REDÜKTÖR

REMAK REDÜKTÖR MAKİNA SANAYİİ

ES / RMS

SALYANGOZ TİPİ REDÜKTÖR KATALOĞU

ETERNAL SCREW GEARBOXES

2008

Üretimlerini yaptığımız ES ve RMS tip redüktörlerimiz, gerek dizayn gerekse kalite açısından alanında eksikliği hissedilen çeşitli devir ve güçlerde üret
ilmektedir. Bu redüktörler, hareket iletiminde 90°lik açıyla motor girişi ve redüktör çıkışı birbirine diktir. Bu nedenle otoblokaj özelliklidir. Hareket iletimide sürtünme ile olduğundan, ortaya güç katbı ve ısı ortaya çıkar. Bu ısınma yağlama sıvısı ile ortadan kaldırılır. Burada en önemli konu ise dişli açılarıdır. Uygun dişli açısı seçilerek güç kaybı minimize edilir.

Kızıl dişli adı verilen vida karşılık dişlileri yüzeydeki kayganlığın yüksek olduğu özel alaşımlı bronz malzemeden dökülür. Dişliler kavrama noktasında vida dişlisi ile maksimum yüzey profilinde temas etmesi için özel olarak yapılmış azdırma çakısı ile açılırlar. Bu ise redüktörün güç iletme kabiliyetini arttırarak, verimini yükseltir. Redüktörlerimizde, radyal ve aksiyal kuvvet analizleri hesaplanarak, yük taşıma kabiliyeti yüksek olan rulmanlar kullanlmıştır.

ES ve RMS tipi redüktörlerde yağlama büyük önem taşır. Bu tip redüktörler az yağlı veya yağsız çalıştırılmamalıdır. Aksi takdirde hem rulmanlarda ısınma, hem de yumuşak olan kızıl dişli vida tarafından kısa zamanda aşındırılacağından redüktörlerin ömrü azalır. Yağlamanın tablolarda belirtilen değerlerde yapılması, yağlama periyodunun ise işletme koşulları değerlendirilerek yapılması gerekir. ES tipi redüktörlerde yüksek basınçlı alüminyum enjeksiyon döküm olup, RMS 110-130-160 tip redüktörler yüksek kaliteli dökme demirden imal edilmektedir.

ES and RMS type gearboxes which we have been presently manufacturing that responds to the quality and required powers & revolutions according to the requirements. There is 90 degrees direction change on transmission system which is widely preferred. Input and output shafts locate perpendicular to eacg other, this provides an autoblockage system on gearboxes. Naturally there is transmission loses and heat appears due to friction since the tansmission is done by friction. These items had been minimized / eliminated until the acceptable degree by using adequate and proper type of lubricants and by choosing proper tooth angle for gears. Therefor effiecy losses were greately eliminated.

The gear which faces the worm-gear was moulded from special type of high quality bronze, they were machined and treated specially to provide maximum surface contact which increases the power transmission factor and effiency. Radial and axial force analysises had been carried out carefully and bearings had been selected according to the high load.

Lubrication plays a great and important role on ES and RMS gearboxes and this item should not be permitted to operate with less quantity of oil or withot oil, otherwise it will cause wears on the gears and decrease the life span of gearboxes.

Redüktörün yerleştirilmesi için aşağıdaki tavsiyelere dikkat edilmelidir.

- Makinanın üzerine montajı sabit olmalı ki titreşim yapmasın.
- Redüktörün çıkış milinin dönüş yönünün doğru olduğunu makinaya sabitlemeden kontrol edin.
- Özellikle çok uzun depolama durumlarında (4-6 ay) keçe,koruyucu yağa batırılmamışsa keçe yüzeyinin elastikiyetini kaybetmesinden ötürü yenisiyle değiştirilmesi gerekmektedir.
- İçi boş çıkış milini monte etmek için tork kolu kullanılabilir.Eğer bu mümkün değilse bağlantının eksende serbest olduğundan ve redüktörün serbest hareketinden emin olun.
- Redüktörü güneş ışınlarından ve kötü havadan koruyun.
- Motor soğutmasının hava girişinin düzgün olduğundan emin olun.
- Harici sıcaklık -5 °C den küçük +45 °C den büyük olursa teknik servis çağırın.
- Boya,plastik parçalara ve havalandırma deliklerinin üzerine gelmemelidir.
- Yağ tapalı ekipmanlar için,dağıtımdaki kapalı tapaları (nakliyat) havalandırmalı tapalarla değiştirin.
- Eğer varsa yağlayıcı seviyesini göstergeden kontrol edin.
- Motorsuz ünitelerde doğru kavrama için birkaç ön tedbir alınmalıdır.

Pay attention given below the rules when assembling the gearbox.

- For take care of vibration,fixed the gearbox to the machine.
- Direction of rotation of the gearboxes sally shaft must be correct before fixing the gearbox to the machine.
- Especially for long storing cases (4-6 mounths) if oil felt have not touch with cover lubricant;oil felt surface could lose the elastically characteristic so must change the new oil felt.
- For asseblying the sally shaft can use the torque arm.If this is not possible be sure that the connecting is free on the axle and free movement of the gearboxes.
- Cover the gearbox to the solar directions and the cause to take off air.
- Air electric of the electric motors can be free.
- If the ambient temperature is less than -5°C or higher than the +45 °C call our service department.
- The paint does not contact to the plastic parts or the air entrance channels.
- For the equipments of the oil tapes;when using transporting closed tapes change with perforated tapes before using the gearboxes.
- Control the oil level from the oil buy if it is present.

Motorun toleransını ve motorun en azından normal sınıf değerinde olduğunu kontrol edin.Mili,tapayı ve flanşın üzerindeki kir ve boya parçalarını temizlerken dikkatli olun.Güç uygulamadan üniteyi uygulamaya başlayın,diğer taraftan motor anahtarının toleransını ve doğru pozisyonda olduğunu kontrol edin.Bağlama yaparken oluşacak arıza ve paslanmaya karşı mili yağlayın.Maksimum yükleme haricinde,yerleştirme azar azar olmalıdır.döküm yağlama limiti azalırsa motorun alt bölümündeki metaller,parçalar,nesneler hasarlanabilir,özel koruyucu yağ eklenmelidir.

Check to the electric motor tolerance and normal class verifications.Pay attention when cleaning the shaft,tapes and flange from the paint,dirt or rust.At a several time;operate the electric motor without loading the force.Greaced to the shaft for the erode away and whatever any failure.Load effects by gradually of external maximum loading.If oil level become less than metal parts can be worn away also must filled with private lubricant oils.

Katalogda verilen performans M1 montaj pozisyonuna tekabül eder yada aynıdır.Örneğin ilk bölüm tamamen yağ içine daldırıldığı zaman.Diğer montaj pozisyonları için yada ayrı giriş hızlarında her ebattaki azalma ünitesi için tablolara göre dikkat çeken kritik durumlar için teknik servisimizi arayarak aşağıdaki uygulamalara önem vermek ve dikkatli değerlendirmek gereklidir.

- Hız artırımında
- Özellikle yüksek ataletli uygulamalarda
- Kaldırma vinci olarak kullanıldığında
- Redüktör üzerindeki yüksek dinamik gerilim durumundaki uygulamalar
- -5 °C altında ve +45°C üstündeki yerlerde
- Kimyasal olarak girişken olan ortamlarda kullanıldığında
- Tuzlu ortamlarda kullanıldığında
- Katalogda belirtilmeyen montaj durumlarında
- Radyoaktif ortamlarda kullanıldığında
- Atmosferik basınç harici basınç altında kullanıldığı ortamlarda

M1 assembly position is equal to the performance value given from the catalogue,for example when first parts plunge to the lubricants.Other assembly positions,at gearboxes all types of dimensions for different entrence and exits.Crosswise to the tables call our service department and take information.

- For increasing the velocity
- Especially high inertia torque.
- Using for hoist crene gears
- High dynamic pressure applications on gearboxes
- When ambient temperature is less than -5°C and higher than +45 °C
- Using in chemical abrade ambients
- Using in salty abrade ambients
- Using in radioactive abrade ambients.
- Using in low pressure from the ambient.
- Assembly position different from the catalogue.

Servis faktörü (fs) redüktöre tabi çalışma koşullarına dayanır.En uygun servis faktörünü seçmek için göz önüne alınması gereken parametreleri doğru olarak içermektedir.Servis faktörünü belirlemek için;

- Makinanın günlük çalışma süresini tespit ediniz. (saat/gün) (Δ)
- Makinanın çalıştırma zaman aralığını belirleyiniz (çalıştırma/saat) (*)
- Makinanın hangi tür yüklerde çalıştığını belirleyiniz.

Service factor (fess) is depends on different running conditions of gear reducer.When choosing suitable service factor is giving under parameters:

- Determine the working time of the machine in a day.
- Determine the working time of the machine in an hour
- Determine the aplication force to the machine.

A-Düzgün yükler fa≤0.3
B-Orta şiddette şok fa≤3
C-Ağır şok fa≤10

fa=Je/Jm

-Je (kgm²) : Azaltılmış dış atalet momenti
-Jm (kgm²) : Motor atalet momenti

Eğer fa>10 ise teknik servisi arayın.

Sonsuz dişli azaltma ünitelerinden dolayı ortam sıcaklığının dikkate alınması gerekir.Bundan dolayı yukarıda hesaplanan servis faktörü aşağıdaki şekilde düzeltilmelidir.

°T 30°/45° : fs x 1.1/1.2
°T 45°/30° : fs x 1.3/1.4
°T 60°/70° : fs x 1.5/1.6
°T >70° : Teknik servisi arayın

A- Uniform Load fa≤0.3
B- Moderate shock load fa≤3
C- Heavy shock load fa≤10

fa=Je/Jm

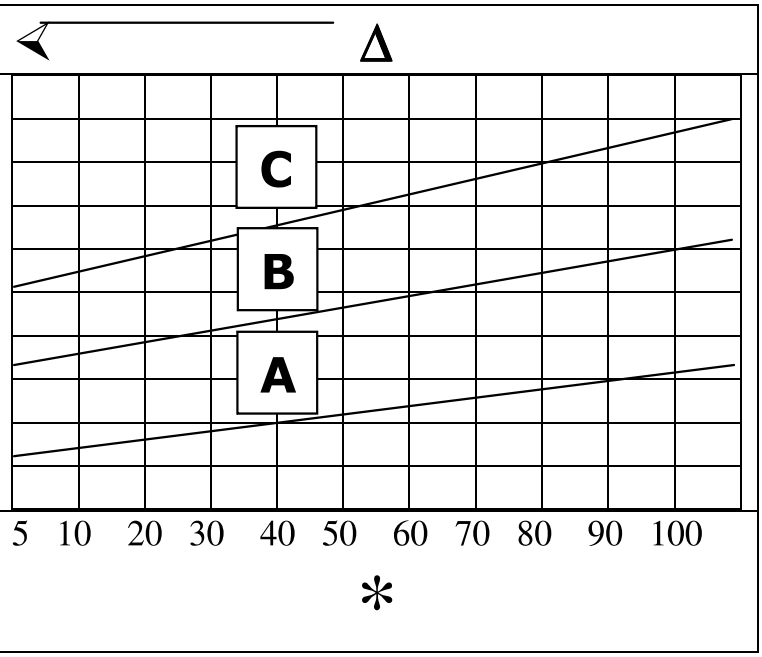
-Je (kgm²) : Decreased outer mass moment of inertia
-Jm (kgm²) : Motor mass moment of inertia

Note: If fa>10 then call Remak Gear Reductor tecnical service department.

To be careful that worm gear units gives heat energy

°T 30°/45° : fs x 1.1/1.2
°T 45°/30° : fs x 1.3/1.4
°T 60°/70° : fs x 1.5/1.6
°T > 70° : Please call our technical departmants

24	16	8	2
2.3-	2-	1.8-	1.6-
2.2-	1.9-	1.7-	1.5-
2.1-	1.8-	1.6-	1.4-
2-	1.7-	1.5-	1.3-
1.9-	1.6-	1.4-	1.2-
1.8-	1.5-	1.3-	1.1-
1.7-	1.4-	1.2-	1-
1.6-	1.3-	1.1-	0.9-
1.5-	1.2-	1-	0.8-
f.s.			



A- DÜZGÜN YÜKLER
*Kaldırma Dişlileri
*Palanga Dişlileri

B- ORTA ŞİDDETTE ŞOK
*Dönel Kurutucular
*Yıkama Makinaları
*Ayarlı Silindirler
*Sabit Silindirler
*Mandrenler
*Tel Çekme Makinaları
*Beton Mikserleri
*Yük Asansörleri
*Mikserler
*Kurutma Merdaneleri
*Yarı Sıvı Agitatörler
*Mikserler ve Silindirler
*Bomlu Vinç Dişlileri
*Yana Döndürme Dişlileri
*Bant Cepli Konveyörler
*Çelik Bantlı Konveyörler
*Dökme Yüklü Kayışlı Konveyörler

C- AĞIR ŞOK
*Çubuk Kesme Makinaları
*Büyük Dönel Tablalar
*Silindir Haddeleme
*Plaka Haddeleme
*Soğuk Haddeleme
*Islak Presler
*Kurutma Silindirleri
*Kağıt Hamur Makinaları
*Perdahlama Silindirleri
*Extruderler
*Hamur Karma
*Silindirler
*Yürütme Dişlileri
*Parça Yüklü Kayışlı Konveyörler

A- UNİFORM LOAD
*Hoist gears
*Lifting gears

B- MODERATE LOAD
*Roller Adjustment Drives
*Roller Straightened

*Winding Machines
*Wire Drawing Benches
*Concrete mixers
*Hoist
*Mixers
*Drying Drums
*Semi liquit agitators
*Mixers & Rolling Mills
*Defrocking Jib Gears
*Slowing gears
*Bant Pocket Conveyors
*Steel Belt Conveyors
*Belt Conveyors

C- HEAVY SHOCK LOAD
*Billet Shears
*Heavy Roller Tables
*Sheet Mills
*Manipulators
*Cold Rollering Mills
*Wet presses
*Pulpers
*Drying cyclinders
*Glazing cyclinders
*Extruders
*Pug Mills
*Rolling Mills
*Travelling gearboxes

Güç devir tablolarında verilen nominal termik güç (P) değerleri 80C yağ sıcaklığını aşmayacak şekilde 20C maximum çevre sıcaklığında sürekli çalışma durumunda , redüktör girişine uygulanabilir maximum güç değeridir. Gerçek termik güç(Pg) değeri, nominal termik güçten yüksek olabilir.

$$Pg=P \times k_t$$

Formüldeki k_t değeri çevre sıcaklığı ve yükleme duurmuna bağlı faktördür. Alttaki tablodan k_t seçimi yapılabilir.

Redüktöre uygulanan giriş gücü P_1 , P_g değerinden daha düşük olmalıdır. (P_1<P). Aksi bir durumda teknik servisimize danışınız.

Termik güç şu durumda dikkate alınmaz; sürekli çalışma süresi 1-3 saati geçmiyorsa ve redüktör çevre sıcaklığına düşene kadar çalışmıyorsa.

Nominal thermal power Pt; indicated in our catalogue in performance tables can be applied at the gear reducer input when operating in continious duty at a maximum ambient temperature of 20°C without exceeding 80°C oil temperature. Thermal power Pg, can be higher than the nominal Pt, descerибed above, as per the formula;

$$Pg=P \times k_t$$

Where Kt is the thermal factor depending on ambient temperature and type of duty as indicated in the below.

Applied power to the gearbox of the P1; should be less thanor equal to the Pg value (P_1<Pg). Vice versa PLS contact our service department. Thermal power need not be taken into account when maximum duration of continious running time is 1 – 3 hour followed by shutdown periods lonf enough to restore the gear reducer to near ambient temperature (approximately: 1 – 3 hour)

Max. Çevre Sıcaklığı Max. Ambient Temperature °C	Sürekli (S1) Cont (S1)	Duraksamalı Çalışma Şekli (% olarak 60 dakika çalışma) kt Duty on intermitten load (Intermittence ratio % for 60 min running) kt			
	-	60	40	25	15
40	0.8	0.9	1	1.2	1.3
30	0.9	1.1	1.2	1.4	1.5
20	1	1.2	1.4	1.5	1.7
10	1.2	1.4	1.5	1.7	1.9

Redüktörlerde verim $\eta inv=P_{N2} / P_{N1}$ oranından elde edilir. Redüktör normal işletme şartlarında çalıştığı, bakımının iyi yapıldığı ve yükün nominal değerler içerisinde olduğu durumlarda geçerlidir. İlk çalışma sürelerinde verim katalog değerlerine göre daha düşük olur. Bu düşme oranının yüzdeleri, tek ağızlı vidalarda %12, iki ağızlı vidalarda %6, üç ağızlı vidalarda %3 civarındadır.
Start anında oluşan verim statik verimdir(ηinvs). Dinamik verimin çok altındadır(ηinv).
İnvers verim (η) sonsuz vida çarkının redüktöre tahrik vermesiyle oluşur. Bu verim dinamik verimden küçük olur. $\eta inv=2-(1/\eta)$ formülüyle hesaplanır.

Effiency is derivede from the $\eta inv=P_{N2} / P_{N1}$ ratio. This effiency uses on; working on normal condition duty, during at several maintance; standart force values acts on gearboxes. On first working times, effiency is less then catalogue values. This value decrease on percentage is; 1 catching screw about %12, 2 catching screw about %6.3 catching screw about %3.
The static effiency existences at starting time and less than dynamic effiency. The invers effiency (ηinv) cosist on when worm gear flywheel gives stimulation to reducer and tis invers effiency less than dynamic effiency. Calculation formula is $\eta inv=2-(1/\eta)$.

Çıkış mili tarafından hiç hareket iletilmediği durumda olur. Statik otoblokaj hs<0.5 olmalıdır. Verimin ilk çalıştırmadan sonra yükseleceği göz önüne alınırsa hs≤0.4 olarak değerlendirilmelidir. Sürekli vibrasyon olan işletme şartlarında statik otoblokaj olmayabilir. Statik verim 0.5≤hs≤0.55 arasında olursa çıkış tarafına yüksek moment veya vibrasyon uygulanmalıdır. Fakat hs≥0.55 olursa çıkış tarafından döndürmek daha mümkün olur ve bu durum rahat kalkışlar içindir.

Sonsuz vidalı redüktörler için dinamik otoblokaj tahrik tarafındaki bağlantı elemanlarının atalet momentleri ortadan kalkınca sonsuz vidanın kilitlenmesiyle (h<0.5) olduğu durumlarda oluşur. Sürekli vibrasyonlu durumlarda dinamik otoblokaj oluşmayabilir.

A gear reducer or gearmotor is statically irreversible (that is, rotation can not be imparted by way of the low speed shaft) when h_s <0.5. This is a state necessary to kkeping the load standstill; taking into account, however thay effiency can increase with time spent in operation, it would be advisable to assume hs≤0.4. Where continious vibration occurs, static irreversibility may not be obtainable. A gear reducer or gearmotor has low static reversibility (i.e rotation may be imparted by way of the low speed shaft with high torque and / or vibration) when 0.5≤hs≤0.55. A gearmotor or gear reducer has complete static irreversibility (i.e. rotation may be imparted by way of the low speed shaft) when hs≥0.55. This state is advisable where is a need for easy start-up of the gear reducer by way of the low speed shaft.

A worm gear reducer is dynamically irreversible (that is it ceases to turn the instant the wormshaft receives no further stimulus that would keep the worm itself in rotation e.g. motor torque, inertia from the worm and related fan, motor, flywheel, couplings, etc.) when h<0.5. This state becomes necessary wherever there is a need for stopping and holding the load, even without the aid of a brake. Where continious vibration occurs, dynamic irreversibility may not be obtainable.

Mil üzerindeki radyal yük aşağıdaki formülle hesaplanır.

Fre=(2000xMxfz)/D<F_{r1};F_{r2}

Fre (N) : Radyal yük
M (Nm) : Mildeki tork
D (mm) : Mildeki montajlanmış iletim elemanının boyut ölçüleri
Fr (N) : Kabul edilen maksimum radyal yük değeri

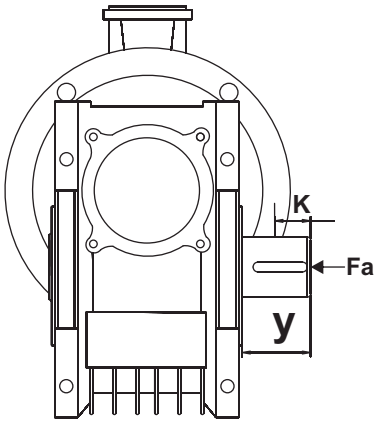
Fz= 1.1 dişli çark

1.4 zincir tekerleği
1.7 V makarası
2.5 düz makara

Radyal yük sonucu şaftın orta hattına uygulandığı zaman aşağıdaki formülle etki eden yükü hesaplamak gerekir.

Fre<(Fr.a)/(b+x)<Fr1max,Fr2max

Darbeli yükün olması durumunda daha önce verilmiş olan servis faktörü tablosundaki değerlere dikkate alınmalıdır.Güvenilir aksiyal yük (F_{agv}) verilen güvenilir Radyal yükün %20'si kadar alınır.Mil ucuna gelen kuvvetin açısına göre daha yüksek radyal yükler mümkündür.



Radyal yük tablolarında verilen güvenilir radyal yük değerleri, en kötü açı durumu için verilir.

Radial loads on the shaft calculated with this formula:

Fre=(2000xMxfz)/D<F_{r1};F_{r2}

Fre (N) : End of the radial loads
M (Nm) : Torque on the shaft
D (mm) : Dimensions of the assemblied load transmittal parts
Fr (N) : Permissible maximum radial loads.

Fz= 1.1 flywheel

1.4 chained flywheel
1.7 V pulley
2.5 normal pulley

When radial load effected to the middle point of the shaft ;effected load can calculated with this formula.

Fre<(Fr.a)/(b+x)<Fr1max,Fr2max

If shock load effected;must use values given on service factor table.Reliable overhung load (F_{agv}) must multiply cofficient of %20 bv the given radial load.According to angle of the coming to end of the shaft;can be possible more high radial loads.

Radyal kuvvet hesabı düzeltme katsayıları
Radial load corecting values

Tip Type	ES30	ES40	ES50	ES63	ES75	ES90	ES110
a	67	86	107	131	163	185	210
b	53	66	82	106	123	135	155
y	28	40	50	50	80	100	110

Reliable overhung load values given from the radial load tables for the worst angle state.

Ürettiğimiz redüktörlerin standardı gereği yağ dolumları yapılarak sevk edilmektedir. Boy ebatlarına göre 30-40-50-63-75-90 dahil olan modellerimizde özel molibden katkılı Petrol Ofisinin Gravis SP220 sentetik yağları kullanılır.Redüktörü katalogda gösterilen her pozisyonda yerleştirebilirsiniz.İstisnalar için firmamıza müracaat ediniz.Diğer tip ebatlar olan 110-130-160 modellerimizde ise Petrol Ofisi EP220 organik yağları kullanılmaktadır.110-130-160 tip ebatlar için bağlama pozisyonunun belirtilmesi gerekmektedir.

For gears to work in perfect condition and to have long life, the selection of lubricant is very important. Gear pair and worm bearings lubricated by oil path, or splashed. In selection of oil it is important to consider, velocity ambient temperature, gearbox oil temperature working condition and the life required from the lubricant. All gearboxes are filled with oil for mounting position B3.Types from E30 up to E80 are filled with synthetic oil ISO VG320 and types from E100 up to E125 are filled with mineral oil ISO VG320 and tested ready to delivery (Exclusive special conditions).

Aksi takdirde redüktörler düz çalışma pozisyonuna göre yağ miktarı ile doldurulup gönderilir.Yan yatırılması durumunda yağ seviyesi düşeceğinden uygun çalışma şartları bozulur.110-130-160 tip redüktörlerin havalandırıcı seviye ve yağ boşaltma tapaları üzerinde sevk edilir.Montaj esnasında,taşımada yağ akmaması için kullanılan kapalı tapa çıkarılarak delikli tapanın takılması önerilir.Redüktörlerimiz çalışırken ilk yağ değişimi 1000 saat, sonraki yağ değişimi 5000 saatte yapılmalıdır.

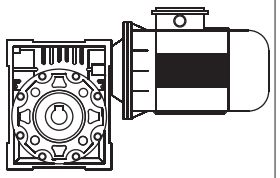
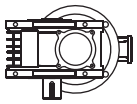
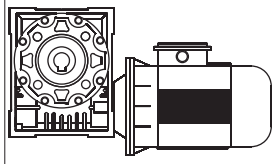
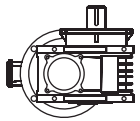
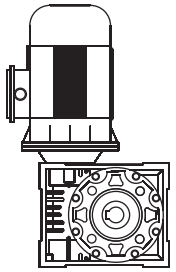
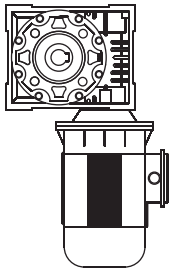
İn overload conditions,long life oil preferred and should never mix mineral and synthetic oils together.First oil change is after 1000 Working hours motor bearing must be cleaned and greased in every 5000 hours.For ambient temperature which are not mentioned on the tables please contact our service departments.

PC konstrüksiyonu uygun aktarmalı motorlarla ve uygun birimlerle kullanılabilir.B14 motor tiplerinde ana redüktöre PC ünitesi kolayca uygulanabilir.Bu ünite tek başına kullanılamaz.Başka bir redüktör ünitesiyle birlikte kullanılabilir.
PC'lerin ilk kullanımlarında uzun ömürlü yağ ile yeterli şekilde dolum yapılır.Bu nedenle istenilen montaj pozisyonlarında kullanılabilir.Yağlama sentetik yağ ile yapıldığından -25°C ve +50 °C arasında kolayca kullanım imkanı sağlamaktadır.

The PC construction is modular and therefore it can be supplied as a seperate unit to be mounted on any type of fitted geared motor.Fitting the pre-stage helical module on the main reduction unit is easily done as for any motor of type B14.The pre-stage unit cannot be used by itself,but only coupled with another reduction unit.The pre-stage helical modules are supplied complete with life-long lubricant,synthetic oil and can therefore be mounted in all the positions.Lubrication is seperated from that of the worm reduction unit.The synthetic lubricant adopted by Motovario can be used in places with temperatures from -25°C to + 50 °C

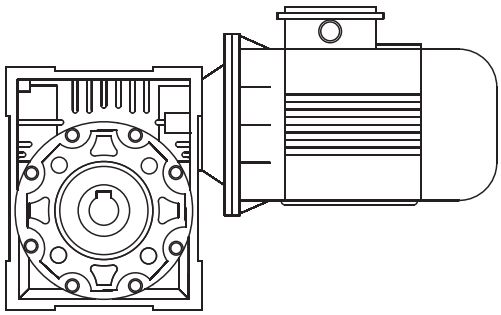
Yağ Cinsi Lubricant	ISO Vizkozite Sınıfı ISO Viscosity Class	PETROL OFİSİ	BP	ESSO	KLUBBER	MOBİL	SHELL
Sentetik Yağlar Synthetic Oil	ISO VG 680	SP 460	Energol GR-XP460		Syntheso D 680 EP Syntheso D460 EP	Gylgole 80	Tivela CD
	ISO VG 460						
	ISO VG 320	SP 220	Energol GR-XP220		Syntheso D320 EP Syntheso D220 EP	Gylgole 30	Tivela WB
	ISO VG 220						
Mineral Yağlar Mineral Oil	ISO VG 680	Gravis MP 680	Energol GRXP680	Spartan EP 680	Lamora 680	Mobilgear 636	Omala 680
	ISO VG 460	Gravis MP 460	Energol GR-XP460	Spartan EP 460	Lamora460	Mobilgear 634	Omala 460
	ISO VG 320	Gravis MP 320	Energol GR-XP320	Spartan EP 320	Lamora680	Mobilgear 632	Omala 320
	ISO VG 220	Gravis MP 220	Energol GR-XP220	Spartan EP 220	Lamora680	Mobilgear 630	Omala 320
Gresler Grease			Energreaser LS 3	Beacon 3	Staburags NMU8 EP	Mobilux 2	Alvania R3

GÖVDE BÜYÜKLÜĞÜNE VE ÇALIŞMA POZİSYONLARINA GÖRE YAĞ MİKTARLARI (lt)
QUANTITIES ACCORDING TO WORKING POZITIONS AND GEAR SIZE (lt)

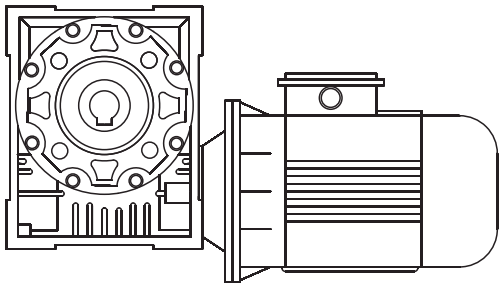
REDÜKTÖR TİPİ GEAR UNIT TYPE						
ES 30	0.04	0.04	0.04	0.04	0.04	0.04
ES 40	0.09	0.09	0.09	0.09	0.09	0.09
ES 50	0.17	0.17	0.17	0.17	0.17	0.17
ES 63	0.35	0.35	0.35	0.35	0.35	0.35
ES 75	0.60	0.60	0.60	0.60	0.60	0.60
ES 90	1.1	1.1	1.1	1.1	1.1	1.1
RMS 110	3.2	2.6	2.4	2.6	3.2	3.2
RMS 130	4.6	3.6	3.4	3.6	4.6	4.6
RMS 160	5.6	5.2	5	5.2	5.6	5.6

SONSUZ VİDA MONTAJ POZİSYONLARI
WORM GEAR MOUNTING POSITIONS

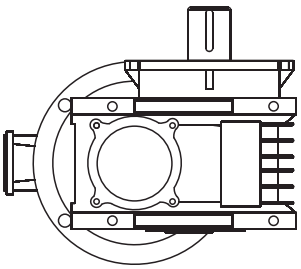
M1



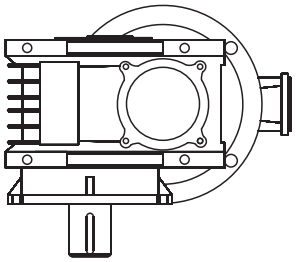
M2



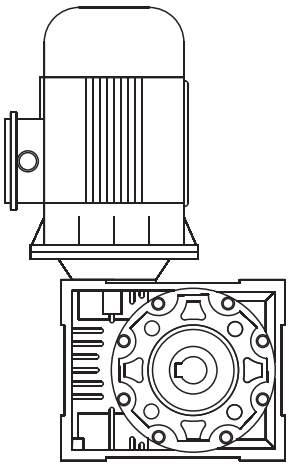
M3



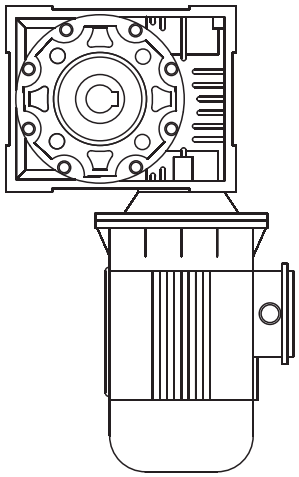
M4



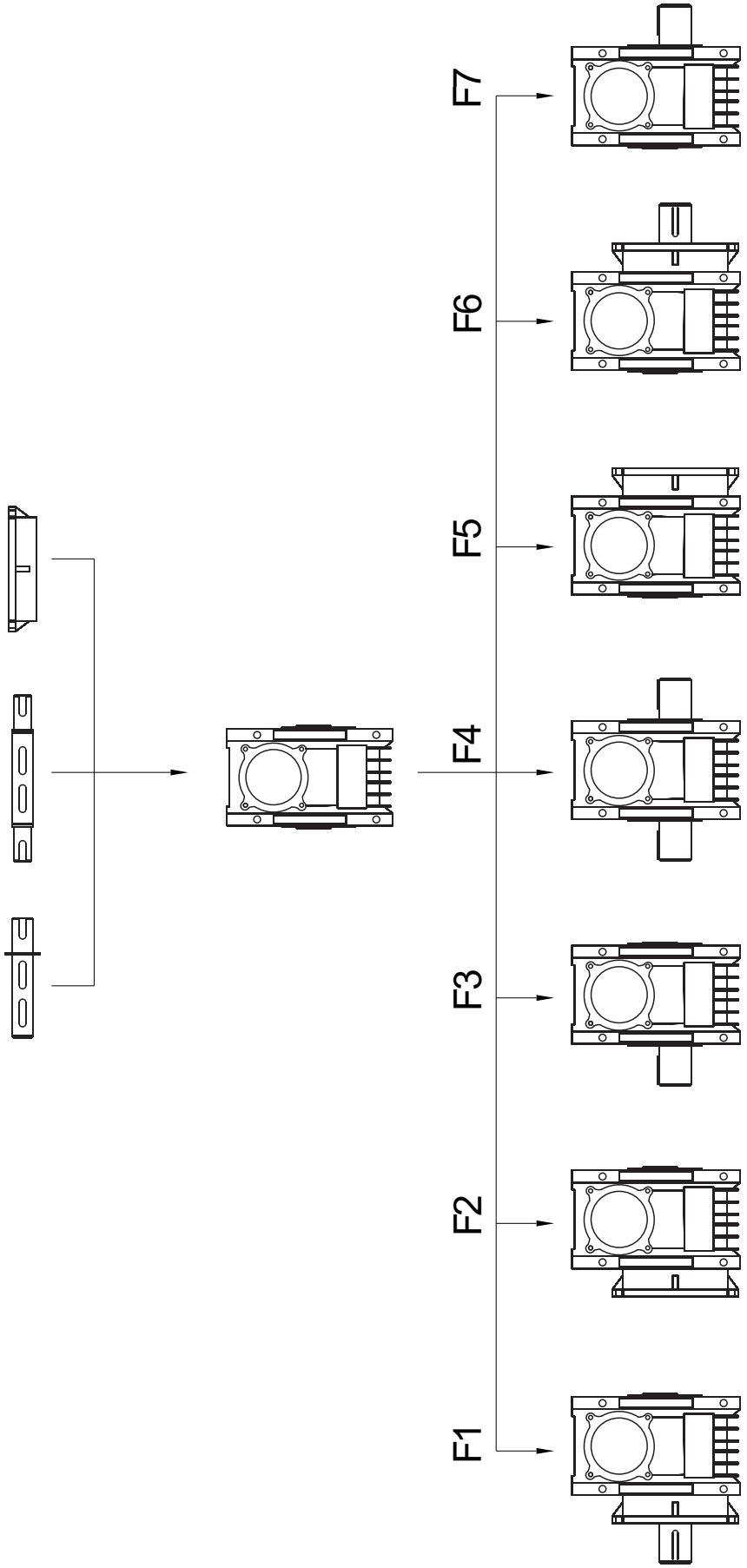
M5



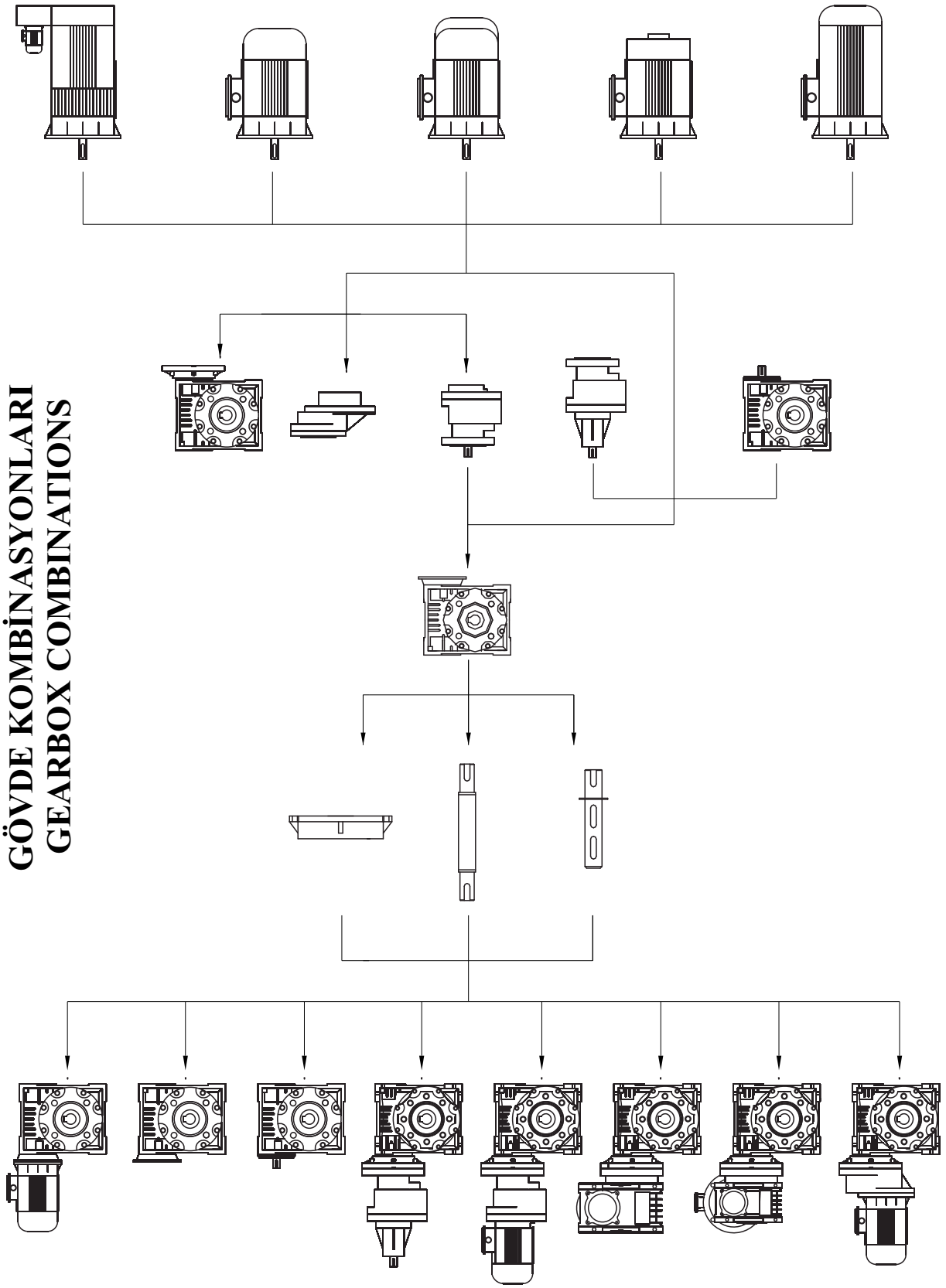
M6



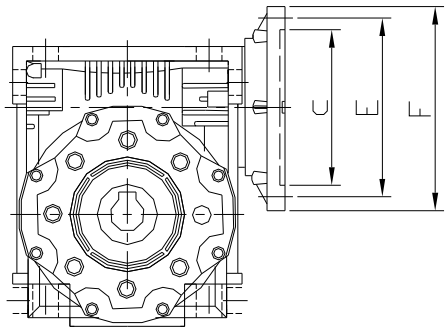
MİL VE FLANŞ KOMBİNASYONLARI
OUTPUT SHAFT AND FLANGE COMBINATIONS



GÖVDE KOMBİNASYONLARI
GEARBOX COMBINATIONS



MOTOR BAĞLANTI FLANŞI
ÖLÇÜLERİ



ES-RMS	TÝP TYPE	F	E	C
ES 30	63 B14	90	75	60
	56 B14	80	65	50
ES 40	71 B14	105	85	70
	63 B14	90	75	60
ES 50	80 B14	120	100	80
	71 B14	105	85	70
	71 B5	160	130	110
ES 63	90 B14	140	115	95
	80 B14	120	100	80
	71 B14	105	85	70
ES 75	100 B14	160	130	110
	90 B14	140	115	95
	90 B5	200	165	130
	80 B14	120	100	80
	71 B14	105	85	70
ES 90	100 B14	160	130	110
	90 B14	140	115	95
	80 B14	120	100	80
RMS 110	132 B14	200	165	130
	112 B14	160	130	110
	100 B14	160	130	110
	90 B14	140	115	95
RMS 130	132 B14	200	165	130
	112 B14	160	130	110
	90 B14	140	115	95
RMS 160	132 B14	200	165	130
	112 B14	160	130	110

PC KOMBİNASYONLARI
PC COMBİNATİONS

		PC63		PC71		PC80		PC90	
	İ	63B14 İ=3	71B14 İ=3	71B14 İ=3	80B14 İ=3	80B14 İ=3	SP(D.28) İ=3	80B14 İ=2.42	SP(D.28) İ=2.42
ES40	25	▨	▨						
	30	▨	▨						
	40	▨	▨						
	50	▨							
	60	▨							
	80	▨							
	100								
ES50	25		▨	▨	▨				
	30		▨	▨	▨				
	40		▨	▨					
	50		▨	▨					
	60		▨	▨					
	80		▨	▨					
	100	▨							
ES63	25				▨				
	30				▨				
	40		▨	▨	▨				
	50		▨	▨	▨				
	60		▨	▨	▨				
	80		▨	▨					
	100								
ES75	25				▨	▨			
	30				▨	▨			
	40				▨	▨			
	50				▨	▨			
	60				▨	▨			
	80				▨	▨			
	100				▨	▨			
ES90	25				▨	▨			
	30				▨	▨			
	40				▨	▨			
	50				▨	▨			
	60				▨	▨			
	80				▨	▨			
	100				▨	▨			
RMS110	25						▨		
	30						▨		
	40						▨		
	50						▨		
	60						▨		
	80						▨		
	100						▨		
RMS130	25								▨
	30								▨
	40								▨
	50								▨
	60								▨
	80								▨
	100								▨

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Tprque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.06	0,28	5000	338	ES30-40	56A4	0.1
	0,28	5000	360	ES30-63	56A4	0.4
	0,28	5000	419	ES40-75	56A4	0.5
	0,28	5000	431	ES40-90	56A4	1.0
	0,29	4800	311	ES30-50	56A4	0.3
	0,35	4000	288	ES30-50	56A4	0.3
	0,35	4000	306	ES30-63	56A4	0.6
	0,35	4000	355	ES40-75	56A4	0.7
	0,35	4000	365	ES40-90	56A4	1.3
	0,4	3200	300	ES30-40	56A4	0.2
	0,4	4000	279	ES30-40	56A4	0.1
	0,47	3000	319	ES30-63	56A4	0.7
	0,47	3000	377	ES40-75	56A4	0.8
	0,47	3000	406	ES40-90	56A4	1.4
	0,5	3000	307	ES30-50	56A4	0.4
	0,58	2400	261	ES30-40	56A4	0.2
	0,58	2400	276	ES30-63	56A4	0.8
	0,58	2400	330	ES40-75	56A4	1.1
	0,6	2400	266	ES30-50	56A4	0.5
	0,78	1800	222	ES30-50	56A4	0.7
	0,78	1800	225	ES30-63	56A4	0.9
	0,8	1800	218	ES30-40	56A4	0.3
	0,9	1500	196	ES30-40	56A4	0.4
	0,93	1500	199	ES30-50	56A4	0.7
	0,93	1500	204	ES30-63	56A4	1.1
	1,2	1200	166	ES30-40	56A4	0.4
	1,2	1200	169	ES30-50	56A4	0.7
	1,6	900	139	ES30-40	56A4	0.5
	1,6	900	141	ES30-50	56A4	1.0
	1,9	750	121	ES30-40	56A4	0.6
	2,3	600	104	ES30-40	56A4	0.7

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M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0,06	2,8	500	96	ES30-40	56A4	0.6
	3,5	400	70	ES30-40	56A4	0.9
	4,7	300	57	ES30-40	56A4	1.3
	11,3	80	24	ES 40	56B6	1.4
	15	60	21	ES 40	56B6	1.9
	15	60	18	ES 30	56B6	0.9
	18	50	18	ES 40	56B6	2.3
	17,5	80	14	ES 30	56A4	0.9
	23,3	60	13	ES 30	56A4	1.3
0,09	0,35	4000	548	ES40-ES90	56B4	0,8
	0,47	3000	609	ES40-ES90	56B4	0,9
	0,58	2400	496	ES40-ES75	56B4	0,7
	0,78	1800	404	ES40-ES75	56B4	1
	0,93	1500	305	ES30-ES63	56B4	0,7
	0,93	1500	360	ES40-ES75	56B4	1,1
	1,2	1200	253	ES30-ES63	56B4	0,9
	1,6	900	200	ES30-ES63	56B4	1
	1,6	900	212	ES30-ES50	56B4	0,7
	1,9	750	185	ES30-ES50	56B4	0,8
	2,3	600	159	ES30-ES50	56B4	0,9
	2,8	500	123	ES30-ES50	56B4	1
	3,5	400	107	ES30-ES50	56B4	1,2
	3,8	240	94	ES50-PC63	63A6	0,9
	3,8	240	99	ES63-PC63	63A6	1,7
	4,7	300	88	ES30-ES40	56B4	0,8
	5	180	79	ES40-PC63	63A6	0,7
	5	180	81	ES50-PC63	63A6	1,3
	6	150	72	ES40-PC63	63A6	0,8
	6	150	73	ES50-PC63	63A6	1,6
	7,5	120	62	ES40-PC63	63A6	1,1
	10	90	51	ES40-PC63	63A6	1,4

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
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M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0,09	11,3	80	37	ES 40	63A6	1
	11,3	80	37	ES 50	63A6	1,8
	12	75	47	ES40-PC63	63A6	1,3
	15	60	32	ES 50	63A6	2,3
	15	60	31	ES 40	63A6	1,3
	17,5	80	26	ES 40	56B4	1,3
	18	50	24	ES 30	63A6	0,7
	18	50	27	ES 40	63A6	1,5
	22,5	40	21	ES 30	63A6	1
	22,5	40	24	ES 40	63A6	1,9
	23,3	60	19	ES 30	56B4	0,9
	23,3	60	21	ES 40	56B4	1,7
	28	50	17	ES 30	56B4	1
	28	50	19	ES 40	56B4	2
	30	30	17	ES 30	63A6	1,2
	30	30	19	ES 40	63A6	2,6
	35	40	14	ES 30	56B4	1,2
	36	25	15	ES 30	63A6	1,5
	45	20	13	ES 30	63A6	1,5
	46,7	30	12	ES 30	56B4	1,7
	56	25	10	ES 30	56B4	2
	60	15	11	ES 30	63A6	1,9
	70	20	9	ES 30	56B4	2
	90	10	7,6	ES 30	63A6	2,6
	93,3	15	7,1	ES 30	56B4	2,5
	140	10	5	ES 30	56B4	3,6
0,12	0,28	5000	928	ES50+RMS110	63A4	0,8
	0,35	4000	784	ES50+RMS110	63A4	1
	0,47	3000	884	ES50+RMS110	63A4	1,1
	0,58	2400	695	ES40+ES90	63A4	0,9
	0,78	1800	547	ES40+ES90	63A4	0,9

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P :Motor Gücü
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M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Tprque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.12	1,2	1200	399	ES40+ES75	63A4	0,9
	1,6	900	325	ES40+ES75	63A4	1,2
	1,9	750	241	ES30+ES63	63A4	0,9
	2,3	600	208	ES30+ES63	63A4	1,1
	2,8	500	171	ES30+ES63	63A4	1,3
	2,8	500	164	ES30+ES50	63A4	0,7
	3,5	400	142	ES30+ES50	63A4	0,9
	3,8	240	125	ES50+PC63	63B6	0,7
	3,8	240	131	PC63+ES63	63B6	1,3
	4,7	300	119	ES30+ES50	63A4	1,2
	5	180	112	PC63+ES63	63B6	1,8
	5	180	108	ES50+PC63	63B6	1
	5,8	240	88	ES50+PC63	63A4	0,8
	5,8	240	92	PC63+ES63	63A4	1,5
	6	150	101	PC63+ES63	63B6	2,1
	6	150	97	ES50+PC63	63B6	1,2
	7,5	120	84	ES50+PC63	63B6	1,5
	7,5	120	83	ES40PC63	63B6	0,8
	7,8	180	74	ES40+PC63	63A4	0,6
	7,8	180	75	ES50+PC63	63A4	1,1
	9,3	150	66	ES40+PC63	63A4	0,7
	9,3	150	68	ES50+PC63	63A4	1,3
	10	90	68	ES40+PC63	63B6	1,1
	10	90	70	ES50+PC63	63B6	2,1
	11,3	80	50	ES50	63B6	1,4
	11,7	120	57	ES40+PC63	63A4	0,9
	12	75	62	ES40+PC63	63B6	1
	12	75	63	ES50+PC63	63B6	1,7
	15	60	41	ES40	63B6	0,9
	15	60	42	ES50	63B6	1,7

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

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fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Tprque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP	fs
0,15	60	15	19	ES 40 63C6	2,4
	60	15	18	ES 30 63C6	1,1
	90	10	13	ES 30 63C6	1,6
0,18	0,58	2400	1113	ES50-RMS110 63B4	0,9
	0,78	1800	861	ES50-RMS110 63B4	1,3
	0,93	1500	735	ES40-ES90 63B4	0,8
	1,2	1200	629	ES40-ES90 63B4	1
	1,6	900	487	ES40-ES75 63B4	0,8
	1,9	750	435	ES40-ES75 63B4	0,9
	2,3	600	362	ES40-ES75 63B4	1,1
	2,8	500	257	ES30-ES63 63B4	0,8
	3,5	400	222	ES30-ES63 63B4	1
	3,8	240	197	PC71-ES63 71A6	0,9
	3,8	240	211	PC71-ES75 71A7	1,2
	5	180	168	PC71-ES63 71A6	1,2
	5	180	179	PC71-ES75 71A6	1,7
	5,8	240	133	PC63-ES50 63B4	0,6
	5,8	240	139	PC63-ES63 63B4	1
	6	150	152	PC71-ES63 71A6	1,4
	7,5	120	131	PC71-ES63 71A6	1,8
	7,5	120	126	PC71-ES50 71A6	1
	7,8	180	117	PC63-ES63 63B4	1,4
	7,8	180	113	PC63-ES50 63B4	0,7
	9,3	150	101	PC63-ES50 63B4	0,9
	9,3	150	103	PC63-ES63 63B4	1,7
	10	90	105	PC71-ES50 71A6	1,4
	10	90	107	PC71-ES63 71A6	2,4
	11,3	80	79	ES 63 71A6	1,6
	11,3	80	75	ES 50 71A6	0,9
	11,7	120	87	PC63-ES50 63B4	1,1

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
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P :Motor Power
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M2 :Output Torque
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P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0,18	11,7	120	85	PC63+ES40	63B4	0,6
	12	75	95	PC71-ES50	71A6	1,2
	12	75	97	PC71-ES63	71A6	2,2
	15	60	66	ES 63	71A6	2,1
	15	60	63	ES 50	71A6	1,1
	15,6	90	70	PC63+ES40	63B4	0,8
	15,6	90	71	PC63-ES50	63B4	1,5
	17,5	80	52	ES 50	63B4	1,2
	18	50	56	ES 50	71A6	1,4
	18,7	75	64	PC63+ES40	63B4	0,8
	18,7	75	64	PC63-ES50	63B4	1,4
	22,5	40	47	ES 40	71A6	1
	23,3	60	43	ES 50	63B4	1,6
	23,3	60	43	ES 40	63B4	0,8
	28	50	38	ES 40	63B4	1
	28	50	39	ES 50	63B4	1,9
	30	30	38	ES 40	71A6	1,3
	35	40	32	ES 40	63B4	1,3
	35	40	33	ES 50	63B4	2,3
	36	25	34	ES 40	71A6	1,3
	45	20	29	ES 40	71A6	1,5
	46,7	30	26	ES 40	63B4	1,7
	46,7	30	24	ES 30	63B4	0,8
	56	25	21	ES 30	63B4	1
	56	25	23	ES 40	63B4	1,7
	70	20	19	ES 40	63B4	2
	70	20	18	ES 30	63B4	1
	93,3	15	14	ES 30	63B4	1,3
	140	10	10	ES 30	63B4	1,8

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
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P :Motor Power
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M2 :Output Torque
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fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP	fs
0,22	3,5	400	271	ES30+ES63 63C4	0,8
	4,7	300	210	ES30+ES63 63C4	1,1
	7,8	180	143	PC63+ES63 63C4	1,1
	9,3	150	126	PC63+ES63 63C4	1,4
	11,7	120	106	PC63+ES50 63C4	0,9
	15,6	90	86	PC63+ES50 63C4	1,2
	17,5	80	64	ES 50 63C4	1
	18,7	75	78	PC63+ES50 63C4	1,2
	23,3	60	53	ES 50 63C4	1,3
	28	50	47	ES 50 63C4	1,5
	28	50	47	ES 40 63C4	0,8
	35	40	39	ES 40 63C4	1,1
	46,7	30	32	ES 40 63C4	1,4
	56	25	28	ES 40 63C4	1,4
	70	20	23	ES 40 63C4	1,7
	70	20	22	ES 30 63C4	0,8
	93,3	15	18	ES 40 63C4	2,2
	93,3	15	17	ES 30 63C4	1
	140	10	12	ES 30 63C4	1,5

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
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P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.25	140	1/10	13	ES 40	71 A4	2.7
	94	1/15	20	ES 40	71 A4	1.8
	90	1/10	21	ES 40	71 B6	1.9
	70	1/20	26	ES 40	71 A4	1.4
	70	1/20	26	ES 50	71 A4	2.6
	60	1/15	30	ES 40	71 B6	1.3
	56	1/25	31	ES 40	71 A4	1.1
	56	1/25	31	ES 50	71 A4	2.1
	46	1/30	35	ES 40	71 A4	1.2
	46	1/30	36	ES 50	71 A4	2.2
	45	1/20	39	ES 40	71 B6	1
	45	1/20	39	ES 50	71 B6	1.8
	36	1/25	47	ES 50	71 B6	1.4
	35	1/40	45	ES 50	71 A4	1.6
	30	1/30	53	ES 50	71 B6	1.6
	28	1/50	53	ES 50	71 A4	1.3
	28	1/50	55	ES 63	71 A4	2.3
	23	1/60	59	ES 50	71 A4	1
	23	1/60	62	ES 63	71 A4	2
	18	1/50	77	ES 50	71 B6	1
	18	1/50	80	ES 63	71 B6	1.7
	17.5	1/80	71	ES 50	71 A4	0.8
	17.5	1/80	77	ES 63	71 A4	1.5
	15	1/60	87	ES 50	71 B6	0.8
	15	1/60	91	ES 63	71 B6	1.4
	14	1/100	93	ES 75	71 A4	1.8
	11.2	1/80	109	ES 63	71 B6	1.1
	11.2	1/80	116	ES 75	71 B6	1.6
	9	1/100	132	ES 75	71 B6	1.3

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.25	18.7	1/75	91	ES63-PC71	71 A4	1.8
	15.6	1/90	100	ES63-PC71	71 A4	2.0
	11.7	1/120	125	ES63-PC71	71 A4	1.5
	9.3	1/150	143	ES63-PC71	71 A4	1.2
	7.8	1/180	163	ES63-PC71	71 A4	1.0
	5.8	1/240	192	ES63-PC71	71 A4	0.7
	4.7	1/300	215	ES63-PC71	71 A4	0.6
	12	1/75	135	ES63-PC71	71 B6	1.6
	10	1/90	148	ES63-PC71	71 B6	1.8
	7.5	1/120	181	ES63-PC71	71 B6	1.3
	6	1/150	211	ES63-PC71	71 B6	1.0
	9.3	1/150	151	ES75-PC71	71 A4	1.7
	7.8	1/180	172	ES75-PC71	71 A4	1.4
	5.8	1/240	201	ES75-PC71	71 A4	1.1
	4.7	1/300	230	ES75-PC71	71 A4	0.9
	12	1/75	139	ES75-PC71	71 B6	2.4
	10	1/90	155	ES75-PC71	71 B6	2.5
	7.5	1/120	191	ES75-PC71	71 B6	1.9
	6	1/150	219	ES75-PC71	71 B6	1.5
	5	1/180	248	ES75-PC71	71 B6	1.2
	5	1/180	263	ES90-PC71	71 B6	1.9
	3.8	1/240	318	ES90-PC71	71 B6	1.4
	3	1/300	358	ES90-PC71	71 B6	1.1
	6	1/225	218	ES40-ES63	71 A4	1
	4.6	1/300	280	ES40-ES63	71 A4	1
	4	1/225	328	ES40-ES63	71 B6	1
	3.5	1/400	335	ES40-ES75	71 A4	1
	3	1/300	375	ES40-ES75	71 B6	0.9
	2.8	1/500	384	ES40-ES75	71 A4	0.7
	2.3	1/600	512	ES40-ES90	71 A4	1.1
	1.9	1/750	597	ES40-ES90	71 A4	0.8

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.25	1.5	1/600	666	ES50-RMS110	71 B6	0.7
	1.4	1/1000	942	ES50-RMS110	71 A4	1
	1.1	1/1250	942	ES50-RMS110	71 A4	1
	0.93	1/1500	1063	ES50-RMS110	71 A4	0.9
	0.75	1/1800	1194	ES50-RMS110	71 A4	0.8
	0.58	1/2400	1623	ES63-RMS130	71 A4	0.9
	0.35	1/4000	2045	ES63-RMS130	71 A4	0.5
	0.28	1/5000	2429	ES63-RMS130	71 A4	0.4
0.37	140	1/10	20	ES40	71 B4	1.8
	140	1/10	21	ES50	71 B4	3.2
	112	1/25	24	ES50	71 A2	1.8
	94	1/15	30	ES50	71 B4	2.2
	90	1/10	32	ES50	80 A6	2.4
	70	1/20	39	ES50	71 B4	1.6
	60	1/15	46	ES50	80 A6	1.6
	56	1/25	48	ES50	71 B4	1.4
	46	1/30	53	ES50	71 B4	1.4
	45	1/20	60	ES63	80 A6	2.5
	36	1/25	70	ES50	80 A6	1
	36	1/25	73	ES63	80 A6	1.8
	35	1/40	67	ES50	71 B4	1
	35	1/40	70	ES63	71 B4	2
	30	1/30	81	ES63	80 A6	2
	28	1/50	82	ES63	71 B4	1.5
	23	1/60	93	ES63	71 B4	1.4
	22	1/40	101	ES63	80 A6	1.5
	18	1/50	120	ES63	80 A6	1.1
	18	1/50	126	ES75	80 A6	1.7
	17.5	1/80	113	ES63	71 B4	1
	17.5	1/80	120	ES75	71 B4	1.6
	15	1/60	143	ES75	80 A6	1.4

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.55	90	1/10	48	ES 50	80 B6	1.6
	70	1/20	58	ES 50	80 A4	1.1
	70	1/20	60	ES 63	80 A4	2.1
	60	1/15	68	ES 50	80 B6	1.1
	60	1/15	70	ES 63	80 B6	2.1
	56	1/25	72	ES 63	80 A4	1.7
	46	1/30	82	ES 63	80 A4	1.8
	45	1/20	89	ES 63	80 B6	1.5
	36	1/25	108	ES 63	80 B6	1.2
	35	1/40	104	ES 63	80 A4	1.3
	35	1/40	107	ES 75	80 A4	1.9
	30	1/30	122	ES 63	80 B6	1.3
	30	1/30	127	ES 75	80 B6	1.9
	28	1/50	123	ES 63	80 A4	1
	28	1/50	128	ES 75	80 A4	1.5
	23	1/60	145	ES 75	80 A4	1.3
	22	1/40	158	ES 75	80 B6	1.4
	18	1/50	186	ES 75	80 B6	1.1
	18	1/50	197	ES 90	80 B6	1.9
	17.5	1/80	179	ES 75	80 A4	1
	17.5	1/80	188	ES 90	80 A4	1.4
	15	1/60	213	ES 75	80 B6	0.9
	15	1/60	223	ES 90	80 B6	1.6
	14	1/100	220	ES 90	80 A4	1.1
	14	1/100	235	RMS 110	80 A4	1.9
	11.2	1/80	293	RMS 110	80 B6	1.7
	9	1/100	337	RMS 110	80 B6	1.4
	18.7	1/75	200	PC71-ES63	80 M4	0.8
	15.6	1/90	219	PC71-ES63	80 M4	0.9
	18.7	1/75	205	PC71-ES75	80 M4	1.2
	15.6	1/90	230	PC71-ES75	80 M4	1.3

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
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M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.55	11.7	1/120	284	ES75-PC71	80 M4	1
	6	1/220	460	ES40-RMS90	80 A4	1.1
	4.6	1/300	638	ES50-RMS110	80 A4	1.6
	4	1/225	697	ES50-RMS110	80 B6	1
	3.5	1/400	825	ES50-RMS110	80 A4	1.1
	3	1/300	872	ES50-RMS110	80 B6	0.9
	2.8	1/500	983	ES50-RMS110	80 A4	0.9
	2.8	1/500	995	ES63-RMS130	80 A4	1.5
	2.3	1/600	1180	ES50-RMS110	80 A4	0.8
	1.9	1/750	1410	ES50-RMS110	80 A4	0.7
	1.9	1/750	1470	ES63-RMS130	80 A4	1.1
	1.5	1/600	1925	ES63-RMS130	80 B6	1
	1.4	1/1000	2063	ES63-RMS130	80 A4	0.9
	1.1	1/1250	2626	ES75-RMS160	80 A4	0.9
	0.93	1/1500	3106	ES75-RMS160	80 A4	0.9
	0.75	1/1800	3851	ES75-RMS160	80 A4	0.9
0.75	140	1/10	43	ES 50	80 B4	1.6
	140	1/10	45	ES 63	80 B4	2
	112	1/25	51	ES 63	80 A2	1.7
	94	1/15	62	ES 50	80 B4	1.1
	94	1/15	63	ES 63	80 B4	2.1
	90	1/10	67	ES 63	90 S6	2.2
	70	1/20	82	ES 63	80 B4	1.5
	60	1/15	96	ES 63	90 S6	1.5
	60	1/15	97	ES 75	90 S6	2.3
	56	1/25	99	ES 63	80 B4	1.2
	46	1/30	116	ES 75	80 B4	1.9
	45	1/20	125	ES 75	90 S6	1.8
	36	1/25	152	ES 75	90 S6	1.3
	35	1/40	142	ES 63	80 B4	0.9
	35	1/40	146	ES 75	80 B4	1.4

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
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P :Motor Power
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fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.75	30	1/30	173	ES 75	90 S6	1.4
	28	1/50	176	ES 75	80 B4	1.1
	28	1/50	183	ES 90	80 B4	1.7
	23	1/60	199	ES 75	80 B4	0.9
	23	1/60	211	ES 90	80 B4	1.4
	18	1/50	270	ES 90	90 S6	1.3
	17.5	1/80	257	ES 90	80 B4	1
	17.5	1/80	273	RMS 110	80 B4	1.8
	15	1/60	305	ES 90	90 S6	1
	15	1/60	324	RMS 110	90 S6	1.8
	14	1/100	321	RMS 110	80 B4	1.3
	11.3	1/80	400	RMS 110	90 S6	1.2
	9	1/100	461	RMS 110	90 S6	1
	12.4	1/72	390	RMS110-PC90	90 S6	2.7
	9.3	1/96	500	RMS110-PC90	90 S6	2
	7.4	1/121	600	RMS110-PC90	90 S6	1.6
	6.2	1/145	680	RMS110-PC90	90 S6	1.1
	4.6	1/193	820	RMS110-PC90	90 S6	0.9
	12.4	1/72	390	RMS130-PC90	90 S6	4.4
	9.3	1/96	500	RMS130-PC90	90 S6	3.1
	7.4	1/121	600	RMS130-PC90	90 S6	2.5
	6.2	1/145	680	RMS130-PC90	90 S6	2
	4.6	1/193	820	RMS130-PC90	90 S6	1.5
	3.7	1/242	940	RMS130-PC90	90 S6	1.1
	6	1/225	779	ES50-RMS110	80 B4	1
	4.6	1/300	870	ES50-RMS110	80 B4	1.2
	4	1/225	954	ES50-RMS110	90 S6	1
	3.5	1/400	1125	ES50-RMS110	80 B4	0.8
	3	1/300	1233	ES63-RMS130	90 S6	1
	2.8	1/500	980	ES50-RMS110	80 B4	0.9
	2.3	1/600	1180	ES50-RMS110	80 B4	0.9

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
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P :Motor Power
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fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
0.75	1.9	750	2004	ES63-RMS130	80 B4	0.8
	1.5	600	2365	ES63-RMS130	90 S6	1
	1.4	1000	2411	ES75-RMS160	80 A4	0.9
	1.1	1250	2819	ES75-RMS160	80 A4	0.9
	0.93	1500	3412	ES75-RMS160	80 A4	0.8
1.1	140	1/10	64	ES 63	90 S4	1.9
	94	1/15	90	ES 63	90 S4	1.4
	94	1/15	95	ES 75	90 S4	2
	90	1/10	98	ES 63	90 L6	1.4
	90	1/10	99	ES 75	90 L6	2.2
	70	1/20	121	ES 63	90 S4	1
	70	1/20	122	ES 75	90 S4	1.6
	60	1/15	141	ES 63	90 L6	1
	60	1/15	143	ES 75	90 L6	1.5
	56	1/25	145	ES 75	90 S4	1.2
	46	1/30	170	ES 75	90 S4	1.2
	45	1/20	183	ES 75	90 L6	1.2
	36	1/25	224	ES 75	90 L6	0.9
	36	1/25	230	ES 90	90 L6	1.5
	35	1/40	215	ES 75	90 S4	0.9
	35	1/40	224	ES 90	90 S4	1.5
	30	1/30	255	ES 75	90 L6	0.9
	30	1/30	262	ES 90	90 L6	1.7
	28	1/50	269	ES 90	90 S4	1.2
	28	1/50	280	RMS 110	90 S4	2
	23	1/60	310	ES 90	90 S4	0.9
	23	1/60	323	RMS 110	90 S4	1.6
	22.5	1/40	344	RMS 110	90 L6	1.9
	18	1/50	413	RMS 110	90 L6	1.5
	17.5	1/80	401	RMS 110	90 S4	1.1
	17.5	1/80	408	RMS 130	90 S4	2

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
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P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
1.1	15	1/60	475	RMS 110	90 L6	1.2
	14	1/100	472	RMS 110	90 S4	0.9
	14	1/100	479	RMS 130	90 S4	1.4
	11.3	1/80	597	RMS 130	90 L6	1.3
	9	1/100	688	RMS 130	90 L6	1
	12.4	1/72	575	RMS110-PC90	90 L6	1.8
	9.3	1/96	740	RMS110-PC90	90 L6	1.3
	7.4	1/121	880	RMS110-PC90	90 L6	1.1
	6.2	1/145	1000	RMS110-PC90	90 L6	0.9
	19.3	1/72	390	RMS110-PC90	90 S4	2.1
	14.5	1/96.8	500	RMS110-PC90	90 S4	1.5
	11.6	1/121	590	RMS110-PC90	90 S4	1.3
	9.6	1/145	685	RMS110-PC90	90 S4	1
	7.2	1/193	825	RMS110-PC90	90 S4	0.7
	12.4	1/72	580	RMS130-PC90	90 L6	2.8
	9.3	1/96	740	RMS130-PC90	90 L6	2.1
	7.4	1/121	880	RMS130-PC90	90 L6	1.7
	6.2	1/145	1000	RMS130-PC90	90 L6	1.4
	4.6	1/193	1210	RMS130-PC90	90 L6	1
	19.3	1/72	390	RMS130-PC90	90 S4	3.4
	14.5	1/96	500	RMS130-PC90	90 S4	2.5
	11.6	1/121	600	RMS130-PC90	90 S4	1.9
	9.6	1/145	685	RMS130-PC90	90 S4	1.6
	7.2	1/193	843	RMS130-PC90	90 S4	1.1
	5.8	1/242	960	RMS130-PC90	90 S4	0.8
	6	1/225	911	ES63-RMS130	90 S4	1
	4.6	1/300	1311	ES63-RMS130	90 S4	1.2
	4	1/225	1489	ES63-RMS130	90 L6	1
	3.5	1/400	1670	ES75-RMS160	90 S4	0.9
	2.8	1/500	1990	ES75-RMS160	90 S4	0.7
	2.3	1/600	2512	ES75-RMS160	90 S4	1

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
1.1	1.9	1/750	3040	ES75-RMS160	90 S4	1
	1.5	1/600	3851	ES75-RMS160	90 L6	1
	1.4	1/1000	4126	ES75-RMS160	90 S4	0.9
	1.1	1/1250	5200	ES75-RMS160	90 S4	0.8
1.5	140	1/10	88	ES 63	90 L4	1.4
	140	1/10	89	ES 75	90 L4	2.1
	94	1/15	126	ES 63	90 L4	1
	94	1/15	129	ES 75	90 L4	1.4
	90	1/10	136	ES 75	100 L6	1.6
	90	1/10	137	ES 90	100 L6	2.6
	70	1/20	167	ES 75	90 L4	1.2
	70	1/20	171	ES 90	90 L4	2
	60	1/15	195	ES 75	100 L6	1.1
	60	1/15	200	ES 90	100 L6	2
	56	1/25	204	ES 75	90 L4	0.9
	56	1/25	209	ES 90	90 L4	1.5
	46	1/30	232	ES 75	90 L4	0.9
	46	1/30	238	ES 90	90 L4	1.6
	45	1/20	257	ES 90	100 L6	1.4
	45	1/20	263	RMS 110	100 L6	2.3
	36	1/25	313	ES 90	100 L6	1.1
	36	1/25	321	RMS 110	100 L6	1.9
	35	1/40	308	ES 90	90 L4	1.1
	35	1/40	318	RMS 110	90 L4	1.8
	46	1/30	320	ES 90	90 L4	1.6
	30	1/30	357	ES 90	100 L6	1.2
	30	1/30	362	RMS 110	100 L6	1.9
	28	1/50	383	RMS 110	90 L4	1.5
	23	1/60	441	RMS 110	90 L4	1.2
	22.5	1/40	470	RMS 110	100 L6	1.4
	18	1/50	564	RMS 110	100 L6	20.3

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
1.5	18	1/50	572	RMS 130	100 L6	1.7
	17.5	1/80	556	RMS 130	90 L4	1.4
	15	1/60	658	RMS 130	100 L6	1.3
	14	1/100	654	RMS 130	90 L4	1
	19.3	1/72	535	RMS110-PC90	90 L4	1.6
	14.5	1/96	690	RMS110-PC90	90 L4	1.1
	11.6	1/121	815	RMS110-PC90	90 L4	0.9
	9.6	1/145	935	RMS110-PC90	90 L4	0.8
	19.3	1/72	540	RMS130-PC90	90 L4	2.6
	14.5	1/96	690	RMS130-PC90	90 L4	1.8
	11.6	1/121	815	RMS130-PC90	90 L4	1.4
	9.6	1/145	935	RMS130-PC90	90 L4	1.1
	7.2	1/193	1147	RMS130-PC90	90 L4	0.8
	6	1/225	1165	ES63-RMS130	90 L4	0.8
	4.6	1/300	1788	ES63-RMS130	90 L4	0.8
	4	1/225	1968	ES63-RMS130	100 LA6	0.9
	3.5	1/400	2250	ES75-RMS160	90 L4	1
	3	1/300	2625	ES75-RMS160	100 LA6	1
	2.8	1/500	2813	ES75-RMS160	90 L4	0.9
	2.3	1/600	3425	ES75-RMS160	90 L4	0.9
	1.9	1/750	4146	ES75-RMS160	90 L4	0.8
2.2	140	1/10	131	ES 75	100 LA4	1.4
	140	1/10	133	ES 90	100 LA4	2.2
	94	1/15	193	ES 90	100 LA4	1.8
	90	1/10	202	ES 90	112 M6	1.7
	90	1/10	204	RMS 110	112 M6	2.9
	70	1/20	251	ES 90	100 LA4	1.3
	70	1/20	254	RMS 110	100 LA4	2.1
	60	1/15	293	ES 90	112 M6	1.3
	60	1/15	297	RMS 110	112 M6	2.1
	56	1/25	307	ES 90	100 LA4	1

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
2.2	56	1/25	314	RMS 110	100 LA4	1.8
	46	1/30	350	ES 90	100 LA4	1.1
	46	1/30	355	RMS 110	100 LA4	1.7
	45	1/20	377	ES 90	112 M6	0.9
	45	1/20	387	RMS 110	112 M6	1.5
	36	1/25	472	RMS 110	112 M6	1.3
	36	1/25	479	RMS 130	112 M6	2.1
	35	1/40	467	RMS 110	100 LA4	1.2
	35	1/40	467	RMS 130	100 LA4	2.1
	30	1/30	531	RMS 110	112 M6	1.3
	30	1/30	545	RMS 130	112 M6	2
	28	1/50	562	RMS 110	100 LA4	1
	28	1/50	562	RMS 130	100 LA4	1.6
	23	1/60	647	RMS 130	100 LA4	1.4
	18	1/50	839	RMS 130	112 M6	1.1
	17.5	1/80	815	RMS 160	100 LA4	0.9
	15	1/60	965	RMS 160	112 M6	0.9
	38.6	1/72	395	RMS110-PC90	90 L2	1.7
	28.9	1/96	515	RMS110-PC90	90 L2	1.2
	23.1	1/121	615	RMS110-PC90	90 L2	1
	38.6	1/72	400	RMS130-PC90	90 L2	2.8
	28.9	1/96	540	RMS130-PC90	90 L2	1.9
	23.1	1/121	653	RMS130-PC90	90 L2	1.5
	19.3	1/145	751	RMS130-PC90	90 L2	1.1
	6	1/225	1925	ES63-RMS130	90 LA4	1
	4.6	1/300	2512	ES63-RMS130	90 LA4	0.9
	4	1/225	2888	ES75-RMS160	112 M6	1
	3	1/300	3851	ES75-RMS160	112 M6	0.9
	2.3	1/600	5024	ES75-RMS160	90 LA4	0.9
3	140	1/10	179	ES75	100 LB4	1
	140	1/10	181	ES 90	100 LB4	1.6

SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

P KW	n2 d/dak	İ	M2 Nm	TİP		fs
3	94	1/15	263	ES 90	100 LB4	1.3
	94	1/15	263	RMS 110	100 LB4	2.1
	90	1/10	279	RMS 110	132 S6	2.1
	70	1/20	347	RMS 110	100 LB4	1.5
	60	1/15	405	RMS 110	132 S6	1.5
	60	1/15	405	RMS 130	132 S6	2.5
	56	1/25	429	RMS 110	100 LB4	1.3
	56	1/25	429	RMS 130	100 LB4	2.1
	46	1/30	484	RMS 110	100 LB4	1.2
	46	1/30	490	RMS 130	100 LB4	2
	45	1/20	527	RMS 110	132 S6	1.1
	45	1/20	534	RMS 130	132 S6	1.8
	36	1/25	652	RMS 130	132 S6	1.5
	35	1/40	637	RMS 110	100 LB4	0.9
	35	1/40	637	RMS 130	100 LB4	1.5
	30	1/30	744	RMS 130	132 S6	1.5
	28	1/50	766	RMS 130	100 LB4	1.2
	23	1/60	883	RMS 130	100 LB4	0.9
	22.5	1/40	954	RMS 130	132 S6	1.1
	17.5	1/80	1112	RMS 130	100 LB4	0.7
4	140	1/10	242	ES 90	112 M4	1.2
	140	1/10	242	RMS 110	112 M4	2
	94	1/15	351	RMS 110	112 M4	1.5
	90	1/10	373	RMS 110	132 MA6	1.6
	70	1/20	463	RMS 110	112 M4	1.1
	60	1/15	540	RMS 110	132 MA6	1.1
	60	1/15	540	RMS 130	132 MA6	1.9
	56	1/25	572	RMS 110	112 M4	0.9
	56	1/25	572	RMS 130	112 M4	1.5

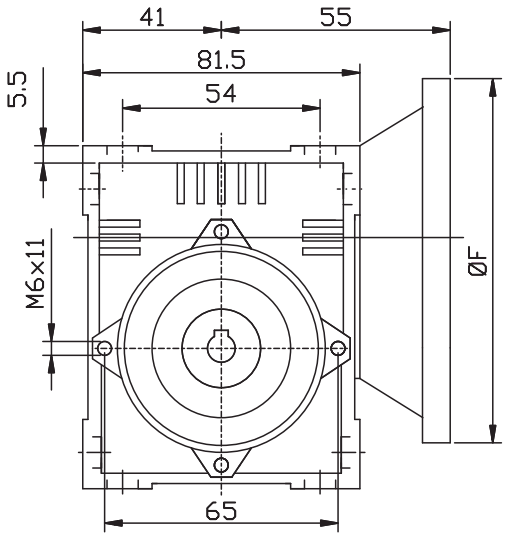
SALYANGOZ TİPİ REDÜKTÖR SEÇİM TABLOSU

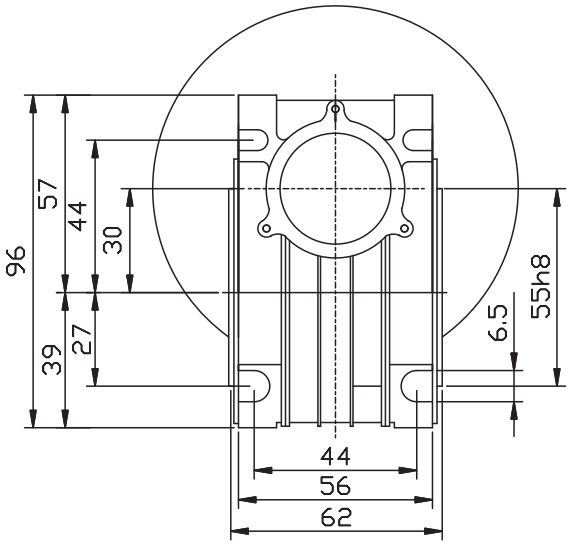
P :Motor Gücü
n2 :Çıkış Hızı
M2 :Çıkış Torku
İ :Redüksiyon Oranı
fs :Servis faktörü

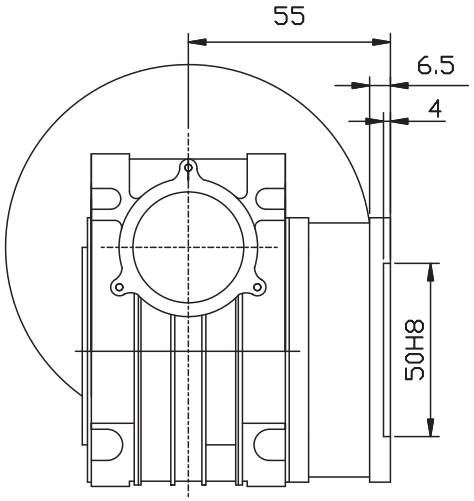
P :Motor Power
n2 :Output Speed
M2 :Output Torque
İ :Ratio of the gearbox
fs :Operating factor

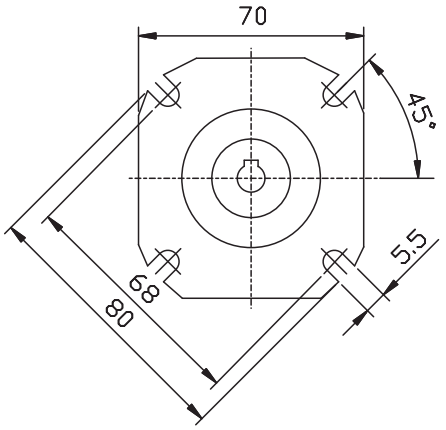
P KW	n2 d/dak	İ	M2 Nm	TİP		fs
4	46	1/30	646	RMS 110	112 M4	0.9
	46	1/30	654	RMS 130	112 M4	1.5
	45	1/20	712	RMS 130	132 M6	1.4
	36	1/25	869	RMS 130	132 MA6	1.1
	35	1/40	850	RMS 130	112 M4	1.1
	28	1/50	1022	RMS 130	112 M4	0.9
	23	1/60	1178	RMS 130	112 M4	0.7
5.5	140	1/10	333	RMS 110	132 S4	1.5
	94	1/15	483	RMS 110	132 S4	1.1
	94	1/15	489	RMS 130	132 S4	1.8
	70	1/20	644	RMS 130	132 S4	1.3
	60	1/15	743	RMS 130	132 MB6	1.3
	56	1/25	787	RMS 130	132 S4	1.1
	46	1/30	899	RMS 130	132 S4	1.1
	45	1/20	979	RMS 130	132 MB6	1
	35	1/40	1170	RMS 160	132 M4	1.2
7.5	140	1/10	454	RMS 110	132 M4	1
	94	1/15	659	RMS 110	132 M4	0.8
	94	1/15	667	RMS 130	132 M4	1.3
	70	1/20	869	RMS 130	132 M4	0.9
	56	1/25	1073	RMS 130	132 M4	0.8
	46	1/30	1227	RMS 160	132 M4	1.3
	35	1/40	1596	RMS 160	132 M4	1.3
11	94	1/15	818	RMS 160	132 L4	1.2
	70	1/20	1078	RMS 160	132 L4	1.3
	56	1/25	1317	RMS 160	132 L4	1.3
	46	1/30	1598	RMS 160	132 L4	1.3

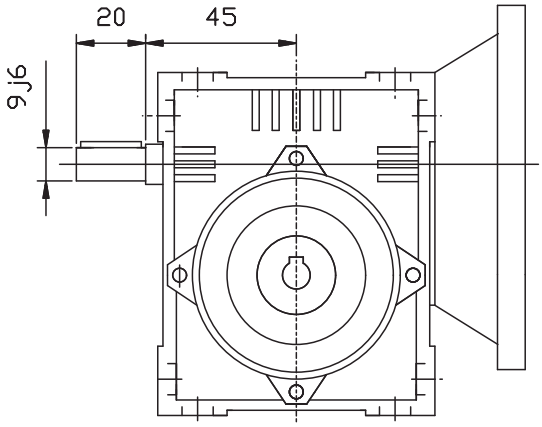
ES30

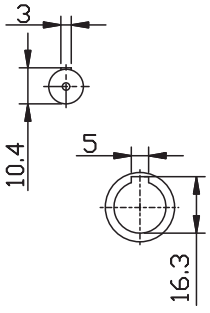


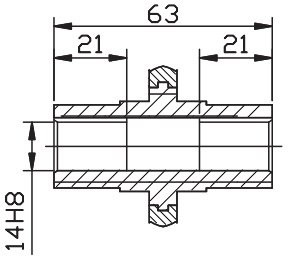




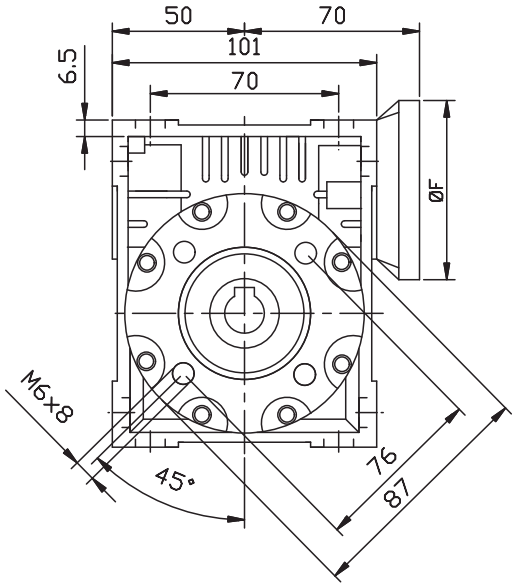


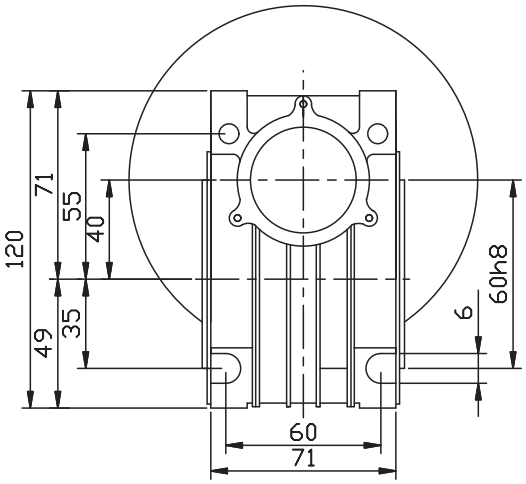


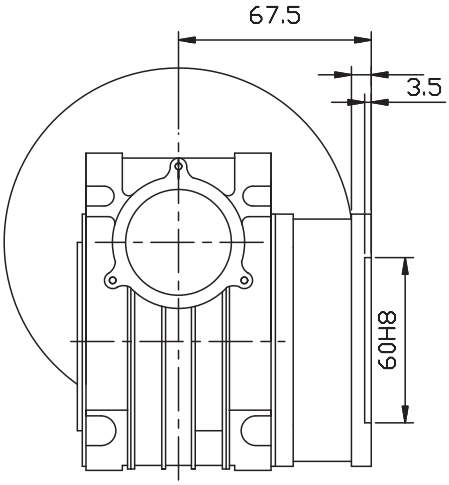


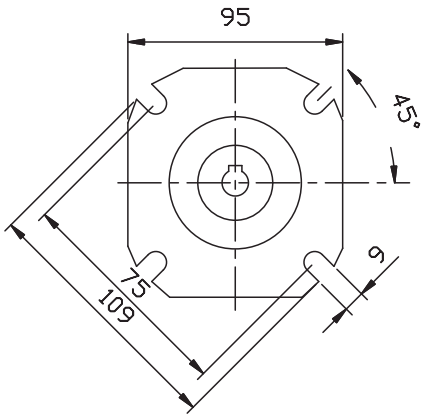


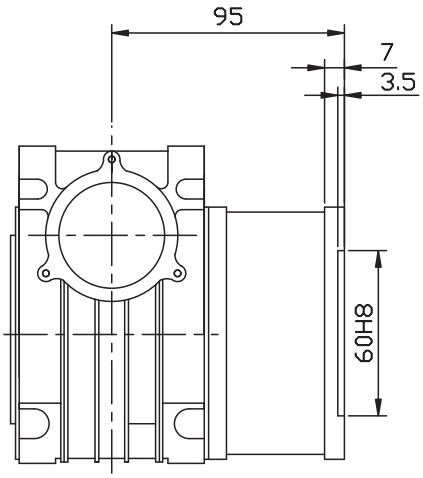
ES40

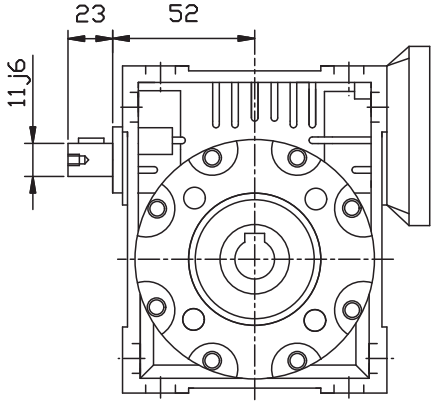


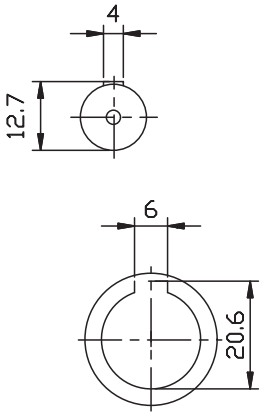


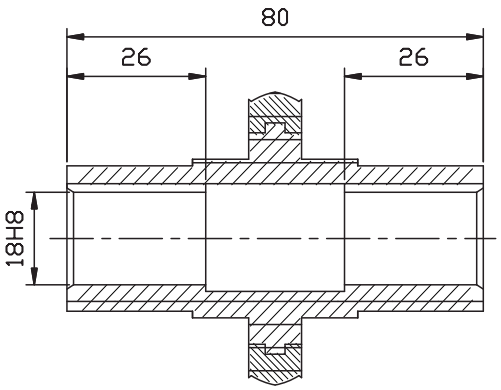












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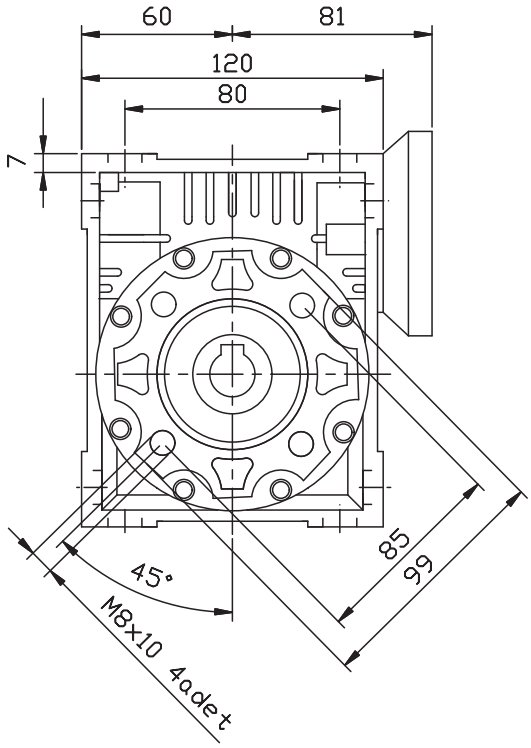
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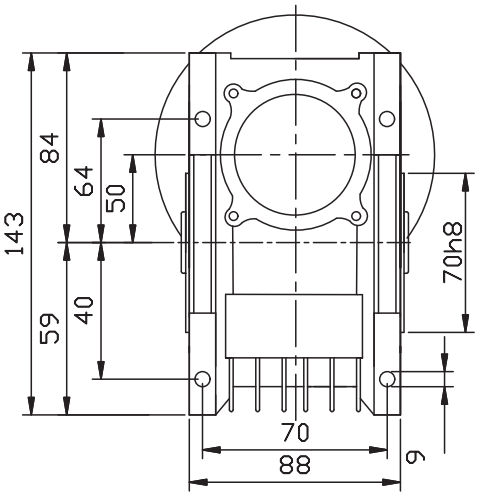
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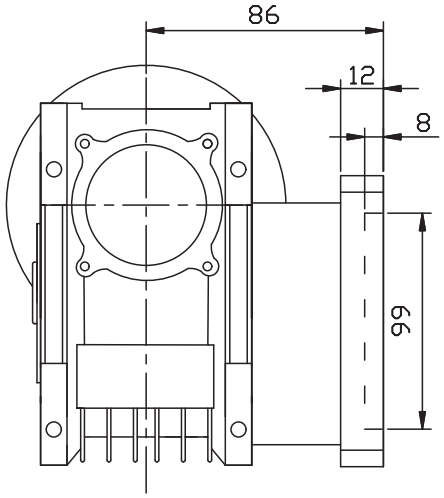
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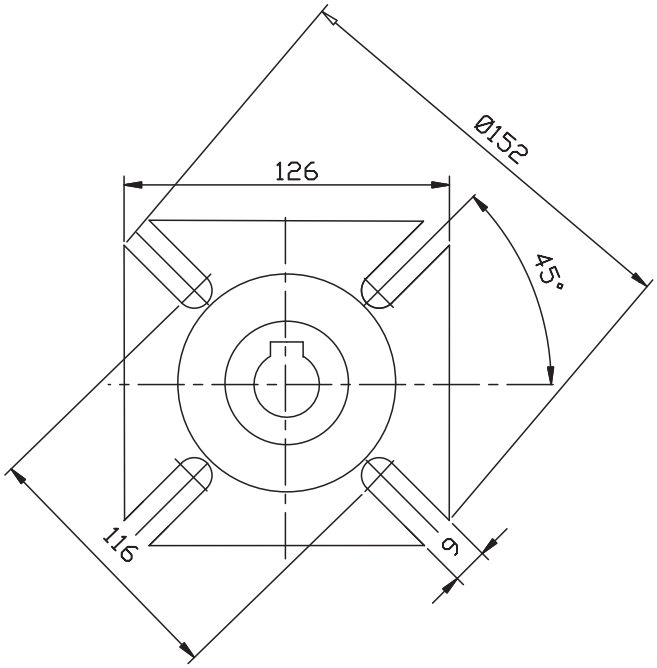
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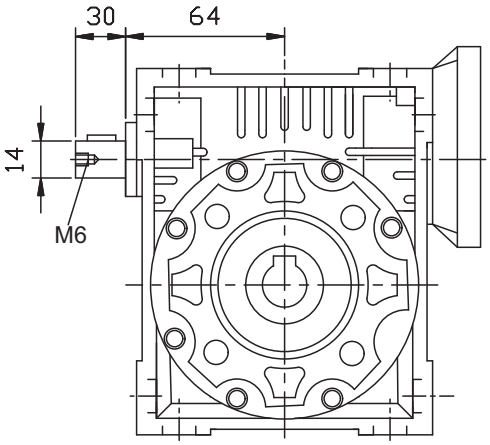
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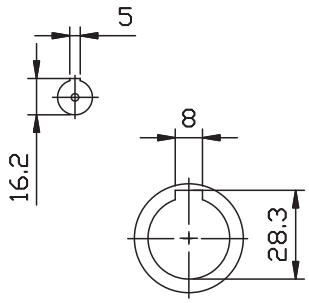
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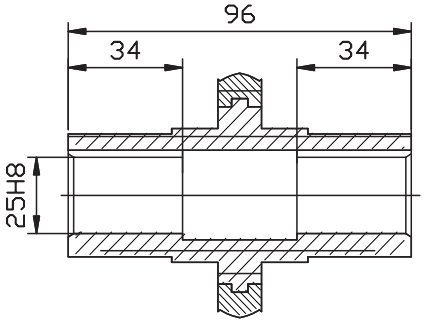
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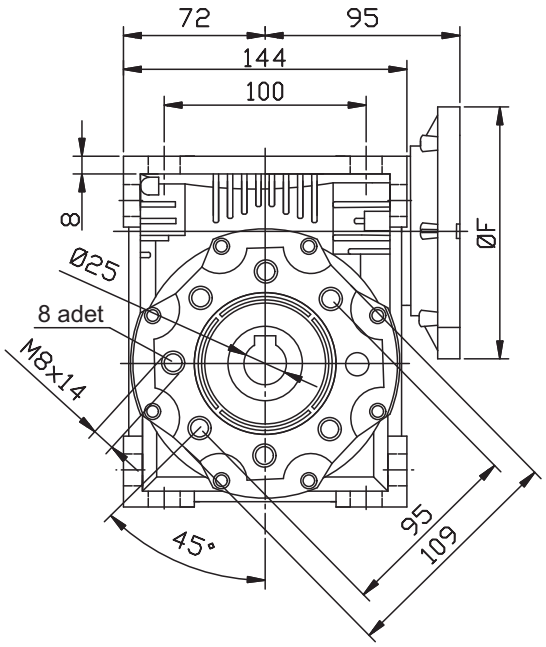
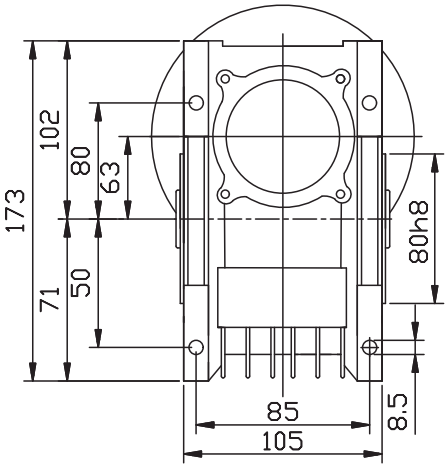
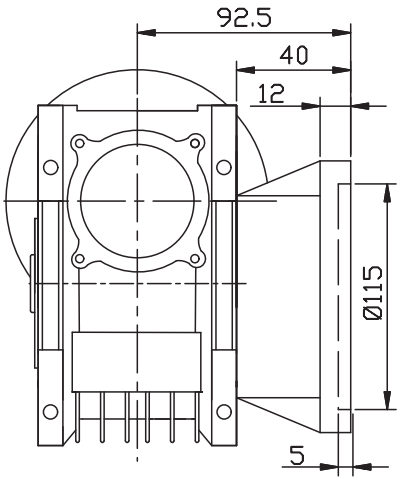
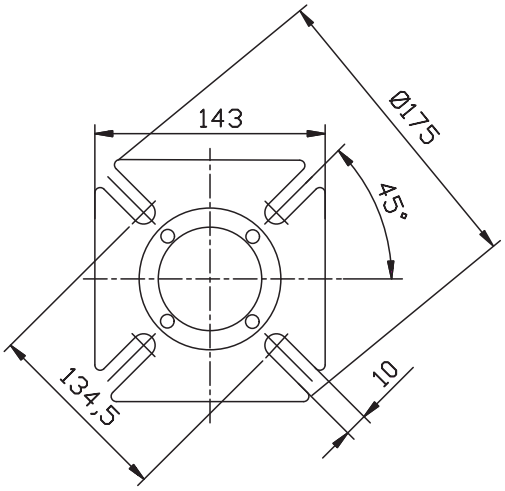
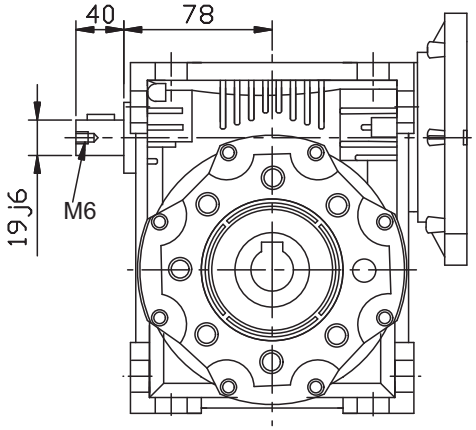
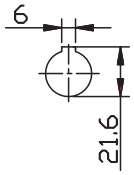


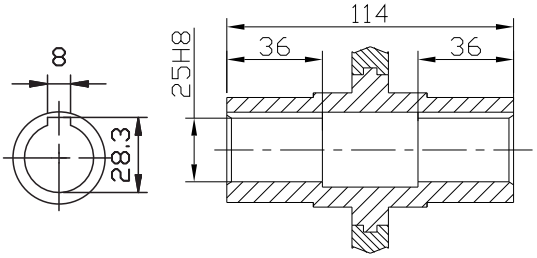


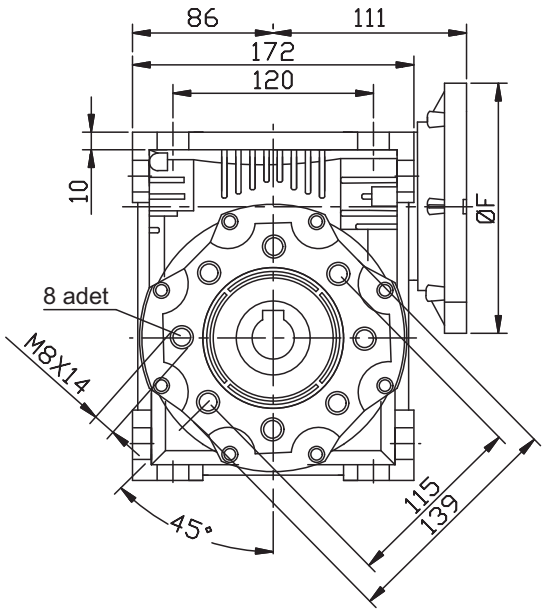


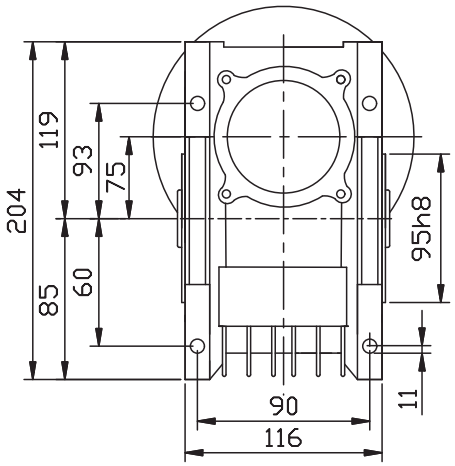


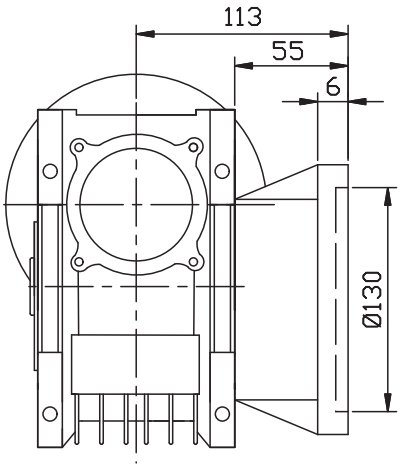


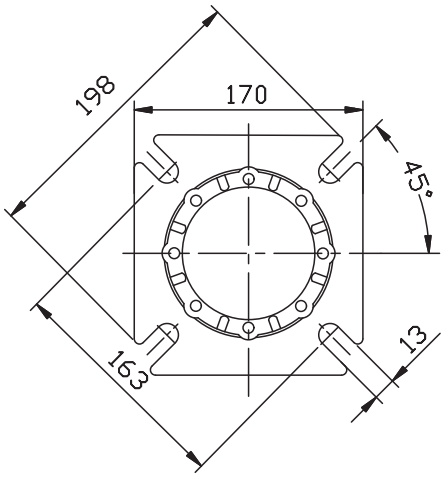


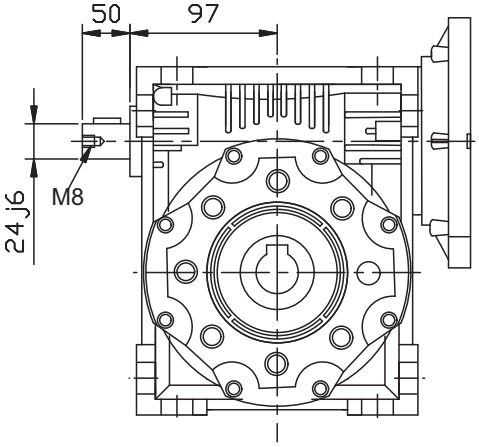


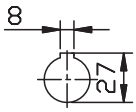


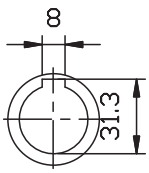


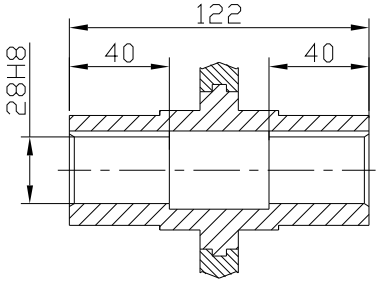


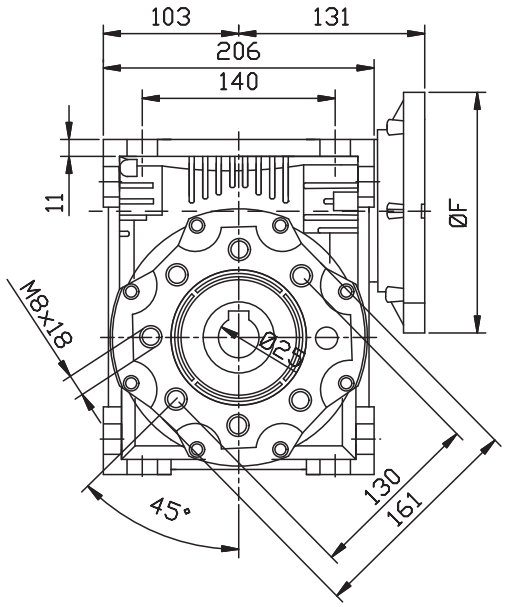


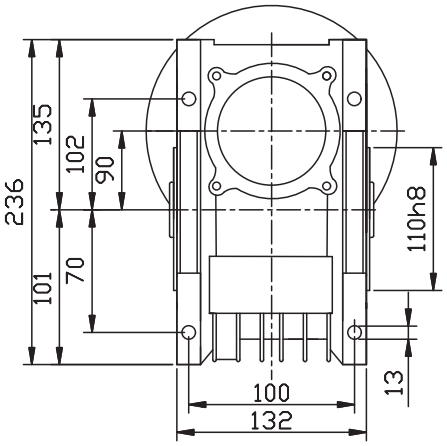


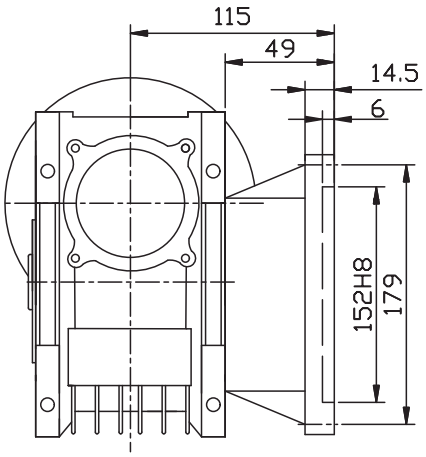


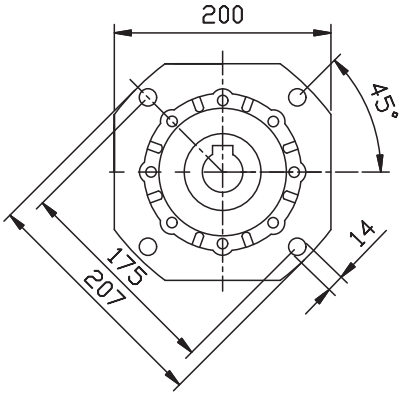


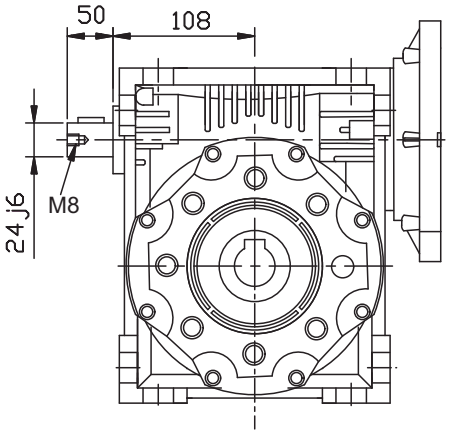


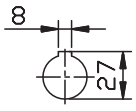

103
131
206
140
11
ØF
M8x18
Ø2
45°
130
161

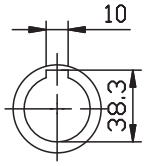

236
135
102
90
101
70
110h8
100
132
13

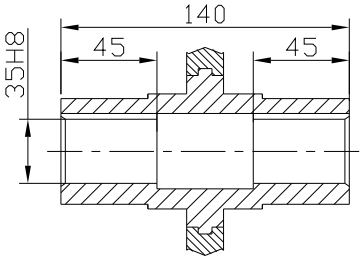

115
49
14.5
6
152H8
179

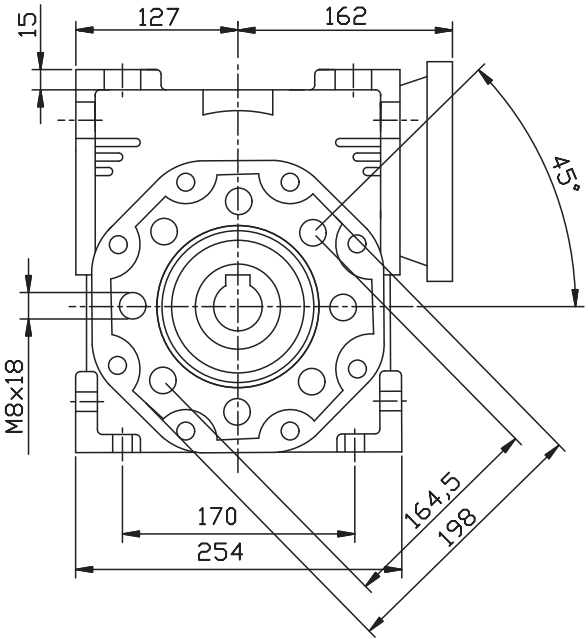

200
45°
175
207
14

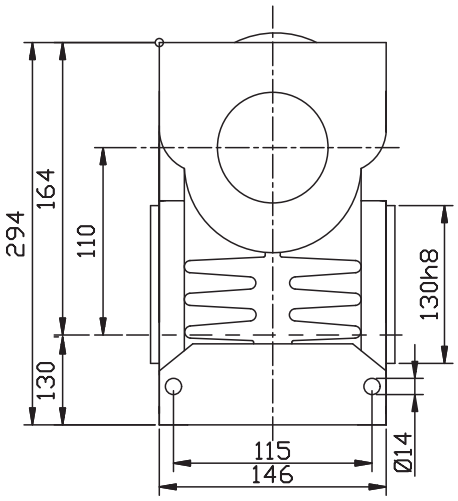

50
108
24 j6
M8

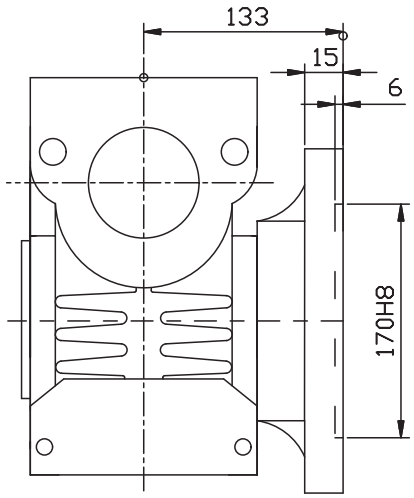

8
27

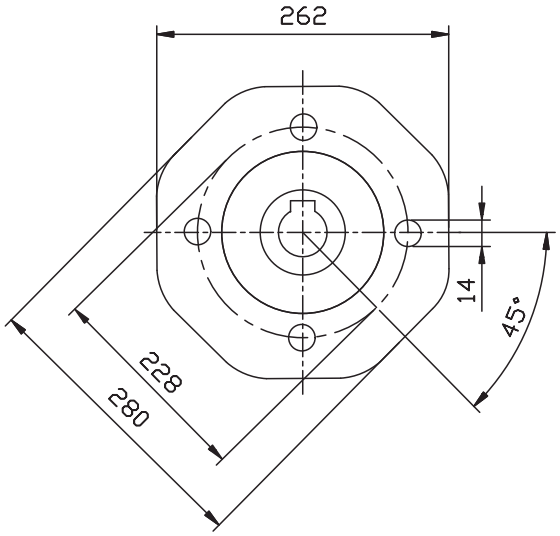

10
38.3

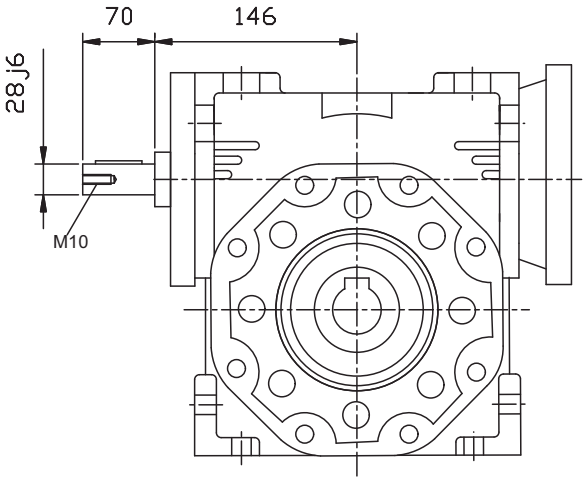

140
45
45
35H8

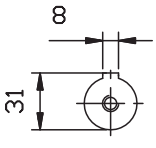

15
127
162
45°
M8x18
170
254
164,5
198

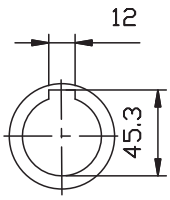

294
164
110
130
130h8
115
146
Ø14

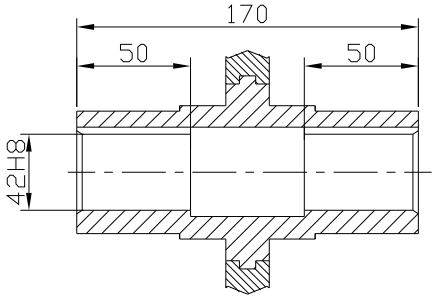

133
15
6
170H8

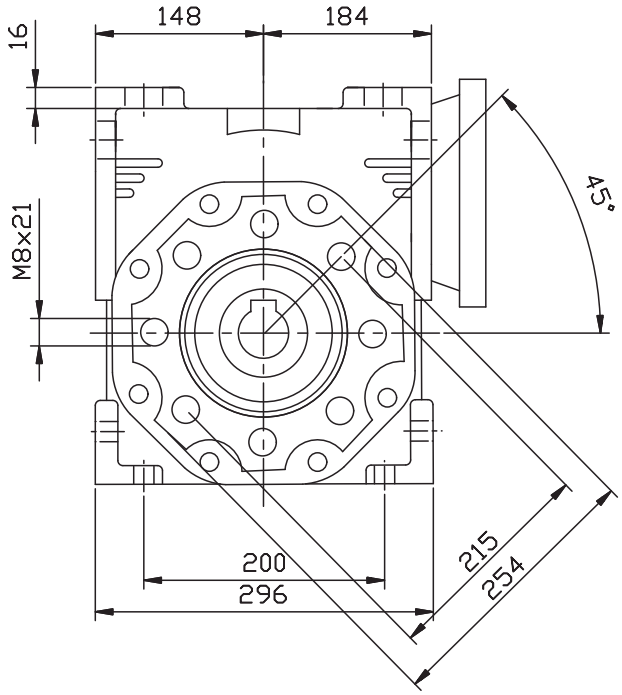

262
14
45°
228
280

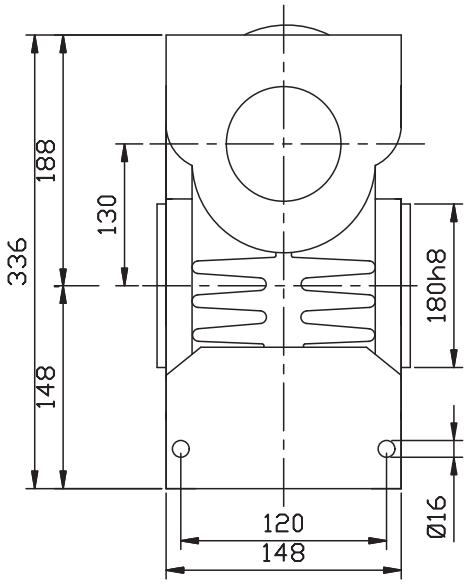

70
146
28j6
M10

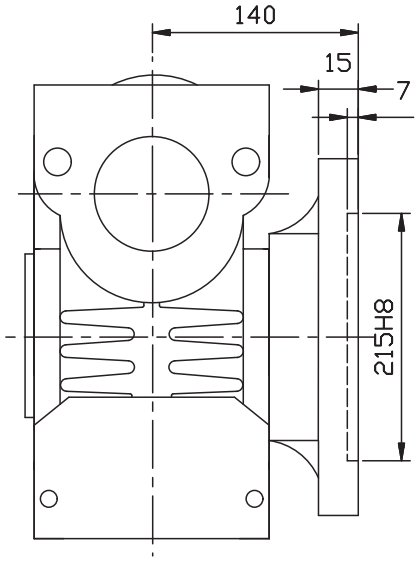

8
31

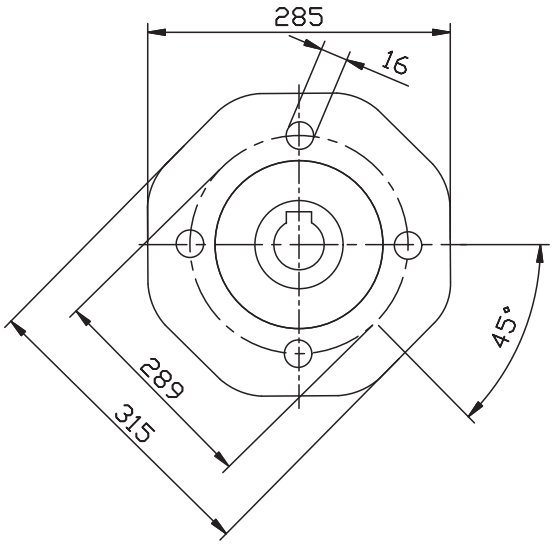

12
45.3

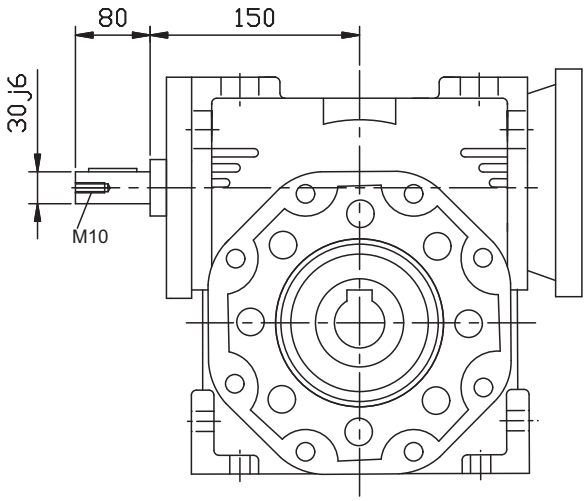

170
50
50
42H8

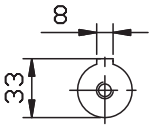


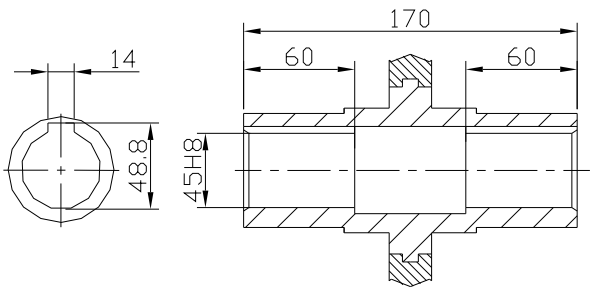




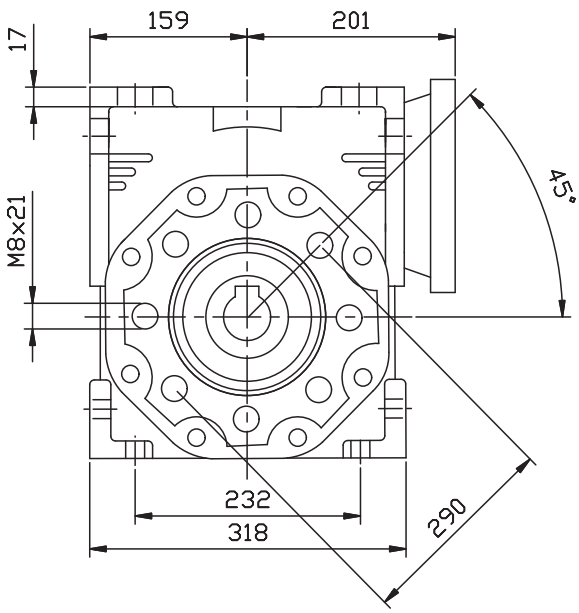


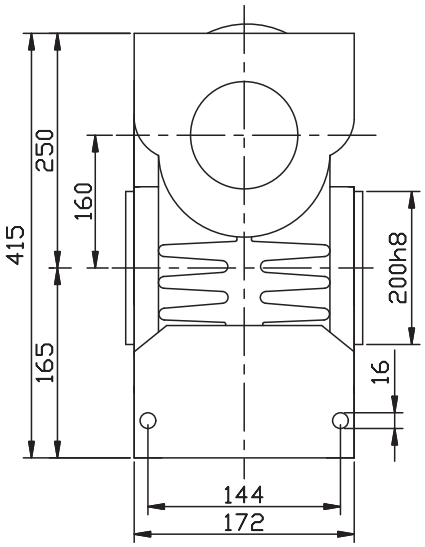


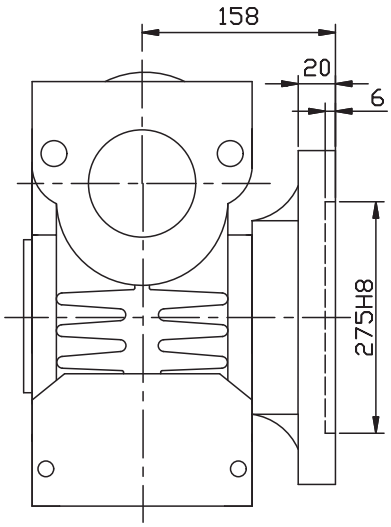


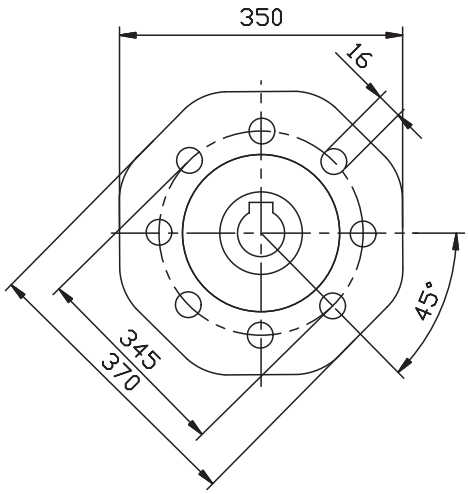


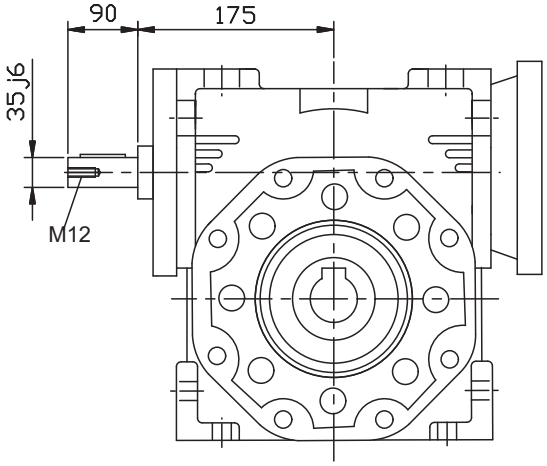
RMS160

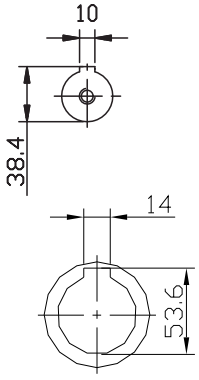


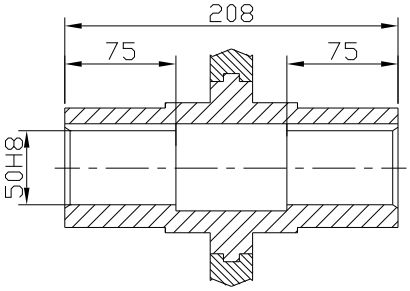


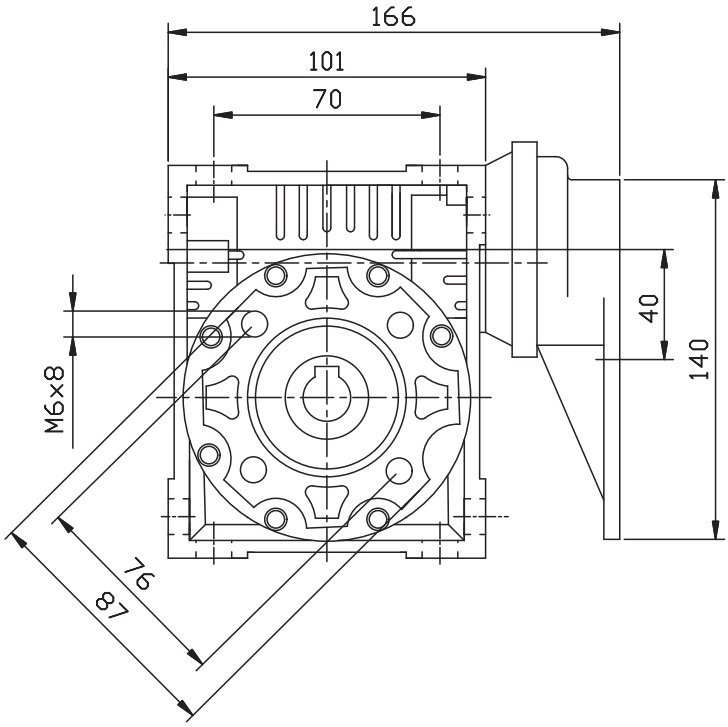


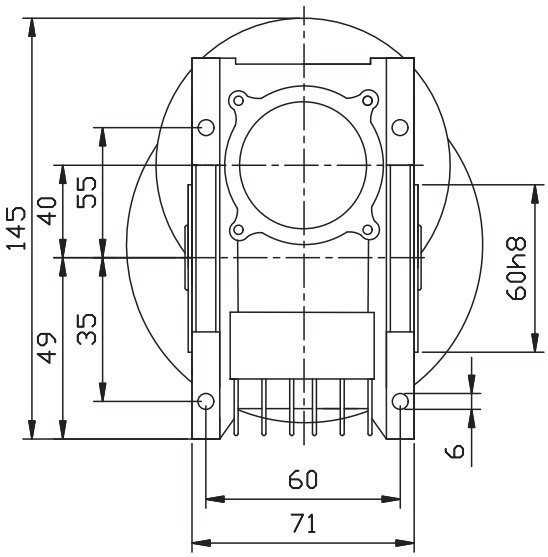




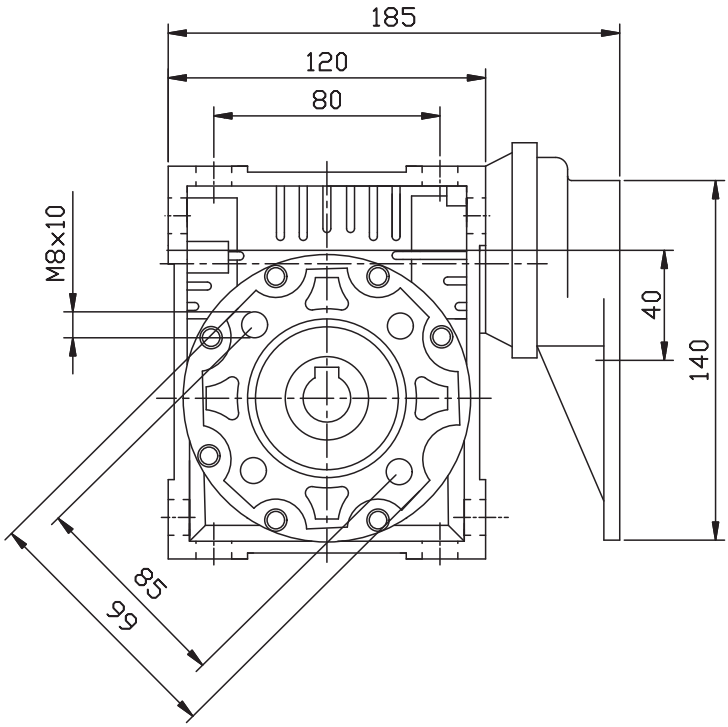


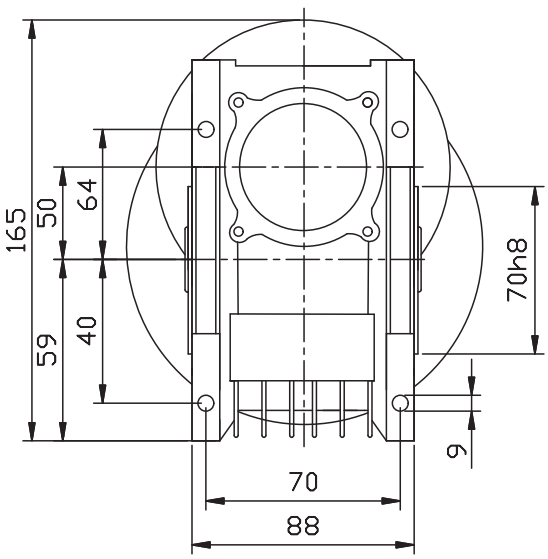




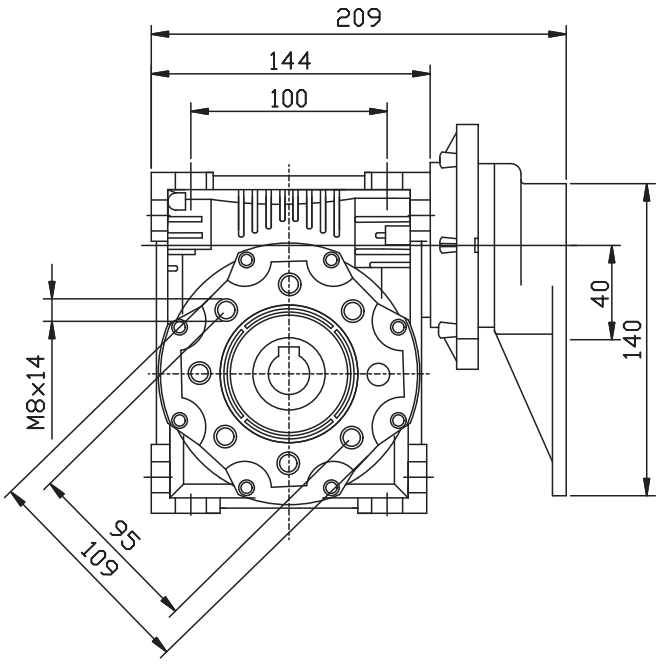


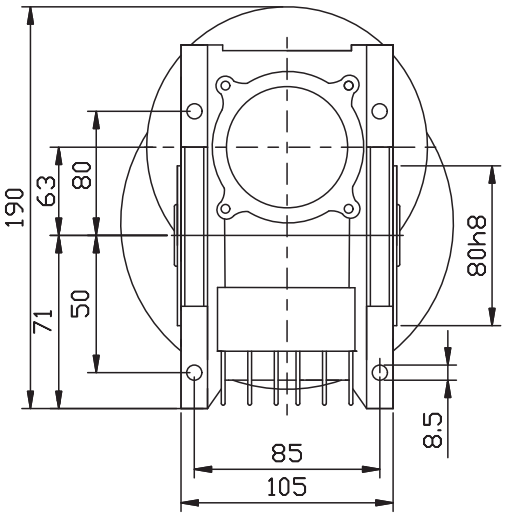
PC63-ES50



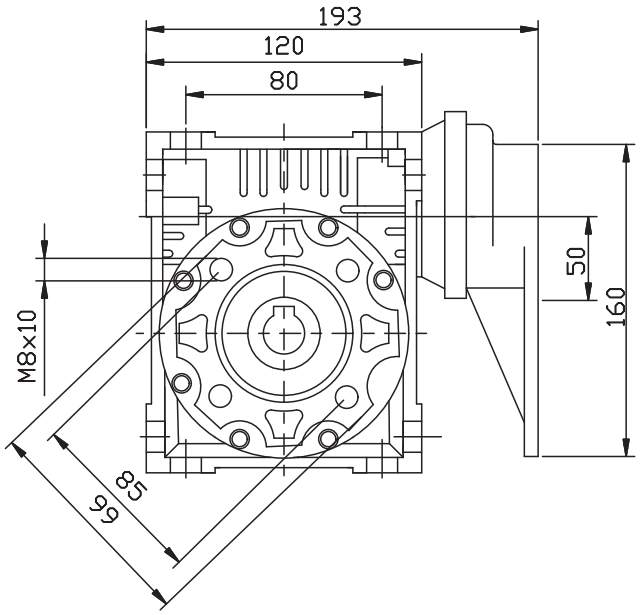


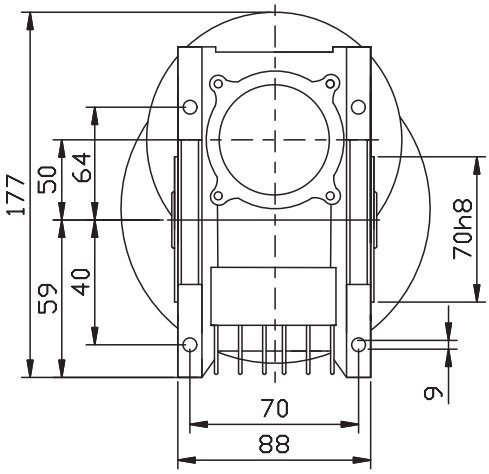
PC63-ES63



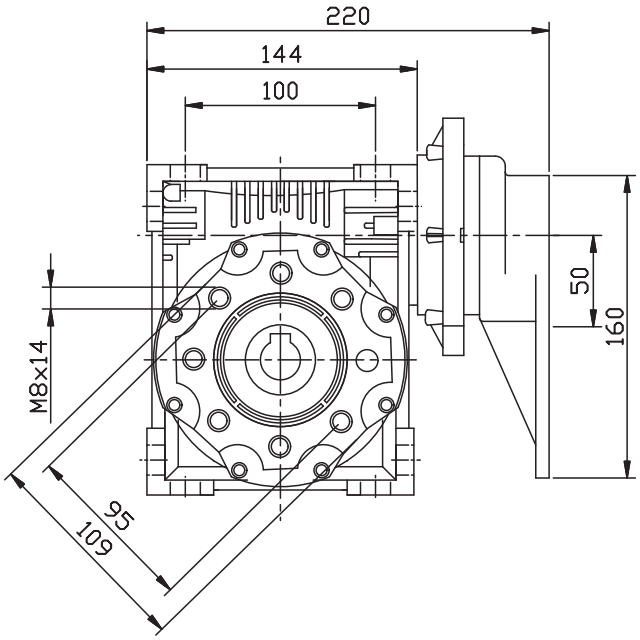


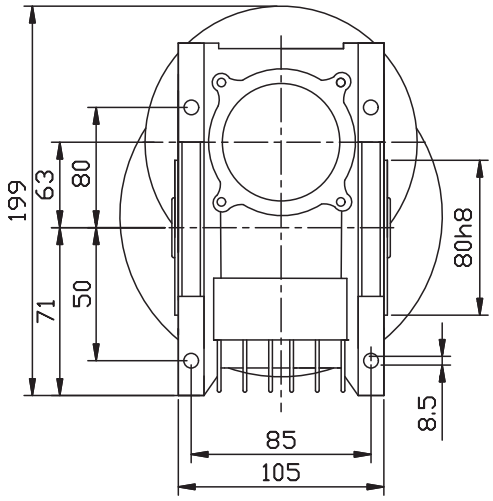
PC71-ES50



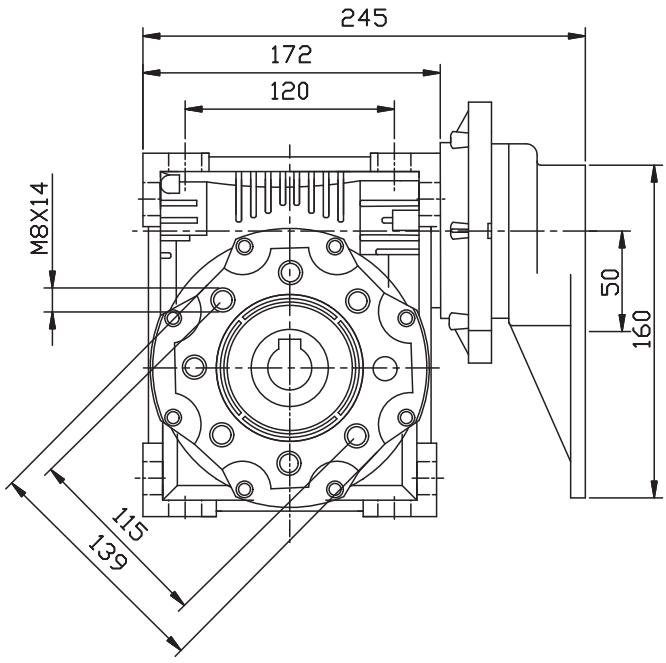


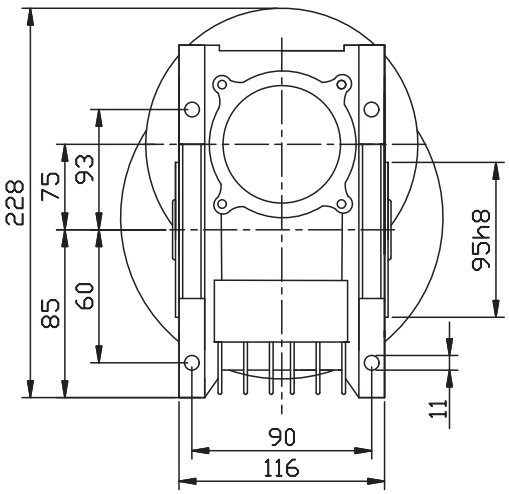
PC71-ES63



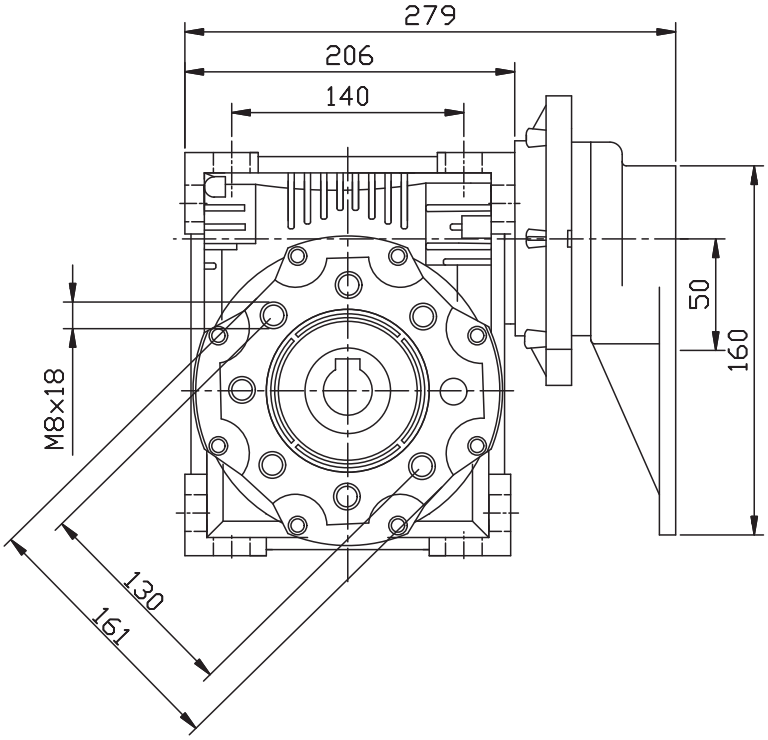


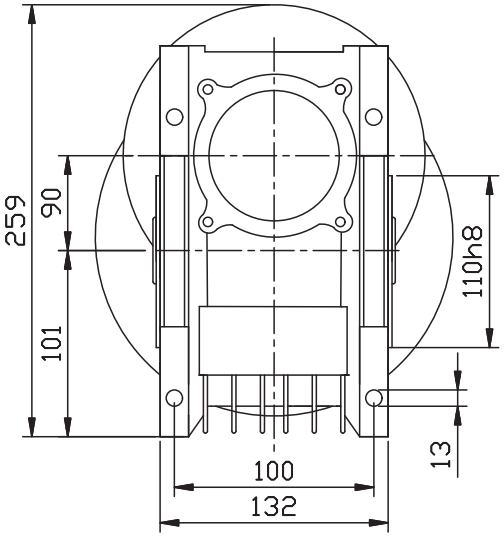
PC71-ES75



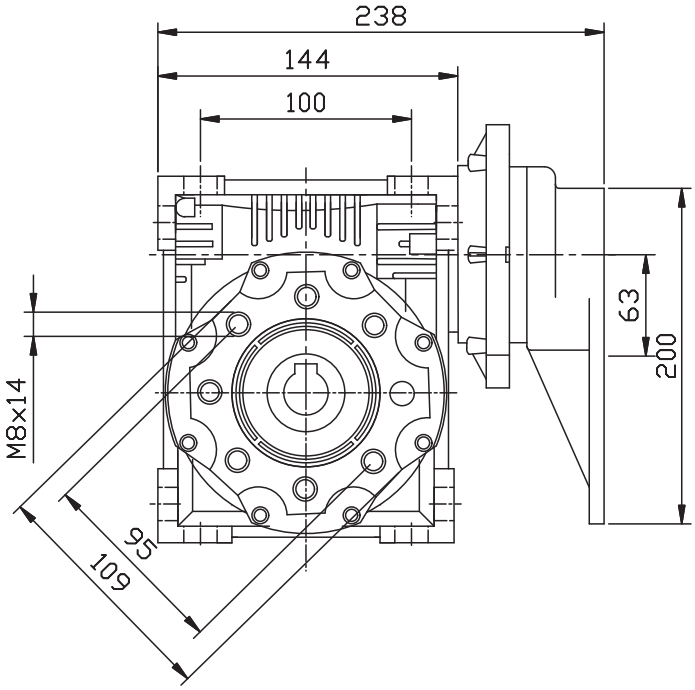


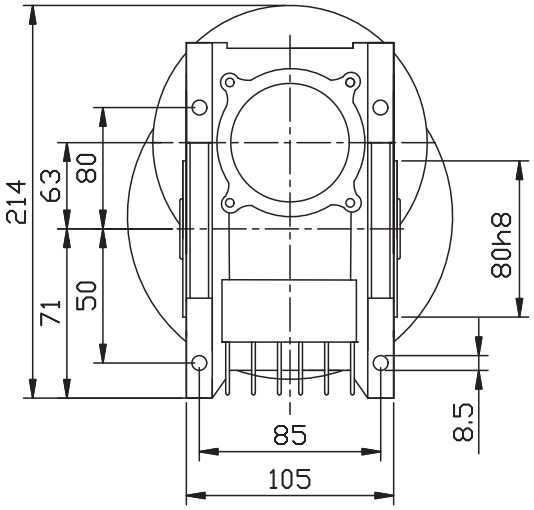
PC71-ES90



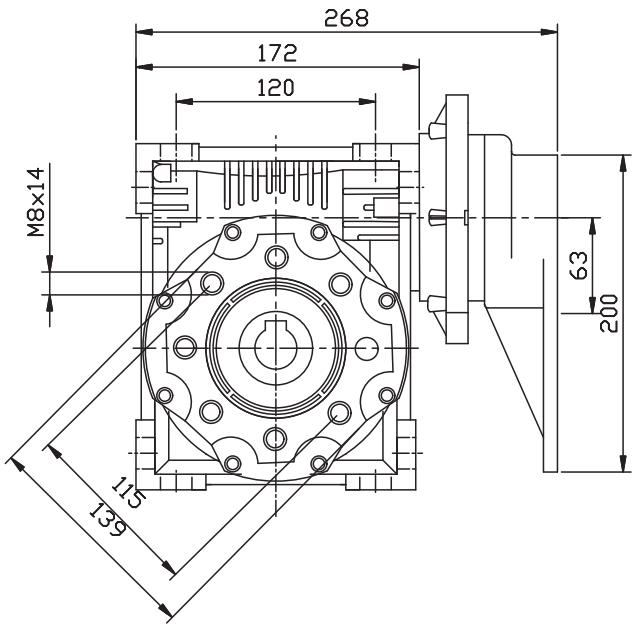


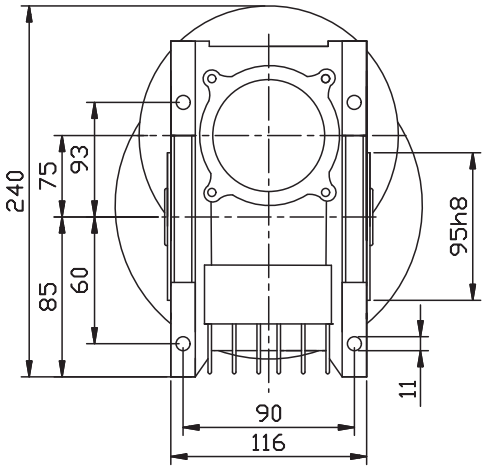
PC80-ES63



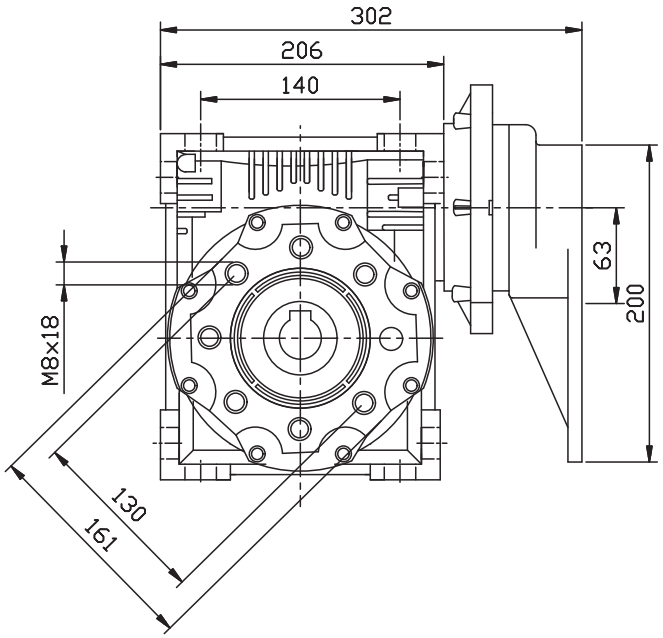


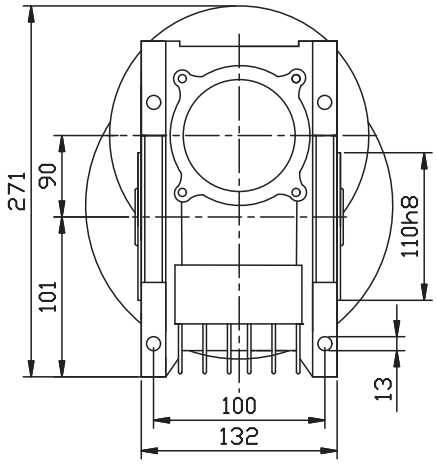
PC80-ES75



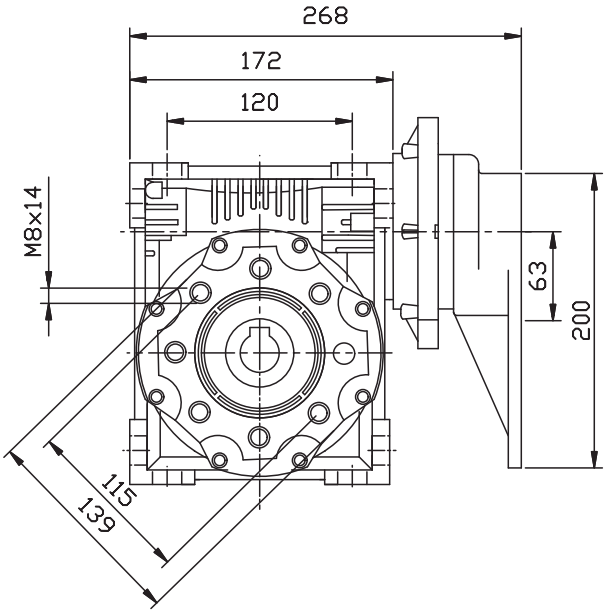


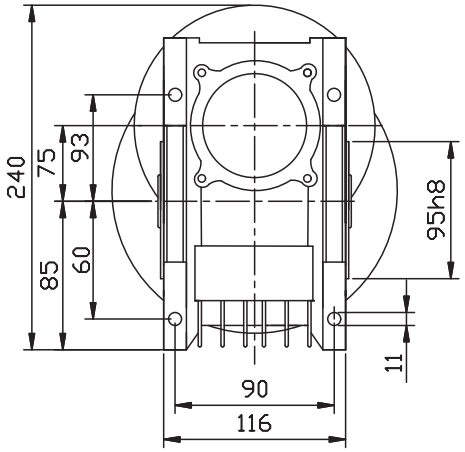
PC80-ES90



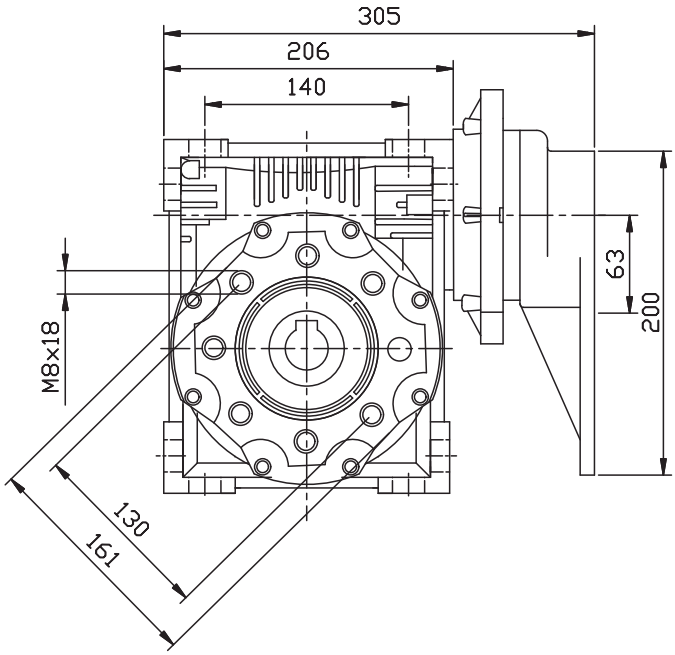


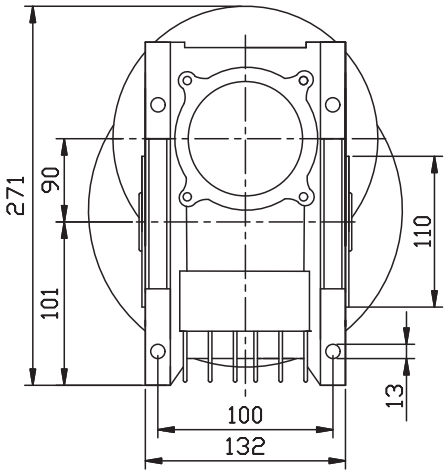
PC90-ES75



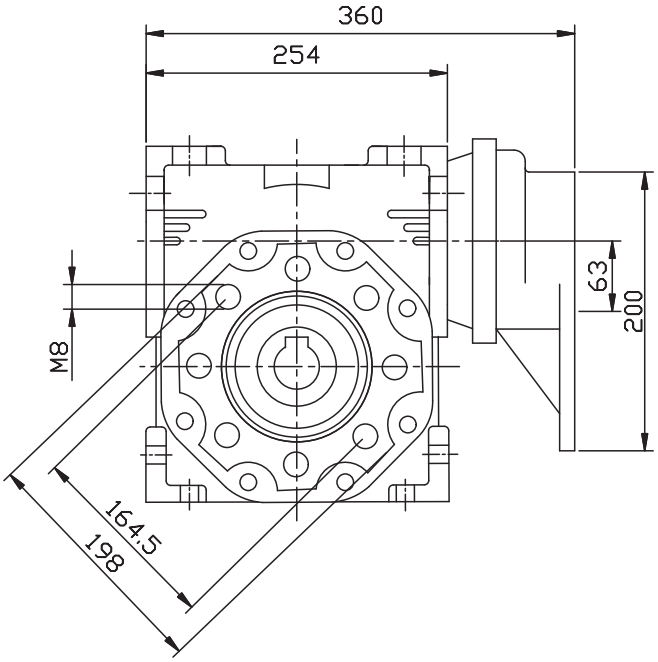


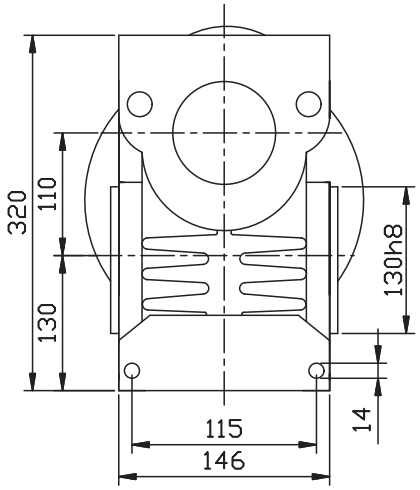
PC90-ES90



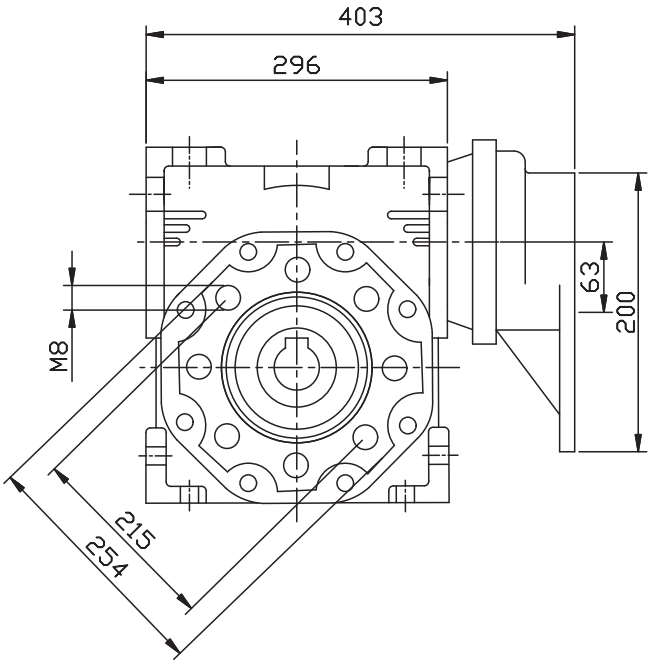


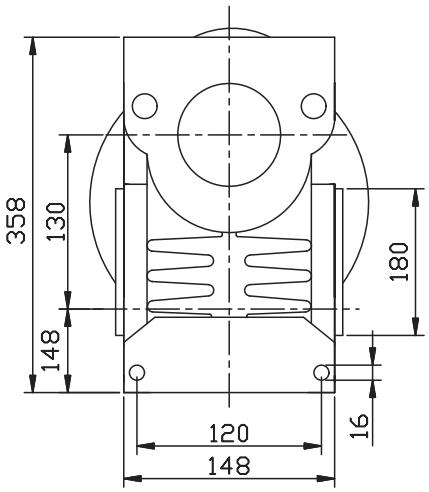
PC90-RMS110



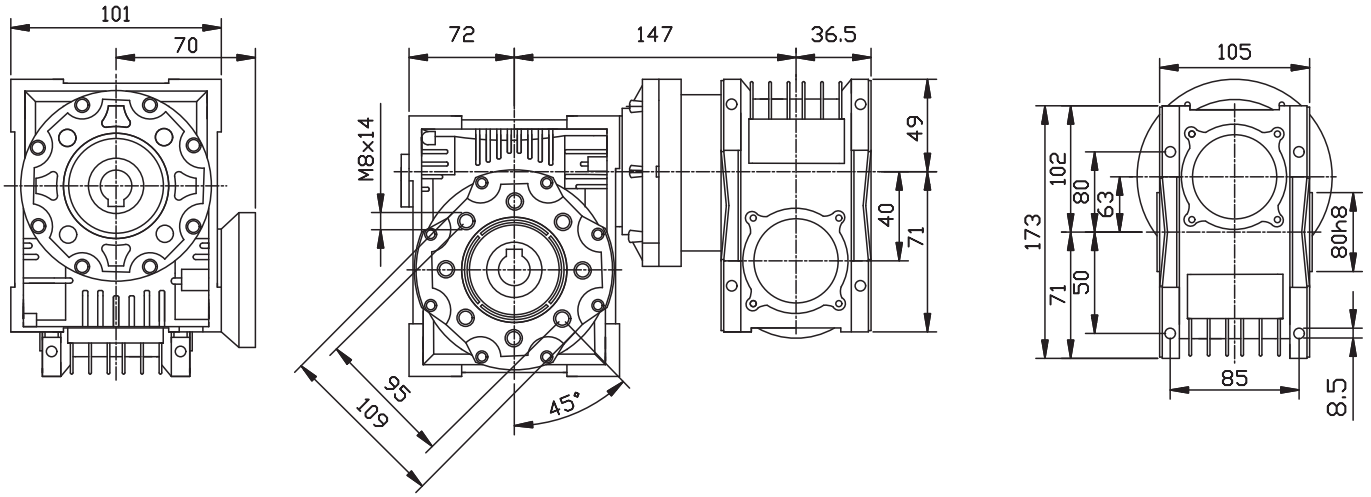


PC90-RMS130

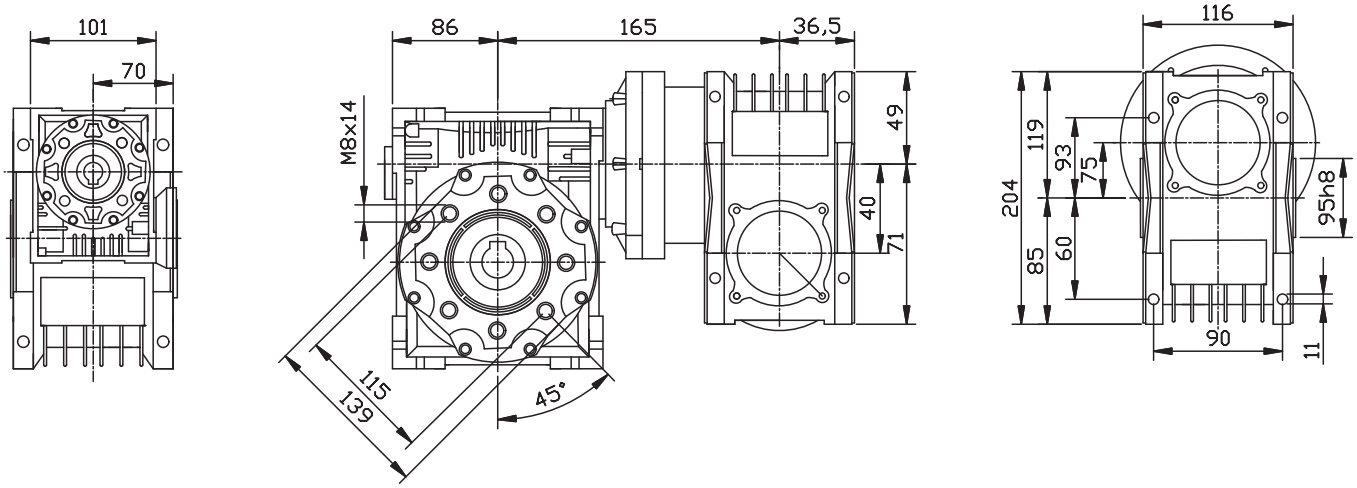




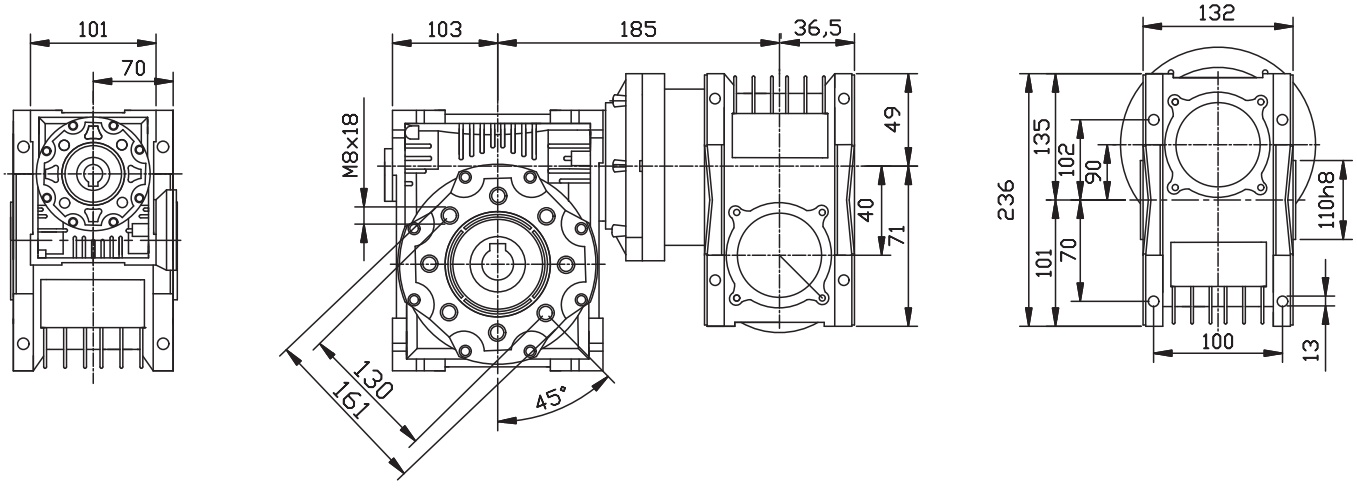
ES40-ES63



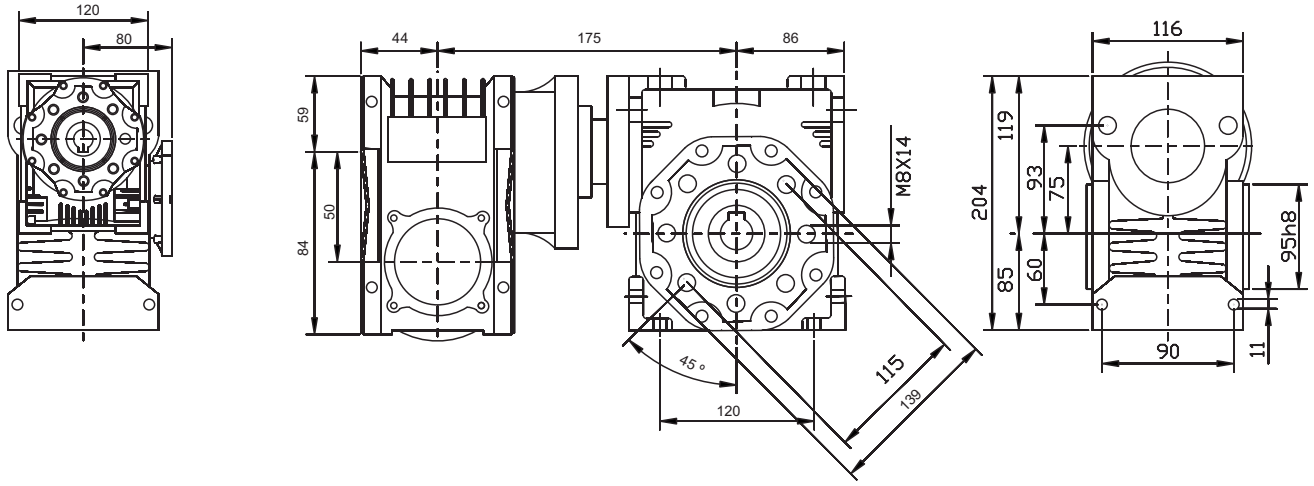
ES40-ES75



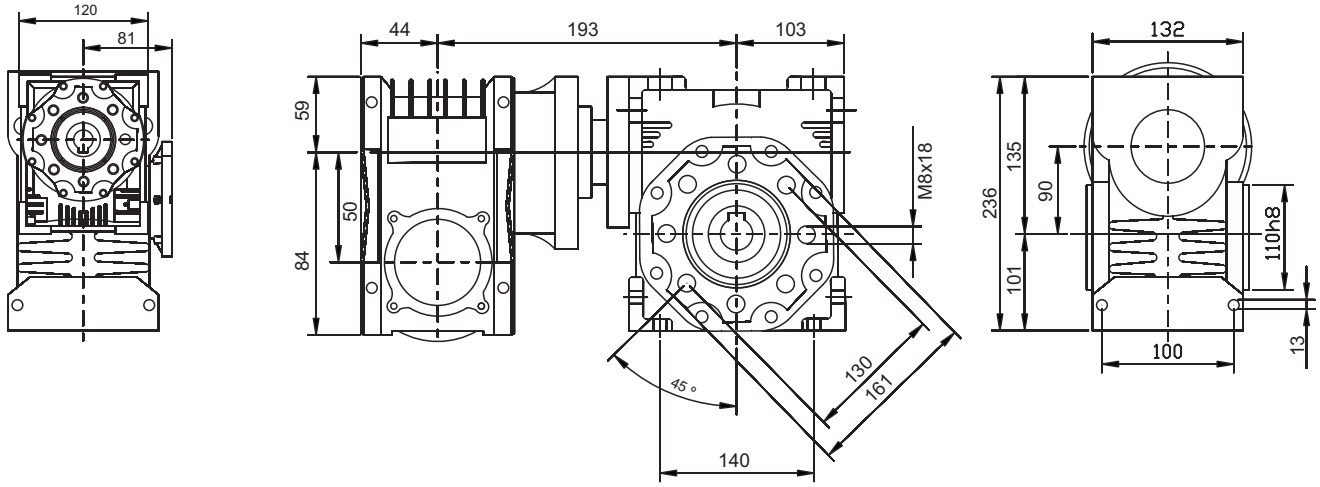
ES40-ES90



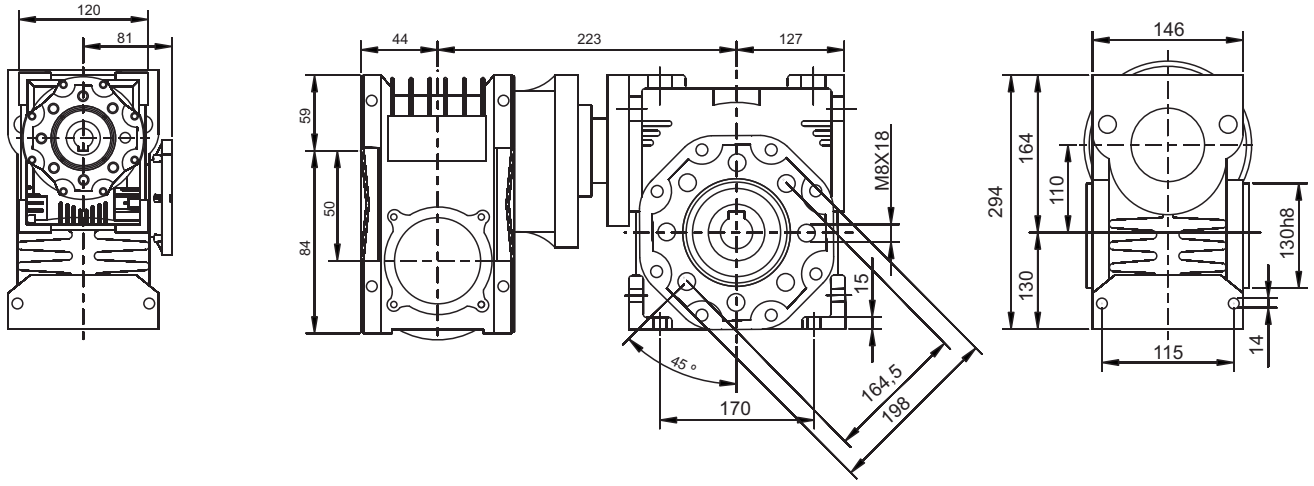
ES50-ES75



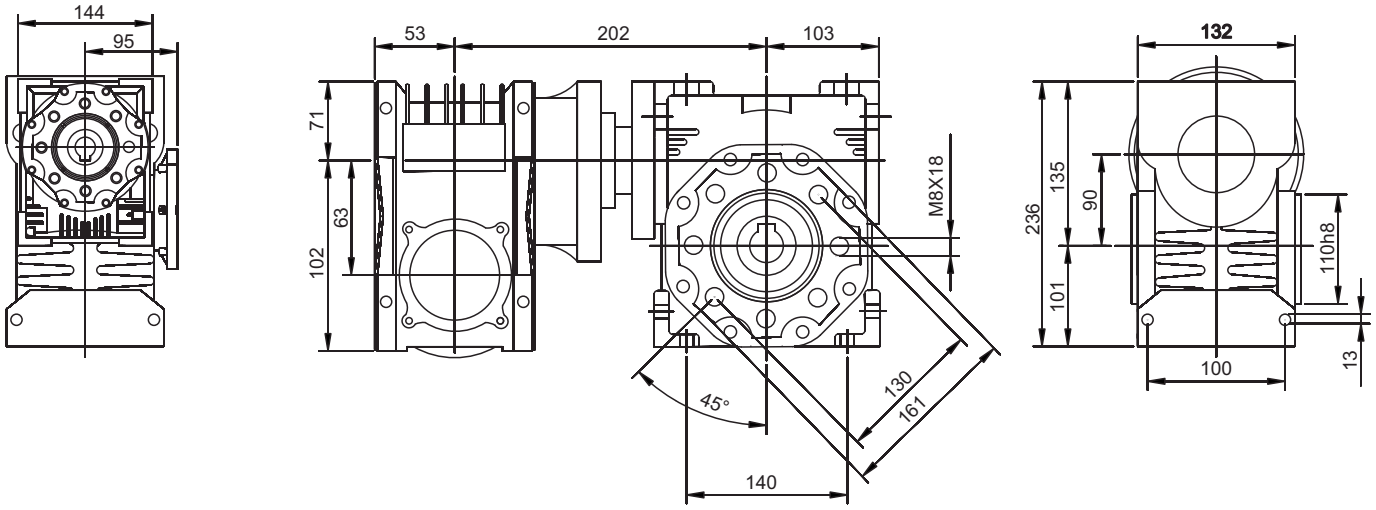
ES50-ES90



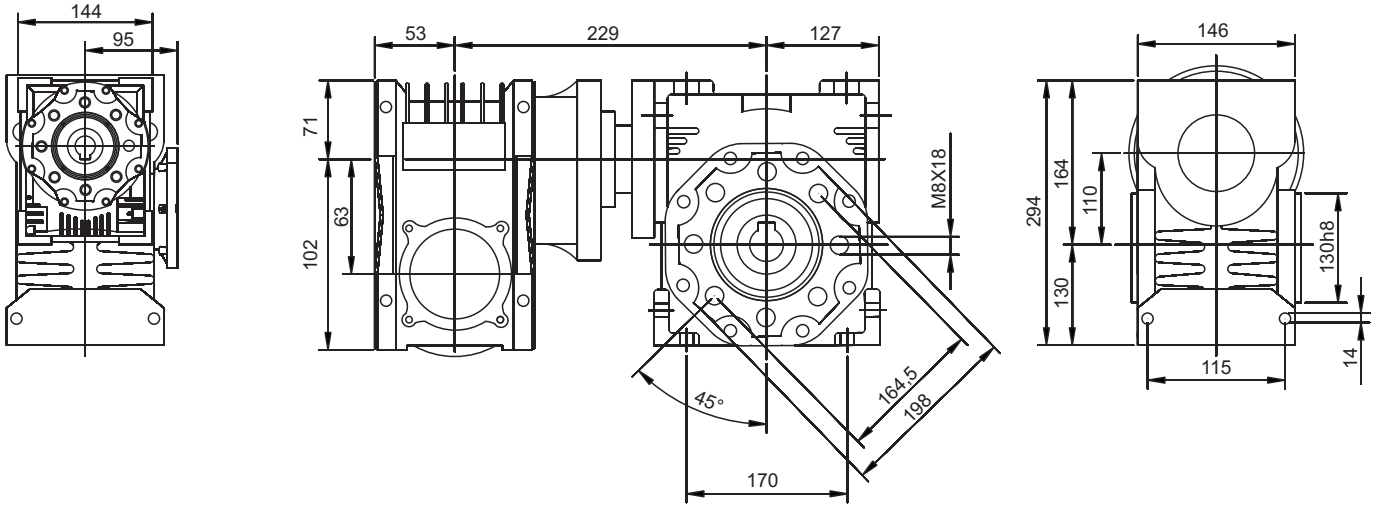
ES50-RMS110



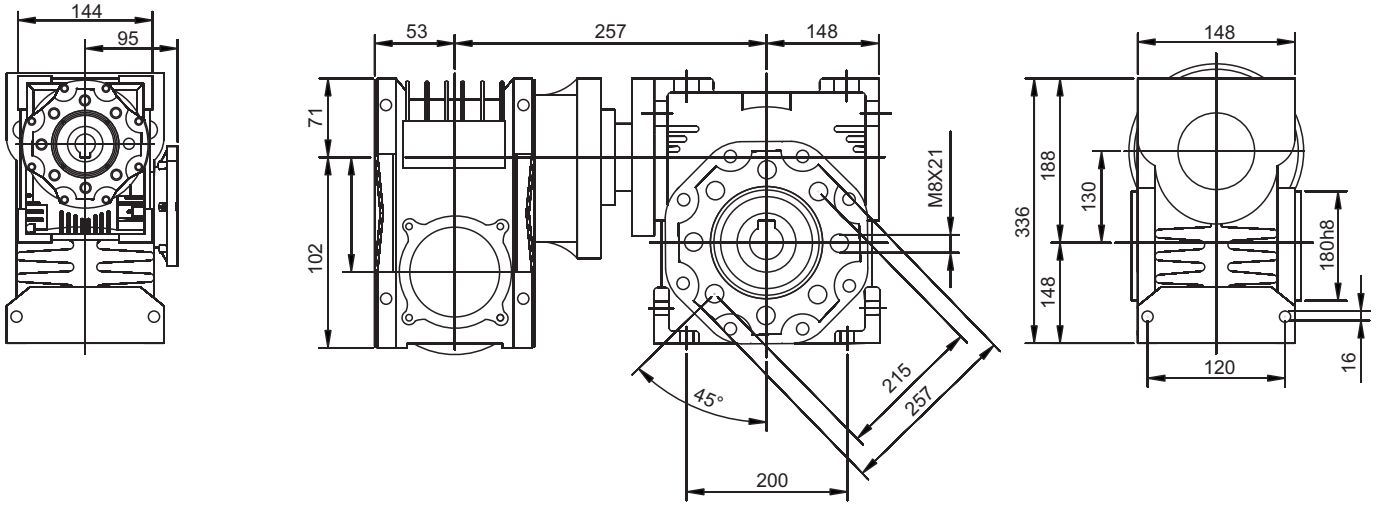
ES63-ES90



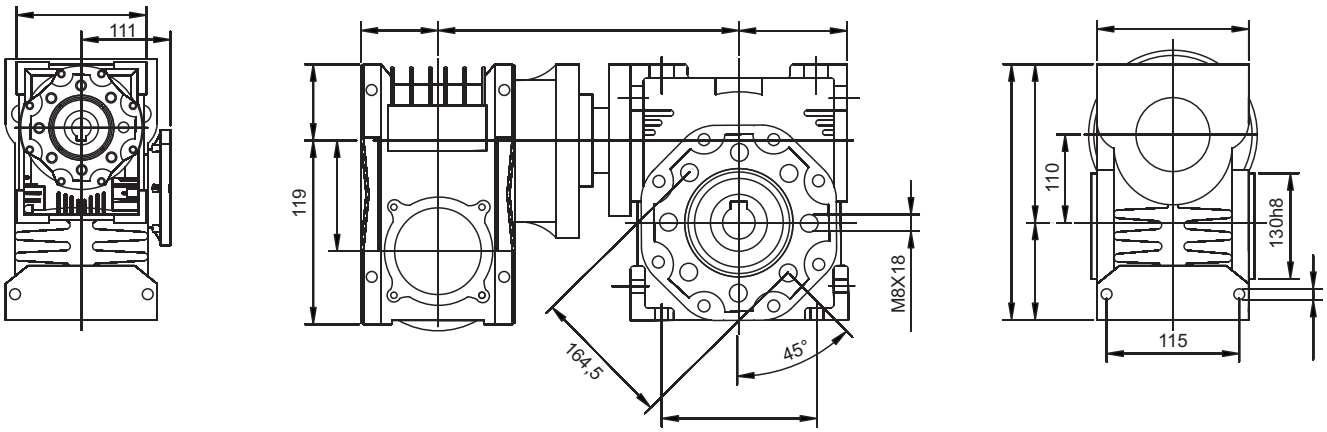
ES63-RMS110



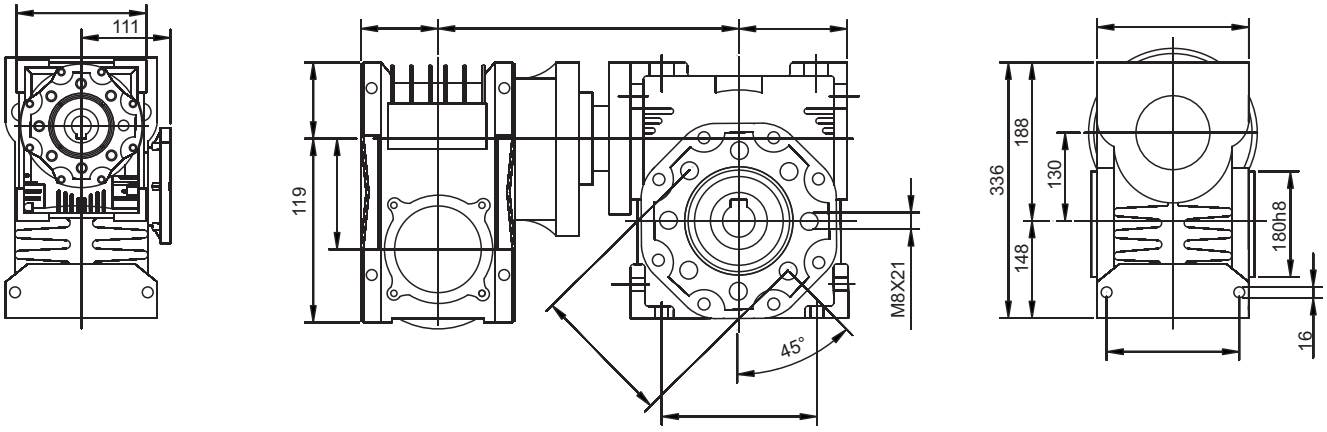
ES63-RMS130



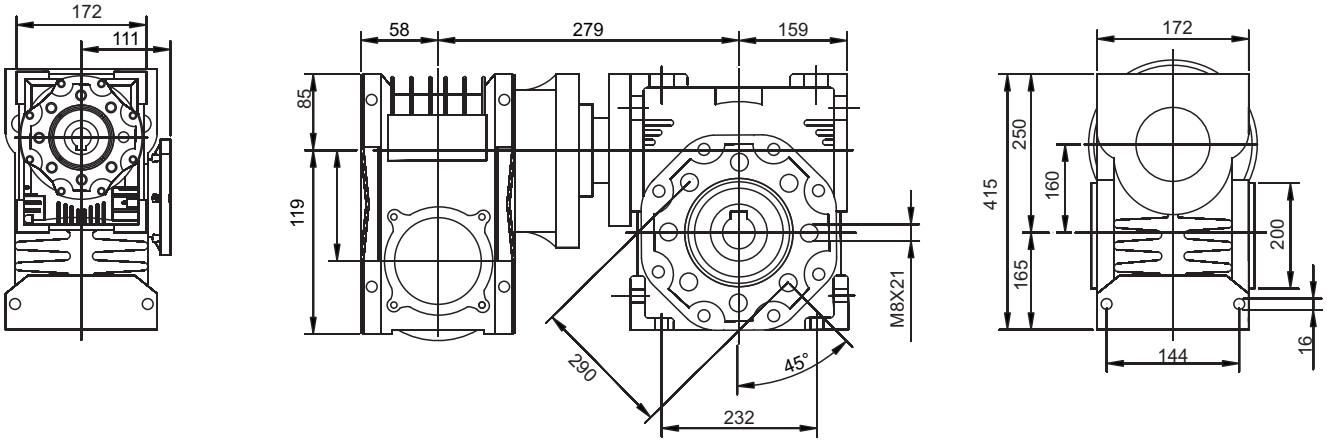
ES75-RMS110



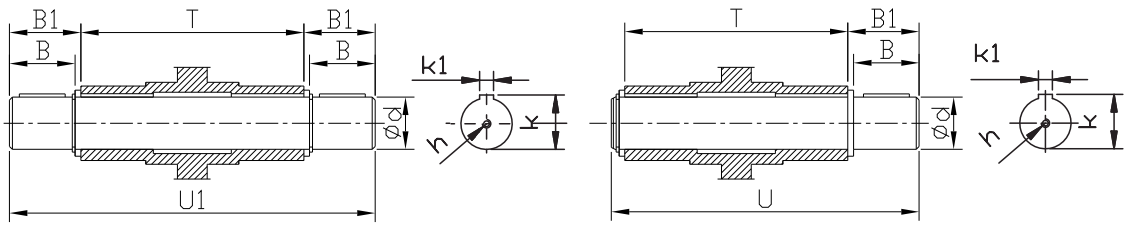
ES75-RMS130



ES75-RMS160

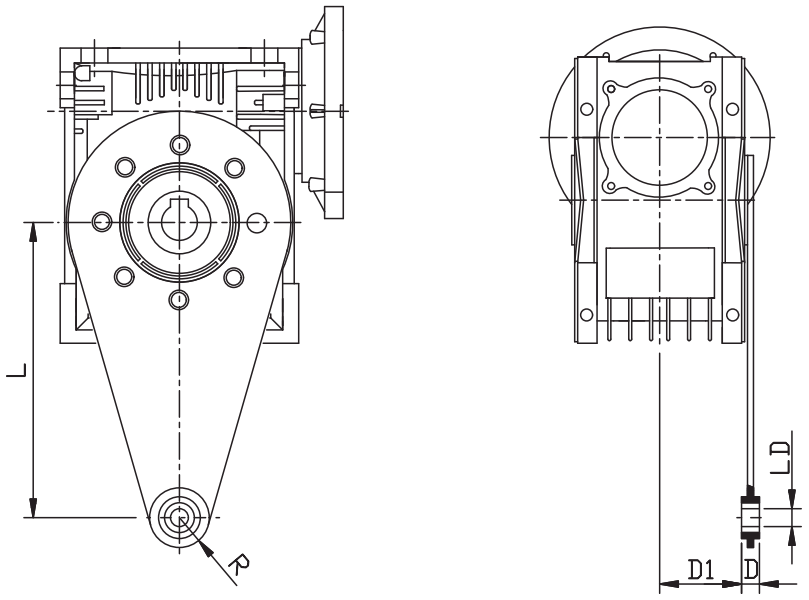


Düşük Hız Şaftları
Low Speed Shafts



		B	B1	T	U	U1	h	k1	k
030	14g6	30	32.5	63	100	128	M6	5	16
040	18h6	40	43	80	130	163	M6	6	20.5
050	25h6	50	53.5	96	154	199	M10	8	28
063	25h6	50	53.5	114	173	221	M10	8	28
075	28h6	60	63.5	122	192	245	M10	8	31
090	35h6	80	84.5	146	234	309	M12	10	38
110	42h6	80	84.5	170	260	339	M16	12	45
130	45h6	80	85	170	265	334	M16	14	48.5
160	50h6	100	105	208	323	412	M16	14	53.5

Moment Kolu
Torque Arm



	L	D	D1	LD	R
030	85	14	25	8	15
040	100	14	31.5	10	18
050	100	14	38.5	10	18
063	150	14	49	10	18
075	200	25	47.5	20	30
090	200	25	57.5	20	30
110	250	30	62	25	35
130	250	30	69	25	35
160	250	30	84	25	35