Shrink disc connector						Şaft ölçüleri Shaft dimensions							Vida tork değeri Hexagon screw				
	Tip Type	M _{amax} [Nm]	S _{h6}	S _{f6}	D _s	H _s	D	D1	dH ^{H7}	IB	IH	mH	xH	xH2	m1	d x l	Z _s	M _A [Nm]
PKD 1390 DA/KS PKD 1490 DA/KS	KS 30/40	400	2.45	2.15	80	36	45	40	30	30	36	184	3	39	71	M6x35*	8	12
PKD G 1390 DA/KS PKD G 1490 DA/KS	KS 30/40	400	2.45	2.15	80	36	45	40	30	30	36	184	3	39	71	M6x35*	8	12
PKD 2390 DA/KS PKD 2490 DA/KS	KS 35/46	720	1.98	1.73	90	40	50	46	35	40	40	221	4	45	86	M6x35*	10	12
PKD 3390 DA/KS PKD 3490 DA/KS	KS 40/55	1,300	1.79	1.57	112	44	55	55	40	40	44	255	5	50	100	M8x40	8	30
PKD 4390 DA/KS PKD 4490 DA/KS	KS 50/62	2,400	1.82	1.70	125	46	70	62	50	50	46	290	5	55	115	M8x40	10	30
PKD 5390 DA/KS PKD 5490 DA/KS	KS 60/76	4,200	1.93	1.79	156	58	85	76	60	60	58	365	5	70	145	M10x50	10	59
PKD 6390 DA/KS PKD 6390/32 DA/KS PKD 6390/42 DA/KS	KS 70/90	7,200	1.91	1.79	182	74	100	90	70	70	74	430	5	85	170	M12x70*	10	100
PKD 7390 DA/KS PKD 7390/32 DA/KS PKD 7390/42 DA/KS	KS 80/108	8,500	3.70	3.56	182	74	120	108	80	82	80	430	5	85	170	M12x70*	14	100
PKD 8390 DA/KS PKD 8390/42 DA/KS PKD 8390/52 DA/KS	KS 100/128	12,000	2.53	2.40	240	92	130	128	100	70	82	505	10	95	200	M16x80*	8	250
PKD G 8390 DA/KS PKD G 8390/52 DA/KS	KS 110/138	18,000	1.92	1.83	266	74	140	138	110	80	74	576	12	88	238	M16x70	8	250
PKD 9390 DA/KS PKD 9390/52 DA/KS	KS 125/158	26,000	2.24	2.13	296	98	160	158	125	80	98	710	10	110	295	M16x80*	12	250

S = h6 veya f6 ile konik sıkırtmanın güvenilirliği.

S = Assurance of shrink disc (with h6 and f6 tolerance)

M_A = Civatayı sıkmak için gerekli olan tork

M_A = Screw torque for tightening

Z_s = Vida miktarı

Z_s = Amount of screw

M_{amax} = max. izin verilebilir çıkış momenti

M_{amax} = maximum allowable output moment

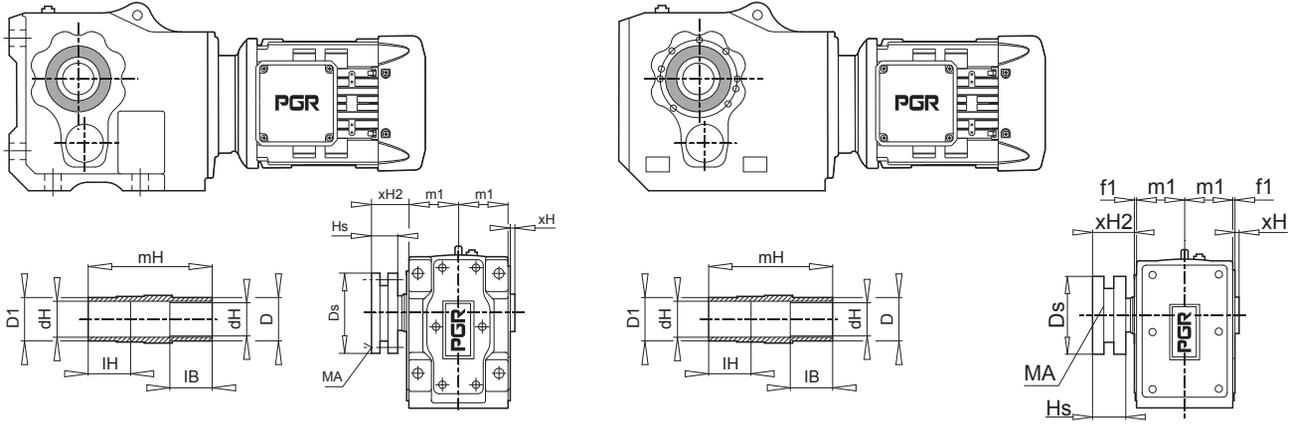
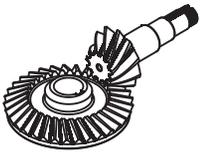
H_s ölçüsü civata sıkılmadan önceki ölçüsüdür.

Konik sıkırtmalı, genellikle kullanıcı milinin karşı tarafına montaj edilmelidir. Kullanıcı mil uzunluğu ile şaft uzunluğu (mH) örtüşmelidir. Şaft çapı ISO h6 veya f6'ya göre imal edilmelidir.(f6= Kolay montaj)



39

H_s values show dimension before tightening screw. When customer shaft is installed to the gear unit, shrink disc should be mounted on opposite side of it. Consider that, customer shaft must be equal 'mH' dimension which is length of hollow shaft and customer diameter shaft should be machined according to ISO h6 or f6 tolerances.



Tip Type	Konik sıkırtma diski Shrink disc connector						Şaft ölçüleri Shaft dimensions									Vida tork değeri Hexagon screw		
	Tip Type	M _{amax} [Nm]	S ^{h6}	S ^{f6}	D _s	H _s	D	D1	dH ^{H7}	IB	IH	mH	xH	xH2	m1	d x l	Z _s	M _A [Nm]
PKD 8390 DA/GKS PKD 8390/42 DA/GKS PKD 8390/52 DA/GKS	GKS 100/128	12000	3.92	3.69	266	136	130	128	100	70	136	559	10	149	200	M20x100	8	490
PKD G 8390 DA/GKS PKD G 8390/52 DA/GKS	GKS 110/138	18000	4.52	4.32	296	160	140	138	110	80	160	663	12	175	238	M20x130	12	490
PKD 9390 DA/GKS PKD 9390/52 DA/GKS	GKS 130/158	26000	3.81	3.63	315	170	160	158	130	80	170	782	10	182	295	M20x130	12	490
Aşağıdaki ölçüler gövdeden montajlıya aittir / Dimensions are used for case mounted designs.																		
PKD 6390 DG/GKS-B14 PKD 6390/32 DG/GKS-B14 PKD 6390/42 DG/GKS-B14	GKS 85/108	7200	4.48	4.21	236	110	110	108	85	80	110	464	5	119	165	M16x90	10	250
PKD 7390 DG/GKS-B14 PKD 7390/32 DG/GKS-B14 PKD 7390/42 DG/GKS-B14	GKS 95/108	8500	4.95	4.80	236	110	120	108	95	80	110	464	5	119	165	M16x90	10	250
PKD 8390 DG/GKS-B14 PKD 8390/42 DG/GKS-B14 PKD 8390/52 DG/GKS-B14	GKS 110/138	12000	6.78	6.49	296	160	140	138	110	80	160	587	8	175	195	M20x130	12	490
PKD G 8390 DG/GKS-B14 PKD G 8390/52 DG/GKS-B14	GKS 130/158	18000	5.50	5.24	315	170	160	158	130	80	170	674	8	182	235	M20x130	12	490
PKD 9390 DG/GKS-B14 PKD 9390/52 DG/GKS-B14	GKS 150/210	26000	4.41	4.17	386	130	200	210	150	100	130	754	10	154	288	M20x100	14	490

Daha iyi ve kolay montaj ve demontaj için konik sıkırtmalı tavsiye edilebilir.
PGR recommends to use shrink disc for easier installation and disassembly.

S = h6 veya f6 ile konik sıkırtmanın güvenilirliği.

S = Assurance of shrink disc (with h6 and f6 tolerance)

M_A = Civatayı sıkmak için gerekli olan tork

M_A = Screw torque for tightening

Z_s = Vida miktarı

Z_s = Amount of screw

M_{amax} = max. izin verilebilir çıkış momenti

M_{amax} = maximum allowable output moment

H_s ölçüsü civata sıkılmadan önceki ölçüsüdür.

Konik sıkırtmalı, genellikle kullanıcı milinin karşı tarafına montaj edilmelidir. Kullanıcı mil uzunluğu ile şaft uzunluğu (mH) örtüşmelidir. Şaft çapı ISO h6 veya f6'ya göre imal edilmelidir. (f6= Kolay montaj)

H_s values show dimension before tightening screw. When customer shaft is installed to the gear unit, shrink disc should be mounted on opposite side of it. Consider that, customer shaft must be equal 'mH' dimension which is length of hollow shaft and customer diameter shaft should be machined according to ISO h6 or f6 tolerances.

Yukarıdaki bütün ölçüler Helisel konik dişli- Tip W, Tip IEC ve Helisel konik dişli motorları için geçerlidir.

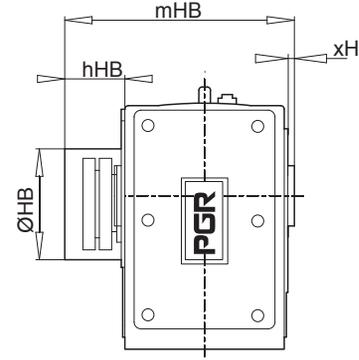
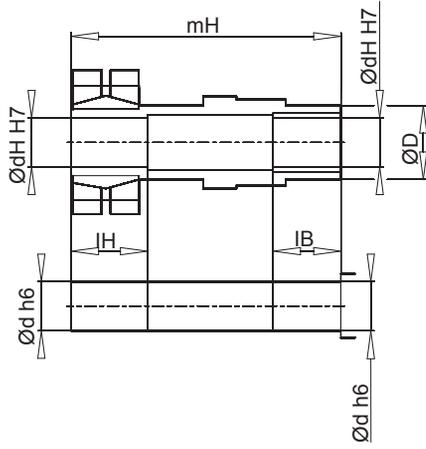
Dimension which are shown above of this page are used for all type helical-bevel gear units. (Type W, IEC adapter and helical-bevel geared motor)

Mevcut tasarımlar için

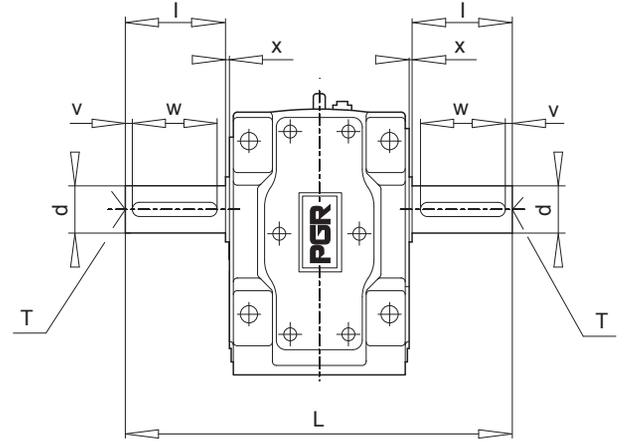
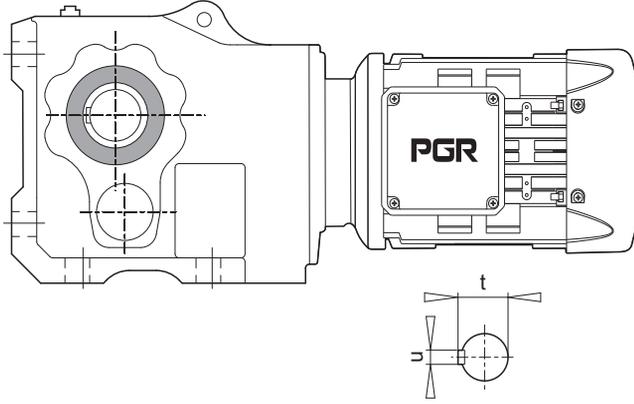
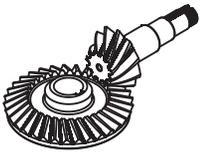
For existing designs



24 - 31



Tip / Type	D	dH	d	IB	IH	mH	xH	hHB	HB	HB
PKD 6390 DG/GKS-B14 KK PKD 6390/32 DG/GKS-B14 KK PKD 6390/42 DG/GKS-B14 KK	110	85	80	80	110	464	5	149	260	489
PKD 7390 DG/GKS-B14 KK PKD 7390/32 DG/GKS-B14 KK PKD 7390/42 DG/GKS-B14 KK	120	95(85)	95(85)	80	110	464	5	149	260	489
PKD 8390 DG/GKS-B14 KK PKD 8390/42 DG/GKS-B14 KK PKD 8390/52 DG/GKS-B14 KK	140	110	110	80	160	587	8	210	308	615
PKD G8390 DG/GKS-B14 KK PKD G8390/52 DG/GKS-B14 KK	160	130	130	80	170	674	8	237	366	722
PKD 9390 DG/GKS-B14 KK PKD 9390/52 DG/GKS-B14 KK	200	150	150	100	130	754	10	237	366	830



Tip Type	Şaft ölçüleri Shaft dimensions								
	d	l	L	t	u	v	w	x	T
PKD 1390 ÇMA PKD 1490 ÇMA	30	60	270	33.0	8	5	50	4	M10
PKD G 1390 ÇMA PKD G 1490 ÇMA	35	70	290	33.0	10	7	56	4	M12
PKD 2390 ÇMA PKD 2490 ÇMA	35	70	322	38.0	10	7	56	5	M12
PKD 3390 ÇMA PKD 3490 ÇMA	45	90	392	48.5	14	5	80	6	M16
PKD 4390 ÇMA PKD 4490 ÇMA	60	120	480	64.0	18	10	100	5	M20
PKD 5390 ÇMA PKD 5490 ÇMA	70	140	582	74.5	20	15	110	6	M20
PKD 6390 ÇMA PKD 6390/32 ÇMA PKD 6390/42 ÇMA	90	170	694	95.0	25	15	140	7	M24
PKD 7390 ÇMA PKD 7390/32 ÇMA PKD 7390/42 ÇMA	90	170	694	95.0	25	15	140	7	M24
PKD 8390 ÇMA PKD 8390/42 ÇMA PKD 8390/52 ÇMA	110	210	836	116.0	28	15	180	8	M24
PKD G 8390 ÇMA PKD G 8390/52 ÇMA	120	210	914	127.0	32	15	180	9	M24
PKD 9390 ÇMA PKD 9390/52 ÇMA	140	250	1110	148.0	36	15	220	10	M24

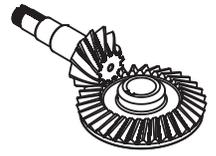
Lütfen sipariş verirken kama kanallarının pozisyonlarını belirtiniz.

'w' and 'v' dimensions are important for aligned keyways. For that reason, when you order, please determine this values.

Yukarıdaki bütün ölçüler Helisel konik dişli- Tip W, Tip IEC ve Helisel konik dişli motorları için geçerlidir.

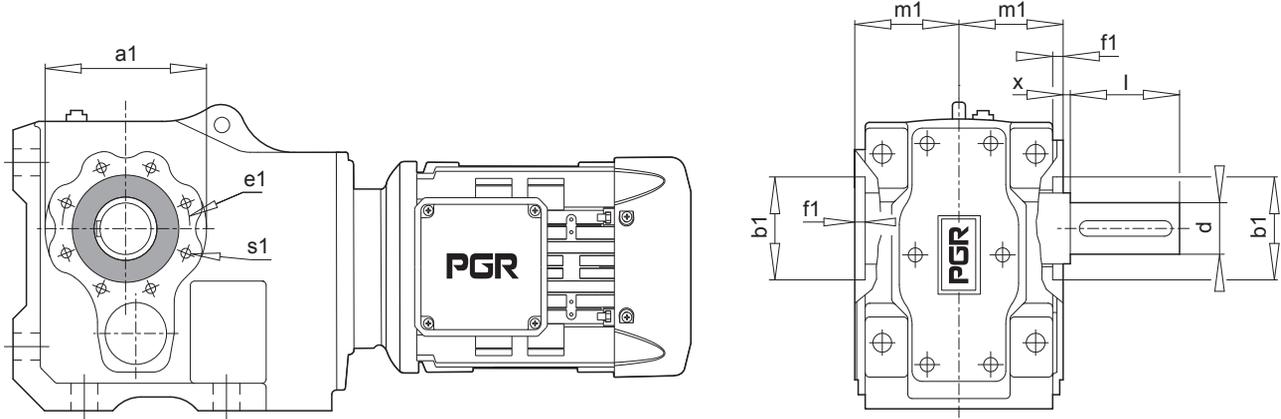
Dimensions which are shown above of this page are used for all type of helical-bevel gear units. (Type W, IEC adapter and helical bevel geared motor)

Mevcut tasarımlar için For existing designs   24 - 31



Bu tasarım gövdeden yapılacak montaj için uygun değildir. (Gövdeden montaj için Tip TMG/B14)

This B14 flange design is not suitable for case mounted gear units. Consider that; if you use B14 flange on case mounted you should look for B14 flange mounted pages. (e.g. TMG / B14)



Tip Type	Montaj ölçüleri Mounting dimensions					Ana Ölçüler Outline dimensions			
	a1	b1 ^{j6}	e1	f1	s1	m1	X	d	l
PKD 1390 TMA/B14 PKD 1490 TMA/B14	110	75	100	4	M8 x 13	71	4	30	60
PKD G 1390 TMA/B14 PKD G 1490 TMA/B14	110	75	100	4	M8 x 13	71	4	35	70
PKD 2390 TMA/B14 PKD 2490 TMA/B14	125	90	115	4	M8 x 13	86	4	35	70
PKD 3390 TMA/B14 PKD 3490 TMA/B14	150	100	130	5	M10 x 16	100	6	45	90
PKD 4390 TMA/B14 PKD 4490 TMA/B14	180	125	165	5	M12 x 20	115	5	60	120
PKD 5390 TMA/B14 PKD 5490 TMA/B14	220	150	194	5	M12 x 20	145	6	70	140
PKD 6390 TMA/B14 PKD 6390/32 TMA/B14 PKD 6390/42 TMA/B14	250	180	215	5	M12 x 20	170	7	90	170
PKD 7390 TMA/B14 PKD 7390/32 TMA/B14 PKD 7390/42 TMA/B14	250	180	215	5	M12 x 20	170	7	90	170
PKD 8390 TMA/B14 PKD 8390/42 TMA/B14 PKD 8390/52 TMA/B14	300	230	265	5	M12 x 20	200	8	110	210
PKD G 8390 TMA/B14 PKD G 8390/52 TMA/B14	350	250	300	5	M16 x 25	238	9	120	210
PKD 9390 TMA/B14 PKD 9390/52 TMA/B14	400	290	350	5	M20 x 30	295	10	*40	250

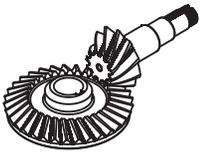
Ayak montajlı ve her iki taraftan B14 flanşlı delik miller için de geçerlidir. Tip PKD 3390 DA/B14

Flange B14 which is used for hollow shaft on both sides is available for foot mounted designs. (e.g. PKD 3390 DA/B14)

Yukarıdaki bütün ölçüler Helisel konik dişli- Tip W, Tip IEC ve Helisel konik dişli motorları için geçerlidir.

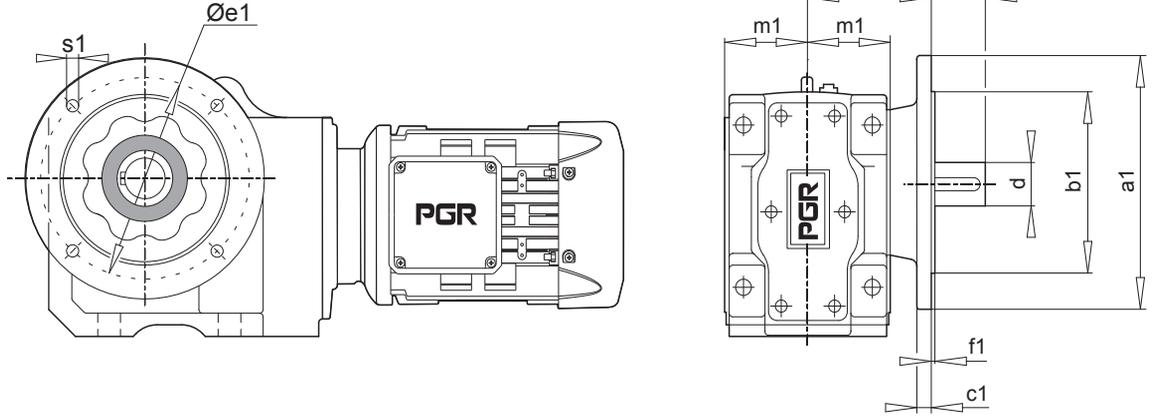
Dimensions which are shown above of this page are used for all type of helical-bevel gear units. (Type W, IEC adapter and helical-bevel geared motor)

Mevcut tasarımlar için For existing designs →  24 - 31



Bu tasarım gövdeden yapılacak montaj için uygun değildir. (Gövdeden montaj için Tip TMG/B5)

This B5 flange is not suitable for case mounted gear units. Consider that, if you use B5 flange on case mounted, you should look for B5 flange mounted pages. (e.g. Type TMG / B5)



Tip Type	Montaj ölçüleri Mounting dimensions						Ana Ölçüler Outline dimensions				
	a1	b1 ^{j6(*h6)}	c1	e1	f1	s1	i2	m1	mF	d	l
PKD 1390 TMA/B5 PKD 1490 TMA/B5	160	110	12	130	3.5	9	34	71	101	30	60
PKD G 1390 TMA/B5 PKD G 1490 TMA/B5	160	110	12	130	3.5	9	34	71	101	35	70
PKD 2390 TMA/B5 PKD 2490 TMA/B5	200	130	12	165	3.5	11	40	86	121	35	70
PKD 3390 TMA/B5 PKD 3490 TMA/B5	250	180	16	215	4.0	14	56	100	140	45	90
PKD 4390 TMA/B5 PKD 4490 TMA/B5	300	230	20	265	4.0	14	80	115	160	60	120
PKD 5390 TMA/B5 PKD 5490 TMA/B5	350	250*	20	300	5.0	18	86	145	205	70	140
PKD 6390 TMA/B5 PKD 6390/32 TMA/B5 PKD 6390/42 TMA/B5	400	300*	20	350	5.0	18	112	170	235	90	170
PKD 7390 TMA/B5 PKD 7390/32 TMA/B5 PKD 7390/42 TMA/B5	400	300*	20	350	5.0	18	112	170	235	90	170

Delik millilerde de ayak montajlı ve B5 flanşlı montajı bulunabilir. Tip PKD 3390 DA/B5

Flange B5 which is used for hollow shaft on both sides is available for foot mounted design. (e.g. PKD 3390 DA/B5)

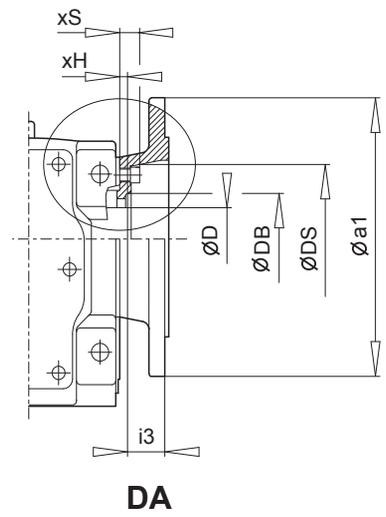
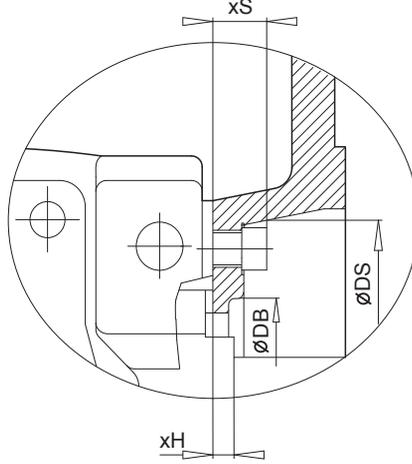
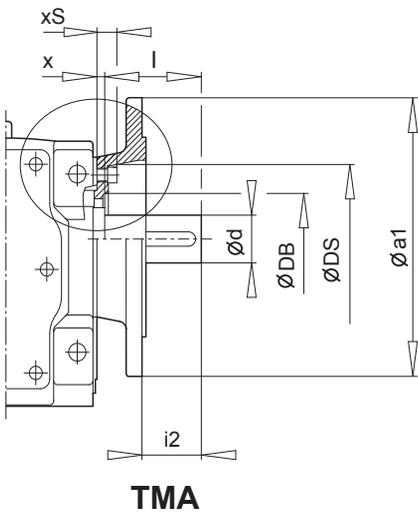
Yukarıdaki bütün ölçüler Helisel konik dişli- Tip W, Tip IEC ve Helisel konik dişli motorları için geçerlidir.

Dimensions which are shown above of this page are used for all type of helical - bevel gear units. (Type W, IEC adapter and helical - bevel geared motor.)

Mevcut tasarımlar için For existing designs →  24 - 31



AYAK MONTAJLI - FOOT MOUNTED

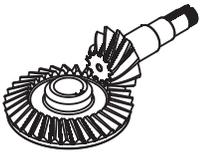


Tip Type	Flanş ø Flange ø	Şaft ölçüleri Shaft dimensions					Ana Ölçüler Outline dimensions				
	a1	d	l	x	D	xH	øDB	øDS	i2	i3	xS
PKD 1390 PKD 1490	160	30	60	4	45	3	76	100	34	27	17
PKD G 1390 PKD G 1490	160	30	60	4	45	3	76	100	34	27	17
PKD 2390 PKD 2490	200	35	70	5	50	4	77	115	40	31	17
PKD 3390 PKD 3490	250	45	90	6	70	5	90	130	56	35	20
PKD 4390 PKD 4490	300	60	120	5	80	5	115	165	80	40	24
PKD 5390 PKD 5490	350	70	140	6	100	5	135	185	86	55	27
PKD 6390 PKD 6390/32 PKD 6390/42	400	90	170	7	110	5	165	220	112	60	27
PKD 7390 PKD 7390/32 PKD 7390/42	400	90	170	7	110	5	165	220	112	60	27

Yukarıdaki bütün ölçüler Helisel konik dişli- Tip W, Tip IEC ve Helisel konik dişli motorları için geçerlidir.

Dimensions which are shown above of this page are used for all type of helical bevel gear units. (Type W, IEC adapter and helical - bevel geared motor.)

Mevcut tasarımlar için For existing designs → 24 - 31



Güçlendirilmiş B5 Flanşı:

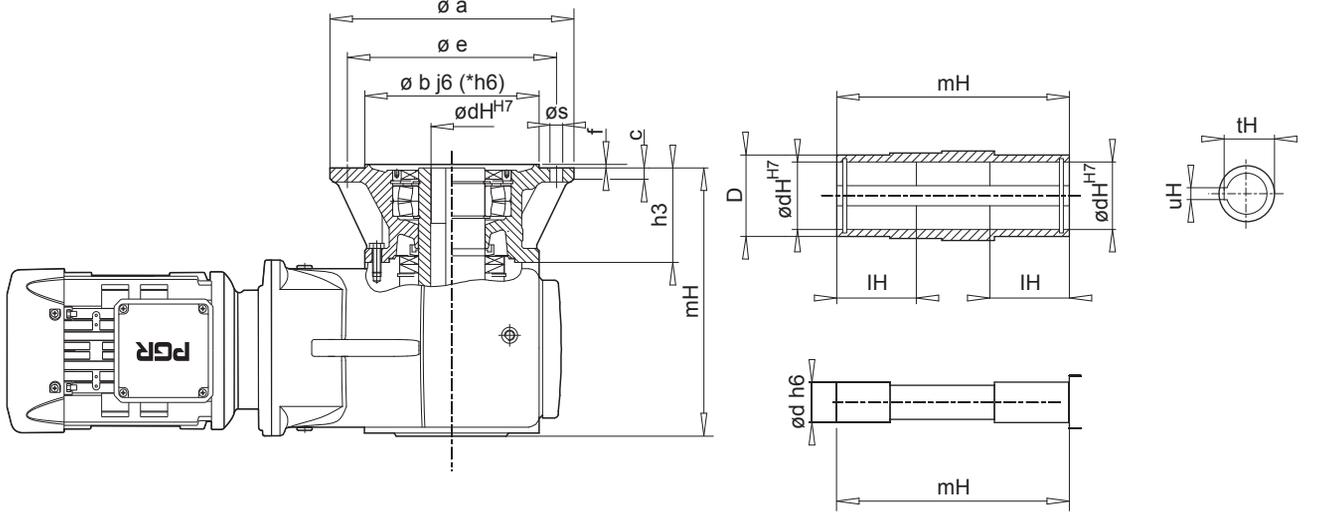
PGR özellikle karıştırıcılarda kullanılan shaftların rulman mesafelerinin artması sebebiyle güçlendirilmiş B5 flanşı kullanarak shaftın rulman arası mesafelerini arttırmıştır. Bu tasarım daha uzun rulman ömrü ile birlikte yüksek radyal ve aksel kuvvetlerin absorbe edilmesini sağlar.

Özellikle oynak makaralı rulmanlar uzun karıştırıcı shaftların aksel kaçıklıklarını karşılayabilirler.

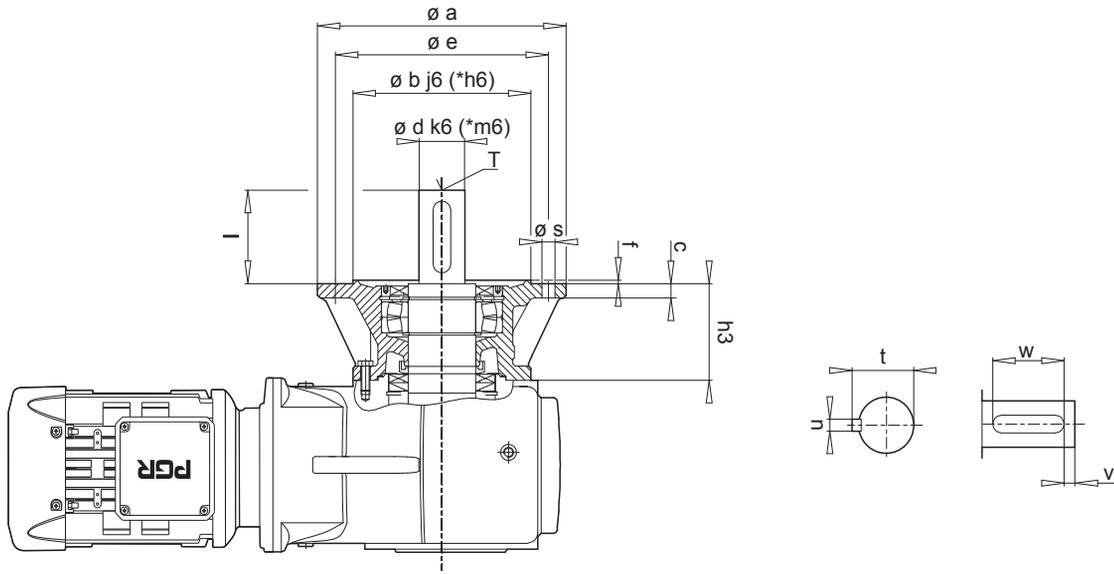
Reinforced B5 Flange:

Longer shaft is used at agitator application that is caused increasing bearing distance for that reason, PGR is increased bearing distance with using reinforced B5 flange at that design. Reinforced B5 flange design provides longer bearing life and could be used where high radial and axial load is effected to the gear unit.

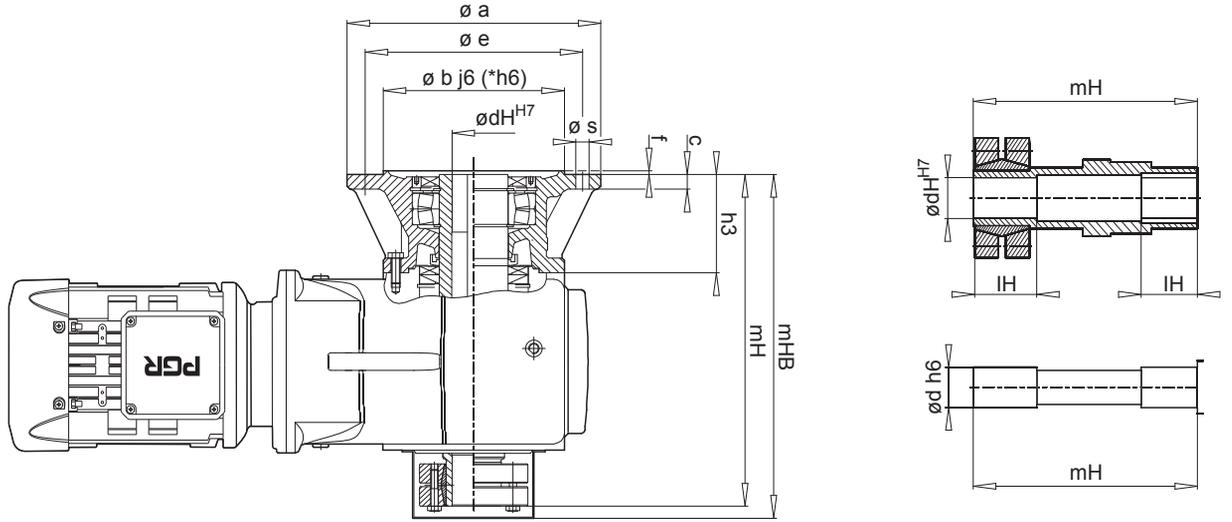
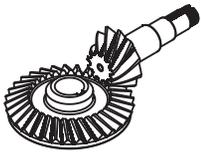
Due to increasing bearing distance and absorbing high radial and axial load spherical roller bearing are used however it is useful for recuperating misalignment at long shaft.



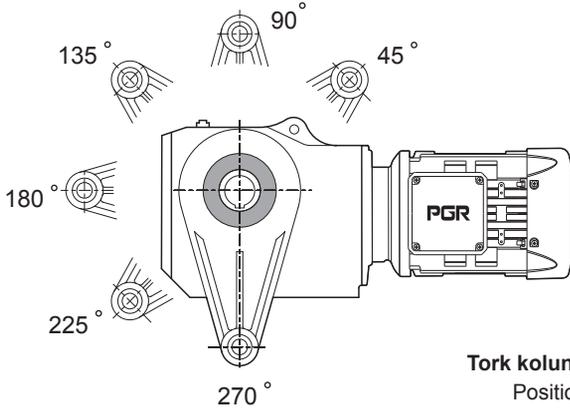
TİP / TYPE	a	b	c	e	f	h3	s	uH	tH	mH	dH ^{H7}	IH
PKD 1390 DG/GB5 PKD 1490 DG/GB5	200	130	12	165	3.5	75	4 x 11	10	38.5	218	35	50
PKD 2390 DG/GB5 PKD 2490 DG/GB5	250	180	16	215	4.0	86	4 x 13.5	12	43.5	258	40	60
PKD 3390 DG/GB5 PKD 3490 DG/GB5	300	230	20	265	4.0	85	4 x 14	14	54.0	287	50	70
PKD 4390 DG/GB5 PKD 4490 DG/GB5	350	*250	20	300	5.0	135	4 x 18	18	64.5	362.5	60	80
PKD 5390 DG/GB5 PKD 5490 DG/GB5	400	*300	22	350	5.0	166	4 x 18	20	75.0	457	70	100
PKD 6390 DG/GB5 PKD 6390/32 DG/GB5 PKD 6390/42 DG/GB5	450	*350	24	400	5.0	184	8 x 18	22	85.5	524	80	120
PKD 7390 DG/GB5 PKD 7390/32 DG/GB5 PKD 7390/42 DG/GB5	450	*350	24	400	5.0	184	8 x 18	22	85.5	524	80	120
PKD 8390 DG/GB5 PKD 8390/42 DG/GB5 PKD 8390/52 DG/GB5	550	*450	28	500	5.0	210	8 x 18	28	116.5	615	110	140
PKD G8390 DG/GB5 PKD G8390/52 DG/GB5	660	*550	32	600	6.0	262	8 x 22	32	127.5	747	120	160



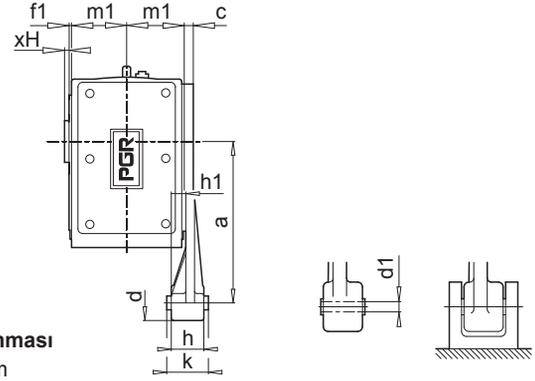
TİP / TYPE	a	b	c	e	f	h3	s	d	l	t	u	v	w	T
PKD 1390 TMG/GB5 PKD 1490 TMG/GB5	200	130	12	165	3.5	75	4 X 11	30	60	33.0	8	5	50	M10
PKD 2390 TMG/GB5 PKD 2490 TMG/GB5	250	180	16	215	4.0	86	4 X 13.5	35	70	38.0	10	7	56	M12
PKD 3390 TMG/GB5 PKD 3490 TMG/GB5	300	230	20	265	4.0	85	4 X 14	45	90	48.5	14	5	80	M16
PKD 4390 TMG/GB5 PKD 4490 TMG/GB5	350	*250	20	300	5.0	135	4 X 18	*65	130	69.0	18	15	100	M20
PKD 5390 TMG/GB5 PKD 5490 TMG/GB5	400	*300	22	350	5.0	166	4 X 18	*75	140	79.5	20	7.5	125	M20
PKD 6390 TMG/GB5 PKD 6390/32 TMG/GB5 PKD 6390/42 TMG/GB5	450	*350	24	400	5.0	184	8 X 18	*90	170	95.0	25	15	140	M24
PKD 7390 TMG/GB5 PKD 7390/32 TMG/GB5 PKD 7390/42 TMG/GB5	450	*350	24	400	5.0	184	8 X 18	*90	170	95.0	25	15	140	M24
PKD 8390 TMG/GB5 PKD 8390/42 TMG/GB5 PKD 8390/52 TMG/GB5	550	*450	28	500	5.0	210	8 X 18	*110	210	116.0	28	15	180	M24
PKD G8390 TMG/GB5 PKD G8390/52 TMG/GB5	660	*550	32	600	6.0	262	8 X 22	*120	210	127.0	32	15	180	M24
PKD 9390 TMG/GB5 PKD 9390/52 TMG/GB5	660	*550	32	600	6.0	262	8 X 22	*140	250	148.0	36	25	200	M24



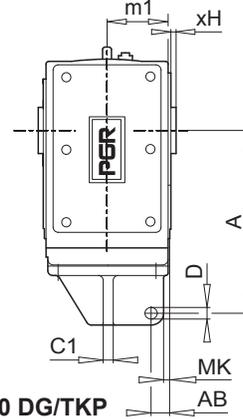
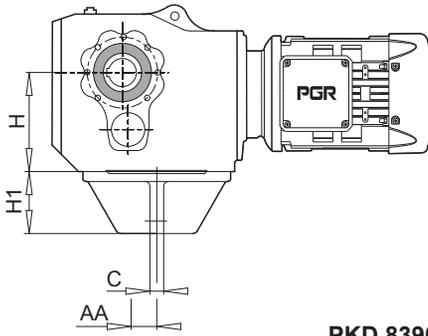
TİP / TYPE	a	b	c	e	f	h3	s	dH / d	mH	mHB	IB	IH
PKD 1390 DG/KS-GB5 PKD 1490 DG/KS-GB5	200	130	12	165	3.5	75	4 X 11	35	263	278	41	40
PKD 2390 DG/KS-GB5 PKD 2490 DG/KS-GB5	250	180	16	215	4.0	86	4 X 13.5	40	308	319	41.5	44
PKD 3390 DG/KS-GB5 PKD 3490 DG/KS-GB5	300	230	20	265	4.0	85	4 X 14	50	337	355	51.5	46
PKD 4390 DG/KS-GB5 PKD 4490 DG/KS-GB5	350	*250	20	300	5.0	135	4 X 18	60	427.5	446	61.5	58
PKD 5390 DG/KS-GB5 PKD 5490 DG/KS-GB5	400	*300	22	350	5.0	166	4 X 18	70	537	558	71	74
PKD 6390 DG/KS-GB5 PKD 6390/32 DG/KS-GB5 PKD 6390/42 DG/KS-GB5	450	*350	24	400	5.0	184	8 X 18	80	609	629	81	82
PKD 7390 DG/KS-GB5 PKD 7390/32 DG/KS-GB5 PKD 7390/42 VLB5/KS	450	*350	24	400	5.0	184	8 X 18	80	609	629	81	82
PKD 8390 DG/KS-GB5 PKD 8390/42 DG/KS-GB5 PKD 8390/52 DG/KS-GB5	550	*450	28	500	5.0	210	8 X 18	110	695	734	81	74
PKD 8390 DG/KS-GB5 PKD 8390/52 DG/KS-GB5	660	*550	32	600	6.0	262	8 X 22	125	851	892	81	98
PKD 9390 DG/KS-GB5 PKD 9390/52 DG/KS-GB5	660	*550	32	600	6.0	262	8 X 22	150	955	998	101	98



Tork kolunun pozisyonlanması
Positions of torque arm



PKD 1390 DG/TK ... PKD 7390 DG/TK



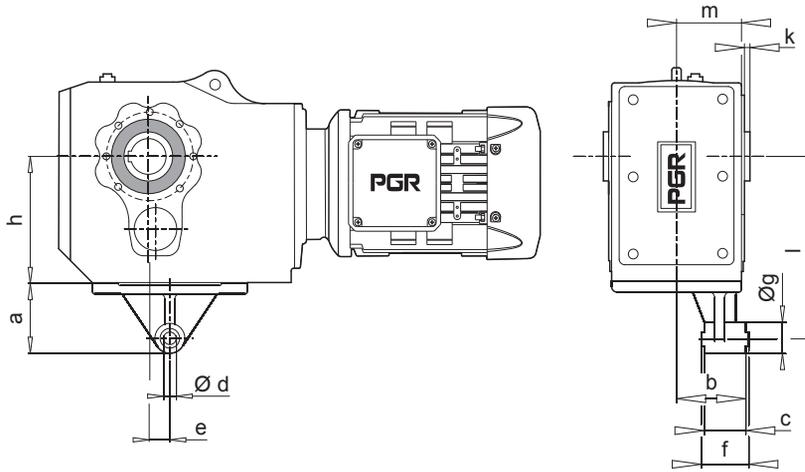
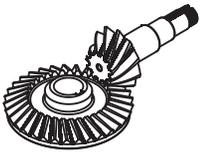
PKD 8390 DG/TKP ... PKD 9390 DG/TKP

Tip Type	Montaj Ölçüleri Mounting Dimensions																Ana Ölçüler Outline Dimensions		
	a	c	d	d1	f1	h	h1	k	A	AA	AB	C	C1	D	H	H1	MK	m1	xH
PKD 1390 DG/TK PKD 1490 DG/TK	160	16	40	10.5	3	32	11.5	36	--	--	--	--	--	--	--	--	--	68	3
PKD G 1390 DG/TK PKD G 1490 DG/TK	160	16.5	40	10.5	3	32	11.5	36	--	--	--	--	--	--	--	--	--	68	3
PKD 2390 DG/TK PKD 2490 DG/TK	200	16.5	60	16.5	4	56	26	60	--	--	--	--	--	--	--	--	--	82	4
PKD 3390 DG/TK PKD 3490 DG/TK	250	20.5	60	16.5	3	56	22	60	--	--	--	--	--	--	--	--	--	97	5
PKD 4390 DG/TK PKD 4490 DG/TK	300	24	80	25	7	92	42	100	--	--	--	--	--	--	--	--	--	108	5
PKD 5390 DG/TK PKD 5490 DG/TK	350	26.5	80	25	4	92	42	100	--	--	--	--	--	--	--	--	--	141	5
PKD 6390 DG/TK PKD 6390/32 DG/TK PKD 6390/42 DG/TK	450	28	80	25	5	92	42	100	--	--	--	--	--	--	--	--	--	165	5
PKD 7390 DG/TK PKD 7390/32 DG/TK PKD 7390/42 DG/TK	450	28	80	25	5	92	42	100	--	--	--	--	--	--	--	--	--	165	5
PKD 8390 DG/TKP PKD 8390/42 DG/TKP PKD 8390/52 DG/TKP	--	--	--	--	--	--	--	--	550	75	95	56	30	31	375	225	45	195	8
PKD G 8390 DG/TKP PKD G 8390/52 DG/TKP	--	--	--	--	--	--	--	--	650	55	95	56	40	31	450	250	5	235	8
PKD 9390 DG/TKP PKD 9390/52 DG/TKP	--	--	--	--	--	--	--	--	700	80	108	56	40	31	500	250	58	288	10

Sipariş verirken tork kolunun pozisyonunu belirtiniz (Örn. 270°)
Determine position of torque arm when commission. (e.g. 270°)

Tork kolu L yada R tarafına bağlanabilir.

Determine mounted and connecting position for instance side L or side R of gear unit when you commission.



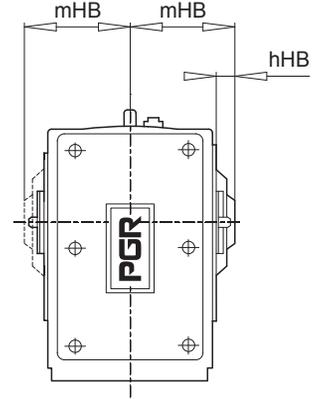
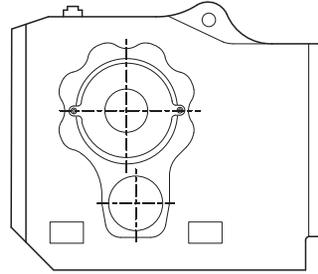
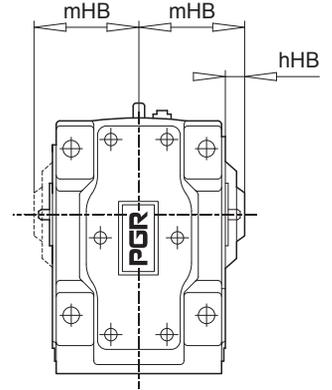
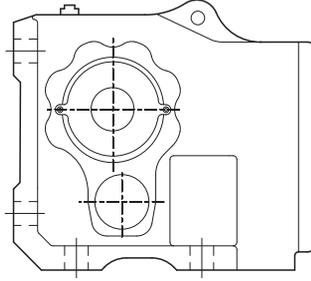
PKD 1390 DG/TKP ... PKD 7390 DG/TKP

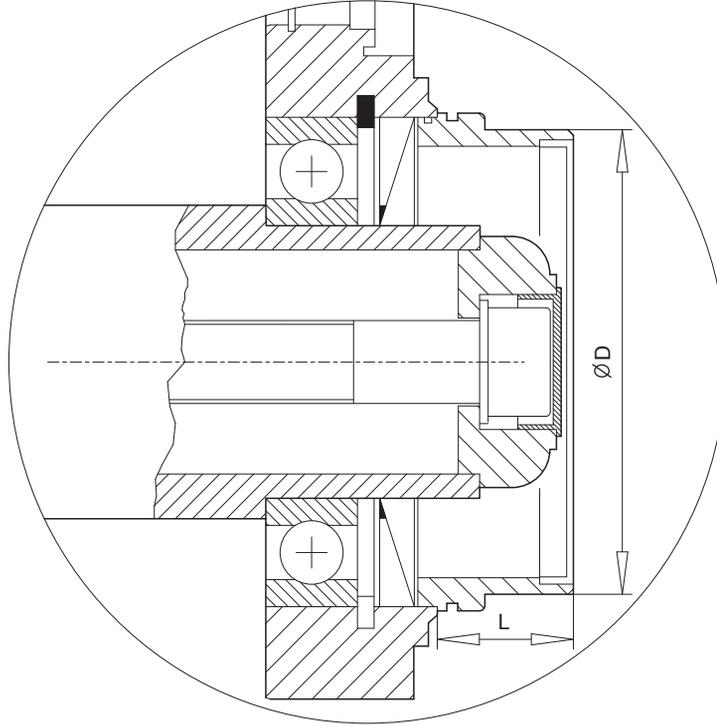
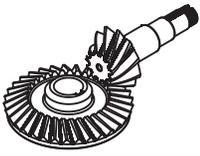
TİP TYPE	a	b	c	d	e	f	g	h	k	i	m
PKD 1390 DG/TKP PKD 1490 DG/TKP PKD G 1390 DG/TKP PKD G 1490 DG/TKP	70.5	52	32	10.5	30	36	45	112	3	160	68
PKD 2390 DG/TKP PKD 2490 DG/TKP	87	65	56	16.5	45	60	60	143	4	200	82
PKD 3390 DG/TKP PKD 3490 DG/TKP	100	80	56	16.5	52.5	60	60	180	5	250	97
PKD 4390 DG/TKP PKD 4490 DG/TKP	123	89	72	25	60	80	80	217	5	300	108
PKD 5390 DG/TKP PKD 5490 DG/TKP	128	110	92	25	70	100	80	262	5	350	141
PKD 6390 DG/TKP	175	130	92	25	74	100	80	315	5	450	165
PKD 7390 DG/TKP	175	130	92	25	74	100	80	315	5	450	165



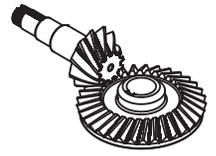
Delik milli şaft koruma kapağı Cover cup for hollow shaft

Tip Type	Montaj ve Ana Ölçüleri Outline and Mounting Dimensions	
	hHB	mHB
PKD 1390 DA PKD 1490 DA	38	109
PKD 1390 DG PKD 1490 DG	43	111
PKD G 1390 DA PKD G 1490 DA	38	109
PKD G 1390 DG PKD G 1490 DG	43	111
PKD 2390 DA PKD 2490 DA	43	129
PKD 2390 DG PKD 2490 DG	45	127
PKD 3390 DA PKD 3490 DA	45	145
PKD 3390 DG PKD 3490 DG	48	145
PKD 4390 DA PKD 4490 DA	46	161
PKD 4390 DG PKD 4490 DG	56	164
PKD 5390 DA PKD 5490 DA	48	193
PKD 5390 DG PKD 5490 DG	61	202
PKD 6390 DA	55	225
PKD 6390 DG	64	229
PKD 7390 DA	55	225
PKD 7390 DG	64	229
PKD 8390 DA	62	262
PKD 8390 DG	67	262
PKD G 8390 DA	55	293
PKD G 8390 DG	86	281



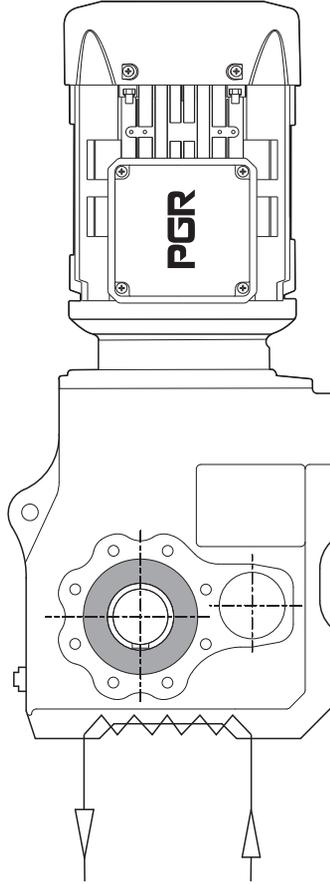


Tip Type		ø D	L
PKD 1390 DA - KK 66	PKD 1490 DA - KK 66	81	25
PKD 1390 DG/B14 - KK 66	PKD 1490 DG/B14 - KK 66	86	28
PKD G 1390 DA - KK 66	PKD G 1490 DA - KK 66	81	25
PKD G 1390 DG/B14 - KK 66	PKD G 1490 DG/B14 - KK 66	86	28
PKD 2390 DA - KK 66	PKD 2490 DA - KK 66	96	30
PKD 2390 DG/B14 - KK 66	PKD 2490 DG/B14 - KK 66	105	35
PKD 3390 DA - KK 66	PKD 3490 DA - KK 66	105	35
PKD 3390 DG/B14 - KK 66	PKD 3490 DG/B14 - KK 66	116	35
PKD 4390 DA - KK 66	PKD 4490 DA - KK 66	146	35
PKD 4390 DG/B14 - KK 66	PKD 4490 DG/B14 - KK 66	146	38
PKD 5390 DA - KK 66	PKD 5490 DA - KK 66	155	38
PKD 5390 DG/B14 - KK 66	PKD 5490 DG/B14 - KK 66	189	38
PKD 6390 DA - KK 66		189	38
PKD 6390 DG/B14 - KK 66		189	35
PKD 7390 DA - KK 66		189	38
PKD 7390 DG/B14 - KK 66		216	35
PKD 8390 DA - KK 66		246	45
PKD 8390 DG/B14 - KK 66		261	50
PKD G 8390 DA - KK 66		261	55
PKD G 8390 DG/B14 - KK 66		316	50



Entegre edilmiş bir ısı dönüştürücüsü, helisel konik dişli üniteleri ve paralel dişli ünitelerinde isteğe bağlı olarak mevcuttur. Dişli ünitesini soğutan soğutma suyu ısı dönüştürücüsü içinden akar. PGR, redüktör sıcaklığının ve soğutma suyunun akışının izlenmesini önerir. Soğutma bobini, yağ odası içinde bulunmamaktadır, PGR su soğutması . Soğutma suyu patlayıcı çalışma ortamlarında çalışması uygundur. Düşük sıcaklıklarda, ısı dönüştürücüsü, dişli ünitesine ısı sağlayabilir.

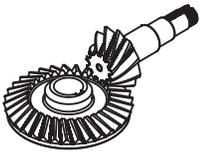
For cooling gear unit, conjugate heat exchanger is available optionally. (This design exist for helical - bevel and parallel shaft gear units.) Consider that, PGR suggests that cooling water flow and temperature of gear unit should be checked because, coil of heat exchanger is on the cup of gear unit. Heat transfer from oilor gear unit to cooling water should be monitored. This design could be used in explosive areas. Heat exchanger might be supplied heat to the gear unit in low temperature.



Su soğutma ünitesinin kullanılabileceği montaj pozisyonları

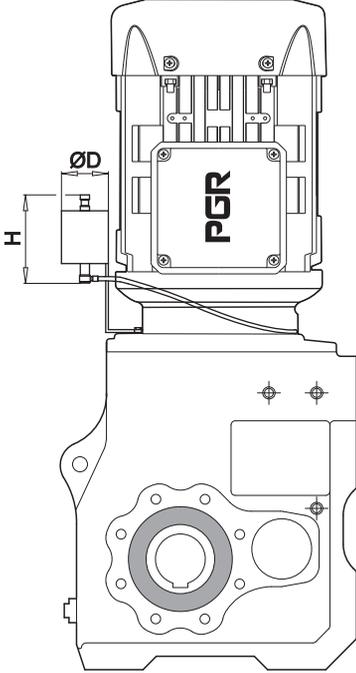
Table shows that suitability of water cooling for which mounting positions

Tip / Type	Montaj Pozisyonları / Mounting Positions					
	M1	M2	M3	M4	M5	M6
PKD 8390			✓	✓		
PKD G8390			✓	✓		
PKD 9390			✓	✓		



M4 MONTAJ POZİSYONU İÇİN İLAVE YAĞ HACMI ADDITIONAL LUBRICANT VOLUME FOR MOUNTING POSITION M4

Tip Type	Boyut Size	Ø D [mm]	H [mm]	[kg]
PKD 4390 / PKD 4490	I	100	180	6
PKD 5390 / PKD 5490				
PKD 6390	II	150	300	7
PKD 7390				
PKD 8390				
PKD G 8390	III	180	300	8
PKD 9390				



Bu ilave yağ hacim ünitesinin kullanılması dikey montaj pozisyonlarında (M4) ve kötü çalışma şartları altında bile havalandırma tapasından yağ sızmasını önler. Dikey çalışma ortamlarında redüktör içindeki yağ köpüklenme yapabilir ve bu ünite ilave bir hacim sağlar.

İlave yağ hacim ünitesi, tahvil oranı 20' den küçük helisel konik dişli üniteler PKD 4390 ve daha üst gövdelerin dikey montaj pozisyonu uygulamalarında kullanımı önerilir.



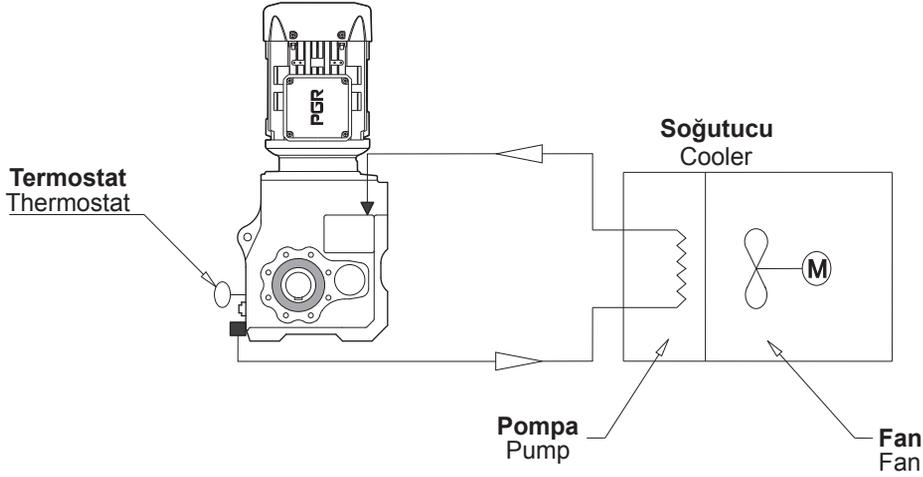
34 - 35

Additional lubricant volume unit uses for preventing oil leakage from venting plug when gear unit is mounted with M4 mounting position. It is important because at vertical mounting position oil could be foamed.

PGR suggest that additional lubrication volume units should be used where gear reduction is less than 20 and for polat helical bevel gear unit series such as PKD 4390 and greater case when M4 vertical mounting position is applied.



34 - 35

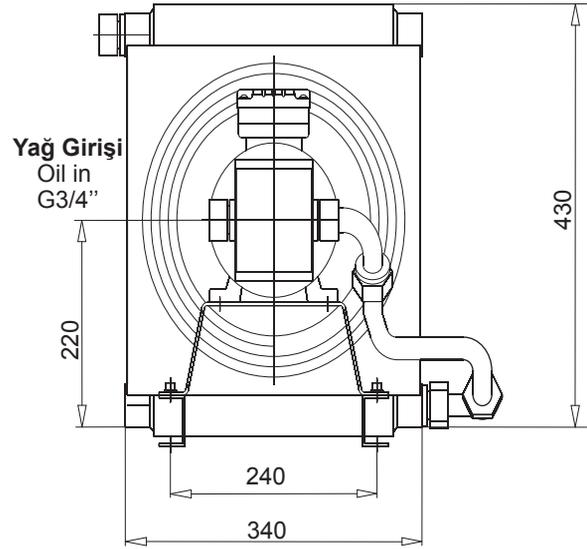
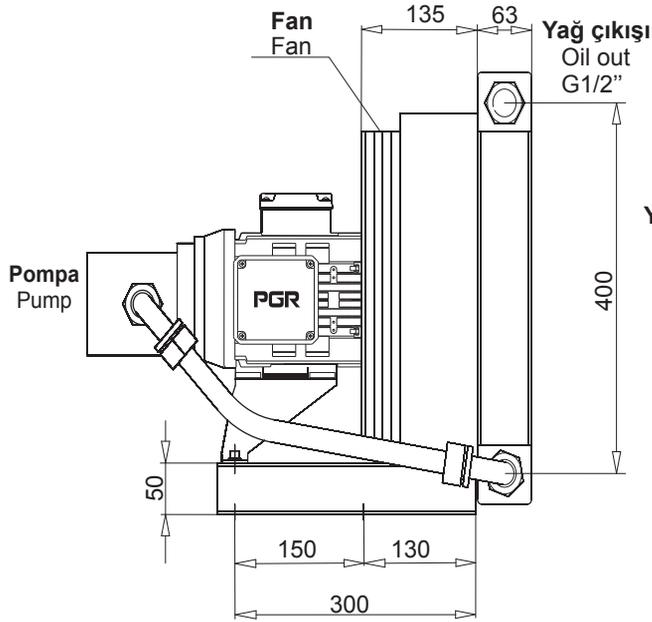


■ Çıkış = Emme hattı ▼ Yağ seviyesi = Basınç hattı

■ Outlet = Suction line ▼ Oil level = Pressure line

Dişli ünitesi yağı, bir pompa tarafından çekilir ve bir ısı dönüştürücüsü boyunca akar. Yağ, bir fan tarafından yaratılan bir hava akımı ile soğutulur. Yağ, ısı dönüştürücünün dışına taşınır ve tekrar haznesine geri gönderilir. Sıcaklık bir termostat tarafından kontrol edilir. PGR, sıcaklığın izlenmesini önerir.

Picture which is above on this page shows cycle of the cooling unit. There is a thermostat on the gear unit for checking oil temperature. Oil flows from suction line to pressure line which is provided by pump. In this way, oil temperature is cooled down by a fan which is supplying air flow to the coil. Then, oil flows to the house of gear unit.



* Potansiyel patlayıcı atmosferli alanlar için uygun değildir.

* Not suited for areas with potentially explosive atmospheres

Dizayn

Design

Soğutucu : TFS/A 8,5-400-F-03-11
Düşürme : Dış 1/2" / iç 3/4"
Motorlar : Spannung 3x400 V
Çıkış gücü : 0,55 kW
Hız : 1350 d/dk
Koruma sınıfı : IP 55
Yalıtım sınıfı : F
Sıcaklık sınıfı : B

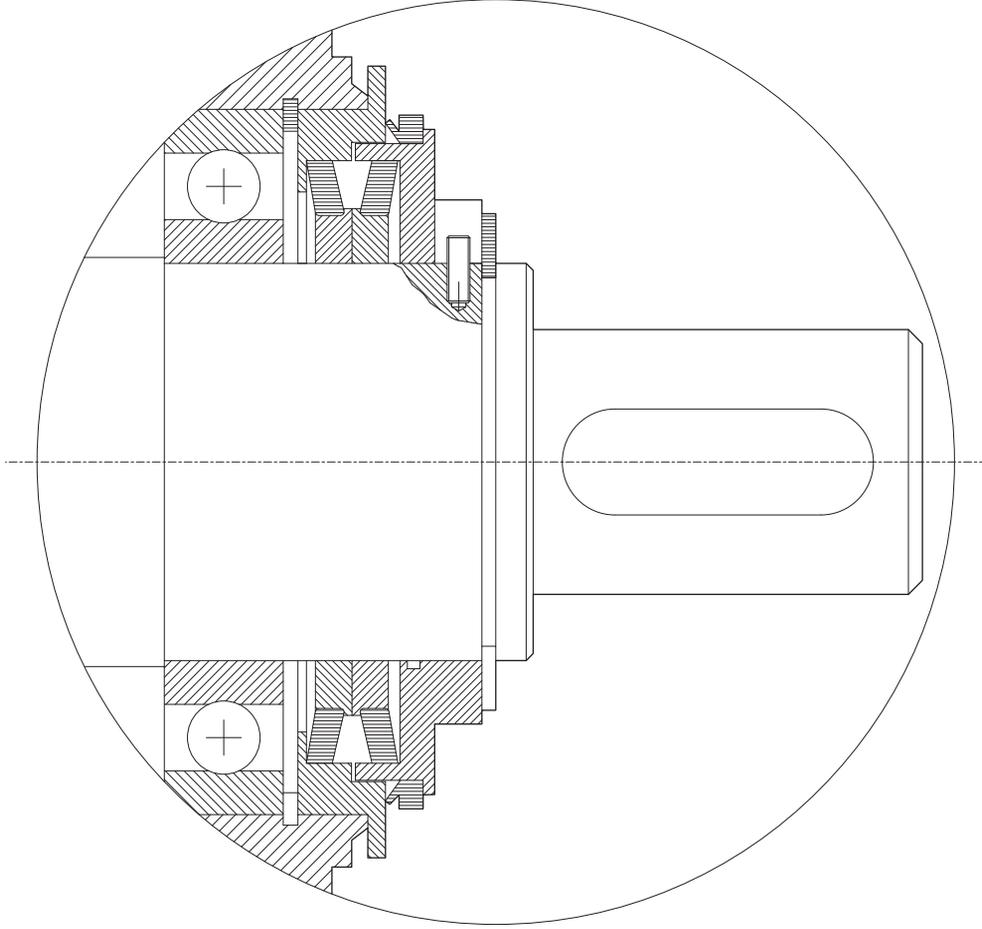
Cooler : TFS/A 8,5-400-F-03-11
Reduction : Out 1/2" / in 3/4"
Motors : Spannung 3x400 V
Output : 0,55 kW
Speed : 1350 rpm
Protection Class : IP 55
Insulation Class : F
Temperature Class : B

Aşağıdaki özelliklerde mevcuttur:
- Özel voltaj 60 HZ - Özel motor

Available with:
- Special voltage 60 HZ - Special motor

Ağırlık : 32 kg

Weight : 32 kg



MEKANİK KEÇE

Özellikle aşırı çalışmalarda ve çok kötü çalışma koşullarında uygundur. Daldırmalı veya sulu çalışma ortamlarından etkilenmemektedir. Bu keçe tipi dış çevre koşullarından kesin koruma sağlar.

MECHANICAL SEAL

Seals are important for prevent oil leakage from gear unit and protect from environment. In hazardous environment and extreme operation conditions sealing must be considered. For that reason mechanical seals are applicable for using at hazardous environment, submerged operation.



Çektirme elemanları

Çektirme elemanlar, şaft montajlı dişli ünitelerinde opsiyonel olarak bulunur.

Kullanım Şartları:

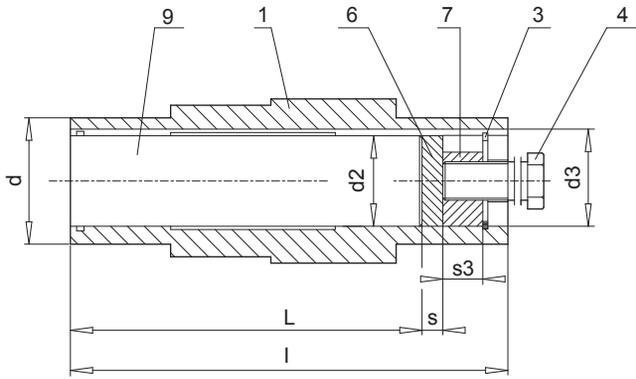
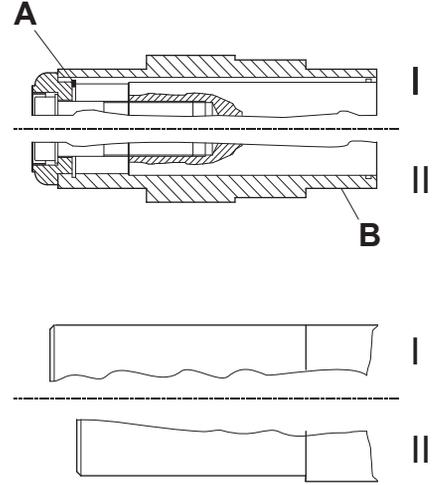
- Kullanılacak milin merkezinde DIN 332/2 standardında bir delik açılmalı.
- Mil, faturalı yada faturasız olsa da,çektirme elemanları ile sabitlenebilir.
- I 'deki montaj kullanıldığında,mil,şaftın içinde bulunan segman ile tutturulur.(Parça A)
- II 'deki montaj kullanıldığında,milin üzerinde bulununan bilezik (manşon) kullanılarak doğrudan delik mil üzerine tutturulur.(Parça B)

Fixing elements

This is used for shaft mounted designs and it should be specified when ordering because there are some requirements for use.

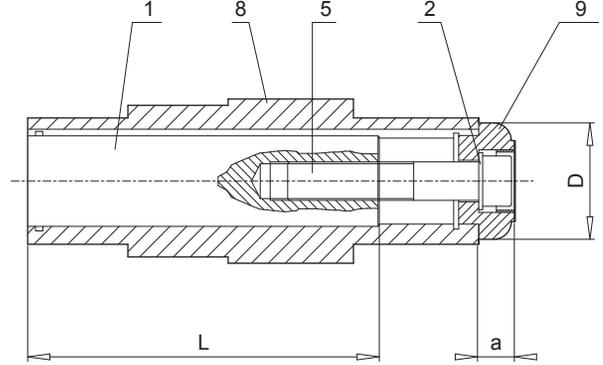
Using conditions:

- Centre bore must be machined appropriately DIN 332/2.
- Solid shaft could be mounted either with a shaft shoulder (II) or without shaft shoulder (I)
- Solid shaft which is without shaft shoulder is mounted with using retainin ring (A)
- Solid shaft which is with shaft shoulder is mounted with using spacer



DEMONTAJ
DISASSEMBLY

L= max. kullanıcı şaft boyu
L= maximum length of the solid shaft



MONTAJ
ASSEMBLY

- 1) Kullanıcı mili
- 2) Rondela DIN 127
- 3) * İç Segman DIN 472
- 4) * Çektirme civatası
- 5) Alyan başlı civata DIN 912
- 6) * Yaylı rondela
- 7) * Somun
- 8) Delik mil
- 9) Disk

- 1) Customer's shaft
- 2) Washer DIN 127
- 3) * Circlip DIN 472
- 4) * Jacking screw
- 5) Socket head screw DIN 912
- 6) * Thrust washer
- 7) * Jacking nut
- 8) Hollow shaft
- 9) Disc

*Dikkat, yıldızlı ürünler PGR tarafından temin edilmez.

*Star signs are shown this item are not provided by PGR

DEMONTAJ:

- 1) Alyanbaşlı civatayı sökünüz. (poz.5)
- 2) Diski çıkarınız. (poz.9)
- 3) Yaylı rondelayı takınız. (poz.6)
- 4) Somunu yerleştiriniz. (poz.7)
- 5) Segmanı takınız. (poz.3)
- 6) Çektirme civatasını basarak çevirerek kullanıcı milini şafttan ayırınız. (poz.4)

DISASSEMBLING:

- 1) Loosen the socket head screw (5)
- 2) Remove disc (9)
- 3) Immerse thrust washer (6)
- 4) Tuck jacking nut (7)
- 5) Mount circlip (3)
- 6) Remove solid shaft from hollow shaft with using jacking screw (4)

KOŞULLAR:

Kullanıcı mili DIN 332/2' e göre merkezine diş açılmış delik gerekmektedir. Müşteri mili "L" uzunluğunu geçmemelidir aksi halde çektirme elementi uygulanamaz. (poz. 5,6,7)

REQUIREMENTS:

Solid shaft which is connected to the hollow shaft, must have machined with a centre bore according to DIN 332/2. Consider that 'L_{max}' length is important for jacking not using solid shaft's length must not greater than 'L_{max}'.

MONTAJ:

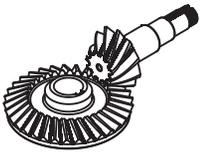
- 1) Kullanıcı milini şaftın içerisine yerleştiriniz. (poz.8)
- 2) Diski (poz.9) şaftın içerisine yerleştiriniz.
- 3) Disk ile alyan başlı civata ve rondelayı sabitleyiniz. (poz.2-5)

ASSEMBLING:

- 1) Immerse customer shaft to the hollow shaft (8)
- 2) Mount disc to the hollow shaft (9)
- 3) Fasten disc and washer (2) by tightening socket head screw (5)

Yukarıdaki bütün ölçüler helisel konik dişli - Tip W, Tip IEC ve Helisel konik dişli motorları için geçerlidir.

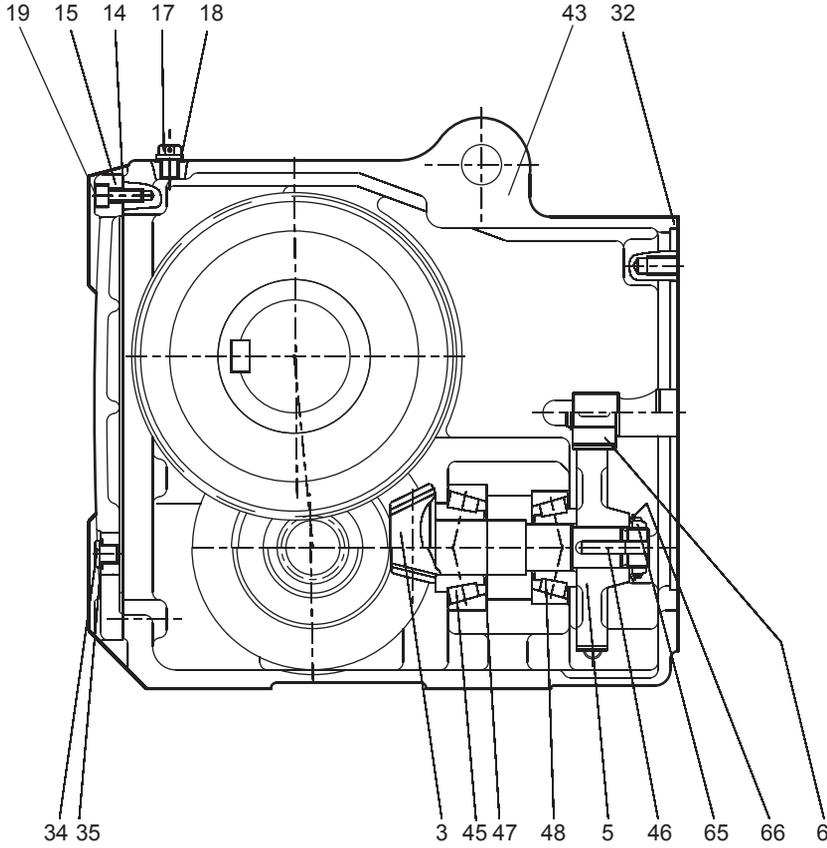
Dimensions which are shown above of this page are used for all type of helical - bevel gear units. (Type W, IEC adapter and helical - bevel geared motor.)



Tip / Type	1	2	3	4	5	6		7		8	9		
	L					d2	s	d3	s3		d x mH	a	D
PKD 1390 DA/Ç PKD 1390 DG/Ç	120 120	A10 A12	l 30 x 1.5 l 35 x 1.5	M12 M16	M10 X 45 M12 X 55	29.0 34.9	3 3	29.0 34.9	12 16	M12 M16	30 x 148 35 x 148	20 24.5	40 45
PKD G1390 DA/Ç PKD G1390 DG/Ç	120 120	A10 A16	l 30 x 1.5 l 40 x 2.0	M12 M16	M10 X 45 M16 X 70	29.0 39.9	3 4	29.0 39.9	12 16	M12 M16	30 x 148 40 x 148	20 25	40 55
PKD 2390 DA/Ç PKD 2390 DG/Ç	150 150	A12 A16	l 35 x 1.5 l 40 x 2.0	M12 M16	M12 X 55 M16 X 70	34.9 39.9	3 4	34.9 39.9	16 16	M16 M16	35 x 180 40 x 180	24.5 25	45 55
PKD 3390 DA/Ç PKD 3390 DG/Ç	170 170	A16 A16	l 40 x 2.0 l 50 x 2.5	M16 M20	M16 X 70 M16 X 70	39.9 49.9	4 4	39.9 49.9	16 20	M16 M20	40 x 210 50 x 210	25 26	55 65
PKD 4390 DA/Ç PKD 4390 DG/Ç	200 195	A16 A20	l 50 x 2.5 l 60 x 3.0	M20 M24	M16 X 70 M20 X 90	49.9 59.9	4 5	49.9 59.9	20 24	M20 M24	50 x 240 60 x 240	26 30	65 75
PKD 5390 DA/Ç PKD 5390 DG/Ç	255 255	A20 A20	l 60 x 3.0 l 70 x 3.0	M24 M24	M20 X 90 M20 X 90	59.9 69.9	5 5	59.9 69.9	24 24	M24 M24	60 x 300 70 x 300	31 31.5	75 95
PKD 6390 DA/Ç PKD 6390 DG/Ç	305 295	A20 A20	l 70 x 3.0 l 80 x 4.0	M24 M30	M20 X 90 M20 X 100	69.9 79.9	5 8	69.9 79.9	24 30	M24 M30	70 x 350 80 x 350	32 32	78 88
PKD 7390 DA/Ç PKD 7390 DG/Ç	290 290	A24 A24	l 90 x 4.0 l 90 x 4.0	M30 M30	M24 X 110 M24 X 110	89.9 89.9	8 8	89.9 89.9	30 30	M30 M30	90 x 350 90 x 350	36 36	102 102
PKD 8390 DA/Ç PKD 8390 DG/Ç	365 360	A24 A24	l 100 x 4.0 l 110 x 5.0	M30 M30	M24 X 110 M24 X 110	99.9 109.9	8 10	99.9 109.9	30 30	M30 M30	100 x 420 110 x 420	36.5 36.5	120 135
PKD G8390 DA/Ç PKD G8390 DG/Ç	440 440	A24 A24	l 110 x 5.0 l 120 x 5.0	M30 M36	M24 X 110 M24 X 110	109.9 119.9	10 10	109.9 119.9	30 32	M30 M32	110 x 500 120 x 500	36 36.5	135 150

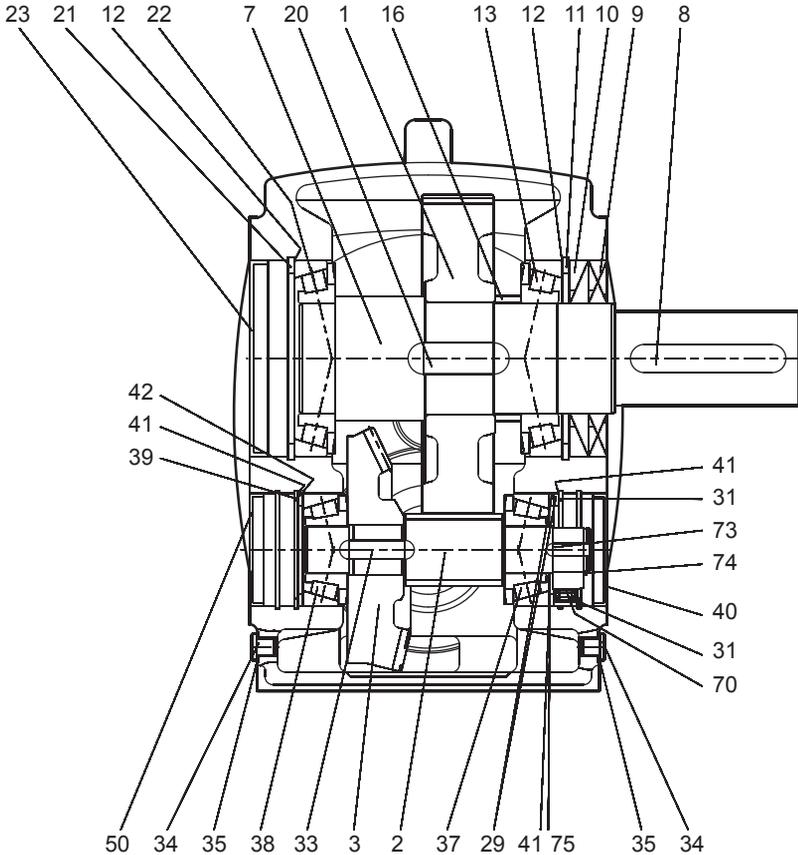
Tabloda belirtilen numaralar Sayfa 212' de açıklanmaktadır.

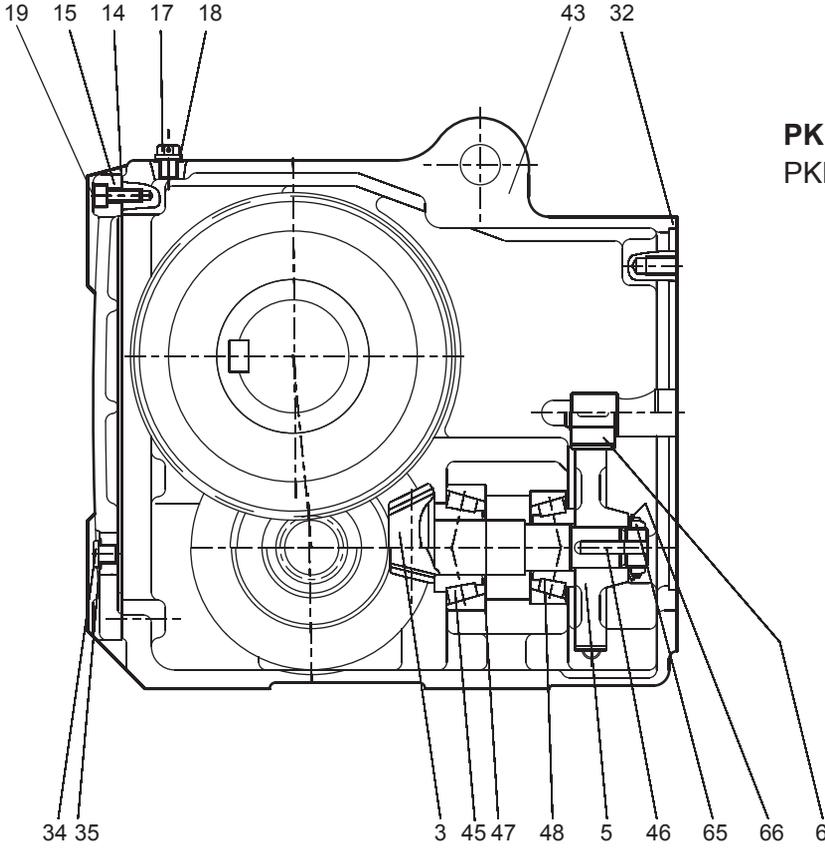
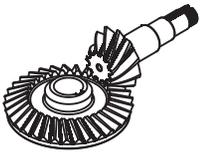
The numbers which are specified at table are explained on Page 212



PKD 1390 - 9390 AYAK MONTAJLI
PKD 1390 - 9390 FOOT MOUNTED

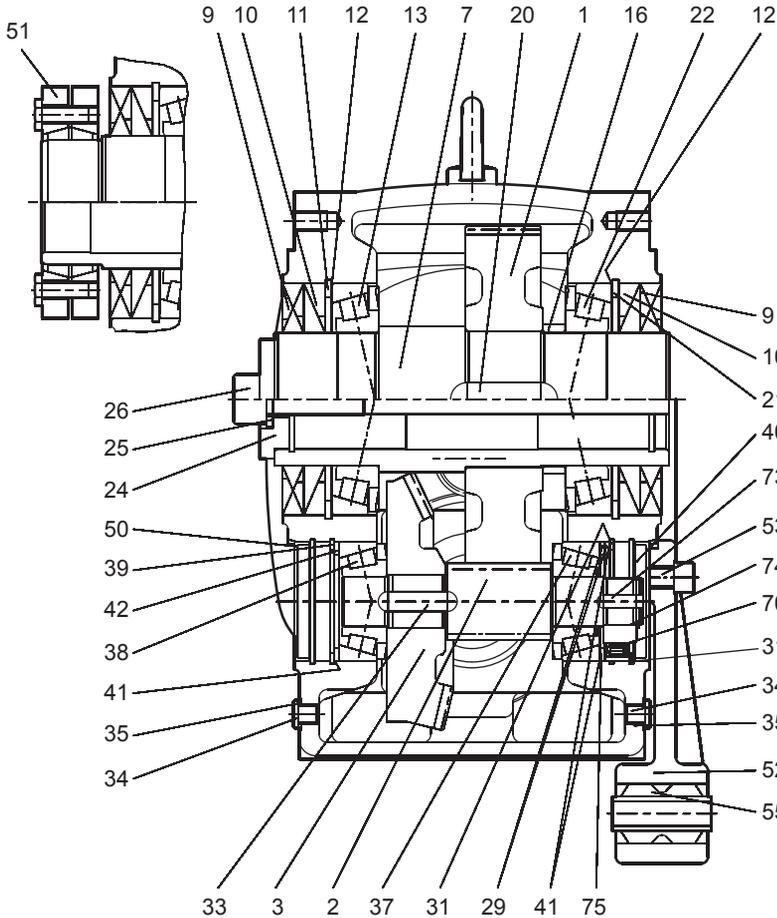
1	Z6 Dişlisi	Output gear
2	Z5 Dişlisi	Output pinion shaft
3	Ayna - Mahrutu	Bevel gear set
5	Z2 Dişlisi	Driving gear
6	Z1 Dişlisi	Driving pinion gear
7	Çıkış mili	Solid shaft
8	Çıkış mili kaması	Solid shaft key
9	Çıkış mili keçesi	Shaft seal
10	Çıkış mili keçesi	Shaft seal
11	Segman	Circlip
12	Layner	Shim
13	Konik rulman	Taper roller bearing
14	Conta	Gasket
15	Gövde kapağı	Gear case cover
16	Burç	Spacer
17	Havalandırma tapası	Vent screw
18	Rondela	Washer
19	Alyan başlı civata	Socket head screw
20	Kama	Key
21	Segman	Circlip
22	Konik rulman	Taper roller bearing
23	Yağ kapağı	Oil filler cup
29	Rondela	Supporting disc
31	Segman	Circlip
32	Conta	Gasket
33	Kama	Key
34	Yağ tapası	Drain plug
35	Rondela	Washer
37	Konik rulman	Taper roller bearing
38	Konik rulman	Taper roller bearing
39	Segman	Circlip
40	Yağ kapağı	Oil filler cup
41	Layner	Shim
42	Rondela	Supporting disc
43	Gövde	Gear case
45	Konik rulman	Taper roller bearing
46	Kama	Key
47	Layner	Shim
48	Konik rulman	Taper roller bearing
50	Yağ kapağı	Oil filler cup
65	Yarıklı somun	Slotted round nut
66	Tırnaklı rondela	Tab washer
70	Kilit	Backstop
73	Kama	Key
74	Segman	Circlip
75	Rondela	Supporting disc

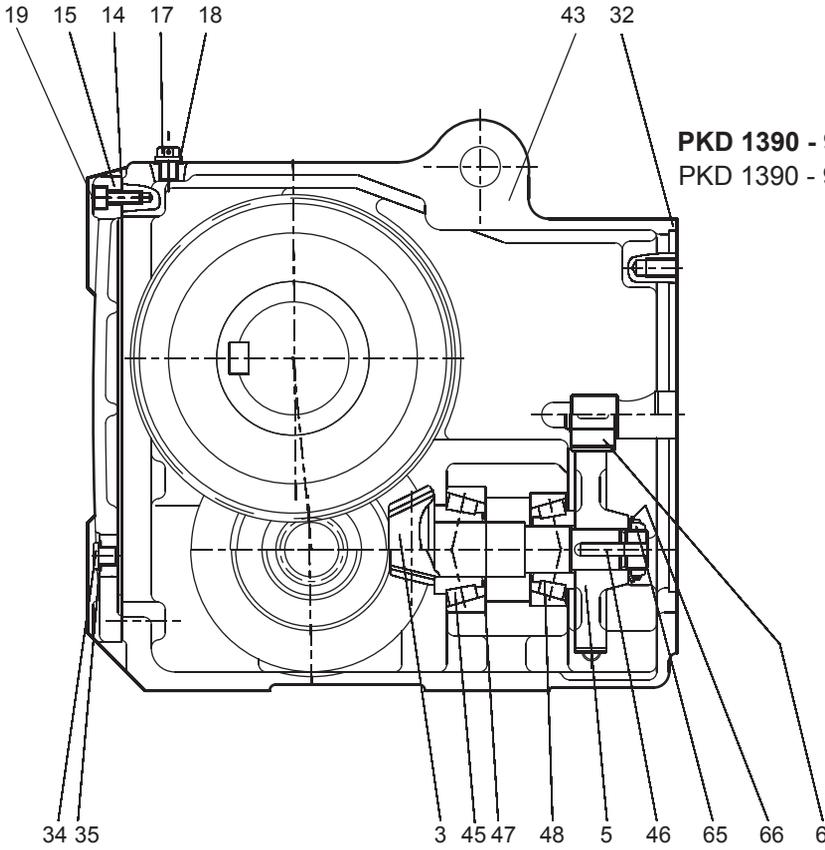




PKD 1390 - 9390 GÖVDEDEN MONTAJLI
PKD 1390 - 9390 CASE MOUNTED

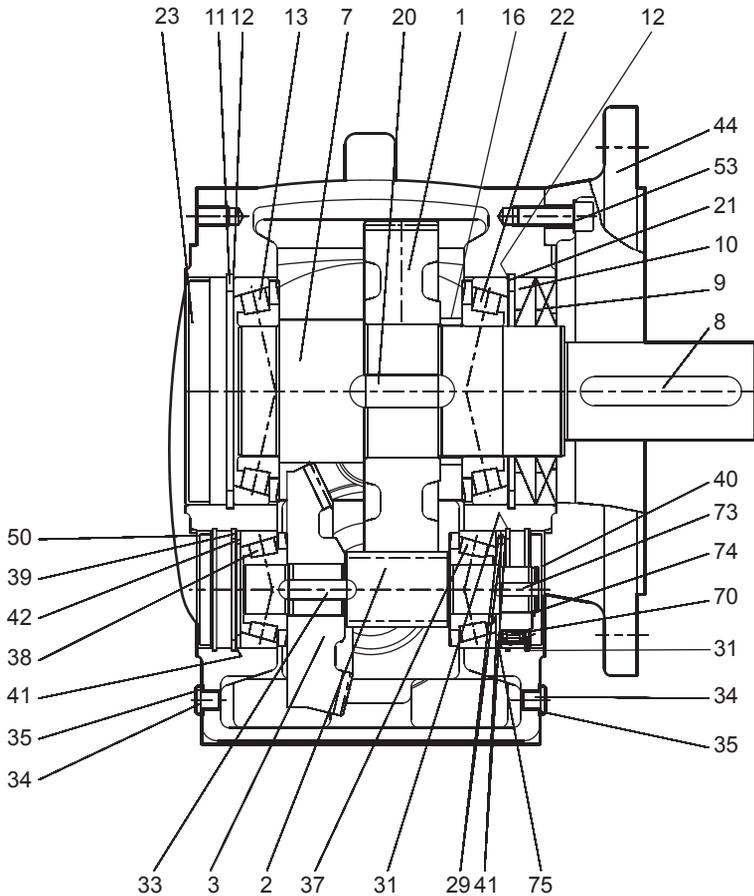
1	Z6 Dişlisi	Output gear
2	Z5 Dişlisi	Output pinion shaft
3	Ayna - Mahruti	Bevel gear set
5	Z2 Dişlisi	Driving gear
6	Z1 Dişlisi	Driving pinion gear
7	Çıkış şaftı	Hollow shaft
9	Çıkış şaftı keçesi	Shaft seal
10	Çıkış şaftı keçesi	Shaft seal
11	Segman	Circlip
12	Layner	Shim
13	Konik rulman	Taper roller bearing
14	Conta	Gasket
15	Gövde kapağı	Gear case cover
16	Burç	Spacer
17	Havalandırma tapası	Vent screw
18	Rondela	Washer
19	Alyan başlı civata	Socket head screw
20	Kama	Key
21	Segman	Circlip
22	Konik rulman	Taper roller bearing
24	Rondela	Washer
25	Yaylı rondela	Spring washer
26	Alyan başlı civata	Socket head screw
29	Rondela	Supporting disc
31	Segman	Circlip
32	Conta	Gasket
33	Kama	Key
34	Yağ tapası	Drain plug
35	Rondela	Washer
37	Konik rulman	Taper roller bearing
38	Konik rulman	Taper roller bearing
39	Segman	Circlip
40	Yağ kapağı	Oil filler cup
41	Layner	Shim
42	Rondela	Supporting disc
43	Gövde	Gear case
45	Konik rulman	Taper roller bearing
46	Kama	Key
47	Layner	Shim
48	Konik rulman	Taper roller bearing
50	Yağ kapağı	Oil filler cup
51	Konik Sıkırtma	Shrink disc connector
52	Tork kolu	Torque arm
53	Alyan başlı civata	Socket head screw
55	Kauçuk takoz	Rubber buffer
65	Yarıklı somun	Slotted round nut
66	Tırnaklı rondela	Tab washer
70	Kilit	Backstop
73	Kama	Key
74	Segman	Circlip
75	Rondela	Supporting disc

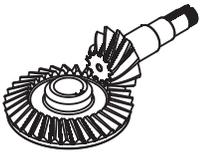




PKD 1390 - 9390 GÖVDEDEN MONTAJLI, B5 FLANŞLI
PKD 1390 - 9390 CASE MOUNTED, FLANGE B5

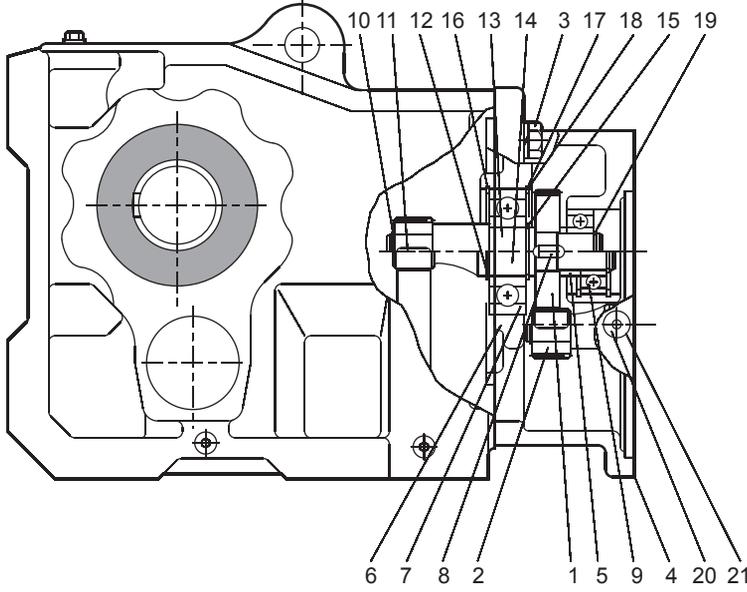
1	Z6 Dişlisi	Output gear
2	Z5 Dişlisi	Output pinion shaft
3	Ayna - Mahrutu	Bevel gear set
5	Z2 Dişlisi	Driving gear
6	Z1 Dişlisi	Driving pinion gear
7	Çıkış mili	Solid shaft
8	Çıkış mili kaması	Solid shaft key
9	Çıkış mili keçesi	Shaft seal
10	Çıkış mili keçesi	Shaft seal
11	Segman	Circlip
12	Layner	Shim
13	Konik rulman	Taper roller bearing
14	Conta	Gasket
15	Gövde kapağı	Gear case cover
16	Burç	Spacer
17	Havalandırma tapası	Vent screw
18	Rondela	Washer
19	Alyan başlı civata	Socket head screw
20	Kama	Key
21	Segman	Circlip
22	Konik rulman	Taper roller bearing
23	Yağ kapağı	Oil filler cup
29	Rondela	Supporting disc
31	Segman	Circlip
32	Conta	Gasket
33	Kama	Key
34	Yağ tapası	Drain plug
35	Rondela	Washer
37	Konik rulman	Taper roller bearing
38	Konik rulman	Taper roller bearing
39	Segman	Circlip
40	Yağ kapağı	Oil filler cup
41	Layner	Shim
42	Rondela	Supporting disc
43	Gövde	Gear case
44	Flanş	Flange
45	Konik rulman	Taper roller bearing
46	Kama	Key
47	Layner	Shim
48	Konik rulman	Taper roller bearing
50	Yağ kapağı	Oil filler cup
53	Alyan başlı civata	Socket head screw
65	Yarıklı somun	Slotted round nut
66	Tırnaklı rondela	Tab washer
70	Kilit	Backstop
73	Kama	Key
74	Segman	Circlip
75	Rondela	Supporting disc





PKD 1490 - 5490
Ayak Montajlı
Gövdeden Montajlı

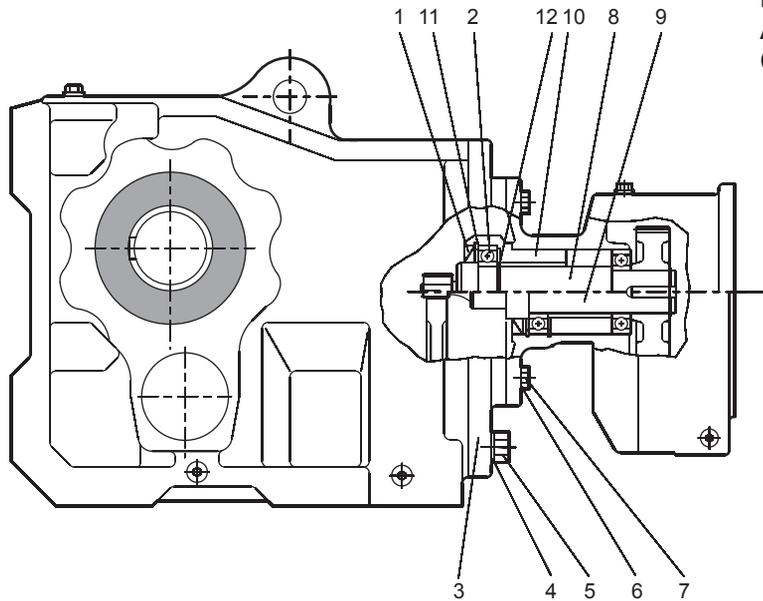
PKD 1490 - 5490
Foot Mounted
Case Mounted



1	Z2 Dişlisi	Input gear
2	Z1 Dişlisi	Input pinion
3	Civata	Bolt
4	Conta	Gasket
5	Rondela	Supporting disc
6	İndirgeyici Gövdesi	Third reduction gearcase
7	Rulman	Ball bearing
8	Kama	Key
9	Rulman	Ball bearing
10	Segman	Circlip
11	Kama	Key
12	Segman	Circlip
13	İndirgeyici mili Çakma	Intermediate Shaft, plain
14	İndirgeyici mili Yekpare	Intermediate Shaft, Gearcut
15	Segman	Circlip
16	Segman	Circlip
17	Layner	Shim
18	Segman	Circlip
19	Segman	Circlip
20	Tapa	Plug
21	Rondela	Washer

PKD 6390/32 - 9390/52
Ayak Montajlı
Gövdeden Montajlı

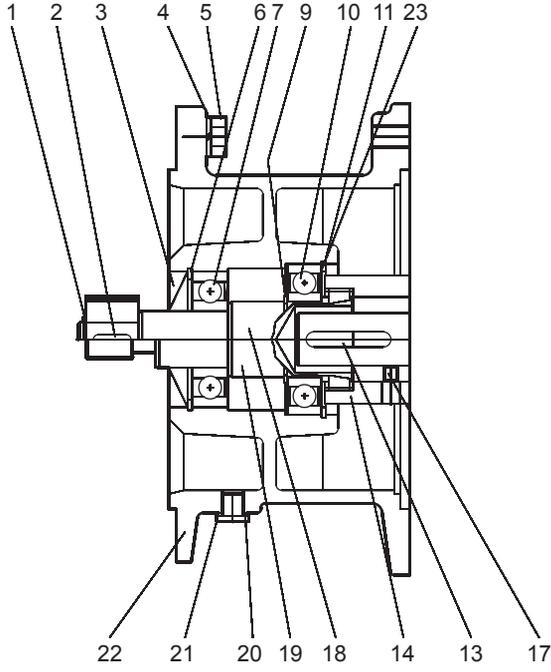
PKD 6390/32 - 9390/52
Foot Mounted
Case Mounted



1	Şaft keçesi	Shaft seal
2	Rulman	Ball bearing
3	Ara flanş	Intermediate flange
4	Yaylı rondela	Spring Washer
5	Civata	Bolt
6	Yaylı rondela	Spring Washer
7	Civata	Bolt
8	Ara Mil Çakma	Intermediate shaft, plain
9	Ara Mil Yekpare	Intermediate shaft, gearcut
10	Ara burç	Bearing sleeve
11	Segman	Circlip
12	Segman	Circlip

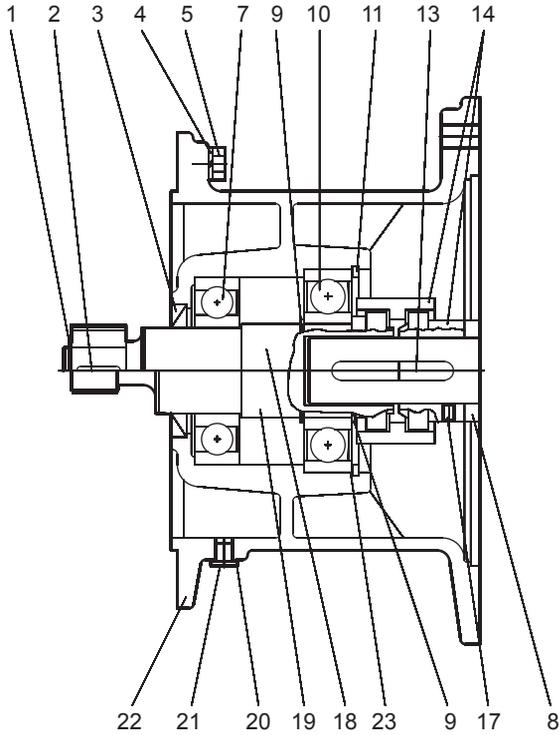


IEC 63 - 112

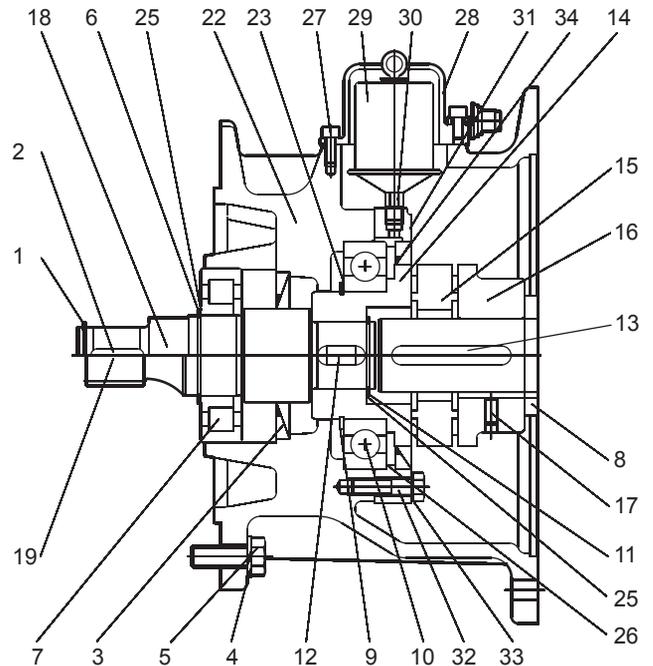


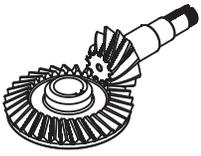
1	Segman	Circlip
2	Kama	Key
3	Şaft keçesi	Shaft seal
4	Rondela	Washer
5	Altıköşe başlı civata	Hexagon screw
6	Segman	Circlip
7	Rulman	Clutch shaft bearing
8	Burç	Spacer
9	Segman	Circlip
10	Rulman	Clutch shaft bearing
11	Segman	Circlip
12	Kama	Key
13	Kama	Key
14	Kaplin	Coupling
15	Kaplin	Coupling
16	Kaplin	Coupling
17	Setuskur civata	Set screw
18	İec mili çakma	Clutch shaft
19	İec mili yekpare	Clutch pinion shaft
20	Rondela	Washer
21	Yağ tapası	Oil plug
22	İec gövdesi	IEC adapter
23	Layner	Shim
25	Layner	Shim
26	Layner	Shim
27	Alıyan başlı civata	Socket head screw
28	Kapak	Cover
29	Otomatik yağlayıcı	Automatic lubricator
30	Adaptör	Adapter
31	Rulman kapağı	Bearing cover
32	Altıköşe başlı civata	Hexagon screw
33	Rondela	Washer
34	Şaft keçesi	Shaft seal

IEC 132 - 180

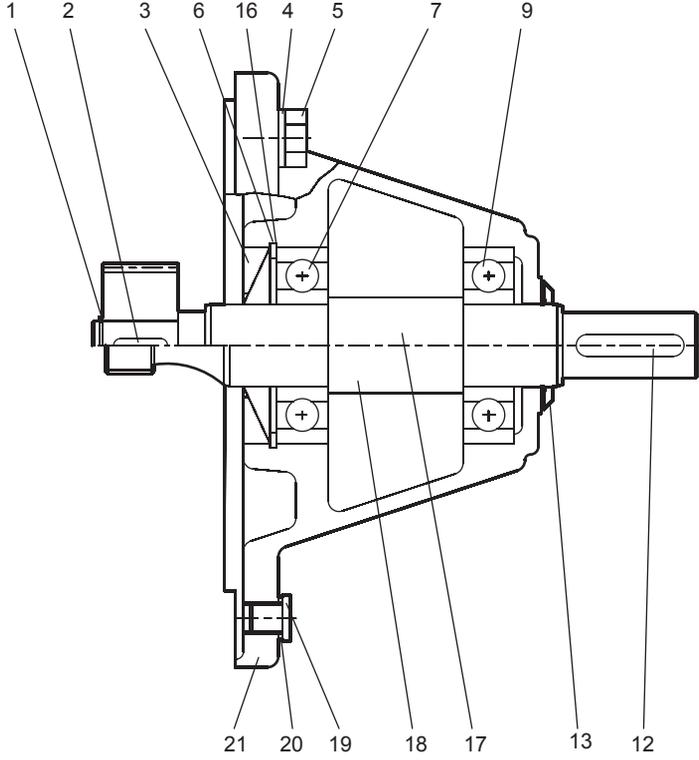


IEC 160 - 315



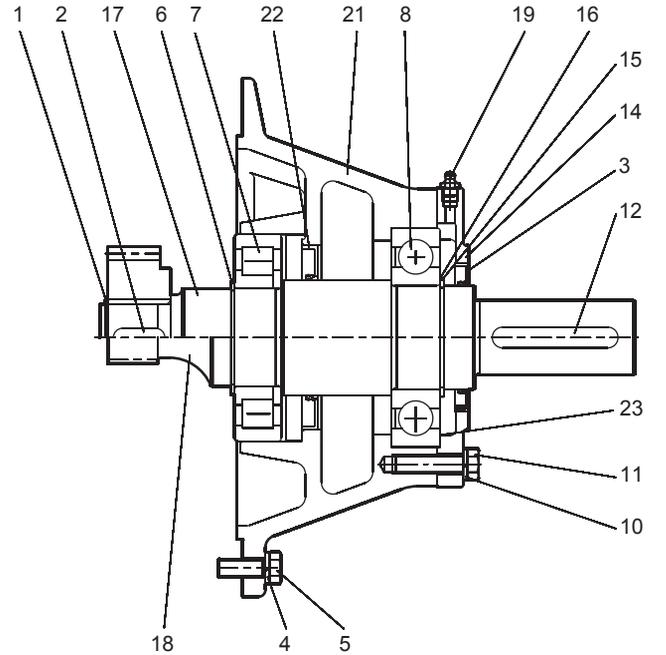


PKD 1390 - 5390
PKD 1490 - 5490

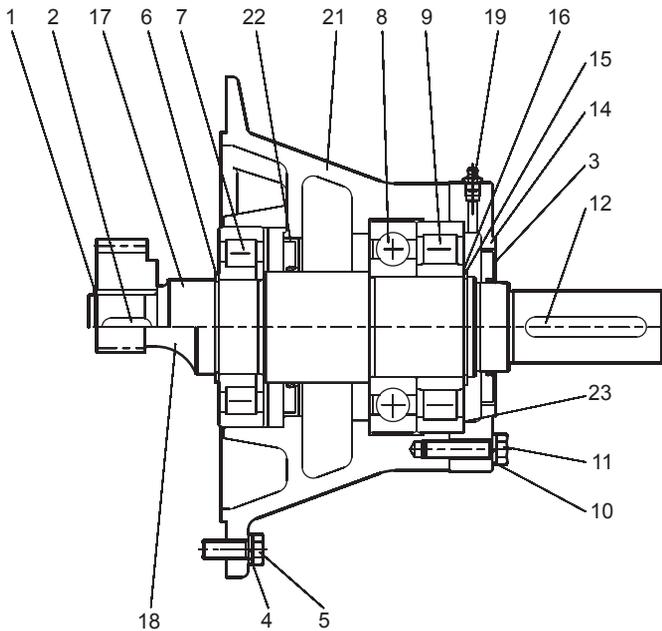


1	Segman	Circlip
2	Kama	Key
3	Şaft keçesi	Shaft seal
4	Rondela	Washer
5	Altıköşe başlı civata	Hexagon screw
6	Segman	Circlip
7	Rulman	Input shaft bearing
8	Rulman	Ball bearing
9	Rulman	Input shaft bearing
10	Rondela	Washer
11	Altıköşe baş civata	Hexagon screw
12	Kama	Key
13	Yağ tutucu	Oil flinger
14	Rulman kapağı	Bearing cover
15	Segman	Circlip
16	Layner	Shim
17	W mili çakma	Input shaft, plain
18	W mili yekpare	Input shaft, gearcut
19	Yağ tapası	Drain plug
20	Rondela	Washer
21	W gövdesi	Input bearing housing
22	Şaft keçesi	Shaft seal (Oil flinger)
23	Layner	Shim

PKD 6390 - 7390



PKD 8390 - 9390



ÜÇ FAZLI VE BİR FAZLI ELEKTRİK MOTORLARI



İÇERİK

İçindekiler
Üretim

Teknik Bilgiler

Standartlar
İzolasyon Sınıfı, Koruma Sınıfı
Vibrasyon/Balans, Elektriksel Bağlantı, Toleranslar
Ortam Koşulları, Malzeme
Yapı Şekilleri, Rulmanlar
Boya, Ayaklar, Terminal Kutusu, Tahliye Deliği
Motor Tip Kodları, Frekans Değişimi
Mil Üzerinde İzin Verilen Yük Miktarı
Çalışma Tipi

Üç Fazlı - QSX/QU/QH Tipler

Elektriksel Özellikler - QSX /QU Tipler
Elektriksel Özellikler - QSX /QU Tipler
Verimlilik Seviyeleri
Elektriksel Özellikler - QH Tip
Boyutlar
Boyutlar
Boyutlar

Bir Fazlı Daimi Devre Kondansatörlü - QM Tip

Teknik Bilgiler
Elektriksel Özellikler
Boyutlar

Frenli Motor - QB Tip

Teknik Bilgiler
Elektriksel Özellikler
Boyutlar
Boyutlar
Motor Parça Listesi

TEKNİK BİLGİLER

STANDARTLAR

Elektrik motorları, aşağıda listesi verilen Uluslararası Standartlara uygun olarak üretilmektedir:

IEC 60034-1	Sınıflama ve performans
IEC 60034-2	Kayıp ve verim ölçme metodları
IEC 60034-5	Koruma derecesi sınıflandırması
IEC 60034-6	Soğutma metodları
IEC 60034-7	Yapı şekil ve montaj düzenleme sembolleri
IEC 60034-8	Terminal işaretlemesi ve dönüş yönü
IEC 60034-9	Ses seviyesi limitleri
IEC 60034-11	Sıcaklık koruması
IEC 60034-14	Vibrasyon limitleri
IEC 60034-18-1	İzolasyon sistemlerinin fonksiyonel değerlendirilmesi
IEC 60038	Standart gerilimler
EN 50347	Elektrik makineleri için boyutlar ve çıkış güçleri

EN 55014-1	} Elektromanyetik uyumluluk
EN 61000-3-2	
EN 61000-3-3	

Türkiye

TSE 3067
TSE 4239

Almanya

DIN VDE 0530
DIN EN 60034

İngiltere

BS EN 60034

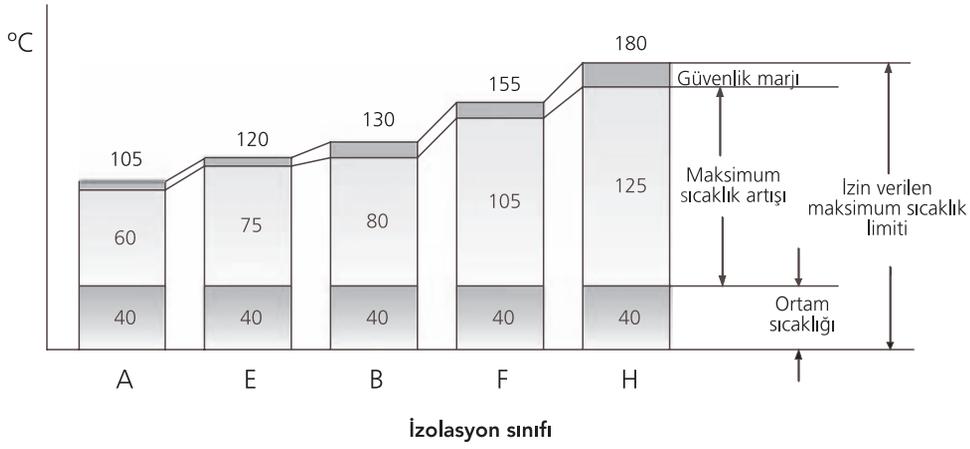
Üç fazlı ve bir fazlı motor serimiz için, UL 1004 ve CSA C 22.2 No 100.95 standartlarını sağlayan, UL ve C-UL sertifikalı motor üretimimiz mevcuttur.

TEKNİK BİLGİLER

İZOLASYON SINIFI

Standart motorlarımız, B sınıfı sıcaklık artışı limitleri içinde tasarlanmış olup, F sınıfı izolasyona sahiptir. Bu özellik, motorların daha uzun çalışma ömrüne sahip olmasını sağlamaktadır.

IEC 60034-1 standartlarına uygun ölçüm yapıldığında, F izolasyon sınıfı motorlar, 40°C ortam sıcaklığında, 10°C güvenlik marjı dikkate alındığında maximum 105°C sargı sıcaklığı artışına izin vermektedir.



KORUMA SINIFI

IEC 60034-5 standardına göre, yabancı maddelerin ve / veya suyun elektrik motoru gövdesini geçerek tehlike yaratacak motor kısımlarına ulaşmasının engellenme derecesini belirleyen IP kodu motorların üzerinde belirtilmektedir.

Standart motorlarımızın koruma sınıfı IP54'tür.

X	Katı yabancı maddelerin girişine karşı koruma	Y	Suya karşı koruma	IP XY
5	Muhafazanın içindeki hareketli ve gerilimli kısımlara rasgele dokunmaya karşı koruma. Zarar verici miktarda toz birikmesine karşı koruma. Toz girişi tam olarak önlenmemiştir, ancak motorun çalışmasını bozacak miktarda toz muhafazadan içeri giremez.	4	Herhangi bir doğrultudan motorun üzerine sıçrayan suyun zarar vermesine karşı koruma.	IP 54
		5	Herhangi bir doğrultudan motorun üzerine püskürtülen suyun zarar vermesine karşı koruma.	IP 55

TEKNİK BİLGİLER

VİBRASYON/BALANS

Bütün rotorlar yarım kama ile dinamik olarak balans yapılmakta olup bu motor etiketinde 'H' harfi ile belirtilmektedir.

IEC 60034-14'e göre, standart motorlarda **A vibrasyon seviyesi** sağlanmaktadır. Müşteri isteğine göre, B vibrasyon seviyesine sahip motor üretimi mümkündür.

Vibrasyon (mm/s)

Gövde büyüklüğü	Vibrasyon derecesi	
	A	B
63-132	1,6	0,7
160-250	2,2	1,1

ELEKTRİKSEL BAĞLANTI

Terminal plakasında IEC 60034-8'e göre işaretlenmiş 6 bağlantı terminali bulunmaktadır.

Gövde büyüklüğü	63-80	90-100	112	132-160	180	200	225-250
Kablo girişi	M20	M25	M25	M32	M40	M32	M40
Giriş sayısı	1	1	2	2	2	2	2

TOLERANSLAR

IEC 60034-1'e göre, katalog değerlerinden sapma toleransları aşağıda belirtilmiştir:

Hız (n)	$\Delta n = \pm 20\% (n_s - n_N)$ for $P_N > 1$ kW $\Delta n = \pm 30\% (n_s - n_N)$ for $P_N \leq 1$ kW
Verim % (η)	$\Delta \eta = -15\% (100 - \eta_N)$ for $P_N \leq 50$ kW $\Delta \eta = -10\% (100 - \eta_N)$ for $P_N > 50$ kW
Güç faktörü ($\cos \varphi$)	$\Delta \cos \varphi = -1/6 (1 - \cos \varphi)$
Kilitli rotor akımı (I_L/I_N)	$\Delta (I_L/I_N) = +20\% (I_L/I_N)$
Kilitli rotor momenti (M_L/M_N)	min. (M_L/M_N) = $-15\% (M_L/M_N)$ max. (M_L/M_N) = $+25\% (M_L/M_N)$
Devrilme momenti (M_K/M_N)	$\Delta (M_K/M_N) = -10\% (M_K/M_N)$
Semer momenti (M_P/M_N)	$\Delta (M_P/M_N) = -15\% (M_P/M_N)$
Eylemsizlik momenti (J) [kgm ²]	$\Delta J = \pm 10\% J$
Ses seviyesi (LPA) [dB]	$\Delta LPA = +3$ dB (A)

TEKNİK BİLGİLER

ORTAM KOŞULLARI

Üç fazlı ve bir fazlı motorlar en fazla deniz seviyesinden 1000 metre yükseklikte ve 40°C ortam sıcaklığında çalışacak şekilde tasarlanmıştır. Diğer yükseklik ve ortam sıcaklıklarındaki güç hesaplamalarında aşağıdaki % katsayılar kullanılmalıdır.

YÜKSEKLİK		1000 m'ye kadar	1500 m'ye kadar	2000 m'ye kadar	2500 m'ye kadar	3000 m'ye kadar	3500 m'ye kadar	4000 m'ye kadar
İzolasyon sınıfına göre % olarak katalog güçlerinin katları	B	100	97	94	90	86	82	77
	F	100	98	95	91	87	83	78

ORTAM SICAKLIĞI		30°C	35°C	40°C	45°C	50°C	55°C	60°C
İzolasyon sınıfına göre % olarak katalog güçlerinin katları	B	106	106	100	97	92	86	80
	F	105	102	100	97	93	87	82

MALZEME

Gövde Büyüklüğü	Gövde	Fan	Fan kapağı	Motor Kapakları	B5 Flanş	B14 Flanş
63						
71						
80						
90			Sac		Alüminyum	Alüminyum
100						
112	Alüminyum	Plastik		Alüminyum		
132						Pik Döküm
160						
180						
200			Plastik ⁽¹⁾		Pik Döküm	
225						
250						

⁽¹⁾Sac fan kapağı opsiyoneldir.

TEKNİK BİLGİLER

YAPI ŞEKİLLERİ

B3 IM 1001	V5 IM 1011	V6 IM 1031	B6 IM 1051 Ayaklar arkada	B7 IM 1061 Ayaklar arkada	B8 IM 1071	
B5 IM 3001	V1 IM 3011	V3 IM 3031				FA
B14 IM 3601	V18 IM 3611	V19 IM 3631				FB veya FC
B35 IM 2001	V15 IM 2011	V35 IM 2031	IM 2051 Ayaklar arkada	IM 2061 Ayaklar arkada	IM 2071	PA
B34 IM 2101	V17 IM 2111	V37 IM 2131	IM 2151 Ayaklar arkada	IM 2161 Ayaklar arkada	IM 2171	PB veya PC

RULMANLAR

Standart motorlarda yataklama için sabit bilyalı ZZ (her iki tarafı kapaklı) rulmanlar kullanılmaktadır. Sadece 250 gövde motorların kasnak tarafında sabit bilyalı açık rulman kullanılır.

Rulman ve keçe tipleri

Gövde büyüklüğü	Rulman		Keçe	
	KT	KTA	KT	KTA
63	6201-2Z	6201-2Z	12*22*7	12*22*7
71	6202-2Z	6202-2Z	15*24*5	15*24*5
80	6204-2Z	6204-2Z	20*30*7	20*30*7
90	6305-2Z	6205-2Z	25*40*7	25*40*7
100	6306-2Z	6205-2Z	30*47*7	25*40*7
112	6306-2Z	6206-2Z	30*47*7	30*47*7
132	6208-2Z	6208-2Z	40*62*10	40*62*10
160	6309-2Z	6309-2Z	45*72*10	45*72*10
180	6310-2Z	6310-2Z	50*80*10	50*80*10
200	6312-2Z	6312-2Z	60*90*10	60*90*10
225	6313-2Z	6313-2Z	65*100*13	65*100*13
250/2	6314	6313-2Z	70*112*12	65*100*13
250/4	6315	6313-2Z	75*112*12	65*100*13

KT = Kasnak tarafı
KTA = Kasnak tarafı aksi

TEKNİK BİLGİLER

BOYA

Standart motorlar RAL 6011 yeşil renkte boya ile boyanarak teslim edilir.

AYAKLAR

QSX tip gövdelerin ayakları sökülebilm ve üç yüzeye takılabilm özelliğine sahiptir. QU tip gövdelerde ayakların sökülebilm özelliği değişik montaj şekilleri için esneklik sağlar.

TERMİNAL KUTUSU

63-132 gövdelerde üstte ve mil tarafına yakındır. Ayakların 90'ar derece dönerek takılabilm özelliğinden dolayı terminal kutusu gövdenin sağ veya sol tarafına gelebilmektedir. Terminal kutusunun kendi eksenine etrafında dönerek montaj edilebilm özelliğinden dolayı, rakor bağlantı delikleri istenen her yönde olabilm şansına sahiptir. Diğer gövdelerde ise terminal kutusu üstte ve mil tarafına yakındır.

TAHLİYE DELİĞİ

Standart motorlar, tahliye deliksiz olarak üretilmektedir. İsteğe bağlı olarak, tahliye deliği bulunan motor üretimimiz mevcuttur.



MOTOR TİP KODLARI

QU FA 225 M 4 C-43 (Örnek model numarası)			
QU . Motor Tipi	QU Tip QSX Tip QH Tip QB Tip QM Tip	225 . Gövde büyüklüğü	Mil yüksekliği (mm)
FA . İnşa tipi	B3, B6, B7, B8, V5, V6/V19 B5, V1, V3 B14, V18, V19 B14, V18, V19	M . Motor uzunluğu	S Kısa M Orta L Uzun
--- Ayaklı FA A flanşlı FB B flanşlı FC C flanşlı FS Özel flanşlı PA Ayaklı A flanşlı PB Ayaklı B flanşlı PC Ayaklı C flanşlı PS Ayaklı ve özel flanşlı X Ayaksız, flanşsız	B3/B5, V1/V5, V3/V6 B3/B14, V5/V18, V6/V19 B3/B14, V5/V18, V6/V19	4 . Kutup sayısı	2, 4, 6, 8 Kutup
	B9, V8, V9	C . Sac paketi uzunluğu	(Dış boyutlardan bağımsız olarak) A Kısa B Orta C Uzun D, CE Ekstra uzun
		43 . Özel motor numarası	01 - ... - 99

FREKANS DEĞİŞİMİ

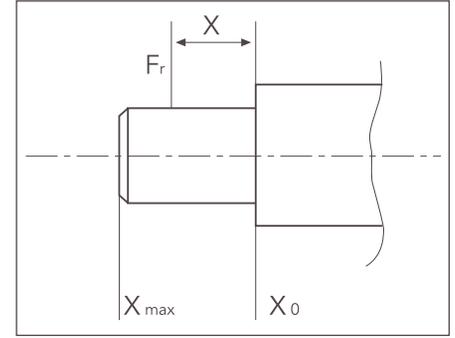
50 Hz'lik şebeke için sarılan motorlar, hiç bir değişiklik yapılmadan 60 Hz'lik bir şebekede çalıştırılabilirler. Bu durumda 50 Hz'lik değerler aşağıda verilen katsayılarla çarpılmalıdır.

		50 Hz motorun 60 Hz'de çalışma katsayıları						
50 Hz'e göre sarılmış motor	60 Hz'e bağlantı	Nominal Devir	Nominal Güç	Nominal Moment	Nominal Akım	Kalkış Momenti	Devrilme Momenti	Kalkış Akımı
220 V	220 V	1.2	1	0.83	1	0.83	0.83	0.83
220 V	255 V	1.2	1.15	0.96	1	0.96	0.96	0.96
380 V	380 V	1.2	1	0.83	1	0.70	0.83	0.83
380 V	440 V	1.2	1.15	0.96	1	0.95	0.98	0.97

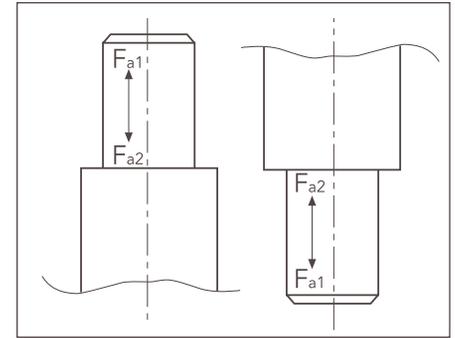
MİL ÜZERİNDE İZİN VERİLEN YÜK MİKTARI

GÖVDE BÜYÜKLÜĞÜ	KUTUP SAYISI	Yatay çalışma		Dikey çalışma	
		Fr(x=0) (kN)	Fr(x=max) (kN)	Fa1(x=0) (kN)	Fa2(x=max) (kN)
63	2	0,25	0,22	0,18	0,18
	4	0,29	0,25	0,21	0,21
	6	0,31	0,27	0,23	0,23
71	2	0,30	0,26	0,21	0,21
	4	0,35	0,29	0,25	0,25
	6	0,37	0,31	0,27	0,27
	8	0,38	0,32	0,28	0,28
80	2	0,54	0,45	0,38	0,38
	4	0,62	0,51	0,44	0,44
	6	0,66	0,54	0,48	0,48
	8	0,67	0,55	0,49	0,49
90	2	0,91	0,74	0,70	0,36
	4	0,99	0,80	0,77	0,40
	6	1,04	0,84	0,82	0,43
	8	1,03	0,83	0,80	0,43
100	2	1,21	0,96	0,91	0,36
	4	1,31	1,04	1,01	0,40
	6	1,38	1,09	1,07	0,43
	8	1,38	1,09	1,07	0,43
112	2	1,23	1,00	0,91	0,54
	4	1,33	1,09	1,01	0,60
	6	1,40	1,14	1,07	0,64
	8	1,40	1,14	1,07	0,61
132	2	1,22	0,98	0,86	0,86
	4	1,31	1,04	0,92	0,92
	6	1,34	1,08	0,95	0,95
	8	1,42	1,14	1,03	1,03
160	2	2,22	1,72	1,59	1,59
	4	2,34	1,82	1,71	1,71
	6	2,34	1,82	1,71	1,71
	8	2,48	1,92	1,83	1,83
180	2	2,68	2,12	1,94	1,94
	4	2,82	2,23	2,07	2,07
	6	2,93	2,31	2,17	2,17
	8	2,92	2,31	2,16	2,16
200	2	3,80	3,04	2,79	2,79
	4	3,95	3,16	2,93	2,93
	6	4,07	3,26	3,05	3,05
	8	3,95	3,16	2,93	2,93
225	2	4,45	3,65	3,25	3,25
	4	4,59	3,60	3,39	3,39
	6	4,73	3,71	3,52	3,52
	8	4,53	3,55	3,32	3,32
250	2	4,97	3,93	3,61	2,94
	4	5,78	4,57	4,26	3,15

Yatay çalışma



Dikey çalışma



Hesaplamalar 20.000 saat (L10aah) rulman ömrü baz alınarak yapılmıştır. Radyal ve axial yüklerin aynı anda etkimesi durumunda değerler değişecektir. Kritik uygulamalarda kapakların mekanik mukavemeti de dikkate alınmalıdır.

Mil'in herhangi bir noktasında (X=max ve X=0 noktaları arasında) uygulanan Fr kuvvetinin değeri aşağıdaki formül kullanılarak hesaplanabilir:

$$F_r = F_{x0} - \frac{x}{E} (F_{x0} - F_{xmax}) [kN]$$

Burada; Fx0 - Mil ucu başlangıcında etkiyen Fr kuvvetinin değeri

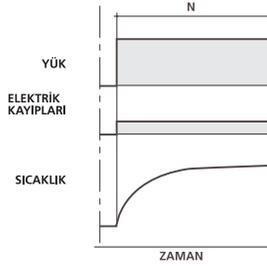
Fxmax - Mil ucu sonunda etkiyen Fr kuvvetinin değeri

E - Mil ucu uzunluğu

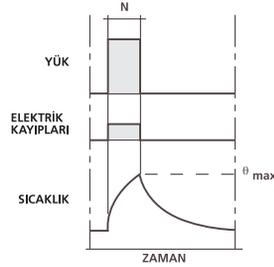
ÇALIŞMA TİPİ

IEC 60034-1 standardında motor çalışma tipleri aşağıdaki şekilde belirtilmiştir.

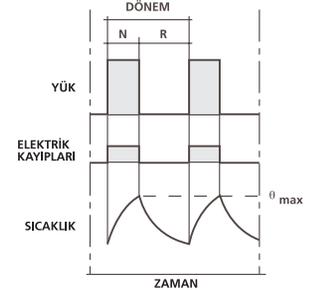
S1: Sürekli çalışma



S2: Kısa süreli çalışma

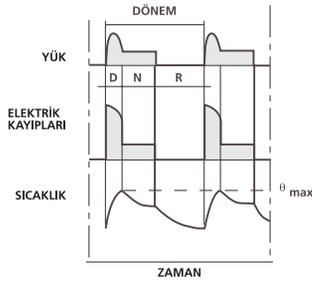


S3: Dönemli kesintili çalışma



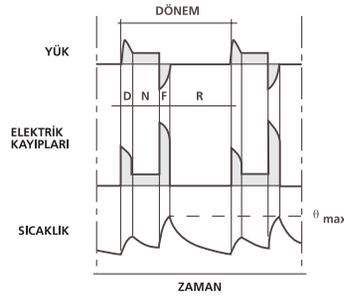
$$\text{Ç.K.} = \frac{N}{N+R} \times 100 \%$$

S4: Yolvermeli dönemli kesintili çalışma



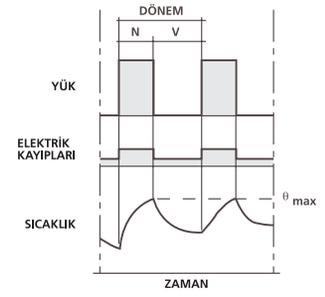
$$\text{Ç.K.} = \frac{D+N}{D+N+R} \times 100 \%$$

S5: Elektriksel frenlemeli dönemsel kesintili çalışma



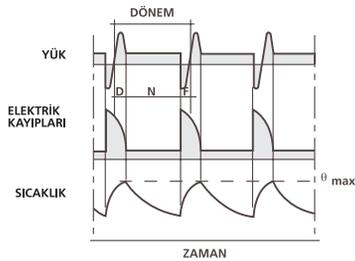
$$\text{Ç.K.} = \frac{D+N+F}{D+N+F+R} \times 100 \%$$

S6: Sürekli dönemli çalışma



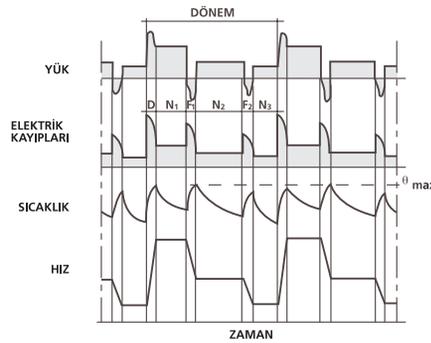
$$\text{Ç.K.} = \frac{N}{N+V} \times 100 \%$$

S7: Elektriksel frenlemeli sürekli dönemli çalışma



$$\text{Ç.K.} = 1$$

S8: Dönemli yük-hız değişmeli sürekli çalışma



$$\text{Ç.K.} = \frac{D+N}{D+N_1+F_1+N_2+F_2+N_3} \times 100 \%$$

$$\frac{F_1+N_2}{D+N_2+F_1+N_2+F_2+N_3} \times 100 \%$$

$$\frac{F_2+N_3}{D+N_1+F_1+N_2+F_2+N_3} \times 100 \%$$

N = Anma Koşullarında Çalışma

θ max = Ulaşılan en yüksek sıcaklık

R = Durma

D = Yolverme

F = Elektriksel Frenleme

V = Boşta Çalışma

Ç.K. = Çalışma katsayısı

Standart motorlarımız S1 sürekli çalışma motor çalışma tipinde olup müşteri isteğine bağlı farklı çalışma tipine sahip motor üretimi mümkündür.



ÜÇ FAZLI-QSX / QU / QH TİPLER

- 63-250 gövde büyüklüğü
- 55 kW'a kadar
- 2, 4, 6 ve 8 kutup



BİR FAZLI "Daimi Devre Kondansatörlü"-QM TİP

- 63-90 gövde büyüklüğü
- 2,2 kW'a kadar
- 2 ve 4 kutup



FRENLİ MOTOR-QB TİP

- 63-112 gövde büyüklüğü
- 4 kW'a kadar
- 2, 4 ve 6 kutup

MOTOR TİPİ	NOMİNAL					KALKIŞTAKİ DEĞERLER				Devrilme Momenti Oranı Mk/Mn	Verim**		Cosφ	J kgm ²	Ağırlık (B3) kg	Ses Seviyesi dB(A)*	
	GÜÇ		DEVİR d/d	AKIM A	MOMENT Nm	AKIM I _A / I _N		MOMENT M _A / M _N			%η _{3/4}	%η _{4/4}					
	HP	kW				∩	Δ	∩	Δ								
2 Kutup 3000 d/d																	
220/380 V	QSX 63M2A	1/4	0,18	2800	0,6	0,62	4,20	-	2,3	-	2,4	63	64	0,78	0,00017	5	52
	QSX 63M2B	1/3	0,25	2800	0,7	0,86	4,20	-	2,2	-	2,3	66	67	0,83	0,00022	6	52
	QSX 71M2A	1/2	0,37	2800	1,0	1,27	4,30	-	2,0	-	2,4	67	68	0,83	0,00028	7	54
	QSX 71M2B	3/4	0,55	2820	1,4	1,87	5,00	-	2,2	-	2,5	69	71	0,84	0,00036	8	54
	QSX 80M2A	1	0,75	2840	1,8	2,53	5,20	-	2,2	-	2,6	72	74	0,86	0,00088	10	58
	QSX 80M2B	1,5	1,1	2850	2,5	3,69	6,00	-	2,6	-	2,9	74,8	77	0,86	0,00109	11	58
	QSX 90S2A	2	1,5	2850	3,3	5,01	6,30	-	2,6	-	3,1	78	79	0,87	0,00129	14	62
	QSX 90L2A	3	2,2	2860	4,6	7,37	6,90	-	2,6	-	3,2	81	81,5	0,88	0,00162	16	62
	QSX 100L2A	4	3	2880	6,2	9,94	7,10	-	2,8	-	3,5	82	83	0,89	0,00241	21	64
	QSX 112M2A	5,5	4	2870	8,0	13,31	2,20	6,9	0,87	2,6	3,4	84	85	0,90	0,00394	29	67
380/660 V	QSX 132S2A	7,5	5,5	2890	10,9	18,24	2,20	6,9	0,72	2,7	3,4	86	86,5	0,89	0,01123	34	70
	QSX 132S2C	10	7,5	2880	14,1	24,9	2,30	6,9	0,78	2,7	3,4	87	88	0,92	0,01424	41	70
	QSX 132M2A	15	11	2890	20,8	36,35	2,30	7,0	0,80	2,8	3,4	88	88,5	0,91	0,01596	55	70
	QU 160M2A	15	11	2900	21	36,23	2,25	7	0,79	2,6	3,5	88,5	89	0,89	0,02644	69	71
	QU 160M2B	20	15	2900	28	49,4	2,25	7	0,87	2,7	3,5	89	90	0,90	0,03317	76	71
	QU 160L2A	25	18,5	2900	34	60,9	2,25	7	0,80	2,7	3,5	90	90,5	0,91	0,04075	91	71
	QU 180M2A	30	22	2940	40,5	71,47	2,26	7	0,74	2,6	3,5	90,5	91	0,91	0,06193	114	77
	QU 200L2A	40	30	2940	55,8	97,45	2,26	7	0,71	2,4	3,5	91	92	0,89	0,11917	148	80
	QU 200L2B	50	37	2945	68	120	2,26	7	0,68	2,4	3,5	91,5	92,5	0,89	0,13885	167	80
	QU 225M2A	60	45	2950	83	145,7	2,26	7	0,69	2,3	3,5	92,5	92,5	0,89	0,19833	206	81
QU 250M2A	75	55	2960	100	177,4	2,26	7	0,69	2,3	3,6	92,3	93	0,90	0,23505	235	81	

4 Kutup 1500 d/d																	
220/380 V	QSX 63M4A	1/6	0,12	1365	0,5	0,84	2,8	-	2,0	-	2,3	53	54	0,65	0,00020	5	41
	QSX 63M4B	1/4	0,18	1380	0,7	1,25	3,2	-	2,2	-	2,4	57	61	0,62	0,00025	5	41
	QSX 71M4A	1/3	0,25	1390	0,9	1,72	3,5	-	2,2	-	2,4	63	64	0,67	0,00071	7	45
	QSX 71M4B	1/2	0,37	1390	1,2	2,54	4,0	-	2,3	-	2,6	66	67	0,68	0,00095	8	45
	QSX 80M4A	3/4	0,55	1400	1,6	3,75	4,0	-	2,1	-	2,3	71	72	0,73	0,00168	10	49
	QSX 80M4B	1	0,75	1400	2,1	5,12	4,2	-	2,1	-	2,2	73	74	0,74	0,00205	11	49
	QSX 90S4A	1,5	1,1	1410	2,7	7,45	5,4	-	2,4	-	2,7	78	78	0,78	0,00243	13	54
	QSX 90L4A	2	1,5	1420	3,6	10,09	5,5	-	2,4	-	2,7	80	80	0,79	0,00322	15	54
	QSX 100L4A	3	2,2	1410	5,1	14,90	5,4	-	2,5	-	2,7	82	82	0,80	0,00398	21	56
	QSX 100L4B	4	3	1410	6,8	20,32	5,4	-	2,5	-	2,7	83	83	0,81	0,00471	24	56
380/660 V	QSX 112M4B	5,5	4	1430	8,7	26,71	2,1	6,7	0,72	2,8	3,2	85	85	0,82	0,00933	31	58
	QSX 132S4C	7,5	5,5	1445	11,3	36,35	1,9	6,5	0,75	2,6	3,0	86	86,5	0,85	0,02111	39	61
	QSX 132M4B	10	7,5	1450	15,4	49,40	2	6,5	0,75	2,6	3,1	87	87	0,85	0,02763	60	61
	QU 160M4B	15	11	1450	22,3	72,4	2,1	6,5	0,71	2,5	3,0	88	89	0,84	0,05547	76	63
	QU 160L4A	20	15	1450	30,2	98,8	2,1	6,5	0,74	2,6	3,1	88,5	89,5	0,84	0,06922	90	63
	QU 180M4B	25	18,5	1450	36,8	121,8	2,1	6,5	0,71	2,4	2,8	90	90,5	0,84	0,11220	119	69
	QU 180L4B	30	22	1455	42,5	144,4	2,1	6,5	0,74	2,5	3,0	90	91	0,86	0,12773	127	69
	QU 200L4C	40	30	1460	56	196,2	2,1	6,5	0,68	2,3	3,0	91	91,7	0,89	0,25035	176	70
	QU 225S4A	50	37	1460	70	242	2,1	6,5	0,74	2,5	3,0	91	92	0,87	0,36429	223	71
	QU 225M4C	60	45	1460	85	294,4	2,1	6,5	0,74	2,5	3,0	92	92,5	0,87	0,43513	260	71
QU 250M4C	75	55	1465	103	358,5	2,1	6,5	0,73	2,6	3,0	92,5	93,5	0,87	0,46270	280	71	

* Ses seviyesi ölçümleri, motordan 1 metre uzaklıktan alınır.

* Tolerans + 3 dB(A)

** 1.1 ve 55 kW arası 2 ve 4 kutup motorlarımız "EFF2" verimlilik seviyesindedir.

ÜÇ FAZLI-QSX / QU TIPLER

ELEKTRİKSEL ÖZELLİKLER, 50 Hz

MOTOR TİPİ	NOMİNAL					KALKIŞTAKİ DEĞERLER				Devrilme Momenti Oranı Mk/Mn	Verim % η		Cos ϕ 4/4	J kgm ²	Ağırlık (B3) kg	Ses Seviyesi dB(A)*	
	GÜÇ		DEVİR d/d	AKIM A	MOMENT Nm	AKIM I _A / I _N		MOMENT M _A / M _N			3/4	4/4					
	HP	kW				∩	Δ	∩	Δ								
6 Kutup 1000 d/d																	
220/380 V	QSX 71M6A	1/4	0,18	900	0,78	1,91	3,0	-	2,0	-	2,3	55	58	0,60	0,00068	8	42
	QSX 71M6B	1/3	0,25	910	0,95	2,63	3,1	-	2,0	-	2,3	61	63	0,63	0,00090	10	42
	QSX 80M6A	1/2	0,37	920	1,35	3,84	3,3	-	2,1	-	2,4	65	68	0,61	0,00160	11	49
	QSX 80M6B	3/4	0,55	920	1,85	5,71	3,2	-	2,1	-	2,5	68	69	0,65	0,00196	12	49
	QSX 90S6A	1	0,75	925	2,3	7,75	3,6	-	1,9	-	2,1	71	72	0,69	0,00255	13	51
	QSX 90L6B	1,5	1,1	935	3,3	11,24	4,0	-	2,0	-	2,2	72	73	0,69	0,00328	17	51
	QSX 100L6A	2	1,5	940	4,2	15,24	4,2	-	2,1	-	2,3	74	75	0,72	0,00463	20	53
	QSX 112M6A	3	2,2	945	5,8	22,12	4,5	-	2,1	-	2,4	76	77	0,75	0,00916	29	58
380/660 V	QSX 132S6B	4	3	955	7,2	30	1,75	5,5	0,63	2	2,6	80	81	0,78	0,02070	36	62
	QSX 132M6A	5,5	4	960	9,3	39,79	1,75	5,5	0,6	1,9	2,6	81	82	0,80	0,02070	53	62
	QSX 132M6B	7,5	5,5	960	12,5	54,72	1,76	5,5	0,61	1,9	2,5	82,5	84	0,80	0,02709	58	62
	QU 160M6B	10	7,5	960	16,8	74,61	1,90	6,5	0,69	2,2	3,0	86	87	0,78	0,05641	76	63
	QU 160L6B	15	11	960	24,3	109,5	1,89	6,5	0,72	2,2	3,0	86,5	87	0,79	0,07040	94	63
	QU 180L6A	20	15	965	32	148,5	1,91	6,5	0,62	2	2,8	87	88	0,81	0,18369	115	63
	QU 200L6B	25	18,5	970	37,8	182,2	1,90	6,5	0,6	1,85	2,7	89	90	0,83	0,27088	155	64
	QU 200L6C	30	22	970	44,7	216,6	1,85	6,5	0,6	1,85	2,7	89	90	0,83	0,31281	165	64
QU 225M6B	40	30	975	60,5	294	1,85	6,5	0,57	1,8	2,5	90	91	0,83	0,49334	221	65	

8 Kutup 750 d/d																	
220/380 V	QSX 80M8A	1/4	0,18	650	0,95	2,64	2,10	-	1,50	-	1,8	52	54	0,53	0,00168	10	44
	QSX 80M8B	1/3	0,25	675	1,2	3,54	2,20	-	1,50	-	1,7	55	57	0,56	0,00205	11	44
	QSX 90S8A	1/2	0,37	680	1,7	5,2	3,00	-	1,80	-	2,3	59	61	0,54	0,00243	12	49
	QSX 90L8A	3/4	0,55	690	2,1	7,62	3,00	-	1,80	-	2,3	64	65	0,61	0,00322	15	49
	QSX 100L8A	1	0,75	700	2,8	10,24	3,50	-	1,70	-	2,2	69	70	0,58	0,00398	19	48
	QSX 100L8B	1,5	1,1	690	3,6	15,23	3,50	-	1,80	-	2,2	72	73	0,64	0,00471	21	48
	QSX 112M8A	2	1,5	700	4,7	20,47	3,50	-	1,80	-	2,3	73	74	0,66	0,00933	28	54
	QSX 132S8B	3	2,2	705	6,3	29,81	1,27	4	0,60	1,7	2,2	76	77	0,69	0,02111	36	56
QSX 132M8A	4	3	705	8,2	40,64	1,40	4,5	0,60	1,8	2,2	77,5	79	0,70	0,02763	52	56	
380/660 V	QU 160M8A	5,5	4	720	10,6	53,1	1,75	5,5	0,61	1,90	2,3	82	83	0,69	0,05612	65	60
	QU 160M8B	7,5	5,5	720	14,8	73	1,74	5,5	0,61	1,90	2,5	82,5	83,5	0,68	0,05612	74	60
	QU 160L8A	10	7,5	720	19,2	99,5	1,74	5,5	0,62	2,00	2,5	83	84	0,71	0,07004	85	60
	QU 180L8B	15	11	720	25	146	1,75	5,5	0,65	2,10	2,8	85	87	0,77	0,12773	122	60
	QU 200L8C	20	15	725	32,5	197,6	1,74	5,5	0,68	2,20	2,8	87	89	0,79	0,25035	169	61
	QU 225S8A	25	18,5	725	39	244	1,75	5,5	0,62	2,00	2,5	88	90	0,80	0,36429	224	61
QU 225M8C	30	22	725	46,8	290	1,74	5,5	0,66	2,10	2,6	89	90	0,79	0,43513	256	61	

* Ses seviyesi ölçümleri, motordan 1 metre uzaklıktan alınır.

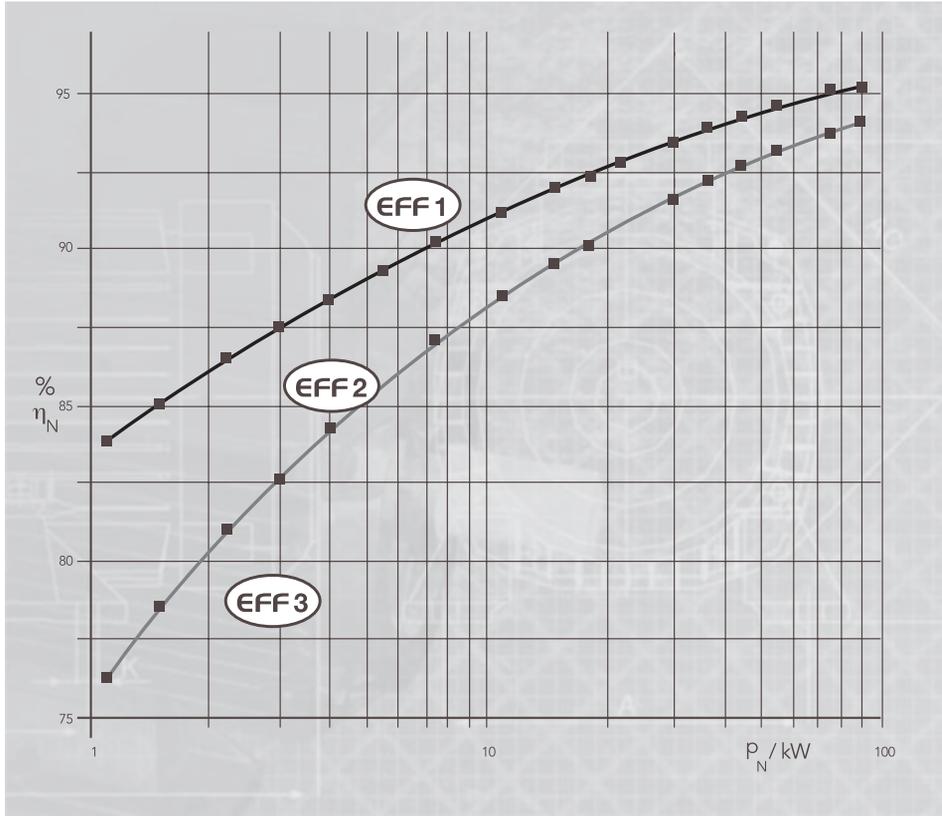
* Tolerans + 3 dB(A)

VERİMLİLİK SEVİYELERİ

VERİMLİLİK SEVİYELERİ

Elektriksel tahrik sistemlerinin, enerji tasarrufu ve çevre korumasındaki rolü çok büyüktür. Endüstriyel enerji tüketiminin üçte ikisi bu sistemler tarafından gerçekleştirilmektedir.

Avrupa Elektrik Makinaları Üreticileri Komitesi (CEMEP), Avrupa Enerji Komitesi'nin direktifleri doğrultusunda, elektrik motorlarını enerji seviyelerine göre sınıflandırmıştır. Bu amaçla, 1.1 ve 90kW arası çıkış gücündeki üç fazlı elektrik motorları verimliliklerine göre üç guruba ayrılmıştır.



Yüksek verimli motorların kullanıcıya faydaları nelerdir?

- Enerji tasarrufu
- Enerji giderlerinin azaltılması
- Varolan sisteme kolayca adapte edilmesi
- Çevre duyarlılığı

Yüksek verimli motorların tasarımı, motor kayıpları ve çalışma karakteristiğinin optimizasyonu ile gerçekleştirilmiştir. Verimlilik, stator sargısında daha fazla bakır ve rotor enjeksiyonunda daha fazla alüminyum kullanımı, veya daha uzun paket boyu ile elde edilmektedir. Bu değişiklikler, motor maliyetinde artışa yol açmasına rağmen, uygulamada getirdiği enerji tasarrufu ile kısa sürede kendini amorti etmektedir.

Verimlilik limitlerinin sağlandığı üretici tarafından beyan edilmektedir.

Verim seviyesini gösteren işaret motor etiketinde ve üretici dökümanlarında yer alır. Sadece bu anlaşmaya dahil olan Avrupalı üreticiler logoyu kullanmaya yetkilidir.

Arçelik, bu anlaşma uyarınca onaylı üretici olup, yüksek verimli motorları üretmektedir.

ÜÇ FAZLI-QH TİP

EFF 1

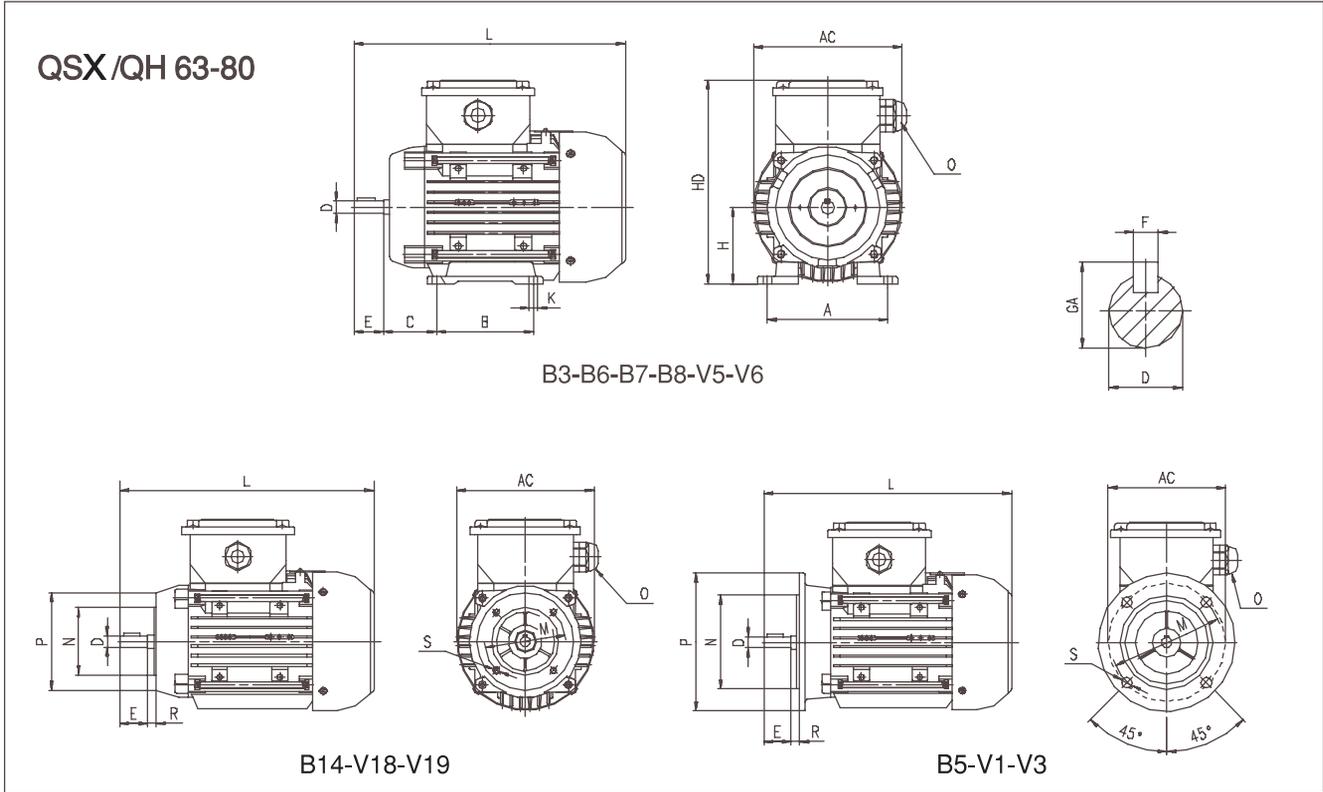
ELEKTRİKSEL ÖZELLİKLER, 50 Hz

MOTOR TİPİ	NOMİNAL					KALKIŞTAKİ DEĞERLER					Devrilme Momenti Oranı Mk/Mn	Verim % η		Cos ϕ 4/4	J kgm ²	Ağırlık (B3) kg	Ses Seviyesi dB(A)*
	GÜÇ		DEVİR d/d	AKIM A	MOMENT Nm	AKIM I _A / I _N		MOMENT M _A / M _N		3/4		4/4					
	HP	kW				∩	Δ	∩	Δ								
2 Kutup 3000 d/d																	
220/380 V	QH 80M2D	1,5	1,1	2880	2,45	3,65	8,1	-	3,6	-	3,8	82,5	82,9	0,82	0,00150	13	58
	QH 90L2C	2	1,5	2900	3,2	4,94	8,3	-	3,8	-	4,3	84,8	85,2	0,83	0,00182	17	62
	QH 90L2D	3	2,2	2900	4,7	7,24	8,6	-	3,9	-	4,4	85,2	85,7	0,84	0,00182	18	62
	QH 100L2D	4	3	2920	6,1	9,81	9,6	-	4,3	-	5,1	86,3	86,8	0,86	0,00335	27	64
380/660 V	QH 112M2C	5,5	4	2890	7,8	13,22	3,00	9,5	1,4	4,2	5,0	87	87,6	0,88	0,00489	34	67
	QH 132S2C	7,5	5,5	2920	10,6	17,99	2,90	9,0	1,1	3,3	3,7	88,3	88,6	0,89	0,01424	41	70
	QH 132M2A	10	7,5	2920	14,1	24,53	2,90	9,0	1,1	3,4	3,8	89	89,5	0,90	0,01596	55	70
	QH 160M2A	15	11	2930	21	35,85	2,90	9,0	0,9	2,6	3,3	90,3	90,8	0,88	0,02644	69	71
	QH 160M2B	20	15	2940	27,2	48,7	2,90	9,0	1,0	3,2	3,8	91,5	92	0,91	0,03317	77	71
	QH 160L2A	25	18,5	2930	33,2	60,3	2,90	9,0	1,0	3,1	3,7	92,5	92,2	0,92	0,04075	92	71
	QH 180M2A	30	22	2945	39,2	71,3	2,74	8,5	0,8	2,4	3,5	92,8	93	0,92	0,06193	115	77
	QH 200L2A	40	30	2950	54,6	97,1	2,74	8,5	0,7	2,1	3,5	93,2	93,5	0,89	0,11917	148	80
	QH 200L2B	50	37	2955	67,1	119,6	2,74	8,6	0,8	2,3	3,8	93,6	94	0,89	0,13885	168	80
	QH 225M2A	60	45	2960	81,3	145,2	2,74	8,5	0,8	2,3	3,1	93,7	94,3	0,89	0,19833	206	81
	QH 250M2A	75	55	2960	96,9	177,4	2,74	8,5	0,7	2,2	3,6	94,4	94,5	0,91	0,23505	235	81

4 Kutup 1500 d/d																	
220/380 V	QH 90L4C	1,5	1,1	1430	2,6	7,35	7,3	-	3,2	-	3,7	83,5	83,9	0,75	0,00365	18	54
	QH 90L4D	2	1,5	1430	3,5	10,02	7,5	-	3,5	-	4,0	84,5	85	0,76	0,00365	18	54
	QH 100L4C	3	2,2	1440	5	14,59	7,9	-	4,1	-	4,4	86,0	86,6	0,78	0,00545	26	56
	QH 100L4D	4	3	1440	6,6	19,9	7,8	-	3,8	-	4,2	87,0	87,4	0,79	0,00581	29	56
380/660 V	QH 112M4D	5,5	4	1450	8,6	26,34	2,7	8,5	1,1	3,2	4,3	87,8	88,3	0,80	0,01123	35	58
	QH 132M4B	7,5	5,5	1450	11,6	36,22	3,1	9,5	1,0	3,0	4,0	88,6	89,3	0,81	0,02763	60	61
	QH 132M4C	10	7,5	1450	15,8	49,4	2,7	8,5	1,1	3,3	4,0	87,6	90,2	0,80	0,02980	67	61
	QH 160M4B	15	11	1460	22,3	71,95	2,9	9,0	0,9	2,7	3,7	91,2	91,5	0,82	0,05547	77	63
	QH 160L4A	20	15	1455	29,5	98,45	2,9	9,0	0,8	2,5	3,4	91,8	92	0,84	0,06922	90	63
	QH 180M4B	25	18,5	1465	36,5	120,6	2,9	9,0	1,0	3,0	3,1	92	92,5	0,83	0,11220	120	69
	QH 180L4B	30	22	1465	44,5	143,4	2,9	9,0	0,9	2,6	3,7	92,5	93	0,81	0,12773	127	69
	QH 200L4C	40	30	1465	57,0	195,6	2,7	8,3	0,7	2,2	3,1	94,2	94	0,85	0,25035	176	70
	QH 225S4A	50	37	1470	71,4	240,4	2,7	8,5	1,0	3,0	3,2	94,7	94,5	0,83	0,36429	223	71
	QH 225M4C	60	45	1470	84,3	292,3	2,6	8,0	0,9	2,8	3,5	95,1	95	0,85	0,43513	260	71
	QH 250M4C	75	55	1475	99,2	356,1	2,6	8,0	1,0	2,9	3,50	95,2	95,3	0,88	0,46270	280	71

* Ses seviyesi ölçümleri, motordan 1 metre uzaklıktan alınır.

* Tolerans + 3 dB(A)



		Ana Boyutlar			Ayaklı Motorlar				Mil				Rulman		Keçe		Flanş								
Gövde ⁽⁴⁾ Büyüklüğü	Kutup Sayısı	AC	L	O	B	A	H	HD	K	C	D ⁽¹⁾	E	GA	F ⁽³⁾	Kasnak Tarafı	Kasnak Tarafı Aksisi	Kasnak Tarafı	Kasnak Tarafı Aksisi ⁽⁵⁾	Yapı Şekli	Flanş Tipi	P	N ⁽²⁾	M	R	S
63 M	2...8	123	219.5	1*M20	80	100	63	174	7	40	11	23	12.5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																			B14	FB	120	80	100	0	M6
																			B14	FC	90	60	75	0	M5
71 M	2...8	138	252.5	1*M20	90	112	71	190	7	45	14	30	16.0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																			B14	FB	140	95	115	0	M8
																			B14	FC	105	70	85	0	M6
80 M	2...8	158	283.5	1*M20	100	125	80	207	10	50	19	40	21.5	6	6204-2Z	6204-2Z	20*30*7	20*30*7	B5	FA	200	130	165	0	12
																			B14	FB	160	110	130	0	M8
																			B14	FC	120	80	100	0	M6

Ölçüler "mm" olarak verilmiştir.

⁽¹⁾ Tolerans DIN EN 50347 "j6"

⁽²⁾ Tolerans DIN EN 50347 "j6"

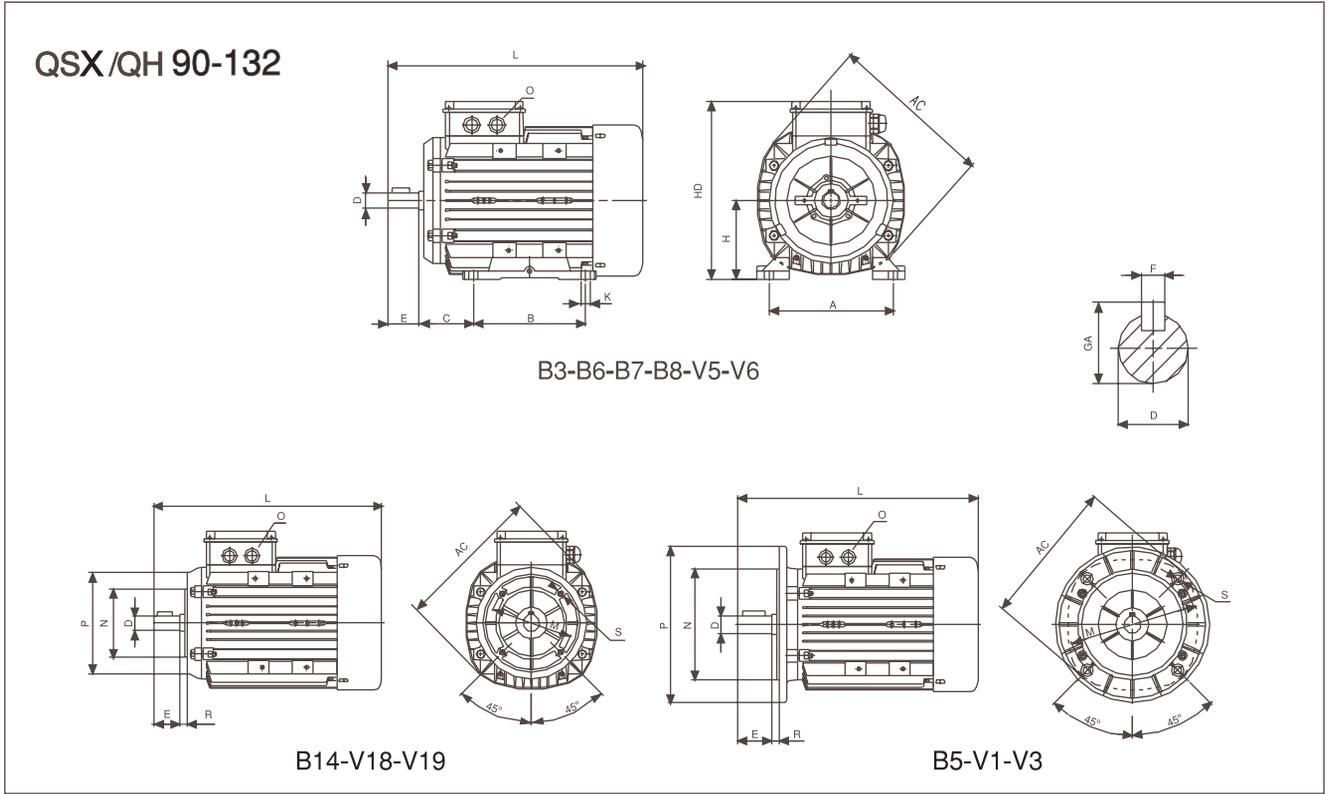
⁽³⁾ DIN 6885'e göre

⁽⁴⁾ 112 yapı büyüklüğünden itibaren kaldırma halkası mevcuttur.

⁽⁵⁾ IP55

ÜÇ FAZLI TIPLER

BOYUTLAR



		Ana Boyutlar			Ayaklı Motorlar					Mil			Rulman		Keçe		Flanş								
Gövde ⁽⁴⁾ Büyüklüğü	Kutup Sayısı	AC	L	O	B	A	H	HD	K	C	D ⁽¹⁾	E	GA	F ⁽³⁾	Kasnak Tarafı	Kasnak Tarafı Aksisi	Kasnak Tarafı	Kasnak Tarafı Aksisi ⁽⁵⁾	Yapı Şekli	Flanş Tipi	P	N ⁽²⁾	M	R	S
90 S/L	2...8	193	296.5 316.5	1*M25	100	140	90	241	10	56	24	50	27	8	6305-2Z	6205-2Z	25*40*7	25*40*7	B5	FA	200	130	165	0	12
					125	160	100	260	12	63	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B14	FB	160	110	130	0	M8
					125	160	100	260	12	63	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B14	FC	140	95	115	0	M8
100 L	2...8	217	352.0	1*M25	140	160	100	260	12	63	28	60	31	8	6306-2Z	6205-2Z	30*47*7	25*40*7	B5	FA	250	180	215	0	15
					140	160	100	260	12	63	28	60	31	8	6306-2Z	6205-2Z	30*47*7	25*40*7	B14	FB	200	130	165	0	M10
					140	160	100	260	12	63	28	60	31	8	6306-2Z	6205-2Z	30*47*7	25*40*7	B14	FC	160	110	130	0	M8
112 M	2...8	232	395.5	2*M25	140	190	112	280	12	70	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B5	FA	250	180	215	0	15
					140	190	112	280	12	70	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B14	FB	200	130	165	0	M10
					140	190	112	280	12	70	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B14	FC	160	110	130	0	M8
132 S/M	2...8	279	440.5 475.5	2*M32	140	216	132	314	12	89	38	80	41	10	6208-2Z	6208-2Z	40*62*10	40*62*10	B5	FA	300	230	265	0	15
					178	216	132	314	12	89	38	80	41	10	6208-2Z	6208-2Z	40*62*10	40*62*10	B5	FA	300	230	265	0	15

Ölçüler "mm" olarak verilmiştir.

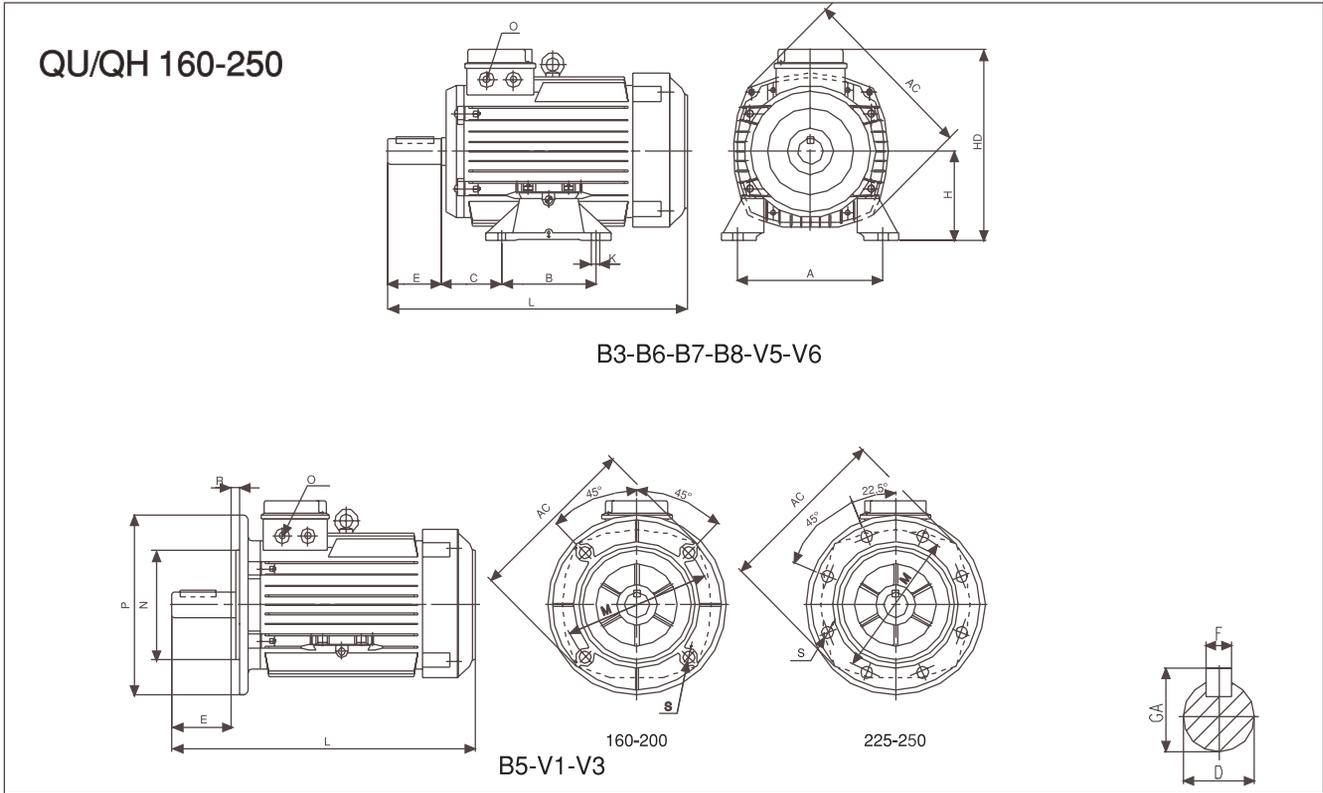
(1) Tolerans 28 mm'ye kadar DIN EN 50347 "j6", 28 mm ve üzeri "k6".

(2) Tolerans DIN EN 50347 "j6"

(3) DIN 6885'e göre

(4) 112 yapı büyüklüğünden itibaren kaldırma halkası mevcuttur.

(5) IP55



		Ana Boyutlar			Ayaklı Motorlar				Mil				Rulman		Keçe		Flanş								
Gövde ⁽⁴⁾ Büyüklüğü	Kutup Sayısı	AC	L	O	B	A	H	HD	K	C	D ⁽¹⁾	E	GA	F ⁽³⁾	Kasnak Tarafı	Kasnak Tarafı Aksı	Kasnak Tarafı	Kasnak Tarafı Aksı ⁽⁵⁾	Yapı Şekli	Flanş Tipi	P	N ⁽²⁾	M	R	S
160 M	2...8	323	586	2*M32	210	254	160	360	15	108	42	110	45,0	12	6309-2Z	6309-2Z	45*72*10	45*72*10	B5	FA	350	250	300	0	19
160 L	2...8	323	586	2*M32	254	254	160	360	15	108	42	110	45,0	12	6309-2Z	6309-2Z	45*72*10	45*72*10	B5	FA	350	250	300	0	19
180 M	2...8	370	629	2*M40	241	279	180	428	15	121	48	110	51,5	14	6310-2Z	6310-2Z	50*80*10	50*80*10	B5	FA	350	250	300	0	19
180 L	2...8	370	629	2*M40	279	279	180	428	15	121	48	110	51,5	14	6310-2Z	6310-2Z	50*80*10	50*80*10	B5	FA	350	250	300	0	19
200 L	2...8	415	665	2*M32	305	318	200	435	19	133	55	110	59,0	16	6312-2Z	6312-2Z	60*90*10	60*90*10	B5	FA	400	300	350	0	19
225 S	2 4...8	456	735 765	2*M40	286	356	225	485	19	149	55 60	110 140	59 64	16 18	6313-2Z	6313-2Z	65*100*13	65*100*13	B5	FA	450	350	400	0	19
225 M	2 4...8	456	735 765	2*M40	311	356	225	485	19	149	55 60	110 140	59 64	16 18	6313-2Z	6313-2Z	65*100*13	65*100*13	B5	FA	450	350	400	0	19
250	2	456	784	2*M40	349	406	250	510	24	168	60	140	64,0	18	6314 ⁽⁶⁾	6313-2Z	70*112*12	65*100*13	B5	FA	550	450	500	0	19
250	4	456	784	2*M40	349	406	250	510	24	168	65	140	69,0	18	6315 ⁽⁶⁾	6313-2Z	75*112*12	65*100*13	B5	FA	550	450	500	0	19

Ölçüler "mm" olarak verilmiştir.

- (1) Tolerans 48 mm'ye kadar DIN EN 50347 "k6", 48 mm ve üzeri "m6".
(2) Tolerans 250 mm'ye kadar DIN EN 50347 "j6", 250 mm ve üzeri "h6".
(3) DIN 6885'e göre
(4) 112 yapı büyüklüğünden itibaren kaldırma halkası mevcuttur.
(5) IP55
(6) Harici yağlama

A. Mekanik Özellikler

Motorlar IEC 63-90 gövde büyüklüklerinde, tek fazlı, tam kapalı, kısa devre rotorlu ve fan soğutmalı olarak üretilmektedir.

Yapı Şekli

Tüm gövde büyüklüklerinde ayaklı, flanşlı ve ayaklı flanşlı yapı şekilleri mümkündür.

Koruma Sınıfı

Standart koruma sınıfı IP 54'dür.

Yataklar

Yataklama için sabit bilyalı ZZ rulmanlar kullanılır.

Mil Ucu

Mil uçlarına DIN 6885/6888'e uygun olarak kama kanalı açılır. Motor kamalı olarak teslim edilir.

Fan

Sıcaklığa dayanıklı sentetik malzemeden yapılmıştır ve her iki dönüş yönünde çalışmaya uygundur.

Boya

Standart motorlar yeşil (RAL 6011) renkte boyanmıştır.

B. Konstrüksiyon Özellikleri

Stator Gövde

Motor gövdeleri hafif, korozyona ve mekaniksel şoklara dayanıklı, ısı iletme özelliği yüksek olan alüminyum alaşımından basınçlı döküm metoduyla üretilmektedir.

Ayaklar

Tüm gövdelerin ayakları, sökülebilmek ve üç yüzeye takılabilmek özelliğine sahiptir.

Kapaklar

Kapaklar alüminyumdan yapılmaktadır. Fan kapağı ise sac malzemeden yapılmaktadır.

Terminal Kutusu

Terminal kutusu tüm motorlarda üstte ve mil tarafına yakındır. Ayakların 90°'ar derece dönerek takılabilmek özelliğinden dolayı terminal kutusu gövdenin sağ veya sol tarafına gelebilmektedir.

C. Elektriksel Özellikler

Gerilim ve Frekans

Motorlar normal olarak 220V, 50 Hz' e göre dizayn edilmiştir. Bunun dışındaki gerilim ve 60 Hz frekans değerine sahip motorlar da üretilebilir.

Kondansatör

Motorlarda 400 V daimi devre kondansatör kullanılmaktadır.

Teknik Bilgiler

Tabloda verilen teknik bilgiler aşağıdaki şartlar için geçerlidir.

- 220 V kaynak gerilimi
- 50 Hz frekans
- Çalışma tipi: Sürekli çalışma (S1)
- Maksimum 40°C ortam sıcaklığı
- Deniz seviyesinden 1000 m'ye kadar olan yükseklikler

İzolasyon Sınıfı

Motorların standart izolasyon sınıfı F'dir. 40°C ortam sıcaklığında, maksimum sıcaklık artışı 100°K olabilir.

Yüksüz Çalışma

Yüksüz çalışmada kayıplar, nominal yükte çalışmaya nazaran daha yüksektir. Bu nedenle, standart bir fazlı motorlar uzun süre yüksüz çalıştırılmamalıdır. Motorun, uzun süre yüksüz çalışacağı uygulamalar özel sargı tasarımı gerektirir.



D. Özel Uygulamalar

Aşağıdaki özel konstrüksiyon özelliklerine sahip motorlar, isteğe bağlı olarak üretilebilmektedir.

- Özel mil veya çift mil çıkışı
- Özel flanş
- Değişik gerilim ve 60 Hz frekans
- Daha yüksek koruma sınıfı (IP 55)
- Sabit yatak
- Yoğunlaşmayı gidermek için tahliye deliği
- Motor sargı sıcaklığının, istenmeyen durumlarda limit değerlerinin üzerine çıkmasını önlemek için termik veya termistör kullanılması.

Motorlarımız IEC tavsiyelerine, DIN, VDE ve Türk Standartları TS 4239'a uygun olarak üretilmektedir.



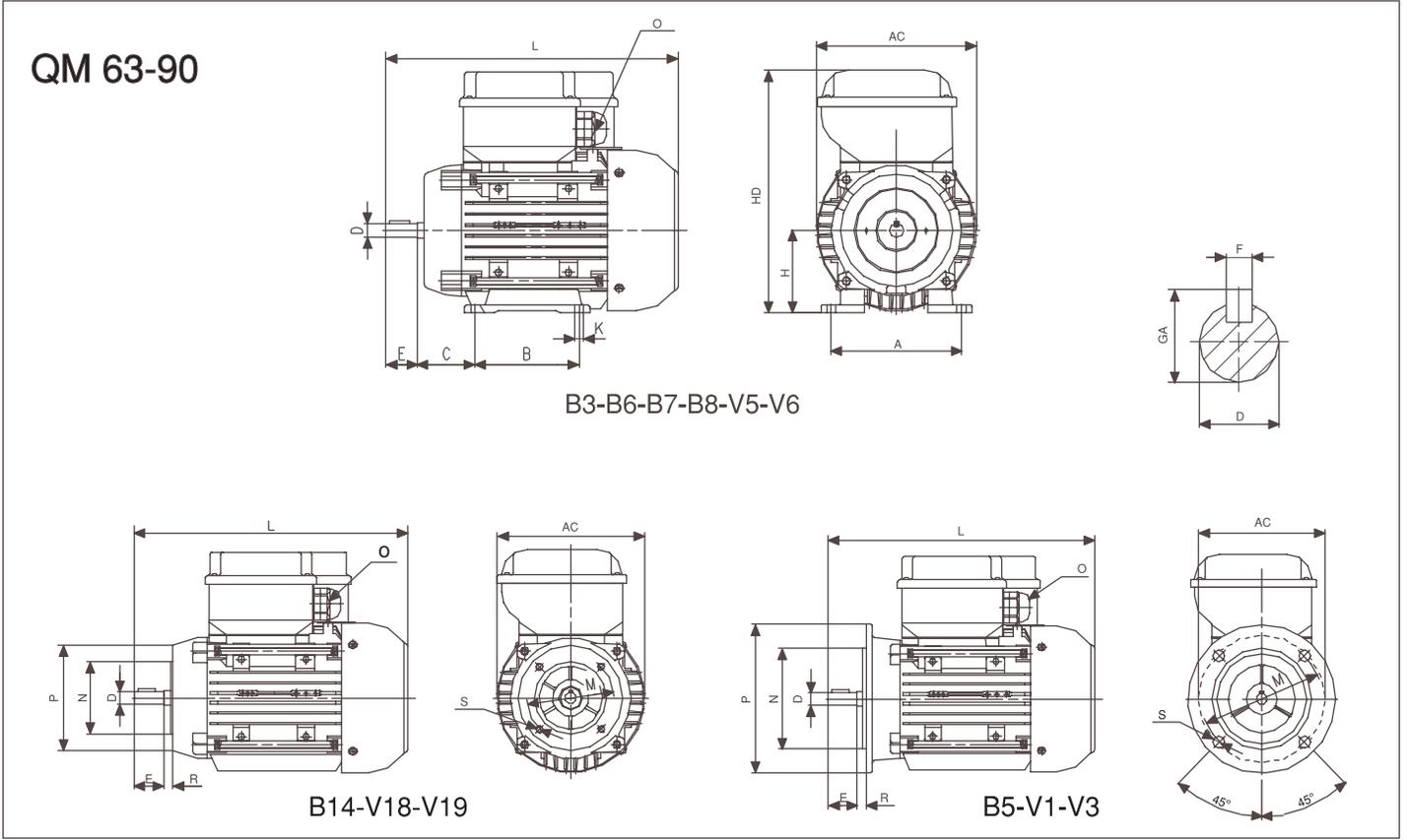
ELEKTRİKSEL ÖZELLİKLER, 50 Hz

MOTOR TİPİ	NOMİNAL					KALKIŞTAKİ DEĞERLER		Devrilme Momenti Oranı Mk/Mn	%η	Cosφ	Kondansatör μF (400 V)	J kgm ²	Ağırlık (B3) kg	
	GÜÇ		DEVİR d/d	AKIM A	MOMENT Nm	AKIM I _A / I _N	MOMENT M _A / M _N							
	HP	kW												
2 Kutup 3000 d/d														
220 V	QM 63M2B	1/3	0,25	2780	2,1	0,86	4,0	0,50	2,10	58	0,93	10	0,00021	6
	QM 71M2A	1/3	0,25	2780	1,85	0,86	5,0	0,70	2,20	64	0,96	12,5	0,00028	7
	QM 71M2B	1/2	0,37	2780	2,7	1,27	5,0	0,70	2,20	66	0,94	18	0,00035	8
	QM 71M2C	3/4	0,55	2780	4,1	1,89	5,0	0,70	2,20	67	0,91	20	0,00040	9
	QM 80M2A	3/4	0,55	2800	3,8	1,88	4,0	0,70	2,10	67	0,98	20	0,00092	10
	QM 80M2B	1	0,75	2800	5,0	2,56	4,0	0,70	2,10	70	0,97	25	0,00107	11
	QM 80M2C	1,5	1,1	2800	7,55	3,75	5,0	0,55	1,80	71	0,93	30	0,00126	12
	QM 90S2A	1,5	1,1	2800	7,3	3,75	4,0	0,60	2,00	74	0,93	30	0,00119	14
	QM 90L2A	2	1,5	2810	10,5	5,1	4,5	0,60	2,10	72	0,90	40	0,00152	16
	QM 90L2C	3	2,2	2790	14,8	7,53	4,0	0,50	2,00	74	0,91	50	0,00172	17

4 Kutup 1500 d/d														
220 V	QM 71M4A	1/4	0,18	1390	1,5	1,24	3,5	0,70	1,80	57	0,96	12,5	0,00071	7
	QM 71M4B	1/3	0,25	1390	1,95	1,72	4,0	0,70	1,85	63	0,93	15	0,00095	8
	QM 71M4C	1/2	0,37	1390	2,7	2,54	4,0	0,65	1,55	65	0,96	20	0,00107	10
	QM 80M4A	1/2	0,37	1390	2,65	2,54	4,0	0,70	1,55	66	0,96	20	0,00167	11
	QM 80M4B	3/4	0,55	1390	3,7	3,78	4,0	0,65	1,55	69	0,98	25	0,00204	12
	QM 80M4C	1	0,75	1370	4,95	5,23	3,2	0,60	1,55	71	0,97	30	0,00229	13
	QM 90S4A	1	0,75	1390	5,6	5,15	4,5	0,60	1,80	68	0,90	30	0,00238	15
	QM 90L4A	1,5	1,1	1400	8,0	7,5	4,5	0,60	1,80	69	0,91	40	0,00309	16
	QM 90L4C	2	1,5	1390	10,0	10,31	4,5	0,50	1,60	73	0,93	50	0,00351	17

BİR FAZLI - QM TİP

BOYUTLAR



Gövde Büyüklüğü	Gövde Büyüklüğü	Kutup Sayısı	Ana Boyutlar			Ayaklı Motorlar					Mil			Rulman		Keçe		Flanş								
			AC	L	O	B	A	H	HD	K	C	D ⁽¹⁾	E	GA	F ⁽³⁾	Kasnak Tarafı	Kasnak Tarafı Aksı	Kasnak Tarafı	Kasnak Tarafı Aksı ⁽⁴⁾	Yapı Şekli	Flanş Tipi	P	N ⁽²⁾	M	R	S
QM63M2B	63 M	2	123	219,5	1*M20	80	100	63	182	7	40	11	23	12.5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																				B14	FB	120	80	100	0	M6
																				B14	FC	90	60	75	0	M5
QM63M2C QM63M2D	63 M	2	123	233,5	1*M20	80	100	63	182	7	40	11	23	12.5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																				B14	FB	120	80	100	0	M6
																				B14	FC	90	60	75	0	M5
QM71M2A QM71M2B QM71M2C QM71M4A QM71M4B QM71M4C	71 M	2...4	138	252,5	1*M20	90	112	71	198	7	45	14	30	16.0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																				B14	FB	140	95	115	0	M8
																				B14	FC	105	70	85	0	M6
QM71M2D	71 M	2	138	262,5	1*M20	90	112	71	198	7	45	14	30	16.0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																				B14	FB	140	95	115	0	M8
																				B14	FC	105	70	85	0	M6
80 M	80 M	2...4	158	283,5	1*M20	100	125	80	215	10	50	19	40	21.5	6	6204-2Z	6204-2Z	20*30*7	20*30*7	B5	FA	200	130	165	0	12
																				B14	FB	160	110	130	0	M8
																				B14	FC	120	80	100	0	M6
90 S/L	90 S/L	2...4	193	296,5 316,5	1*M20	100 125	140	90	241	10	56	24	50	27	8	6305-2Z	6205-2Z	25*40*7	25*40*7	B5	FA	200	130	165	0	12
																				B14	FB	160	110	130	0	M8
																				B14	FC	140	95	115	0	M8

Ölçüler "mm" olarak verilmiştir.

(1) Tolerans DIN EN 50347 "j6"

(2) Tolerans DIN EN 50347 "j6"

(3) DIN 6885'e göre

(4) IP55

FRENLİ MOTOR - QB TİP

TEKNİK BİLGİLER

Mekanik ve elektriksel özellikleri QSX tip motorlar ile aynıdır. Kasnak tarafı aksi motor kapağı pik dökümüdür.

Fren Mekanizması Özellikleri

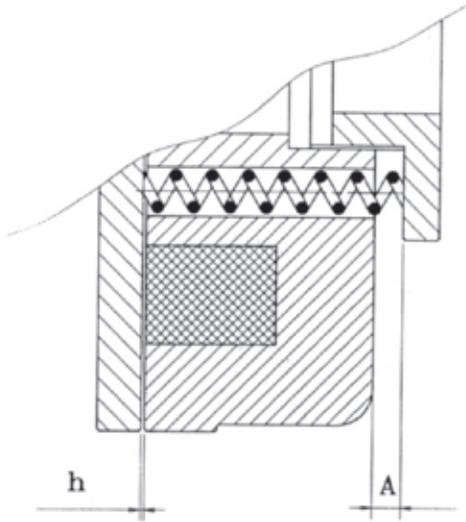
Frenli motorlarda standart olarak 100 V, D.C. gerilimle çalışan, güvenilir elektromanyetik fren mekanizması kullanılmaktadır. Özel uygulamalar için fren voltajı değiştirilebilir.

Çalışma Prensibi

Enerji kesildiğinde, yay kuvveti ile fren balatasını sıkıştıran hareketli disk otomatik olarak frenlemeyi gerçekleştirir. Tekrar enerji verildiğinde manyetik olarak geri çekilen disk fren balatasının serbest kalmasını sağlayarak milin hareketine imkan sağlar.

Fren Balatası

Asbestsiz malzemeden yapılmış olup uzun ömürlüdür.



Hava Aralığı

İdeal hava aralığı (h) ölçüleri yandaki tabloda verilmiştir. Kabul edilebilir en yüksek hava aralığı 0,7 mm'dir. Bu değer aşıldığında frenleme performansı değişecektir ve hava aralığının tekrar ayarlanması gerekmektedir.

Açma-Kapama Süreleri

Normal fren açma ve kapama süreleri aşağıdaki tabloda verilmiştir. Bu süreler yük özelliğine göre değişebilir.

Diyot Köprüsü

Standart motorun üzerinde normal tip (AS) yarım dalga diyot köprüsü bulunmaktadır. Hızlı tip (ASR) yarım dalga diyot köprüsü kullanarak aşağıdaki tabloda verilen hızlı kapanma sürelerini elde etmek mümkündür.

Özel Uygulamalar

Standart dışındaki özel uygulamalar mümkündür;

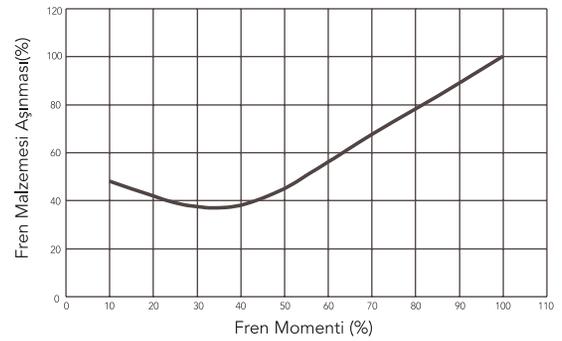
- Özel mil
- Özel flanş
- Değişik tip yataklar
- Sabit yatak
- IP 55 koruma tipi
- Değişik gerilim ve frekans
- AC tip fren



Frenleme Momenti

Ayar halkası yardımıyla fren momenti değiştirilebilir. Aşağıdaki tabloda "A" mesafesini ayarlayarak elde edilebilecek değişik fren momentleri verilmiştir. Frenleme momentinin değiştirilmesi ile balata malzemesinde oluşacak aşınma değişimi aşağıdaki grafik yardımıyla bulunabilir.

Model	Ayar Halkası ile Elektromagnet Arasındaki Mesafe: "A" (mm)									"A"
	9	8	7	6	5	4	3	2	1	
QB 63	-	-	-	0.3	0.1	1.7	2.4	3.1	3.8	4.5
QB 71	-	-	-	-	0.8	2.2	3.7	5.1	6.6	8
QB 80	-	-	-	-	0.1	3.2	5.4	7.6	9.8	12
QB 90	-	-	-	-	-	1.6	5.2	8.8	12.4	16
QB 100	3.5	7.0	14.5	14.0	17.5	21.0	24.5	28.0	31.5	35
QB 112	-	4.0	11.0	18.0	25.0	32.0	39.0	46.0	53.0	60
Frenleme Momenti (Kgm)										Max.Moment (Kgm)



Model	QB63	QB71	QB80	QB90	QB100	QB112
İdeal hava aralığı (mm)	0.2	0.2	0.2	0.2	0.3	0.3

Model	Normal açma süresi ms	Normal kapama süresi ms	Hızlı kapama süresi ms
QB63	10	45	20
QB71	15	50	30
QB80	15	55	30
QB90	15	65	40
QB100	20	75	45
QB112	25	180	85

FRENLİ MOTOR - QB TİP

ELEKTRİKSEL ÖZELLİKLER, 50 Hz

MOTOR TİPİ	NOMİNAL					KALKIŞTAKİ DEĞERLER				Devrilme Momenti Oranı Mk/Mn	Verim* % η	Cos ϕ	FREN Max. Moment kgm	J kgm ²	Ağırlık (B3) kg	
	GÜÇ		DEVİR d/d	AKIM A	MOMENT Nm	AKIM I _A / I _N		MOMENT M _A / M _N								
	HP	kW				∩	Δ	∩	Δ							
2 Kutup 3000 d/d																
220/380 V	QB 63M2A	1/4	0,18	2800	0,6	0,62	4,20	-	2,3	-	2,4	64	0,78	0,46	0,00017	6
	QB 63M2B	1/3	0,25	2800	0,7	0,86	4,20	-	2,2	-	2,3	67	0,83	0,46	0,00022	7
	QB 71M2A	1/2	0,37	2800	1,0	1,27	4,30	-	2,0	-	2,4	68	0,83	0,82	0,00028	9
	QB 71M2B	3/4	0,55	2820	1,4	1,87	5,00	-	2,2	-	2,5	71	0,84	0,82	0,00036	10
	QB 80M2A	1	0,75	2840	1,8	2,53	5,20	-	2,2	-	2,6	74	0,86	1,22	0,00088	13
	QB 80M2B	1,5	1,1	2850	2,5	3,69	6,00	-	2,6	-	2,9	77	0,86	1,22	0,00109	14
	QB 90S2A	2	1,5	2850	3,3	5,01	6,30	-	2,6	-	3,1	79	0,87	1,63	0,00130	18
	QB 90L2A	3	2,2	2860	4,6	7,37	6,90	-	2,6	-	3,2	81,5	0,88	1,63	0,00164	20
	QB 100L2A	4	3	2880	6,2	9,94	7,10	-	2,8	-	3,5	83	0,89	3,57	0,00243	26
380/660 V	QB 112M2A	5,5	4	2870	8	13,31	2,20	6,9	0,87	2,6	3,4	85	0,90	60	0,00399	37

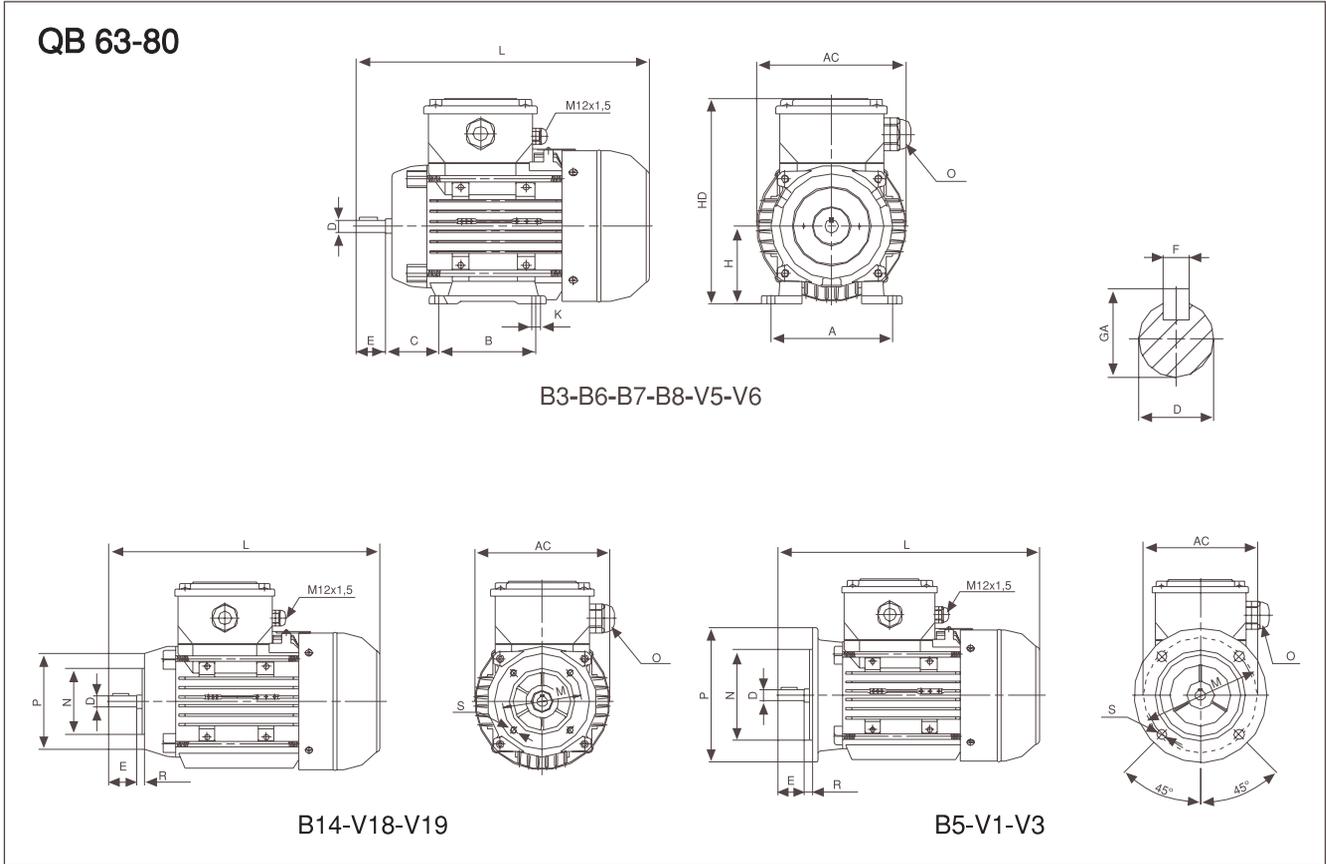
4 Kutup 1500 d/d																
220/380 V	QB 63M4A	1/6	0,12	1365	0,5	0,84	2,8	-	2,0	-	2,3	54	0,65	0,46	0,00020	6
	QB 63M4B	1/4	0,18	1380	0,7	1,25	3,2	-	2,2	-	2,4	61	0,62	0,46	0,00025	6
	QB 71M4A	1/3	0,25	1390	0,9	1,72	3,5	-	2,2	-	2,4	64	0,67	0,82	0,00071	9
	QB 71M4B	1/2	0,37	1390	1,2	2,54	4,0	-	2,3	-	2,6	67	0,68	0,82	0,00095	10
	QB 80M4A	3/4	0,55	1400	1,6	3,75	4,0	-	2,1	-	2,3	72	0,73	1,22	0,00168	13
	QB 80M4B	1	0,75	1400	2,1	5,12	4,2	-	2,1	-	2,2	74	0,74	1,22	0,00205	14
	QB 90S4A	1,5	1,1	1410	2,7	7,45	5,4	-	2,4	-	2,7	78	0,78	1,63	0,00243	17
	QB 90L4A	2	1,5	1420	3,6	10,09	5,5	-	2,4	-	2,7	80	0,79	1,63	0,00322	19
	QB 100L4A	3	2,2	1410	5,1	14,9	5,4	-	2,5	-	2,7	82	0,80	3,57	0,00398	26
380/660 V	QB 112M4B	5,5	4	1430	8,7	26,71	2,1	6,7	0,72	2,8	3,2	85	0,82	6,12	0,00933	39

6 Kutup 1000 d/d																
220/380 V	QB 71M6A	1/4	0,18	900	0,78	1,91	3,0	-	2,0	-	2,3	58	0,60	0,82	0,00068	10
	QB 71M6B	1/3	0,25	910	0,95	2,63	3,1	-	2,0	-	2,3	63	0,63	0,82	0,00090	12
	QB 80M6A	1/2	0,37	920	1,35	3,84	3,3	-	2,1	-	2,4	68	0,61	1,22	0,00160	14
	QB 80M6B	3/4	0,55	920	1,85	5,71	3,2	-	2,1	-	2,5	69	0,65	1,22	0,00196	15
	QB 90S6A	1	0,75	925	2,3	7,75	3,6	-	1,9	-	2,1	72	0,69	1,63	0,00255	17
	QB 90L6B	1,5	1,1	935	3,3	11,24	4,0	-	2,0	-	2,2	73	0,69	1,63	0,00328	21
	QB 100L6A	2	1,5	940	4,2	15,24	4,2	-	2,1	-	2,3	75	0,72	3,57	0,00463	25
	QB 112M6A	3	2,2	945	5,8	22,12	4,5	-	2,1	-	2,4	77	0,75	6,12	0,00916	37

* 1.1 ve 4 kW arası 2 ve 4 kutup motorlarımız "EFF2" verimlilik seviyesindedir.

FRENLİ MOTOR - QB TİP

BOYUTLAR



Gövde ⁽⁴⁾ Büyüklüğü	Kutup Sayısı	Ana Boyutlar			Ayaklı Motorlar							Mil			Rulman		Keçe		Flanş						
		AC	L	O	B	A	H	HD	K	C	D ⁽¹⁾	E	GA	F ⁽³⁾	Kasnak Taraflı	Kasnak Taraflı Aksı	Kasnak Taraflı	Kasnak Taraflı Aksı ⁽⁵⁾	Yapı Şekli	Flanş Tipi	P	N ⁽²⁾	M	R	S
63 M	2...6	123	278,5	1*M20	80	100	63	174	7	40	11	23	12,5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																			B14	FB	120	80	100	0	M6
																			B14	FC	90	60	75	0	M5
71 M	2...6	138	314,5	1*M20	90	112	71	190	7	45	14	30	16,0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																			B14	FB	140	95	115	0	M8
																			B14	FC	105	70	85	0	M6
80 M	2...6	158	347,5	1*M20	100	125	80	207	10	50	19	40	21,5	6	6204-2Z	6204-2Z	20*30*7	20*30*7	B5	FA	200	130	165	0	12
																			B14	FB	160	110	130	0	M8
																			B14	FC	120	80	100	0	M6

Ölçüler "mm" olarak verilmiştir.

(1) Tolerans 28 mm'ye kadar DIN EN 50347 "j6", 28 mm ve üzeri "k6".

(2) Tolerans DIN EN 50347 "j6"

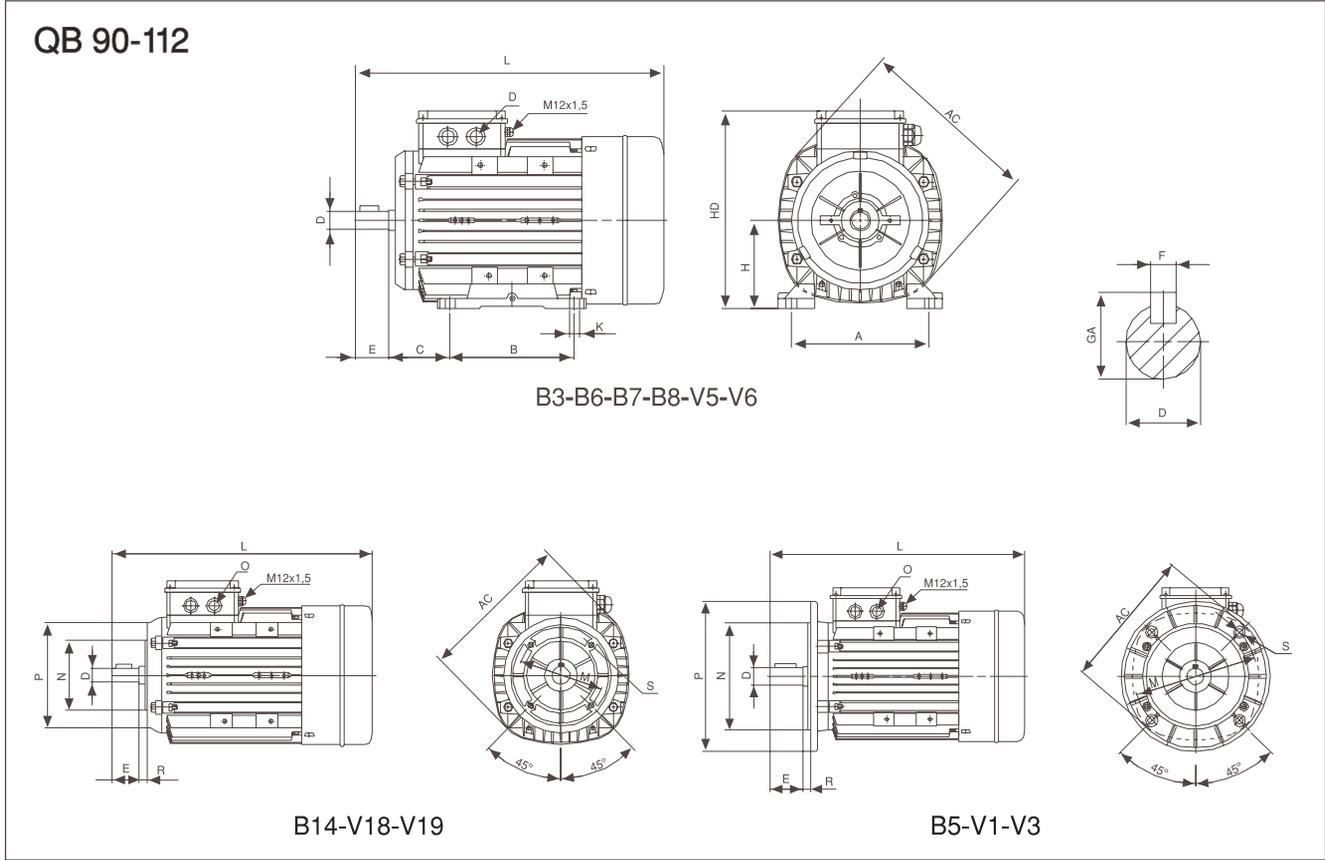
(3) DIN 6885'e göre

(4) 112 yapı büyüklüğünden itibaren kaldırma halkası mevcuttur.

(5) IP55

FRENLİ MOTOR - QB TİP

BOYUTLAR



Gövde ⁽⁴⁾ Büyüklüğü	Kutup Sayısı	Ana Boyutlar			Ayaklı Motorlar					Mil			Rulman		Keçe		Flanş								
		AC	L	O	B	A	H	HD	K	C	D ⁽¹⁾	E	GA	F ⁽³⁾	Kasnak Taraflı	Kasnak Taraflı Aksı	Kasnak Taraflı	Kasnak Taraflı Aksı ⁽⁵⁾	Yapı Şekli	Flanş Tipi	P	N ⁽²⁾	M	R	S
90 S/L	2...6	193	365,5 385,5	1*M25	100	140	90	241	10	56	24	50	27	8	6305-2Z	6205-2Z	25*40*7	25*40*7	B5	FA	200	130	165	0	12
					125	B14	FB	160	110	130	0	M8													
					B14	FC	140	95	115	0	M8														
100 L	2...6	217	432,0	1*M25	140	160	100	260	12	63	28	60	31	8	6306-2Z	6205-2Z	30*47*7	25*40*7	B5	FA	250	180	215	0	15
					B14	FB	200	130	165	0	M10														
					B14	FC	160	110	130	0	M8														
112 M	2...6	232	475,5	2*M25	140	190	112	280	12	70	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B5	FA	250	180	215	0	15
					B14	FB	200	130	165	0	M10														
					B14	FC	160	110	130	0	M8														

Ölçüler "mm" olarak verilmiştir.

⁽¹⁾Tolerans 28 mm'ye kadar DIN EN 50347 "j6", 28 mm ve üzeri "k6".

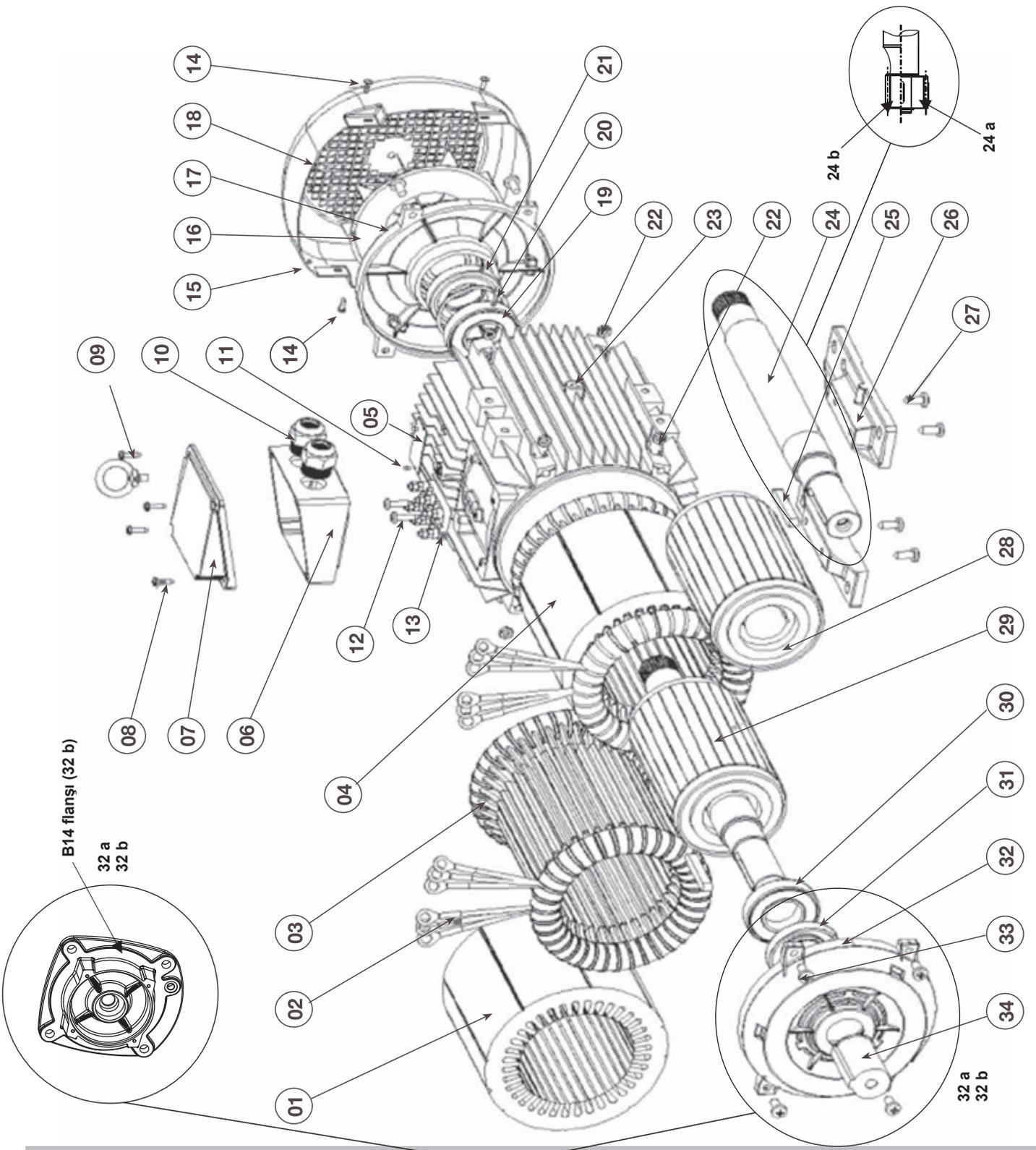
⁽²⁾Tolerans DIN EN 50347 "j6"

⁽³⁾DIN 6885'e göre

⁽⁴⁾112 yapı büyüklüğünden itibaren kaldırma halkası mevcuttur.

⁽⁵⁾IP55

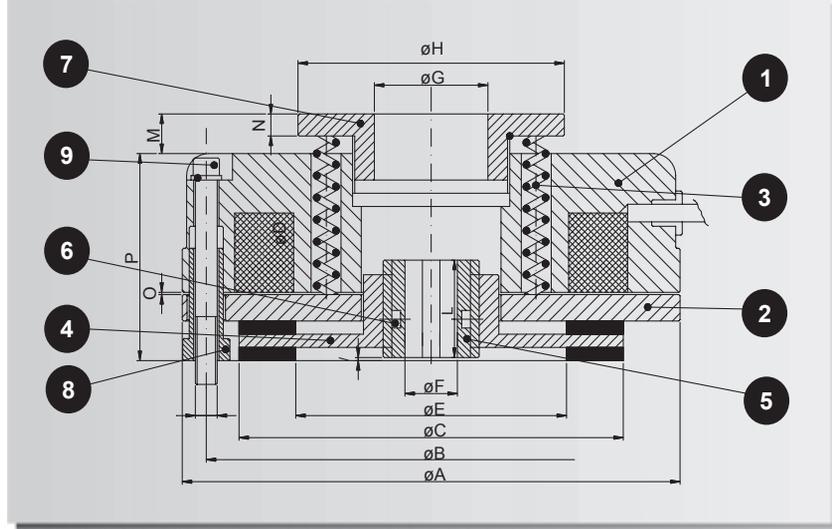
MOTOR PARÇA LİSTESİ



1. Stator çekirdek
2. Kamçı grubu
3. Sargı
4. Sargılı stator
5. Etiket
6. Terminal kutusu
7. Terminal kutu kapağı
8. Terminal kutu vidaları
9. Taşıma halkası
10. Rakor
11. Perçin
12. Terminal vidaları
13. Terminal plakası
14. Fan kapağı vidaları
15. Fan kapağı
16. Fan
17. Motor arka kapağı
18. Arka kapak vidaları
19. Arka rulman
20. Rulman gerği yayı
21. Keçe (Arka)
22. Somun
23. Gövde
24. Mil
- 24 a Çakma
- 24 b Yekpare
25. Kama
26. Ayak
27. Ayak vidalı
28. Rotor
29. Rotor-mil grubu
30. Ön rulman
31. Keçe (Ön)
32. Ön kapak (B3 Flansı)
- 32 a B5 Flansı
- 32 b B14 Flansı
33. Ön kapak vidaları
34. Mil koruyucu kılıf

FREN PARÇA LİSTESİ VE ÖZELLİKLERİ

- 1 Elektro mıknatıs
- 2 Endüvi plakası
- 3 Tork yayı
- 4 Disk
- 5 Kamalı burç
- 6 O-ring
- 7 Ayar halkası
- 8 Ayar somunu
- 9 Bağlantı civataları



Tip Fren Modeli	K1	K2	K3	K4	K5	K6	K7	K7/D	K8	K8/D	K9	K9/D	K9/T	
Statik Fren Momenti (Nm)	5	12	16	20	40	60	90	180	200	400	300	600	900	
Motorun Max. Hızı (rpm)	3000	3000	3000	3000	3000	3000	3000	3000	1500	1500	1500	1500	1500	
Giriş Gücü (W)	15	20	25	30	45	50	55	55	60	60	65	65	65	
Max. Ses (\leq dB-A)	68	69	68	69	70	70	70	70	70	69	69	69	70	
Ağırlık (Kg.)	1,1	1,85	2,55	2,84	4,8	7	12	15	14,3	18	23	28	34	
A	84	104	114	124	148	159	189	189	218	218	248	248	248	
B	72	90	103	112	132	145	170	170	196	196	230	230	230	
C	61	77	88	98	119	128	151	151	176	176	204	204	204	
D	3xM4	3xM5	3xM5	3xM6	3xM6	3xM8	3xM8	3xM8	6xM10	6xM10	6xM10	6xM10	9xM10	
E	35	44	62	69	79	80	90	90	103	103	132	132	132	
Delik toleransı K3'e kadar H7, diğerleri +0,01/-0,01	F	10-11 12	11-14 15	11-15	14-25	24-25 28	25-30 34	25-30 34	25 H40 34 H60	24-34	34 H60 48	44-45 48	44-45 48	44-45 48-50
G	20	26	26	42	60	60	60	60	60	60	60	60	60	
H	50	61	61	79	104	104	104	104	104	104	104	104	104	
I	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
L	18	20	20	20	25	30	30	60	40	60	40	60	80	
M (max)	9	9	9	9,5	18	16	14	14	18	18	18	18	18	
N	4	4	4	5,5	8	8	8	8	8	8	8	8	8	
O	0,2	0,2	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,4	0,4	0,4	0,4±0,5	
P	38,5	41,5	47	46,5	64	69,5	79	101,5	78	98	80	105	130	

Not

- Fren alıştırmadan önce statik fren momentini tabloda verilen değerlere göre \pm % 20 değişiklik gösterebilir.

THREE PHASE & SINGLE PHASE INDUSTRIAL MOTORS



CONTENT

Table of Contents
Production Site

Technical Documentation

International Standards
Insulation Classification, Degree of Protection
Vibration/Balancing, Connections, Tolerances
Environmental Conditions, Materials
Mounting Arrangements, Bearings
Painting, Feet, Terminal Box, Condensation Holes,
Motor Identification Symbols, Voltage 60 Hz
Permissible Loading On The Shaftend
Motor Inquiry Form

Threephase Motors-QSX/QU/QH Types

Electrical Characteristics, at 50 Hz
Electrical Characteristics, at 50 Hz
Efficiency Levels
High Efficiency Motors Electrical Characteristics, at 50 Hz
Motor Dimensions
Motor Dimensions
Motor Dimensions

Singlephase Motors-QM Type

Technical Documentation
Electrical Characteristics, at 50 Hz
Motor Dimensions

Brake Motors-QB Type

Technical Documentation
Electrical Characteristics, at 50 Hz
Motor Dimensions
Motor Dimensions
Motor Parts List

TECHNICAL DOCUMENTATION

INTERNATIONAL STANDARDS

Electric motors are manufactured according to the international standards listed below:

IEC 60034-1	Rating and performance
IEC 60034-2	Methods for determining losses and efficiency
IEC 60034-5	Classification of degrees of protection
IEC 60034-6	Methods of cooling
IEC 60034-7	Symbols of construction and mounting arrangements
IEC 60034-8	Terminal markings and direction of rotation
IEC 60034-9	Noise limits
IEC 60034-11	Built-in thermal protection
IEC 60034-14	Vibration limits
IEC 60034-18-1	Functional evaluation of insulation systems
IEC 60038	Standart voltages
EN 50347	Dimensions and output for electrical machines

EN 55014-1	} Electromagnetic compatibility
EN 61000-3-2	
EN 61000-3-3	

Germany

DIN VDE 0530
DIN EN 60034

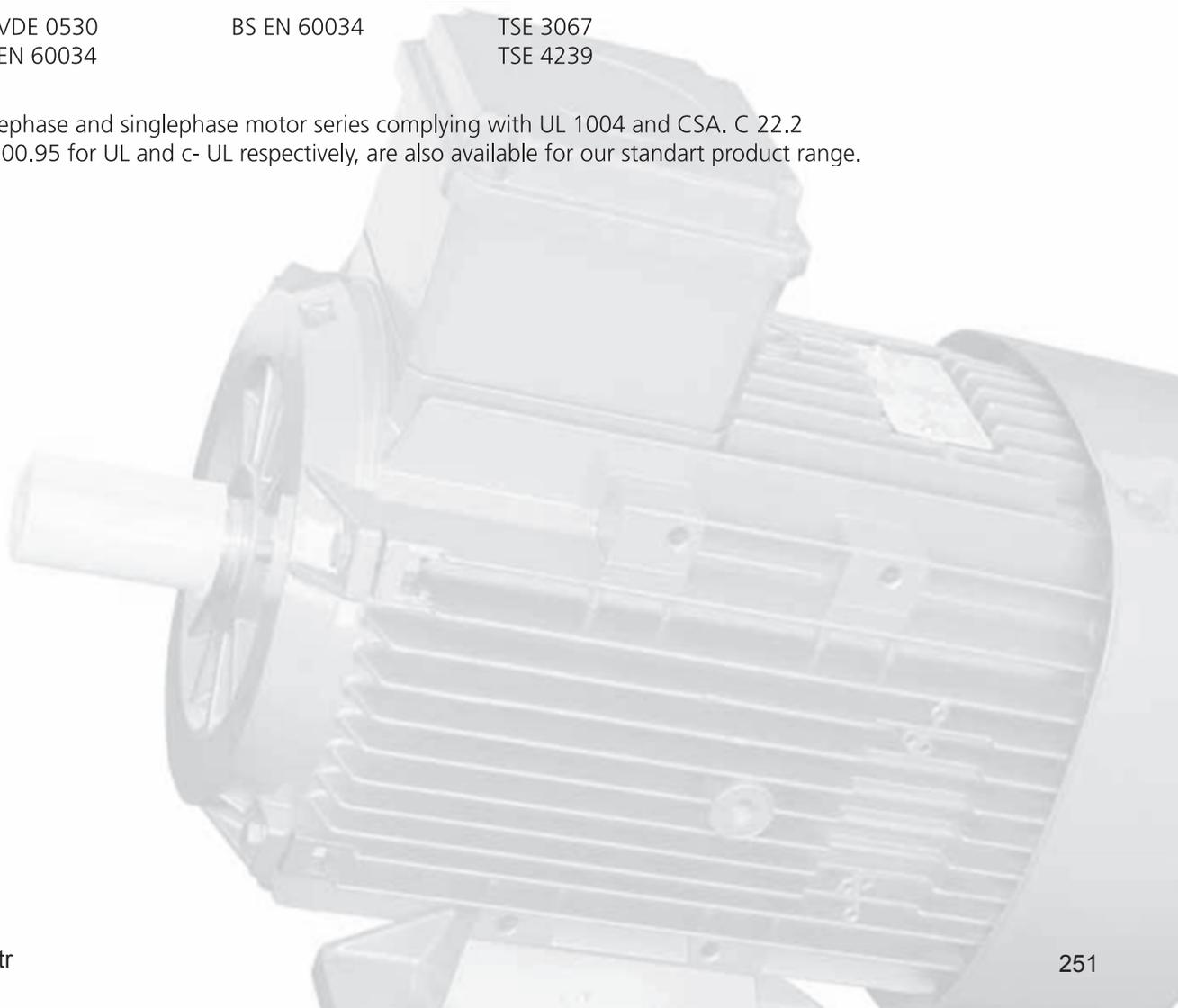
Great Britain

BS EN 60034

Turkey

TSE 3067
TSE 4239

Threephase and singlephase motor series complying with UL 1004 and CSA. C 22.2 No 100.95 for UL and c- UL respectively, are also available for our standart product range.



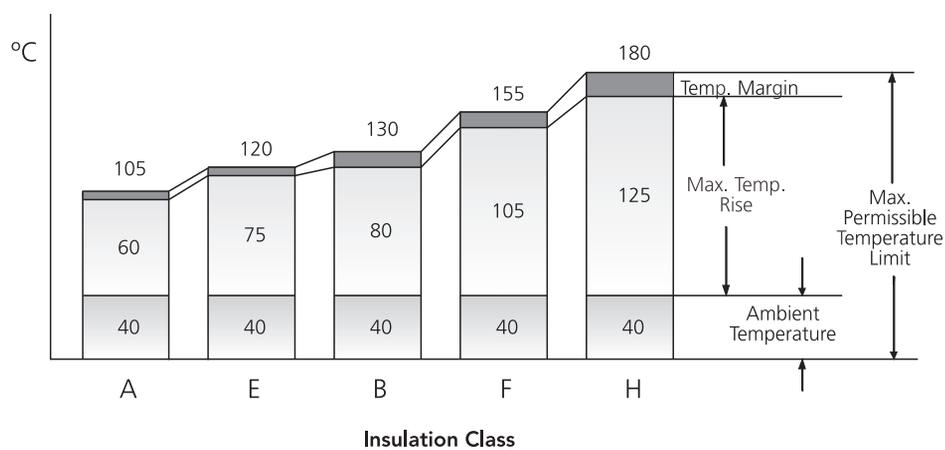
TECHNICAL DOCUMENTATION

INSULATION CLASSIFICATION

Our standard motors have insulation class F while the temperature rise is for class B. It means longer life of motors.

Under specified measuring conditions in accordance with IEC 60034-1 standard, insulation class F for an electric motor means that at ambient temperature of 40°C the temperature rise of its windings may be max. 105°C with the additional temperature margin of 10°C.

On customer's demand, we are able to make motors insulation class F with temperature rise for class F.



DEGREE OF PROTECTION

According to IEC 60034-5 standard, electric motors are provided with IP code which determines the degree of protection ensured by the housing against access to dangerous parts, introducing foreign matter and/or water.

Our motors comply with IP55 protection class as standard.

X	Protection from introduction of solid foreign matter	Y	Protection against penetration of water and its harmful effects	IP XY
5	Protection against with live or moving parts inside the enclosure. Ingress of dust is not totally prevented, but dust does not enter in sufficient quantity to interfere with satisfactory operation of the motor	4	Water splashed against the motor from any direction will have no harmful effect.	IP 54
		5	Water projected by a nozzle against the motor from any direction will have no harmful effect.	IP 55

TECHNICAL DOCUMENTATION

VIBRATION/BALANCING

All rotors are balanced dynamically with half key and this is indicated on the rating plate with letter H.

In accordance to IEC 60034-14, vibration level N is guaranteed for the standard motors. On customer demand, motors with reduced vibration level may also be produced.

Vibration in mm/s for the frame sizes

Vibration Grade	A	B
63-132	1,6	0,7
160-250	2,2	1,1

CONNECTIONS

The terminal plate is provided with 6 connection terminals, marked in accordance with 60034-8.

Frame Size	63-80	90-100	112	132-160	180	200	225-250
Cable Entry	M20	M25	M25	M32	M25	M32	M40
Number of Entries	1	1	2	2	2	2	2

TOLERANCES

According to IEC 60034-1, catalogue values are permitted to deviate from the real values as follows:

Speed (n)	$\Delta n = \pm 20\% (n_s - n_N)$ for $P_N > 1$ kW $\Delta n = \pm 30\% (n_s - n_N)$ for $P_N \leq 1$ kW
Efficiency % (η)	$\Delta \eta = -15\% (100 - \eta_N)$ for $P_N \leq 50$ kW $\Delta \eta = -10\% (100 - \eta_N)$ for $P_N > 50$ kW
Power Factor ($\cos \varphi$)	$\Delta \cos \varphi = -1/6 (1 - \cos \varphi)$
Locked Rotor Current (I_L/I_N)	$\Delta (I_L/I_N) = +20\% (I_L/I_N)$
Locked Rotor Torque (M_L/M_N)	min. (M_L/M_N) = $-15\% (M_L/M_N)$ max. (M_L/M_N) = $+25\% (M_L/M_N)$
Breakdown Torque (M_K/M_N)	$\Delta (M_K/M_N) = -10\% (M_K/M_N)$
Pull-up Torque (M_P/M_N)	$\Delta (M_P/M_N) = -15\% (M_P/M_N)$
Moment of Inertia (J) [kgm ²]	$\Delta J = \pm 10\% J$
Sound Pressure Level (LPA) [dB]	$\Delta LPA = +3$ dB (A)

TECHNICAL DOCUMENTATION

ENVIRONMENTAL CONDITIONS

Motors are designed to operate at altitudes up to 1000 m and ambient temperature up to 40°C. Rated output will change at the % ratios given below for different altitudes and ambient temperatures.

ALTITUDE		up to 1000 m	1500 m	2000 m	2500 m	3000 m	3500 m	4000 m
Insulation Class	B	100	97	94	90	86	82	77
	F	100	98	95	91	87	83	78

AMBIENT TEMPERATURE		30°C	35°C	40°C	45°C	50°C	55°C	60°C
Insulation Class	B	106	106	100	97	92	86	80
	F	105	102	100	97	93	87	82

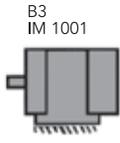
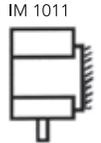
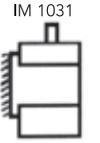
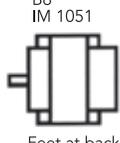
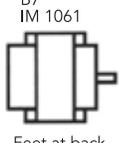
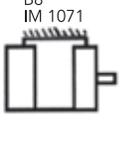
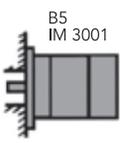
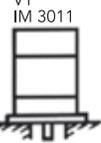
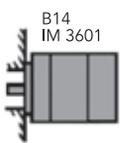
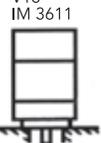
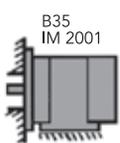
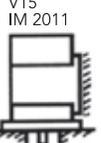
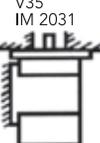
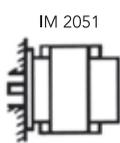
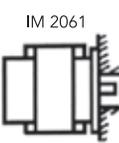
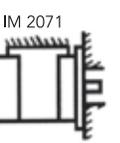
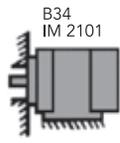
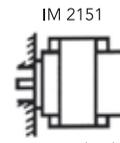
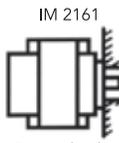
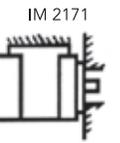
MATERIALS

Frame	Housing	Fan	Fan Cover	Endshields	B5 Flange	B14 Flange
63	Aluminium	Plastic	Steel	Aluminium	Aluminium	Aluminium
71						
80						
90						
100						
112			Cast Iron			
132						
160						
180						
200						
225	Cast Iron					
250						

¹⁾Steel fancover is optional.

TECHNICAL DOCUMENTATION

MOUNTING ARRANGEMENTS

			 Feet at back	 Feet at back		
						FA
						FB or FC
			 Feet at back	 Feet at back		PA
			 Feet at back	 Feet at back		PB or PC

BEARINGS

Standard motors are equipped with deep groove ball bearings with ZZ shields. 250 frame size motors have external lubrication.

Bearing & Seal Types

Frame	Bearing		Seal	
	Drive side	Nondrive side	Drive side	Nondrive side
63	6201-2Z	6201-2Z	12*22*7	12*22*7
71	6202-2Z	6202-2Z	15*24*5	15*24*5
80	6204-2Z	6204-2Z	20*30*7	20*30*7
90	6305-2Z	6205-2Z	25*40*7	25*40*7
100	6306-2Z	6205-2Z	30*47*7	25*40*7
112	6306-2Z	6206-2Z	30*47*7	30*47*7
132	6208-2Z	6208-2Z	40*62*10	40*62*10
160	6309-2Z	6309-2Z	45*72*10	45*72*10
180	6310-2Z	6310-2Z	50*80*10	50*80*10
200	6312-2Z	6312-2Z	60*90*10	60*90*10
225	6313-2Z	6313-2Z	65*100*13	65*100*13
250/2	6314	6313-2Z	70*112*12	65*100*13
250/4	6315	6313-2Z	75*112*12	65*100*13

TECHNICAL DOCUMENTATION

PAINTING

Our standard range of motors are painted with a gray protective paint according to RAL 7031 (grey). Other color are also available upon customer requests.

FEET

For QSX types motors (63-132 Frames), feet can be mounted on three sides, permitting terminal box assembly on the desired side. For QU types (160-250 Frames), the feet are detachable and this feature provides flexibility for different mounting types.

TERMINAL BOX

Motors frame size 63-160 have terminal boxes on top close to the drive end which can be turned 90°, so that conduits can be at each side. For the other frame sizes, it is on top and close to the drive end.

CONDENSATION HOLES

In the basic design, motors are supplied without holes. In case of customer requests, motors can be supplied with drain holes. Since these motors are provided with a special plug in the hole, the degree of protection remains IP 55.



MOTOR IDENTIFICATION SYMBOLS

QU FA 225 M 4 C-43 (Sample motor number)			
QU	Motor Type	QU Type QSX Type QH Type QB Type QM Type	225 . Frame Size (Shaft height in millimeters)
FA	Construction Type	--- with feet B3,B6,B7,B8,V5,V6/V19 FA with A flange B5,V1,V3 FB with B flange B14,V18,V19 FC with C flange B14,V18,V19 FS with special flange - PA with feet and A flange B3/B5,V1/V5,V3/V6 PB with feet and B flange B3/B14,V5/V18,V6/V19 PC with feet and C flange B3/B14,V5/V18,V6/V19 PS with feet and special flange - X without feet; flange and/or end-shield B9,V8,V9	M . Motor Length S Short M Medium L Long 4 . Number of Poles 2,4,6,8 Poles C . Core Length (Does not affect outside dimensions) A Short B Medium C Long D, CE Extra Long 43 . Special Motor Number 01 - ... - 99

VOLTAGE/60 Hz

Motors are normally designed for 400V, 50 Hz. Other voltages and 60 Hz frequency are optional. Our motors wound for 50 Hz can be operated on 60 Hz for the same output power. The ratios given below indicate changes in the given parameters.

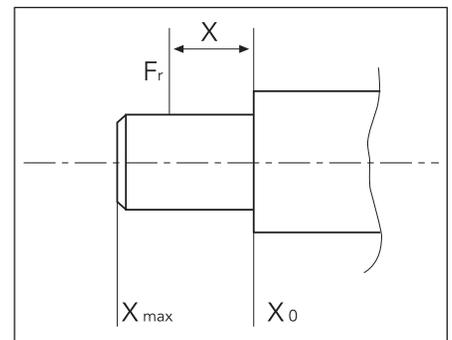
		60 Hz Application Coefficients of 50 Hz Motor						
50 Hz Voltage	60 Hz Application	Rated Speed	Rated Power	Rated Torque	Rated Current	Starting Torque	Breakdown Torque	Starting Current
230 V	230 V	1,2	1	0,83	1	0,83	0,83	0,83
230 V	265 V	1,2	1,15	0,96	1	0,96	0,96	0,96
400 V	400 V	1,2	1	0,83	1	0,70	0,83	0,83
400 V	460 V	1,2	1,15	0,96	1	0,95	0,98	0,97

TECHNICAL DOCUMENTATION

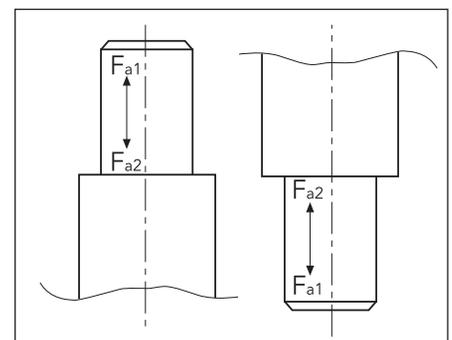
PERMISSIBLE LOADING ON THE SHAFTEND

FRAME SIZE	NUMBER OF POLES	Horizontal operation		Vertical operation	
		$F_r(x=0)$ (kN)	$F_r(x=\max)$ (kN)	$F_{a1}(x=0)$ (kN)	$F_{a2}(x=\max)$ (kN)
63	2	0,25	0,22	0,18	0,18
	4	0,29	0,25	0,21	0,21
	6	0,31	0,27	0,23	0,23
71	2	0,30	0,26	0,21	0,21
	4	0,35	0,29	0,25	0,25
	6	0,37	0,31	0,27	0,27
80	2	0,38	0,32	0,28	0,28
	4	0,54	0,45	0,38	0,38
	6	0,62	0,51	0,44	0,44
80	6	0,66	0,54	0,48	0,48
	8	0,67	0,55	0,49	0,49
	8	0,67	0,55	0,49	0,49
90	2	0,91	0,74	0,70	0,36
	4	0,99	0,80	0,77	0,40
	6	1,04	0,84	0,82	0,43
90	8	1,03	0,83	0,80	0,43
	2	1,21	0,96	0,91	0,36
	4	1,31	1,04	1,01	0,40
100	6	1,38	1,09	1,07	0,43
	8	1,38	1,09	1,07	0,43
	8	1,38	1,09	1,07	0,43
112	2	1,23	1,00	0,91	0,54
	4	1,33	1,09	1,01	0,60
	6	1,40	1,14	1,07	0,64
112	8	1,40	1,14	1,07	0,61
	2	1,22	0,98	0,86	0,86
	4	1,31	1,04	0,92	0,92
132	6	1,34	1,08	0,95	0,95
	8	1,42	1,14	1,03	1,03
	2	2,22	1,72	1,59	1,59
160	4	2,34	1,82	1,71	1,71
	6	2,34	1,82	1,71	1,71
	8	2,48	1,92	1,83	1,83
180	2	2,68	2,12	1,94	1,94
	4	2,82	2,23	2,07	2,07
	6	2,93	2,31	2,17	2,17
180	8	2,92	2,31	2,16	2,16
	2	3,80	3,04	2,79	2,79
	4	3,95	3,16	2,93	2,93
200	6	4,07	3,26	3,05	3,05
	8	3,95	3,16	2,93	2,93
	2	4,45	3,65	3,25	3,25
225	4	4,59	3,60	3,39	3,39
	6	4,73	3,71	3,52	3,52
	8	4,53	3,55	3,32	3,32
250	2	4,97	3,93	3,61	2,94
	4	5,78	4,57	4,26	3,15

Horizontal operation



Vertical operation



Calculations are based on 20.000h (L_{10aah}) bearing life time and the actual values will differ if radial and axial loads act at the same time. Mechanical strength of the endshields should also be considered for critical applications.

Value of force F_r acting on any point of the shaft end (between points $X=\max$ and $X=0$) may be calculated according to the following formula:

$$F_r = F_{x0} - \frac{x}{E} (F_{x0} - F_{x\max}) [kN]$$

Where; F_{x0} - value of F_r force acting on the beginning of the shaft end
 $F_{x\max}$ - value of F_r force acting on the shaft end
 E - length of the shaft end

MOTOR INQUIRY FORM

To	Nr	Date
----	----	------

Company Name & Address

Contact Person	Name & Position	
	Tel	e-mail
	Fax	

Annual Quantity (pcs)	Lot Size/Month
-----------------------	----------------

Target Price	Requested Answer Date
--------------	-----------------------

Threephase
 Singlephase
 Brakemotor
 Doublespeed

Motor Type	Drawing Nr
------------	------------

Mechanical	Frame Size		
	IP	Iso	Shaft <input type="checkbox"/> Standard <input type="checkbox"/> Special
	Mounting		Flange Type
	Color	<input type="checkbox"/> Ral _____	<input type="checkbox"/> Epoxy Primer <input type="checkbox"/> Unpainted
	Terminal-Box	<input type="checkbox"/> Top <input type="checkbox"/> Leftside <input type="checkbox"/> Rightside	Conduits
	Cable Outlet <input type="checkbox"/>	Cable Type	Length/Thickness

Electrical	Output Power	
	Voltage/Frequency	Speed (rpm)
	Duty Type S__	Connection
	Protection	<input type="checkbox"/> PTC <input type="checkbox"/> PTO <input type="checkbox"/> Other _____

OTHER REQUIREMENTS:

Page __ of __	<input type="checkbox"/> Please send this checklist per e-mail
---------------	--



THREE PHASE-QSX / QU / QH TYPES

- 63-250 frame size
- Up to 55 kW
- 2, 4, 6 and 8 poles



SINGLE PHASE-QM TYPE

- 63-90 frame size
- Up to 2,2 kW
- 2 and 4 poles



BRAKE MOTOR-QB TYPE

- 63-112 frame size
- Up to 4 kW
- 2, 4 and 6 poles

THREE PHASE - QSX TYPES

ELECTRICAL CHARACTERISTICS, AT 50 Hz

EFF2

MOTOR TYPE	RATED VALUES					STARTING VALUES				Mk/Mn	%η			J kgm ²	kg	Sound Pressure Level dBA*	
	OUTPUT		SPEED min ⁻¹	CURRENT A	MOMENT Nm	CURRENT I _A / I _N		TORQUE M _A / M _N			3/4	4/4	4/4				
	HP	kW				∧	Δ	∧	Δ								
2 Pole 3000 min⁻¹																	
230/400 V	QSX 63M2A	1/4	0,18	2800	0,51	0,62	4,20	-	2,3	-	2,4	63	64	0,80	0,00017	5	52
	QSX 63M2B	1/3	0,25	2800	0,66	0,86	4,20	-	2,2	-	2,3	66	67	0,82	0,00022	6	52
	QSX 71M2A	1/2	0,37	2800	0,93	1,27	4,30	-	2,0	-	2,4	67	68	0,84	0,00028	7	54
	QSX 71M2B	3/4	0,55	2820	1,32	1,87	5,00	-	2,2	-	2,5	69	71	0,85	0,00036	8	54
	QSX 80M2A	1,0	0,75	2840	1,70	2,53	5,20	-	2,2	-	2,6	72	74	0,86	0,00088	10	58
	QSX 80M2B	1,5	1,1	2850	2,40	3,69	6,00	-	2,6	-	2,9	75	77,3	0,86	0,00109	11	58
	QSX 90S2A	2	1,5	2860	3,20	5,01	6,50	-	2,6	-	3,1	78	79	0,86	0,00129	14	62
	QSX 90L2A	3	2,2	2860	4,50	7,35	7,00	-	2,7	-	3,3	80	81	0,87	0,00162	16	62
	QSX 100L2A	4	3	2890	6,10	9,91	7,50	-	2,9	-	3,6	81	82	0,87	0,00241	21	64
QSX 112M2A	5,5	4	2890	7,50	13,22	2,40	7,7	0,78	2,9	3,8	86	86	0,90	0,00394	29	67	
QSX 132S2A	7,5	5,5	2900	10,40	18,11	2,60	7,9	0,80	3	3,7	85,5	86,5	0,88	0,01123	34	70	
QSX 132S2C	10	7,5	2900	13,80	24,70	2,70	7,9	1,01	3,4	4,1	87	88	0,89	0,01424	41	70	
QSX 132M2A	15	11	2900	20,00	36,22	2,60	7,9	0,83	2,9	3,6	88	88,5	0,90	0,01596	55	70	
400/690 V	QU 160M2A	15	11	2900	19,60	36,23	2,25	6,9	0,79	2,5	3,5	89	90	0,90	0,02644	69	71
	QU 160M2B	20	15	2910	26,50	49,23	2,25	7	0,87	2,7	3,5	89,5	90,5	0,90	0,03317	76	71
	QU 160L2A	25	18,5	2920	32,20	60,51	2,25	7	0,80	2,6	3,5	90,5	91	0,91	0,04075	91	71
	QU 180M2A	30	22	2940	38,10	71,47	2,25	7	0,74	2,6	3,5	91	91,5	0,91	0,06193	114	77
	QU 200L2A	40	30	2945	53,00	97,12	2,26	7	0,71	2,4	3,5	92	92,5	0,88	0,11917	148	80
	QU 200L2B	50	37	2950	64,50	119,6	2,26	7	0,68	2,4	3,5	92	93	0,89	0,13885	167	80
	QU 225M2A	60	45	2955	79,00	145,4	2,26	7	0,69	2,3	3,5	92	93,5	0,88	0,19833	206	81
	QU 250M2A	75	55	2955	94,00	177,4	2,26	7	0,69	2,3	3,6	93	94	0,90	0,23505	235	81

4 Pole 1500 min⁻¹																	
220/380 V	QSX 63M4A	1/6	0,12	1365	0,50	0,84	2,8	-	2,0	-	2,3	53	56	0,62	0,00020	5	41
	QSX 63M4B	1/4	0,18	1380	0,70	1,25	3,2	-	2,2	-	2,4	57	60	0,62	0,00025	5,6	41
	QSX 71M4A	1/3	0,25	1390	0,80	1,72	3,5	-	2,2	-	2,4	63	65	0,69	0,00071	7	45
	QSX 71M4B	1/2	0,37	1390	1,12	2,55	4,0	-	2,3	-	2,6	68	69	0,69	0,00095	8	45
	QSX 80M4A	3/4	0,55	1400	1,50	3,76	4,0	-	2,1	-	2,3	71	72	0,74	0,00168	9,5	49
	QSX 80M4B	1,0	0,75	1400	1,96	5,12	4,2	-	2,1	-	2,2	73	74	0,75	0,00205	10,5	49
	QSX 90S4A	1,5	1,1	1410	2,70	7,45	5,4	-	2,6	-	3,1	77	77,5	0,76	0,00243	13	54
	QSX 90L4A	2,0	1,5	1420	3,50	10,09	5,5	-	2,7	-	3,2	80	80	0,77	0,00322	15	54
	QSX 100L4A	3,0	2,2	1430	4,80	14,69	5,7	-	2,8	-	3,0	82	82	0,80	0,00398	21	56
QSX 100L4B	4,0	3,0	1425	6,50	20,10	5,8	-	2,9	-	3,2	82	83	0,80	0,00471	24	56	
QSX 112M4B	5,5	4,0	1445	8,60	26,43	2,3	6,8	0,69	2,6	3,2	84	85	0,79	0,00933	31	58	
QSX 132S4C	7,5	5,5	1450	11,1	36,22	2,1	6,7	0,81	2,8	3,1	87	87	0,82	0,02111	39	61	
QSX 132M4B	10,0	7,5	1450	15,5	49,39	1,5	5,5	0,83	2,9	3,1	87	87	0,80	0,02763	60	61	
400/690 V	QU 160M4B	15,0	11	1450	21,5	72,45	2,1	6,5	0,71	2,5	3,0	88,5	89,5	0,83	0,05547	76	63
	QU 160L4A	20,0	15	1455	29	98,45	2,1	6,5	0,74	2,6	3,1	89,5	90	0,83	0,06922	90	63
	QU 180M4B	25,0	18,5	1455	34,9	121,4	2,1	6,5	0,71	2,6	3,0	90	91	0,84	0,11220	119	69
	QU 180L4B	30,0	22	1455	40,8	144,4	2,1	6,5	0,74	2,5	3,0	90,5	91,5	0,85	0,12773	127	69
	QU 200L4C	40,0	30	1460	54,6	196,2	2,1	7	0,68	2,3	3,0	91,5	92	0,86	0,25035	176	70
	QU 225S4A	50,0	37	1470	67,1	240,4	2,1	7	0,74	2,5	3,0	92	92,5	0,86	0,36429	223	71
	QU 225M4C	60,0	45	1470	82	292,3	2,1	7	0,74	2,5	3,0	92	93	0,85	0,43513	260	71
	QU 250M4C	75,0	55	1470	100	356,1	2,1	7	0,73	2,6	3,0	93	93,5	0,85	0,46270	280	71

* The Sound Pressure Level measurements are taken 1 meter away from the motor.

* Tolerance + 3 dB(A)

* The 2 and 4 pole motors in the 1,1 kw to 55 kw output range correspond with the EU "EFF2" efficiency classification.

THREE PHASE - QSX TYPES

EFF 2

ELECTRICAL CHARACTERISTICS, AT 50 Hz

MOTOR TYPE	RATED VALUES					STARTING VALUES				Mk/Mn	% η			J kgm ²	kg	Sound Pressure Level dBA *	
	OUTPUT		SPEED min ⁻¹	CURRENT A	MOMENT Nm	CURRENT I _A / I _N		TORQUE M _A / M _N			3/4	4/4	Cos ϕ 4/4				
	HP	kW				∧	Δ	∧	Δ								
6 Pole 1000 min⁻¹																	
220/380 V	QSX 71M6A	1/4	0,18	900	0,78	1,91	3,0	-	2,2	-	2,4	55	58	0,57	0,00068	6	42
	QSX 71M6B	1/3	0,25	910	0,90	2,63	3,1	-	2,2	-	2,4	61	63	0,64	0,00090	8	42
	QSX 80M6A	1/2	0,37	920	1,25	3,84	3,3	-	2,1	-	2,4	65	67	0,64	0,00160	10	49
	QSX 80M6B	3/4	0,55	920	1,80	5,71	3,2	-	2,1	-	2,5	68	70	0,63	0,00196	11	49
	QSX 90S6A	1,0	0,75	925	2,10	7,74	3,8	-	2,0	-	2,2	70	71	0,73	0,00225	13	51
	QSX 90L6B	1,5	1,10	930	3,0	11,29	4,2	-	2,2	-	2,4	72	73	0,72	0,00328	17	51
	QSX 100L6A	2,0	1,50	935	4,10	15,32	4,0	-	2,0	-	2,2	73	74	0,71	0,00463	20	53
QSX 112M6A	3,0	2,20	950	5,40	22,11	4,7	-	2,1	-	2,5	80	80	0,74	0,00916	29	58	
400/690 V	QSX 132S6B	4,0	3,0	955	7,00	30,00	1,81	5,7	0,63	2	2,5	80	81	0,76	0,02070	36	62
	QSX 132M6A	5,5	4,0	960	9,00	39,79	1,84	5,8	0,7	2,2	2,6	81	82	0,78	0,02070	53	62
	QSX 132M6B	7,5	5,5	960	12,30	54,71	1,76	5,5	0,67	2,1	2,6	83	84	0,77	0,02709	58	62
	QU 160M6B	10,0	7,5	960	17,0	74,61	1,90	6	0,69	2,1	3,2	85,5	86	0,74	0,05641	76	63
	QU 160L6B	15,0	11,0	960	24,3	109,5	1,89	6	0,72	2,2	3,0	86	87	0,75	0,07040	94	63
	QU 180L6A	20,0	15,0	965	30	148,5	1,91	6	0,62	2	2,8	87	89	0,81	0,18369	115	63
	QU 200L6B	25,0	18,5	970	36	182,2	1,90	6	0,6	1,85	2,7	88	90	0,82	0,27088	155	64
QU 200L6C	30,0	22,0	970	43	216,6	1,85	6	0,6	1,85	2,7	89	90,5	0,82	0,31281	165	64	
QU 225M6B	40,0	30,0	975	57	294	1,85	6	0,57	1,8	2,5	90	91	0,83	0,49334	221	65	

8 Pole 750 min⁻¹																	
220/380 V	QSX 80M8A	1/4	0,18	650	0,90	2,55	2,20	-	1,50	-	1,7	52	54	0,53	0,00168	10	44
	QSX 80M8B	1/3	0,25	675	1,15	2,55	2,20	-	1,50	-	1,7	55	57	0,55	0,00205	11	44
	QSX 90S8A	1/2	0,37	695	1,50	5,1	2,90	-	1,90	-	2,3	60	62	0,57	0,00243	12	49
	QSX 90L8A	3/4	0,55	690	2,00	7,61	3,00	-	1,90	-	2,2	64	65	0,61	0,00322	15	49
	QSX 100L8A	1,0	0,75	695	2,60	10,30	3,60	-	1,80	-	2,3	70	70,5	0,59	0,00398	19	49
	QSX 100L8B	1,5	1,1	690	3,4	15,22	3,60	-	1,80	-	2,2	73	73	0,64	0,00471	21	49
	QSX 112M8A	2,0	1,5	700	4,5	20,46	3,70	-	1,90	-	2,3	74	74	0,65	0,00933	28	54
	QSX 132S8B	3,0	2,2	710	6,0	29,59	1,27	4	0,60	1,7	2,2	75	77	0,69	0,02111	36	58
QSX 132M8A	4,0	3,0	710	7,9	40,35	1,40	4,5	0,60	1,7	2,2	77	79	0,69	0,02763	52	58	
400/690 V	QU 160M8A	5,5	4,0	720	10,5	53,1	1,75	5,0	0,61	1,80	2,2	82	83	0,66	0,05641	65	60
	QU 160M8B	7,5	5,5	720	14,5	73	1,74	5,0	0,61	1,80	2,2	82,5	83,5	0,66	0,05641	74	60
	QU 160L8A	10,0	7,5	720	19	99,5	1,74	5,0	0,62	1,90	2,2	83	84	0,68	0,07040	85	60
	QU 180L8B	15,0	11,0	720	24,6	146	1,75	5,5	0,65	2,10	2,6	85	87	0,74	0,12773	122	60
	QU 200L8C	20,0	15,0	725	31,0	197,6	1,74	5,5	0,68	2,20	2,8	87	89	0,78	0,25035	169	61
	QU 225S8A	25,0	18,5	725	37,5	244	1,75	5,5	0,62	2,00	2,5	88	90	0,79	0,36429	224	61
	QU 225M8C	30,0	22,0	725	45,0	290	1,74	5,5	0,66	2,10	2,6	89	90	0,78	0,43513	256	61

* The Sound Pressure Level measurements are taken 1 meter away from the motor.

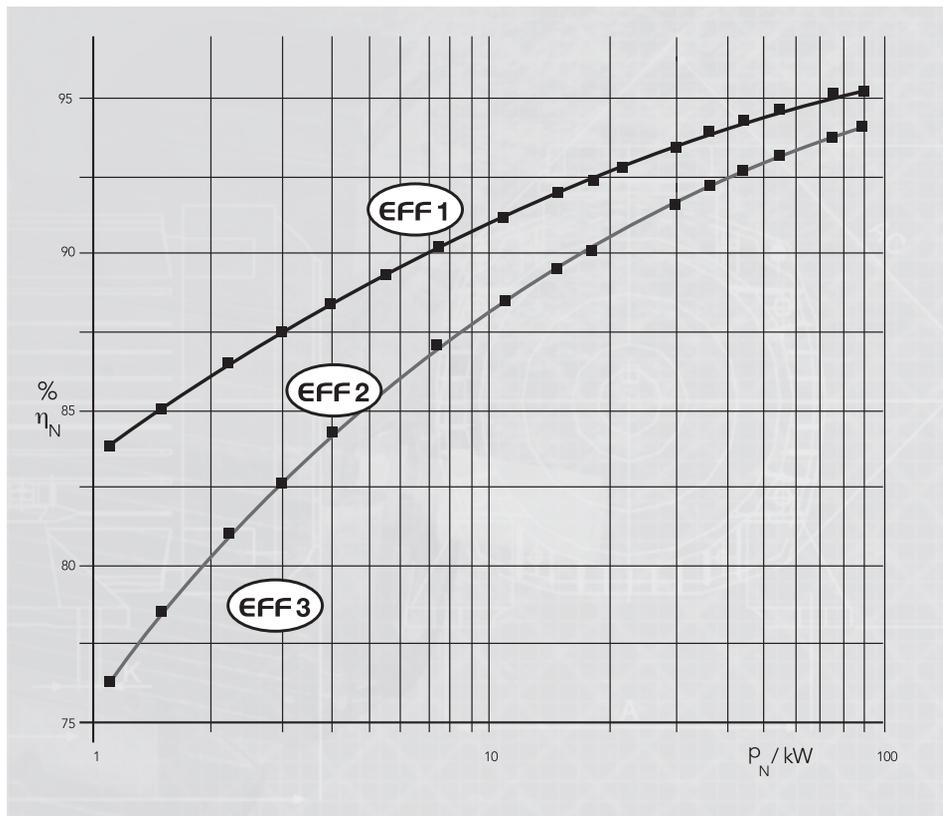
* Tolerance + 3 dB(A)

EFFICIENCY LEVELS

Electrical drive systems play a key role in saving energy and in protection of the environment. These systems also account for two thirds of industrial power consumption.

CEMEP has introduced a classification of electrical motors with General Directorate for Energy within the EC. For this purpose three-phase motors with power outputs between 1,1 and 90 kW are divided into three zones, namely "Efficiency Classes".

The meeting of the required limits will be guaranteed by the manufacturer in their Manufacturer's Statement.



What will the high-efficiency motors benefit to the user?

- Energy saving
- Reduction in energy costs
- Easily replacement of existing drives
- Protection of environment

The art of designing higher efficiencies is to obtain an optimum between the losses and the operating characteristics requirements. This leads to use of more copper in the stator winding and of more aluminium in the rotor injection or a longer core in the stator and rotor design. Additional improvements incur higher costs which can certainly be justified according to particular application.

The marking appears on the nameplate and in the manufacturers documentation. Only European manufacturers who have entered the agreement are entitled to use the licensed logos. Arçelik is an approved manufacturer in accordance with this agreement and produce high efficiency motors.

THREE PHASE TYPES

EFF 1

ELECTRICAL CHARACTERISTICS, AT 50 Hz

MOTOR TYPE	RATED VALUES					STARTING VALUES				Mk/Mn	Cosφ			J kgm ²	kg	Sound Pressure Level dBA*
	OUTPUT		SPEED min ⁻¹	CURRENT A	MOMENT Nm	CURRENT I _A / I _N		TORQUE M _A / M _N			%η	4/4	4/4			
	HP	kW				λ	Δ	λ	Δ							
2 Pole 3000 min⁻¹																
230/400 V	QH 80M2D	1,5	1,1	2880	2,4	3,65	8,1	4,0	4,3	82,2	82,9	0,81	0,00150	13	58	
	QH 90L2C	2	1,5	2900	3,1	4,94	8,2	3,8	4,3	84,4	85,2	0,83	0,00182	17	61	
	QH 90L2D	3	2,2	2900	4,4	7,24	8,3	3,9	4,4	85,0	85,7	0,84	0,00182	18	61	
	QH 100L2D	4	3	2920	5,8	9,81	9,6	4,3	5,1	85,9	86,8	0,86	0,00335	27	63	
400/690 V	QH 112M2C	5,5	4	2890	7,5	13,22	7,5	3,1	3,7	86,5	87,6	0,88	0,00489	34	66	
	QH 132S2C	7,5	5,5	2920	10,1	17,99	9,0	3,5	3,9	88,3	88,6	0,89	0,01424	41	69	
	QH 132M2A	10	7,5	2920	13,5	24,53	9,0	3,6	4,0	89,0	89,5	0,90	0,01596	55	69	
	QH 160M2A	15	11,0	2930	19,8	35,85	8,0	2,80	3,5	90,3	90,8	0,88	0,02644	69	71	
	QH 160M2B	20	15,0	2940	26,2	48,7	8,8	3,5	4,0	91,5	92,0	0,90	0,03317	77	71	
	QH 160L2A	25	18,5	2930	32,0	60,3	8,2	3,3	3,9	92,5	92,2	0,91	0,04075	92	71	
	QH 180M2A	30	22	2945	37,5	71,3	7,5	2,6	3,6	92,8	93,0	0,91	0,06193	115	77	
	QH 200L2A	40	30	2950	52,5	97,1	7,6	2,1	3,6	93,2	93,5	0,88	0,11917	148	80	
	QH 200L2B	50	37	2955	64,9	119,6	8,0	2,5	4,2	93,6	94,0	0,88	0,13885	168	80	
	QH 225M2A	60	45	2960	78,0	145,2	7,0	2,4	3,2	93,7	94,3	0,88	0,19833	206	81	
	QH 250M2A	75	55	2960	93,4	177,4	7,4	2,3	3,4	94,4	94,5	0,90	0,23505	235	81	

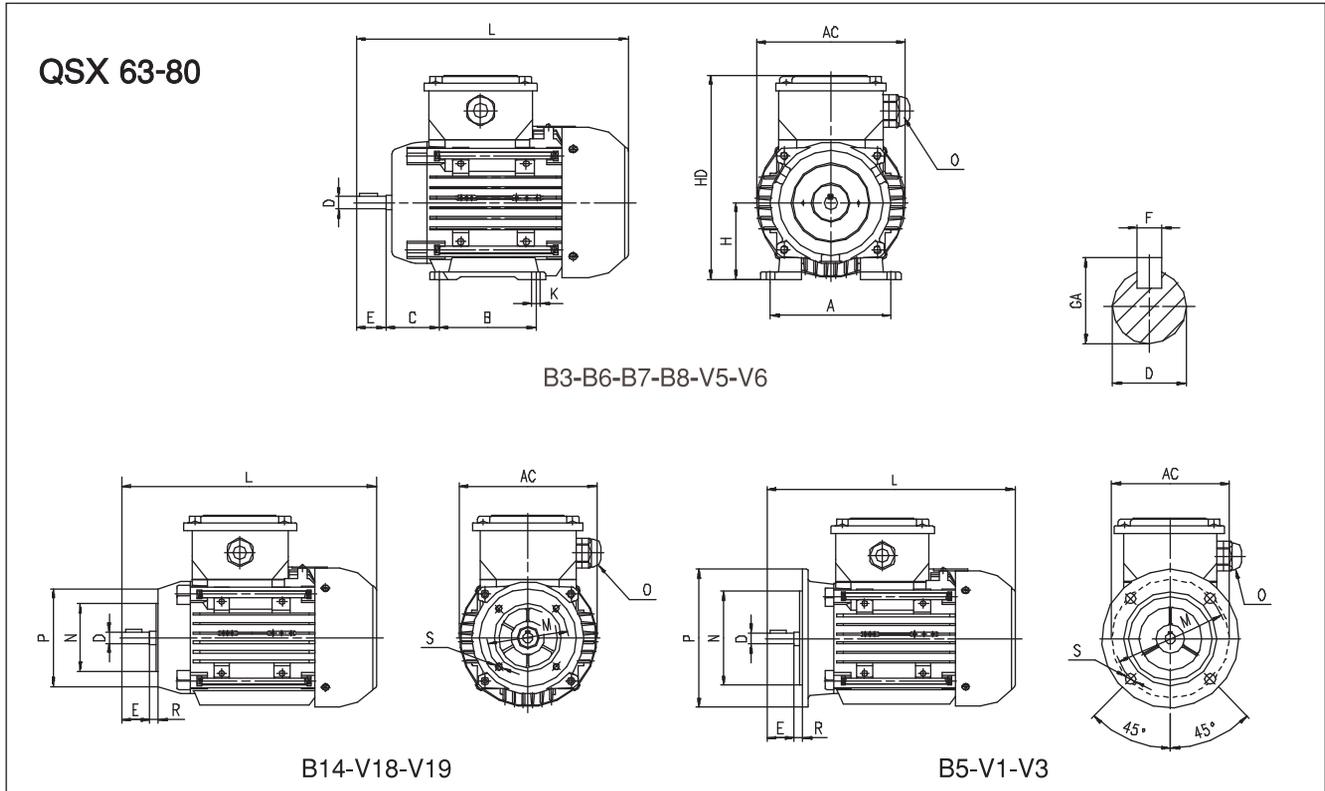
4 Pole 1500 min⁻¹																
230/400 V	QH 90L4C	1,5	1,1	1430	2,6	7,35	7,0	3,2	3,7	82,9	83,9	0,73	0,00365	18	50	
	QH 90L4D	2	1,5	1430	3,4	10,03	7,3	3,5	4,0	84,0	85,0	0,76	0,00365	18	50	
	QH 100L4C	3	2,2	1440	4,8	14,59	8,0	4,1	4,4	86,0	86,6	0,77	0,00545	26	53	
	QH 100L4D	4	3	1440	6,3	19,90	7,6	3,8	4,2	86,6	87,4	0,79	0,00581	29	53	
400/690 V	QH 112M4D	5,5	4	1450	8,3	26,34	8,6	3,2	4,3	87,1	88,3	0,79	0,01123	35	53	
	QH 132M4B	7,5	5,5	1450	11,0	36,22	8,7	3,2	4,3	88,6	89,3	0,81	0,02763	60	61	
	QH 132M4C	10	7,5	1450	14,7	49,40	9,5	3,2	4,5	87,6	90,2	0,82	0,02980	67	61	
	QH 160M4B	15	11	1460	21,5	71,95	8,0	2,9	3,9	91,2	91,5	0,81	0,05547	77	63	
	QH 160L4A	20	15	1455	28,5	98,45	8,0	2,7	3,5	91,8	92,0	0,83	0,06922	90	63	
	QH 180M4B	25	18,5	1465	35,0	120,6	9,0	3,2	3,4	92,0	92,5	0,82	0,11220	120	69	
	QH 180L4B 30	30	22	1465	42,0	143,4	8,5	2,8	3,9	92,5	93,0	0,81	0,12773	127	69	
	QH 200L4C	40	30	1465	53,5	195,6	7,0	2,3	3,2	94,2	94,0	0,86	0,25035	176	70	
	QH 225S4A	50	37	1470	67,8	240,4	7,9	3,2	3,3	94,7	94,5	0,83	0,36429	223	71	
	QH 225M4C	60	45	1470	81,0	292,3	7,3	3,0	3,5	95,1	95,0	0,84	0,43513	260	71	
	QH 250M4C	75	55	1475	96,2	356,1	7,5	3,0	3,50	95,2	95,3	0,87	0,46270	280	71	

* The Sound Pressure Level measurements are taken 1 meter away from the motor.

* Tolerance + 3 dB(A)

THREE PHASE TYPES

DIMENSIONS



Frame ⁴⁾ Size	No. Of Poles	Main Dimensions			Foot Mounted Motors					Shaft				Bearing		Seal		Flange							
		AC	L	O	B	A	H	HD	K	C	D ¹⁾	E	GA	F ³⁾	Drive Side	Non Drive Side	Drive Side	Non Drive Side ⁵⁾	Mounting Type	Flange Type	P	N ²⁾	M	R	S
63 M	2...4	123	219.5	1*M20	80	100	63	174	7	40	11	23	12.5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																			B14	FB	120	80	100	0	M6
																			B14	FC	90	60	75	0	M5
71 M	2...6	138	252.5	1*M20	90	112	71	190	7	45	14	30	16.0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																			B14	FB	140	95	115	0	M8
																			B14	FC	105	70	85	0	M6
80 M	2...8	158	283.5	1*M20	100	125	80	207	10	50	19	40	21.5	6	6204-2Z	6204-2Z	20*30*7	20*30*7	B5	FA	200	130	165	0	12
																			B14	FB	160	110	130	0	M8
																			B14	FC	120	80	100	0	M6

Dimensions are in mm

¹⁾ Tolerance DIN EN 50347 "j6"

²⁾ Tolerance DIN EN 50347 "j6"

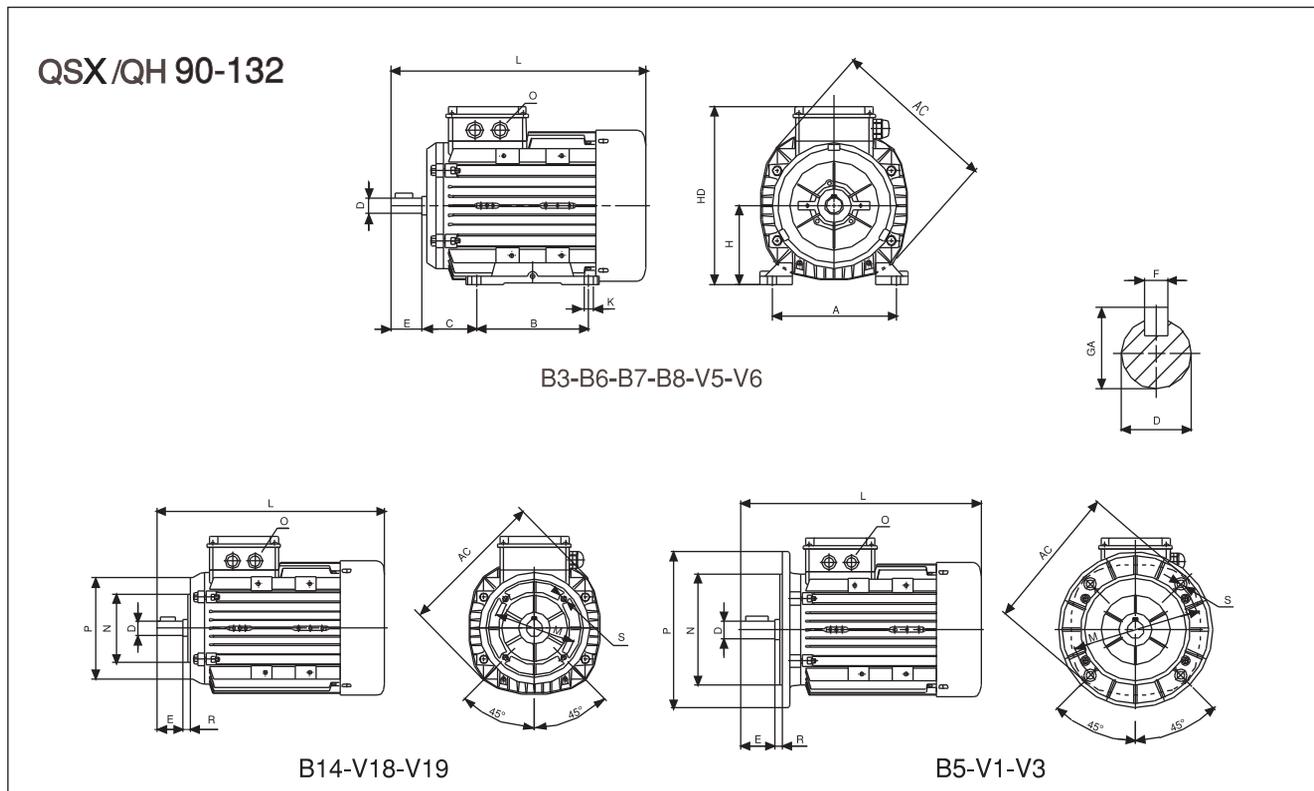
³⁾ According to DIN 6885

⁴⁾ Lifting bolt is mounted from frame size 112 on

⁵⁾ IP55

THREE PHASE TYPES

DIMENSIONS



Frame ⁴⁾ Size	No. Of Poles	Main Dimensions			Foot Mounted Motors					Shaft			Bearing		Seal		Flange								
		AC	L	O	B	A	H	HD	K	C	D ¹⁾	E	GA	F ³⁾	Drive Side	Non Drive Side	Drive Side	Non Drive Side ⁵⁾	Mounting Type	Flange Type	P	N ²⁾	M	R	S
90 S/L	2...8	193	316.5	1*M25	100	140	90	241	10	56	24	50	27	8	6305-2Z	6205-2Z	25*40*7	25*40*7	B5	FA	200	130	165	0	12
					B14														FB	160	110	130	0	M8	
					B14														FC	140	95	115	0	M8	
100 L	2...8	217	352.0	1*M25	140	160	100	260	12	63	28	60	31	8	6306-2Z	6205-2Z	30*47*7	25*40*7	B5	FA	250	180	215	0	15
					B14														FB	200	130	165	0	M10	
					B14														FC	160	110	130	0	M8	
112 M	2...8	232	395.5	2*M25	140	190	112	280	12	70	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B5	FA	250	180	215	0	15
					B14														FB	200	130	165	0	M10	
					B14														FC	160	110	130	0	M8	
132 S/M	2...8	279	475.5	2*M32	140	216	132	311	12	89	38	80	41	10	6208-2Z	6208-2Z	40*62*10	40*62*10	B5	FA	300	230	265	0	15
					B14														FC	200	130	165	0	M10	

Dimensions are in mm

¹⁾ Tolerance DIN EN 50347 "j6" up to $\phi 28$ mm, "k6" above $\phi 28$ mm

²⁾ Tolerance DIN EN 50347 "j6"

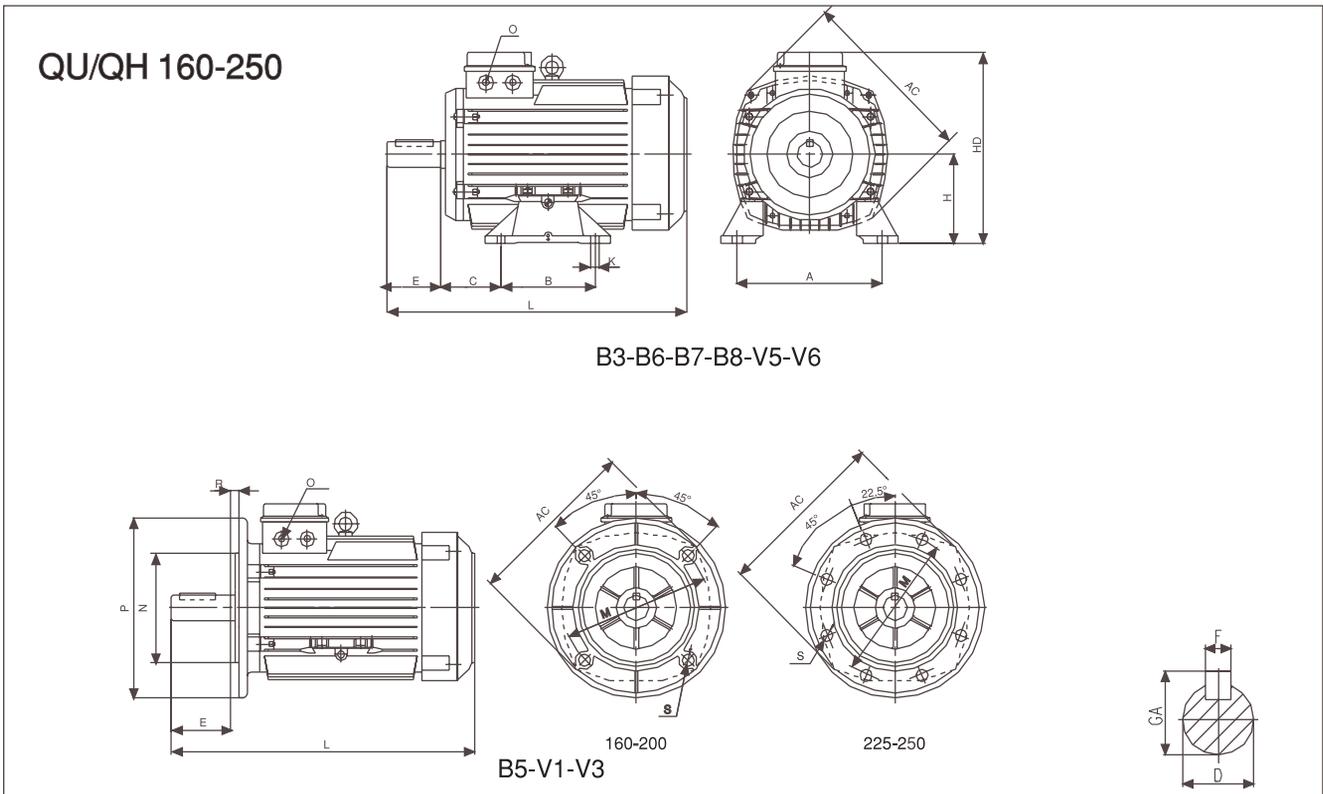
³⁾ According to DIN 6885

⁴⁾ Lifting bolt is mounted from frame size 112 on

⁵⁾ IP55

THREE PHASE TYPES

DIMENSIONS



Frame ⁴⁾ Size	No. Of Poles	Main Dimensions			Foot Mounted Motors					Shaft				Bearing		Seal		Flange							
		AC	L	O	B	A	H	HD	K	C	D ¹⁾	E	GA	F ³⁾	Drive Side	Non Drive Side	Drive Side	Non Drive Side ⁵⁾	Mounting Type	Flange Type	P	N ²⁾	M	R	S
160 M	2...8	323	586	2*M32	210	254	160	360	15	108	42	110	45.0	12	6309-2Z	6309-2Z	45*72*10	45*72*10	B5	FA	350	250	300	0	19
160 L	2...8	323	586	2*M32	254	254	160	360	15	108	42	110	45.0	12	6309-2Z	6309-2Z	45*72*10	45*72*10	B5	FA	350	250	300	0	19
180 M	2...8	370	629	2*M25	241	279	180	387	15	121	48	110	51.5	14	6310-2Z	6310-2Z	50*80*10	50*80*10	B5	FA	350	250	300	0	19
180 L	2...8	370	629	2*M25	279	279	180	387	15	121	48	110	51.5	14	6310-2Z	6310-2Z	50*80*10	50*80*10	B5	FA	350	250	300	0	19
200 L	2...8	415	665	2*M32	305	318	200	435	19	133	55	110	59.0	16	6312-2Z	6312-2Z	60*90*10	60*90*10	B5	FA	400	300	350	0	19
225 S	2 4...8	735 456	765	2*M40	286	356	225	485	19	149	55 60	110 140	59 64	16 18	6313-2Z	6313-2Z	65*100*13	65*100*13	B5	FA	450	350	400	0	19
225 M	2 4...8	735 456	765	2*M40	311	356	225	485	19	149	55 60	110 140	59 64	16 18	6313-2Z	6313-2Z	65*100*13	65*100*13	B5	FA	450	350	400	0	19
250	2	456	784	2*M40	349	406	250	510	24	168	60	140	64.0	18	6314 ⁶⁾	6313-2Z	70*112*12	65*100*13	B5	FA	550	450	500	0	19
250	4	456	784	2*M40	349	406	250	510	24	168	65	140	69.0	18	6315 ⁶⁾	6313-2Z	75*112*12	65*100*13	B5	FA	550	450	500	0	19

Dimensions are in mm

- ¹⁾ Tolerance DIN EN 50347 "k6" up to $\phi 48\text{mm}$, "m6" above $\phi 48\text{mm}$
- ²⁾ Tolerance DIN EN 50347 "j6" up to $\phi 250\text{mm}$, "h6" above $\phi 250\text{mm}$
- ³⁾ According to DIN 6885
- ⁴⁾ Lifting bolt is mounted from frame size 112 on
- ⁵⁾ IP55
- ⁶⁾ External Lubrication

A. Mechanical

The motors are single phase totally enclosed, fan cooled with squirrel cage rotors in frame sizes IEC 63 to 90.

Construction Types

Foot mounted, flange-mounted and foot mounted with flange types are available for the above frame sizes.

Protection

The standard degree of protection is IP 55.

Bearings

Standard motors are equipped with ZZ deep groove ball bearings.

Shaft End

Motor shafts have tapped hole in the drive end according to DIN 6885-6888. Motors are delivered with keys.

Fan

Fans are made of durable synthetic material and the construction allows rotation in both directions.

Paint

Standard motors are painted in grey (RAL 7031)

B. Construction Details

Stator Frame

Motor frames are manufactured by high pressure die casting of aluminum alloy which is light, resistant to corrosion and mechanical shocks, also have excellent thermal conductivity.

Feet

Motor feet can be mounted on three sides, permitting terminal box assembly on the desired side.

Endshields

Endshields are made of aluminium. Fan covers are made of sheet steel.

Terminal Box

QM types have terminal boxes on top close to the drive end.

Capacitors

Motors use run capacitors.

C. Electrical Properties

Voltage and Frequency

The motors are normally designed for 230 V, 50 Hz. Other voltages and 60 Hz frequency is available.

Technical Data

The technical data given in the tables are valid for the following conditions;

- 230 V supply voltage
- 50 Hz frequency
- Max 40°C ambient temperature
- Altitudes up to 1000 m above the sea level.



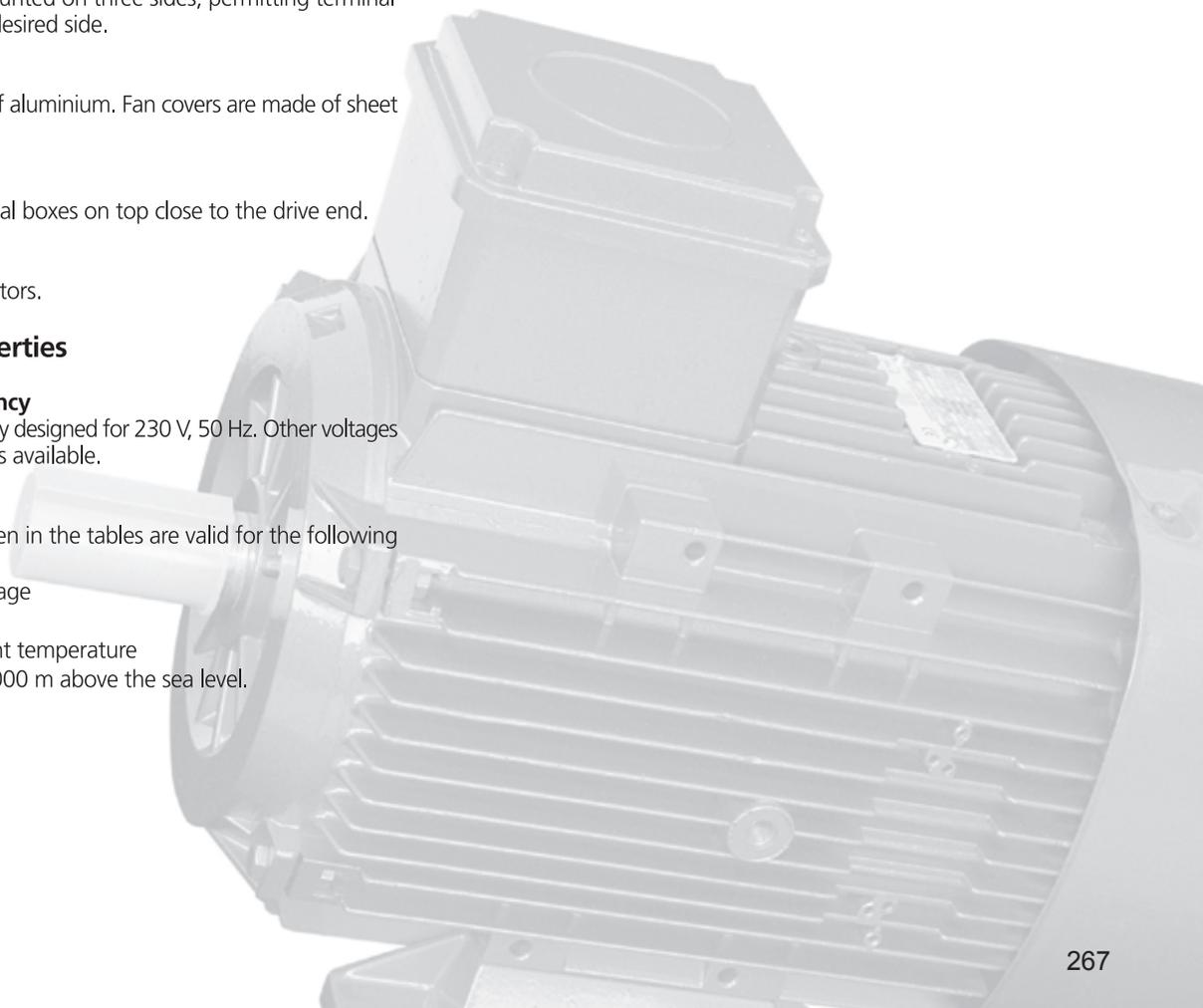
Insulation Class

The standard insulation class is F. For 40 °C ambient temperature, the maximum temperature rise is 100 Kelvin.

D. Special Constructions

The following special construction features are available upon request;

- Special shaft end and second shaft extension.
- Special flanges
- Other voltages and 60 Hz frequency
- Fixed bearing
- Condensation drainage
- Other colors



SINGLE PHASE - QM TYPE

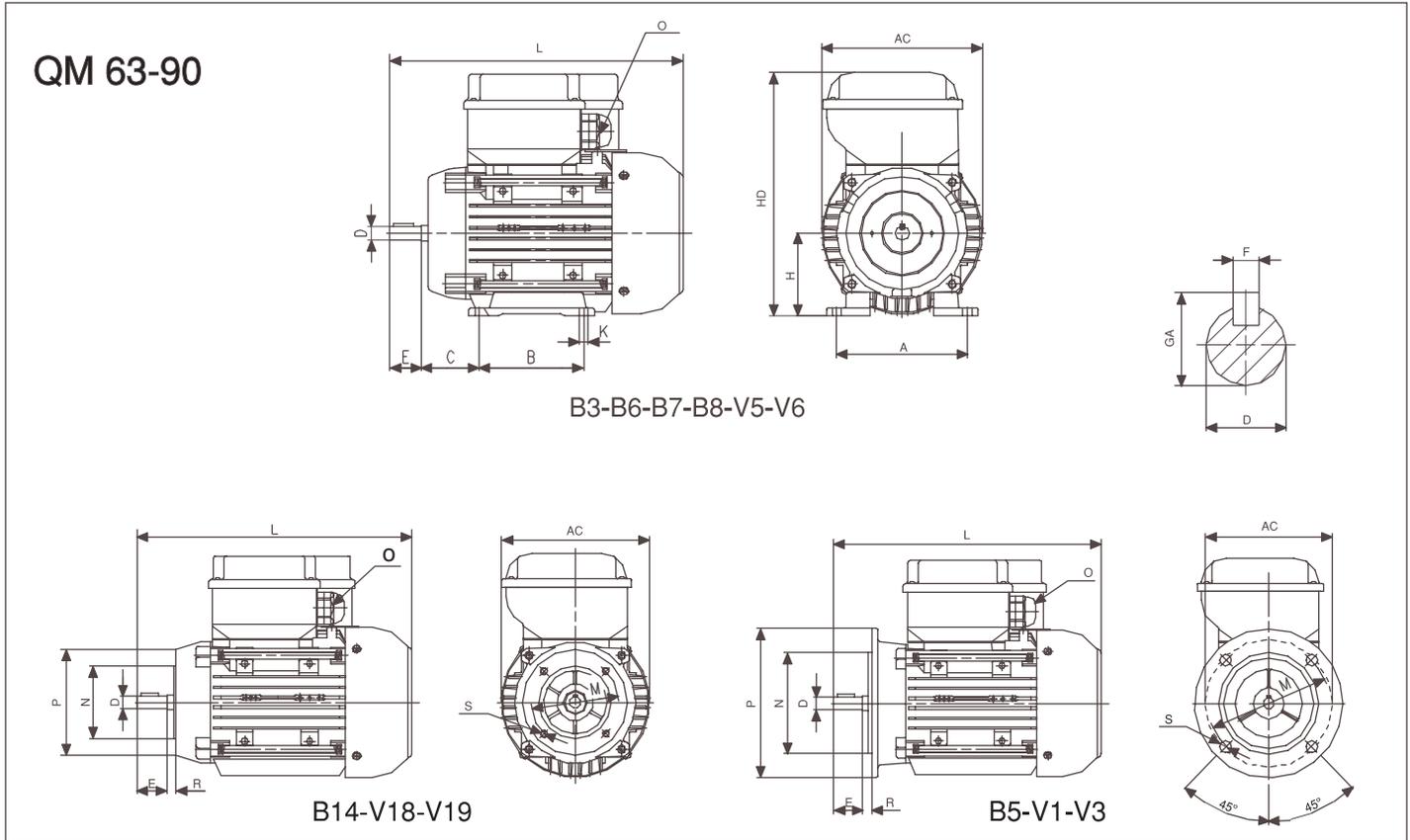
ELECTRICAL CHARACTERISTICS, AT 50 Hz

MOTOR TYPE	RATED VALUES					STARTING VALUES			% η	Cos ϕ	Capacitor mF	J kgm ²	kg	
	OUTPUT		SPEED min ⁻¹	CURRENT I _n 230V A	MOMENT Nm	CURRENT I _A / I _N	TORQUE M _A / M _N	Mk/Mn						
	HP	kW												
2 Pole 3000 min⁻¹														
220 V	QM 63M2B	1/3	0,25	2800	2,30	0,85	4,0	0,50	1,80	58	0,81	8	0,00021	6
	QM 63M2C	1/2	0,37	2800	2,80	1,26	4,0	0,50	1,70	61	0,94	15	0,00026	7
	QM 63M2D	3/4	0,55	2800	3,95	1,88	4,5	0,50	2,20	62	0,98	18	0,00030	7,5
	QM 71M2A	1/3	0,25	2780	1,85	0,86	5,0	0,70	2,20	63	0,93	12,5	0,00028	7
	QM 71M2B	1/2	0,37	2780	2,60	1,27	5,0	0,70	2,20	66	0,94	18	0,00035	8
	QM 71M2C	3/4	0,55	2780	4,10	1,89	5,0	0,70	2,20	67	0,87	20	0,00040	9
	QM 71M2D	1	0,75	2780	4,80	2,56	5,0	0,50	2,20	72	0,94	25	0,00051	9
	QM 80M2A	3/4	0,55	2800	3,95	1,88	4,0	0,80	2,10	64	0,95	20	0,00092	10
	QM 80M2B	1	0,75	2800	4,95	2,56	4,0	0,70	2,10	68	0,97	25	0,00107	11
	QM 80M2C	1,5	1,1	2800	7,60	3,75	5,0	0,65	2,00	69	0,91	30	0,00126	12
	QM 90S2A	1,5	1,1	2800	7,60	3,75	5,0	0,65	2,10	72	0,87	30	0,00119	14
	QM 90L2A	2	1,5	2810	10,0	5,10	5,0	0,65	2,15	74	0,88	40	0,00152	16
QM 90L2C	3	2,2	2750	14,5	7,64	5,0	0,55	2,10	73	0,90	50	0,00172	17	

4 Pole 1500 min⁻¹														
220 V	QM 71M4A	1/4	0,18	1390	1,50	1,24	3,5	0,70	1,90	55	0,95	12,5	0,00071	7
	QM 71M4B	1/3	0,25	1390	2,00	1,72	4,0	0,70	2,00	59	0,92	15	0,00095	8
	QM 71M4C	1/2	0,37	1390	2,75	2,54	4,0	0,65	1,55	64	0,91	20	0,00107	10
	QM 80M4A	1/2	0,37	1390	2,80	2,54	4,0	0,70	1,55	68	0,84	20	0,00167	11
	QM 80M4B	3/4	0,55	1390	3,80	3,78	4,0	0,65	1,55	69	0,91	25	0,00204	12
	QM 80M4C	1	0,75	1370	5,00	5,23	3,2	0,65	1,55	69	0,95	30	0,00229	13
	QM 90S4A	1	0,75	1400	5,50	5,12	5,0	0,60	1,80	69	0,86	30	0,00238	15
	QM 90L4A	1,5	1,1	1400	8,00	7,50	5,0	0,60	1,80	69	0,87	40	0,00309	16
	QM 90L4C	2	1,5	1400	10,50	10,23	5,0	0,55	1,60	69	0,90	50	0,00351	17

SINGLE PHASE - QM TYPE

DIMENSIONS



Frame ⁴⁾ Size	Frame ⁴⁾ Size	No. Of Poles	Main Dimensions			Foot Mounted Motors						Shaft		Bearing		Seal		Flange								
			AC	L	O	B	A	H	HD	K	C	D ¹⁾	E	GA	F ³⁾	Drive Side	Non Drive Side	Drive Side	Non Drive Side ⁵⁾	Mounting Type	Flange Type	P	N ²⁾	M	R	S
QM63M2B	63 M	2	123	219,5	1*M20	80	100	63	182	7	40	11	23	12.5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																				B14	FB	120	80	100	0	M6
																				B14	FC	90	60	75	0	M5
QM63M2C QM63M2D	63 M	2	123	233,5	1*M20	80	100	63	182	7	40	11	23	12.5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																				B14	FB	120	80	100	0	M6
																				B14	FC	90	60	75	0	M5
QM71M2A QM71M2B QM71M2C QM71M4A QM71M4B QM71M4C	71 M	2...4	138	252,5	1*M20	90	112	71	198	7	45	14	30	16.0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																				B14	FB	140	95	115	0	M8
																				B14	FC	105	70	85	0	M6
QM71M2D	71 M	2	138	262,5	1*M20	90	112	71	198	7	45	14	30	16.0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																				B14	FB	140	95	115	0	M8
																				B14	FC	105	70	85	0	M6
80 M	80 M	2...4	158	283,5	1*M20	100	125	80	215	10	50	19	40	21.5	6	6204-2Z	6204-2Z	20*30*7	20*30*7	B5	FA	200	130	165	0	12
																				B14	FB	160	110	130	0	M8
																				B14	FC	120	80	100	0	M6
90 S/L	90 S/L	2...4	193	316,5	1*M20	100 125	140	90	241	10	56	24	50	27	8	6305-2Z	6205-2Z	25*40*7	25*40*7	B5	FA	200	130	165	0	12
																				B14	FB	160	110	130	0	M8
																				B14	FC	140	95	115	0	M8

Dimensions are in mm

1) Tolerance DIN EN 50347 "j6"

2) Tolerance DIN EN 50347 "j6"

3) According to DIN 6885

4) Lifting bolt is mounted from frame size 112 on

5) IP55

BRAKE MOTOR - QB TYPE

TECHNICAL DOCUMENTATION

Mechanical and electrical properties are the same as QSX type motors.

Nondrive endshields are made of cast-iron.

Drive endshields are made of aluminium.

Brake Specifications

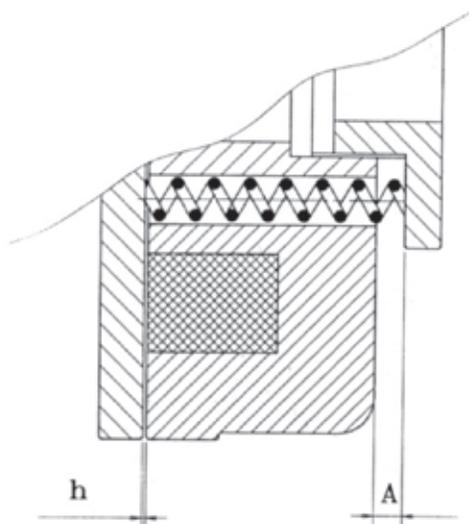
DC electromagnetic brakes with a safety-design are used in brake motors. Different brake voltages are available upon request.

Working Principle

When the supply fails, the springs make the armature plate press the brake disk and then motor automatically starts braking. When the brake being supplied, electromagnet pulls the armature plate then both the brake-disk and motor shaft are set free.

Brake Disk

Asbestos-free brake material is used with long-life friction rings.



Air-Gap

Ideal air-gap values "h" are given in the table on the right-hand side. The maximum acceptable air-gap value can be 0,7 mm. If this value exceeded, the brake's performance will vary.

Switching Times

The switching times are given in the table. These values are subject to change according to load characteristics.

Rectifier Bridge

Half wave rectifier is used as standard in motors. By using fast type rectifier, it is possible to get fast switch on times which is shown on the table.

The 24V DC brake motors are supplied without rectifier.

Special Constructions

The following special construction class features are possible upon request;

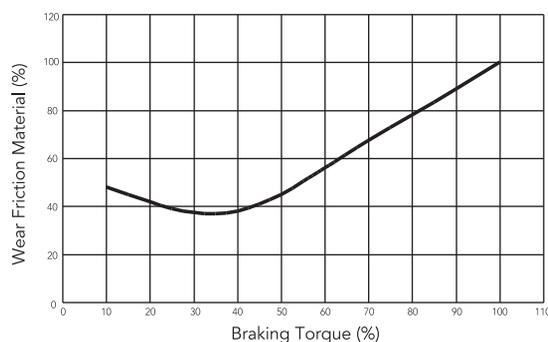
- Special shaft end
- Special flanges
- Different type bearings
- Fixed bearing
- Different voltages and 60 Hz frequency
- Condensation drainage
- External lubrication system
- Special paint or other colors
- AC or DC type electromagnetic brake



Braking Torque

Braking torque can be adjusted by ring. In the table shown below, you will find the distance "A" in order to obtain the braking torque requested. The variation in the wear of friction material which is subject to change in braking torque is given below.

Type	Distance between Adjusting-ring and Electromagnet: "A" (in mm)									"A"
	9	8	7	6	5	4	3	2	1	
QB 63	-	-	-	0.3	0.1	1.7	2.4	3.1	3.8	4.5
QB 71	-	-	-	-	0.8	2.2	3.7	5.1	6.6	8
QB 80	-	-	-	-	0.1	32	5.4	7.6	9.8	12
QB 90	-	-	-	-	-	1.6	5.2	8.8	12.4	16
QB 100	3.5	7.0	14.5	14.0	17.5	21.0	24.5	28.0	31.5	35
QB 112	-	4.0	11.0	18.0	25.0	32.0	39.0	46.0	53.0	60
Braking Torque Value (Nm)										Max. Torque (Nm)



Type	QB63	QB71	QB80	QB90	QB100	QB112
Ideal Air-Gap (mm)	0.2	0.2	0.2	0.2	0.3	0.3

Type	Normal Switch-off time ms	Normal Switch-on time ms	Fast Switch-on time ms
QB63	10	45	20
QB71	15	50	30
QB80	15	55	30
QB90	15	65	40
QB100	20	75	45
QB112	25	180	85

BRAKE MOTOR - QB TYPE

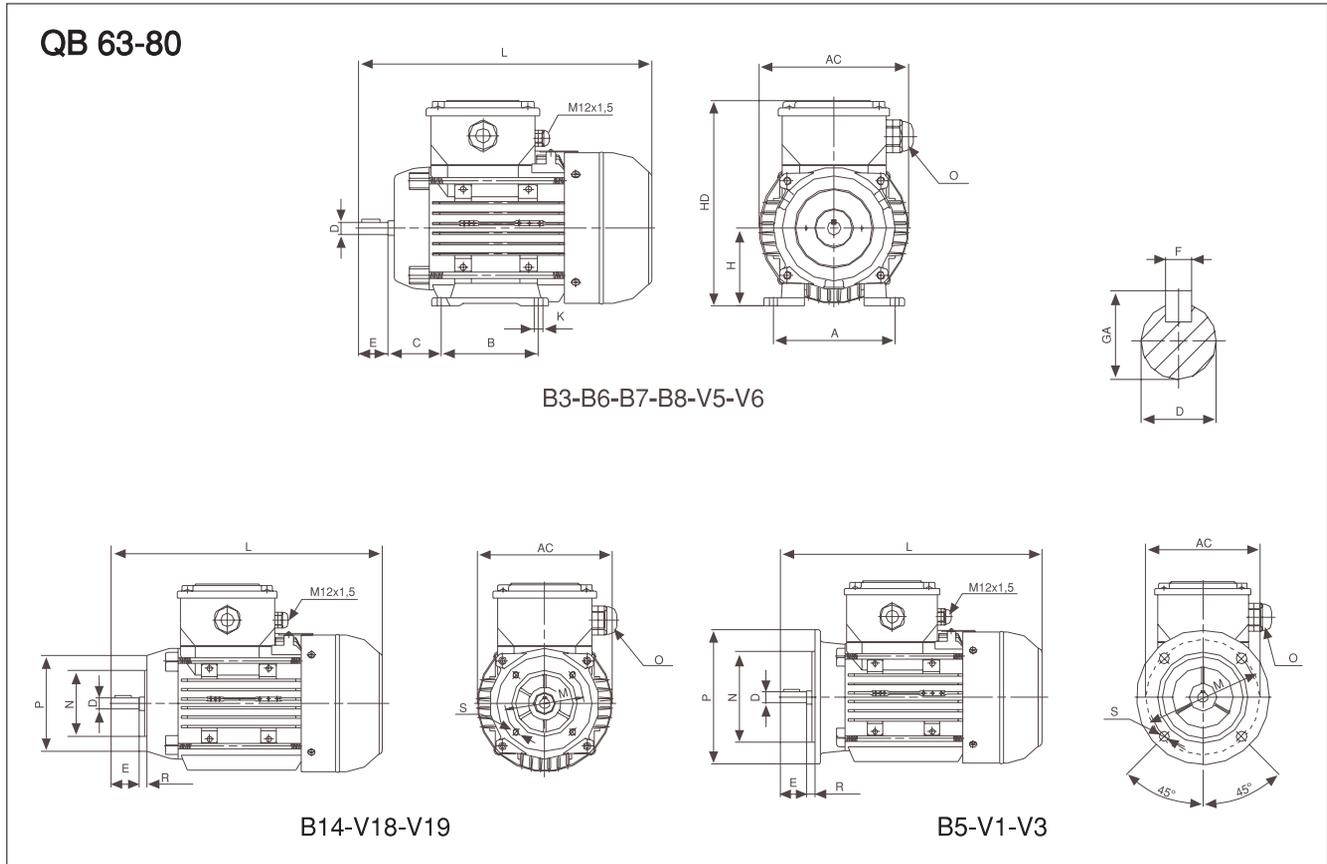
ELECTRICAL CHARACTERISTICS, AT 50 Hz

MOTOR TYPE	RATED VALUES					STARTING VALUES					Mk/Mn	% η			BRAKE Max. Torque Nm	J kgm ²	Sound pressure Level dBA
	OUTPUT		SPEED min ⁻¹	CURRENT A	MOMENT Nm	CURRENT I _A / I _N		TORQUE M _A / M _N		3/4		4/4	4/4	Cos ϕ			
	HP	kW				∧	Δ	∧	Δ								
2 Pole 3000 min⁻¹																	
230/400 V	QB 63M2A	1/4	0,18	2800	0,51	0,62	4,20	-	2,3	-	2,4	63	64	0,80	4,5	0,00017	52
	QB 63M2B	1/3	0,25	2800	0,66	0,86	4,20	-	2,2	-	2,3	66	67	0,82	4,5	0,00022	52
	QB 71M2A	1/2	0,37	2800	0,93	1,27	4,30	-	2,0	-	2,4	67	68	0,84	8	0,00028	54
	QB 71M2B	3/4	0,55	2820	1,32	1,87	5,00	-	2,2	-	2,5	69	71	0,85	8	0,00036	54
	QB 80M2A	1,0	0,75	2840	1,70	2,53	5,20	-	2,2	-	2,6	72	74	0,86	12	0,00088	58
	QB 80M2B	1,5	1,1	2850	2,40	3,69	6,00	-	2,6	-	2,9	75	77,3	0,86	12	0,00109	58
	QB 90S2A	2	1,5	2850	3,20	5,02	5,50	-	2,7	-	2,9	78,5	79,5	0,85	16	0,00130	62
	QB 90L2A	3	2,2	2850	4,5	7,37	5,90	-	2,8	-	3,0	80	82,0	0,86	16	0,00164	62
	QB 100L2A	4	3	2880	6	9,95	6,20	-	2,8	-	3,2	82	83,5	0,86	35	0,00243	64
400/690 V	QB 112M2A	5,5	4	2890	7,5	13,21	2,00	6,3	0,75	2,8	3,2	84	85,3	0,90	60	0,00399	67
4 Pole 1500 min⁻¹																	
230/400 V	QB 63M4A	1/6	0,12	1365	0,50	0,84	2,8	-	2,0	-	2,3	53	56	0,62	4,5	0,00020	41
	QB 63M4B	1/4	0,18	1380	0,70	1,25	3,2	-	2,2	-	2,4	57	60	0,62	4,5	0,00025	41
	QB 71M4A	1/3	0,25	1390	0,80	1,72	3,5	-	2,2	-	2,4	63	65	0,69	8	0,00072	45
	QB 71M4B	1/2	0,37	1390	1,12	2,55	4,0	-	2,3	-	2,6	68	69	0,69	8	0,00096	45
	QB 80M4A	3/4	0,55	1400	1,50	3,76	4,0	-	2,1	-	2,3	71	72	0,74	12	0,00168	49
	QB 80M4B	1,0	0,75	1400	1,96	5,12	4,2	-	2,1	-	2,2	73	74	0,75	12	0,00206	49
	QB 90S4A	1,5	1,1	1410	2,65	7,45	5,0	-	2,4	-	2,5	76	77,0	0,78	16	0,00245	54
	QB 90L4A	2,0	1,5	1415	3,53	10,16	5,0	-	2,4	-	2,7	79,0	80,0	0,77	16	0,00324	54
	QB 100L4A	3,0	2,2	1420	4,80	14,79	5,2	-	2,5	-	2,7	81	82	0,81	35	0,00400	56
	QB 100L4B	4,0	3,0	1430	6,40	20,04	5,3	-	2,5	-	2,7	82	83	0,82	35	0,00474	56
400/690 V	QB 112M4B	5,5	4,0	1445	8,50	26,44	1,9	5,7	0,69	2,6	3,0	84	85	0,80	60	0,00938	58
6 Pole 1000 min⁻¹																	
230/400 V	QB 71M6A	1/4	0,18	900	0,78	1,91	3,0	-	2,2	-	2,4	55	58	0,57	8	0,00068	42
	QB 71M6B	1/3	0,25	910	0,90	2,63	3,1	-	2,2	-	2,4	61	63	0,64	8	0,00090	42
	QB 80M6A	1/2	0,37	920	1,25	3,84	3,3	-	2,1	-	2,4	65	67	0,64	12	0,00160	49
	QB 80M6B	3/4	0,55	920	1,80	5,71	3,2	-	2,1	-	2,5	68	70	0,63	12	0,00196	49
	QB 90S6A	1,0	0,75	925	2,20	7,75	3,5	-	1,9	-	2,0	71	72	0,68	16	0,00257	51
	QB 90L6B	1,5	1,10	935	3,10	11,24	4,0	-	2,0	-	2,2	73	74	0,69	16	0,00330	51
	QB 100L6A	2,0	1,50	940	4,10	15,24	4,2	-	2,1	-	2,5	79	75	0,70	35	0,00465	53
	QB 112M6A	3,0	2,20	950	5,4	22,12	5,2	-	2,1	-	2,5	79	79	0,74	60	0,00921	58

* The 2 and 4 pole in the 1,1 kw to 55 kw output range correspond with the EU "EFF2" efficiency classification.

BRAKE MOTOR-QB TYPE

DIMENSIONS



Frame ⁴⁾ Size	No. Of Poles	Main Dimensions			Foot Mounted Motors					Shaft				Bearing		Seal		Flange							
		AC	L	O	B	A	H	HD	K	C	D ¹⁾	E	GA	F ³⁾	Drive Side	Non Drive Side	Drive Side	Non Drive Side ⁵⁾	Mounting Type	Flange Type	P	N ²⁾	M	R	S
63 M	2...8	123	278,5	1*M20	80	100	63	174	7	40	11	23	12,5	4	6201-2Z	6201-2Z	12*22*7	12*22*7	B5	FA	140	95	115	0	10
																			B14	FB	120	80	100	0	M6
																			B14	FC	90	60	75	0	M5
71 M	2...8	138	314,5	1*M20	90	112	71	190	7	45	14	30	16,0	5	6202-2Z	6202-2Z	15*24*5	15*24*5	B5	FA	160	110	130	0	10
																			B14	FB	140	95	115	0	M8
																			B14	FC	105	70	85	0	M6
80 M	2...8	158	347,5	1*M20	100	125	80	207	10	50	19	40	21,5	6	6204-2Z	6204-2Z	20*30*7	20*30*7	B5	FA	200	130	165	0	12
																			B14	FB	160	110	130	0	M8
																			B14	FC	120	80	100	0	M6

Dimensions are in mm

¹⁾Tolerance DIN EN 50347 "j6" up to $\phi 28$ mm, "k6" above $\phi 28$ mm

²⁾Tolerance DIN EN 50347 "j6"

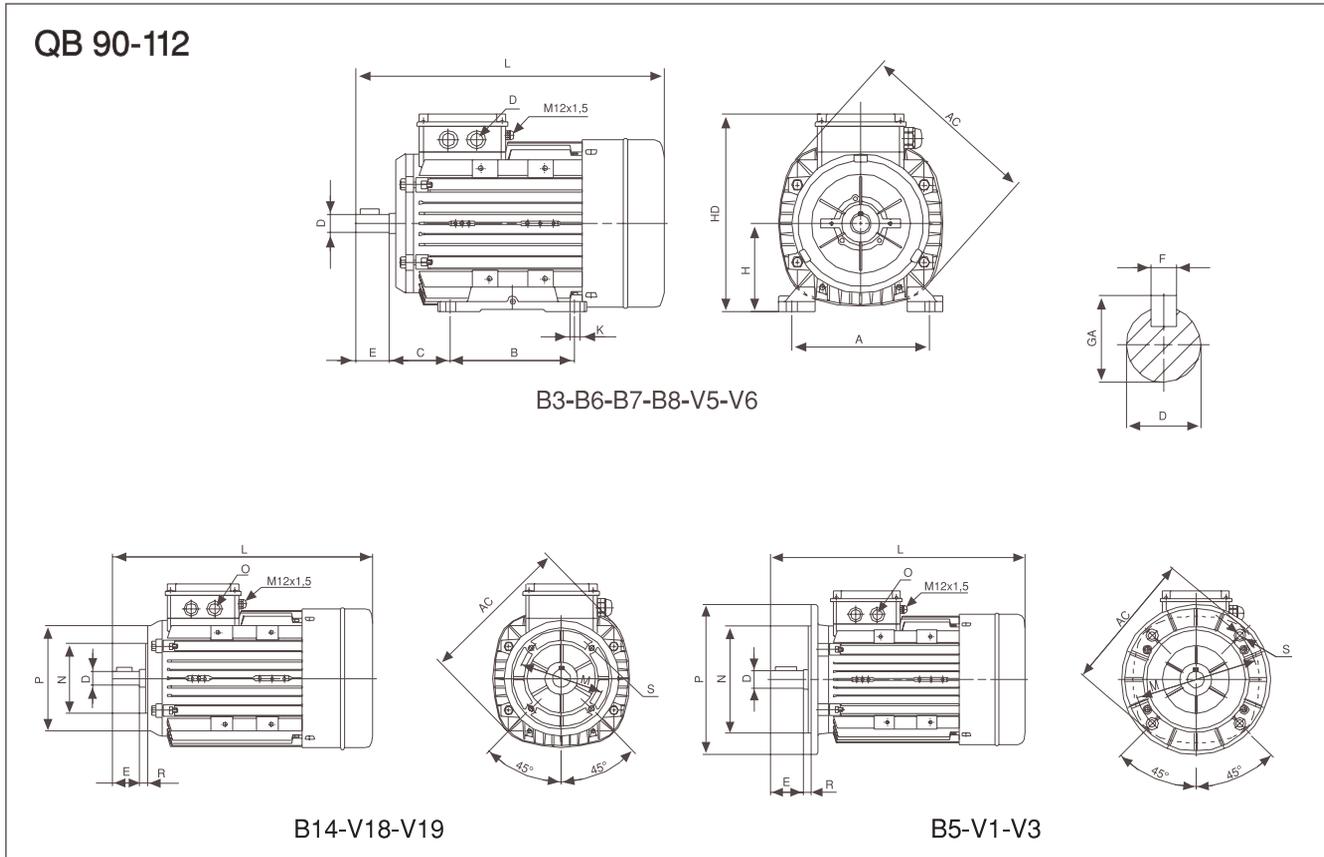
³⁾According to DIN 6885

⁴⁾Lifting bolt is mounted from frame size 112 on

⁵⁾Optional

BRAKE MOTOR - QB TYPE

DIMENSIONS



Frame ⁴⁾ Size	No. Of Poles	Main Dimensions			Foot Mounted Motors					Shaft				Bearing		Seal		Flange							
		AC	L	O	B	A	H	HD	K	C	D ¹⁾	E	GA	F ³⁾	Drive Side	Non Drive Side	Drive Side	Non Drive Side ⁵⁾	Mounting Type	Flange Type	P	N ²⁾	M	R	S
90 S/L	2...8	193	385,5	1*M25	100	140	90	241	10	56	24	50	27	8	6305-2Z	6205-2Z	25*40*7	25*40*7	B5	FA	200	130	165	0	12
					B14														FB	160	110	130	0	M8	
					B14														FC	140	95	115	0	M8	
100 L	2...8	217	432,0	1*M25	140	160	100	260	12	63	28	60	31	8	6306-2Z	6205-2Z	30*47*7	25*40*7	B5	FA	250	180	215	0	15
					B14														FB	200	130	165	0	M10	
					B14														FC	160	110	130	0	M8	
112 M	2...8	232	475,5	2*M25	140	190	112	280	12	70	28	60	31	8	6306-2Z	6206-2Z	30*47*7	30*47*7	B5	FA	250	180	215	0	15
					B14														FB	200	130	165	0	M10	
					B14														FC	160	110	130	0	M8	

Dimensions are in mm

¹⁾ Tolerance DIN EN 50347 "j6" up to $\phi 28$ mm, "k6" above $\phi 28$ mm

²⁾ Tolerance DIN EN 50347 "j6"

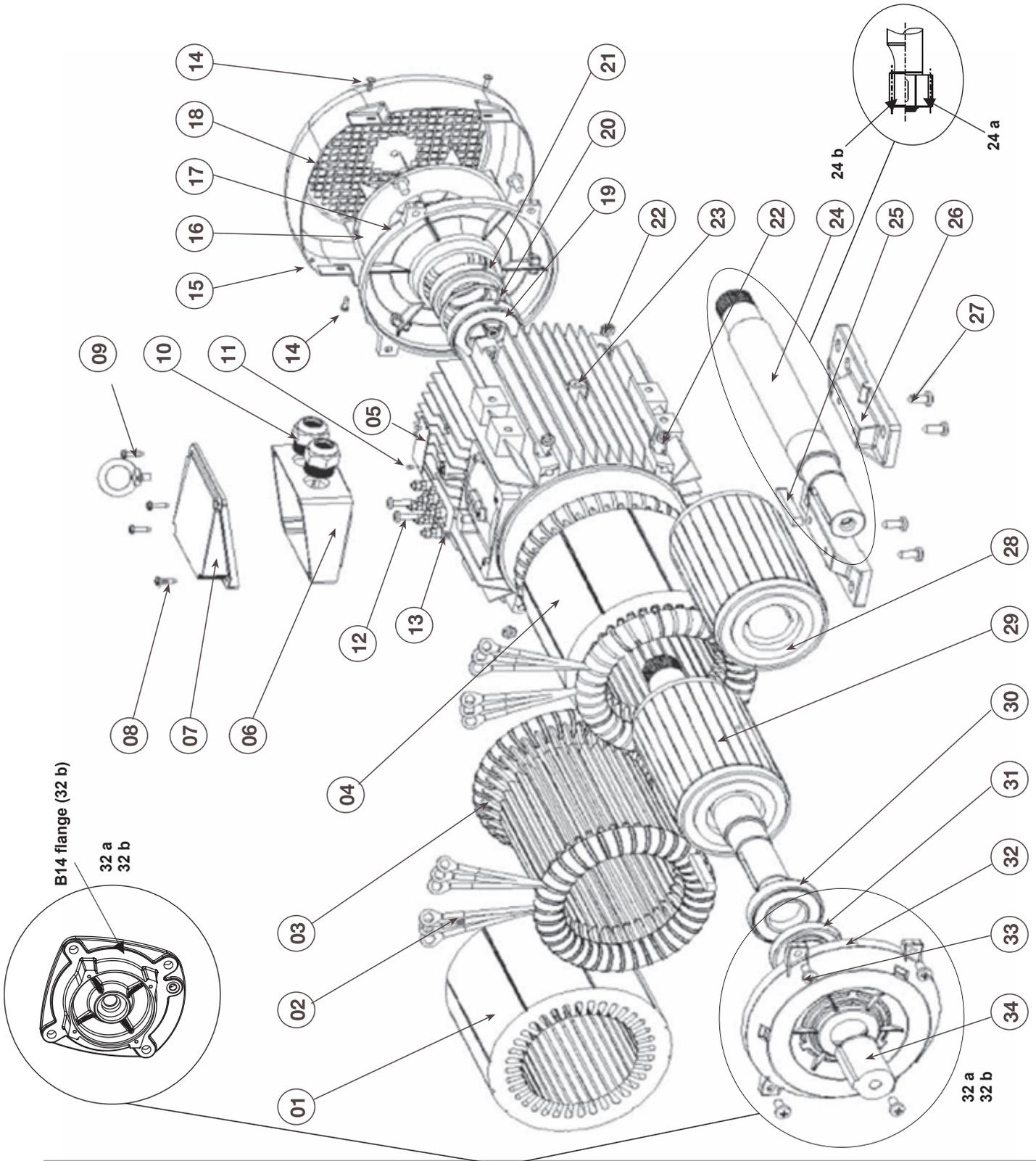
³⁾ According to DIN 6885

⁴⁾ Lifting bolt is mounted from frame size 112 on

⁵⁾ Optional

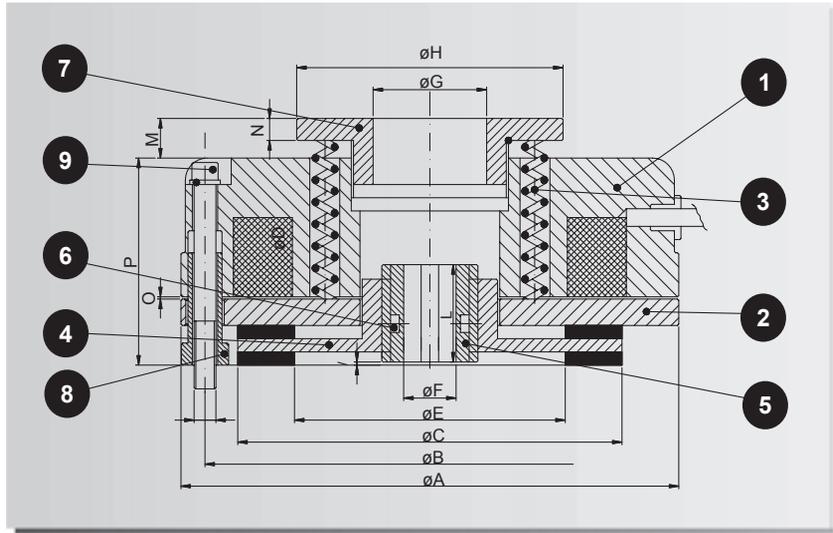
MOTOR PARTS LIST

1. Stator core
2. Lead cables
3. Winding
4. Wound stator
5. Nameplate
6. Terminal box
7. Terminal box cover
8. Terminal box screws
9. Eyebolt
10. Conduits
11. Rivets
12. Terminal screws
13. Terminal plate
14. Fan cover screws
15. Fan cover
16. Fan
17. Nondrive-endshield
18. Endshield screws
19. Ballbearing (nondrive-side)
20. Bearing shim
21. Seal ring (nondrive-side)
22. Nut
23. Housing
24. Shaft
- 24 a Drive Shaft (plain)
- 24 b Drive Shaft (gearcut)
25. Key
26. Foot
27. Foot screws
28. Rotor
29. Rotor-shaft group
30. Ballbearing (drive-side)
31. Seal ring (drive-side)
32. Drive endshield (B3 Flange)
- 32 a B5 Flange
- 32 b B14 flange
33. Endshield screws (drive-side)
34. Shaft cover



BRAKE PART LIST AND PROPERTIES

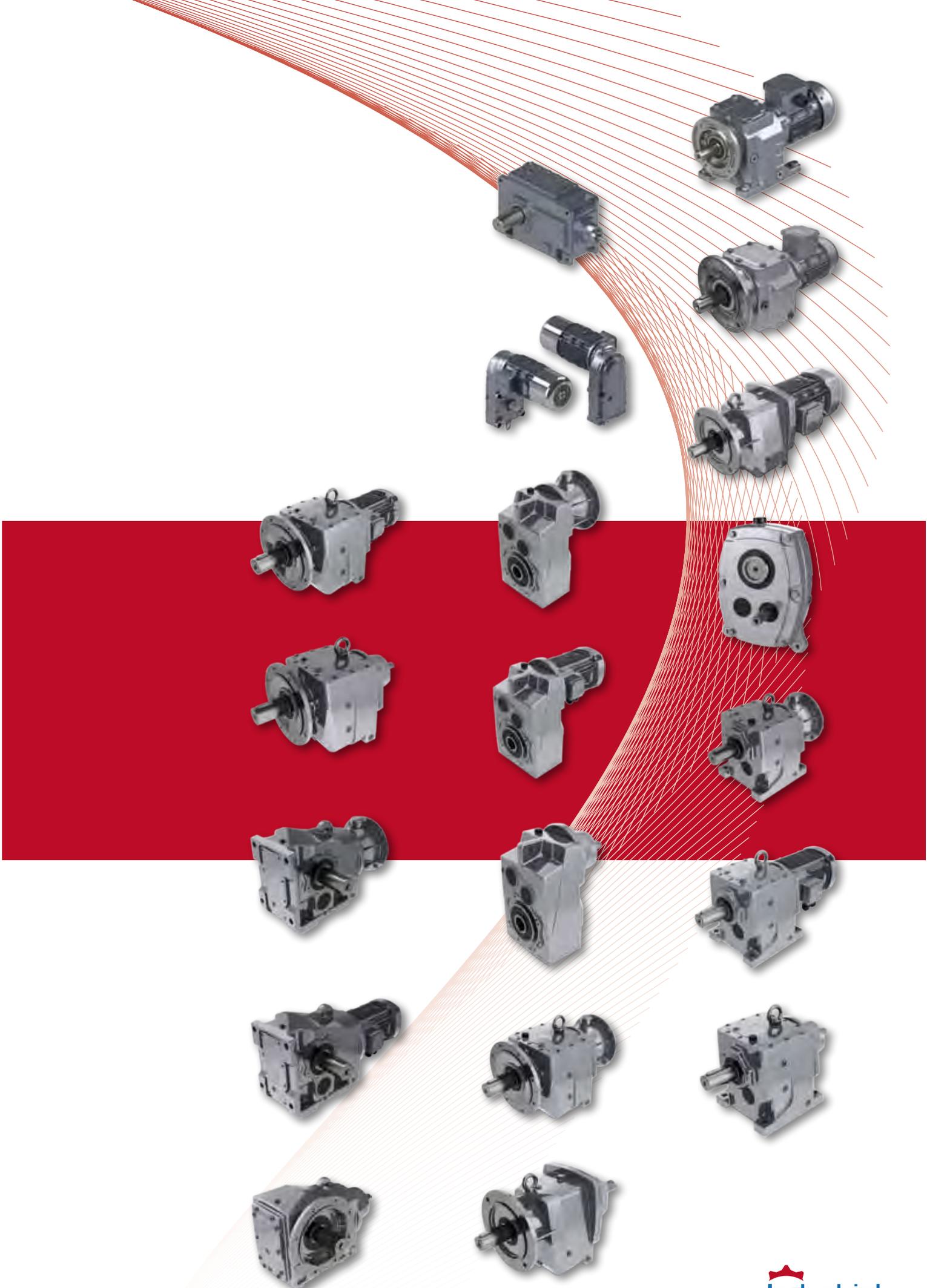
- 1 Electromagnet
- 2 Armature plate
- 3 Torque springs
- 4 Disc
- 5 Splined hub
- 6 O-ring
- 7 Adjuster ring
- 8 Adjuster nuts
- 9 Fixing screws



Typo Brake Model	K1	K2	K3	K4	K5	K6	K7	K7/D	K8	K8/D	K9	K9/D	K9/T	
Static Braking Torque (Nm)	5	12	16	20	40	60	90	180	200	400	300	600	900	
Max Speed of the motor (rpm)	3000	3000	3000	3000	3000	3000	3000	3000	1500	1500	1500	1500	1500	
Input Power (W)	15	20	25	30	45	50	55	55	60	60	65	65	65	
Max noisiness (≤dB-A)	68	69	68	69	70	70	70	70	70	69	69	69	70	
Weight (Kg.)	1,1	1,85	2,55	2,84	4,8	7	12	15	14,3	18	23	28	34	
A	84	104	114	124	148	159	189	189	218	218	248	248	248	
B	72	90	103	112	132	145	170	170	196	196	230	230	230	
C	61	77	88	98	119	128	151	151	176	176	204	204	204	
D	3xM4	3xM5	3xM5	3xM6	3xM6	3xM8	3xM8	3xM8	6xM10	6xM10	6xM10	6xM10	9xM10	
E	35	44	62	69	79	80	90	90	103	103	132	132	132	
Tolerance hole till size K3 H7, others +0,01/-0,01	F	10-11 12	11-14 15	11-15	14-25	24-25 28	25-30 34	25-30 34	25 H40 34 H60	24-34	34 H60 48	44-45 48	44-45 48	44-45 48-50
G	20	26	26	42	60	60	60	60	60	60	60	60	60	
H	50	61	61	79	104	104	104	104	104	104	104	104	104	
I	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	
L	18	20	20	20	25	30	30	60	40	60	40	60	80	
M (max)	9	9	9	9,5	18	16	14	14	18	18	18	18	18	
N	4	4	4	5,5	8	8	8	8	8	8	8	8	8	
O	0,2	0,2	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,4	0,4	0,4	0,4+0,5	
P	38,5	41,5	47	46,5	64	69,5	79	101,5	78	98	80	105	130	

Note

- The brake before running in, the static braking torque value could change by +20% from the reported value.





TPS GEAR SRL

Via Emilia 9/14
35043 Monselice (PD)
Italy
T. +39 0429 773883
F. +39 0429 772028
info@tpsgear.it
www.tpsgear.it

