İçindekiler
Table of Contents

- **Tanıtım** — 2
  Introduction
- **Genel Bilgiler** — 3
  General Information
  - **Servis Faktörü** / *Service Factor* — 4
  - **Yük Sınıflandırması** / *Load Classification* — 5
  - **Tip Tanımlamaları** / *Type Designation* — 7
  - **Yağlama** / *Lubrication* — 7
  - **Bakım** / *Maintenance* — 8
- **Yağlar** — 9
  Lubricants
- **Montaj Pozisyonları** — 10
  Mounting Positions
- **Yağ Miktarları** — 10
  Lubricant Volume
- **Motor - Devir Uyum Tablosu** — 11
  Motor Size Combinations
- **ERS + PC Kombinasyonları** — 12
  ERS + PC Combinations
- **Güç Devir Tabloları** — 13
  Performance Tables
- **Ölçü Tabloları** — 29
  Dimension Tables
  - **ERS Tip Sonsuz Vidalı Redüktörler** / *ERS Type Worm Gear Reducers* — 30
  - **ERS + PC Aktarmalı Sonsuz Vidalı Redüktörler** / *ERS + PC Connected Worm Gear Reducers* — 39
  - **ERS Tip Çift Redüktörler** / *ERS Type Double Reducers* — 50
  - **Çıkış Mili Ölçüleri** / *Output Shaft Dimensions* — 57
  - **Tork Kolu Ölçüleri** / *Torque Arm Dimensions* — 58
  - **Motor Ölçüleri** / *Motor Dimensions* — 59
- **Uygulama Örnekleri** — 60
  Examples

Tanıtım
Introduction

Makina imalatı ve sanayide kullanılan redüktörlerimizin; sessiz çalışmasını, uzun ömürlü ve yüksek verimli olmasını sağlayan gövdeler ve dişli grubu elemanları, ileri teknoloji ile donatılmış geniş makine parkımızda ve Sonsuz Vida Taşlama tezgahlarıda yüksek hassasiyetle işlenmektedir.

Gelişen teknoloji ve ihtiyaçlar, mevcut ürünlerin optimizasyonunu ve yeni ürünlerin tasarımını zorunlu kılmıştır. Bu sebeple AR-GE çalışmalarına önem veren firmamızın bu yöndeki yatırımları gün geçtikçe artmakta, CAD (Bilgisayar Destekli Tasarım) ortamında yeni modeller tasarlanmakta ve bu yeni ürünlerin gövdeleri ve dişli gruplarının analizleri CAE yardımıyla yapılmakta böylece gövde ve dişli mukavemetleri hızlı ve güvenilir şekilde tespit edilmektedir.

İç pazarda kalitesiyle, hızlı hizmet anlayışı ve sağladığı ürün garantisiyle hızla yükselen EGE REDÜKTÖR markası, Avrupa'ya ve Orta Doğu ülkelerine yaptığı ihracatlar ile yurt dışı pazarında da kendini kanıtlayarak aranan bir marka haline gelmiştir.

The trunks and gear group elements which cause the reducers (which are used for the production of machines and industry) to operate silently, and to be long lasting and be productive are present in our vast machine park which is equipped with high technology. The worm gear grinding workbenches are processed with high sensitivity.

The developing technology and requirements have made the designation of new products and the optimization of available products mandatory. Because of this increases the investments of our company in order to display achievements in the field of research and development which is highly esteemed by the company. New models are designed with CAD and the analysis of the gear groups of the new products are made with the help of CAE; this causes the resistance of the trunks and gear groups to be determined in a fast and secure way.

The brand "Ege Redüktör" has experienced a rapid achievement with its quality which displays itself in the local market, and its rapid service perceptiveness. It has also turned out to be a prominent brand, by having proved itself in the foreign market by carrying out exportations to countries in Europe and the Middle East.

Genel Bilgiler
General Information

Seri üretimimizi oluşturan çeşitli hizmet ihtiyaçlarını karşılayan başlıca ürünler;

1.Ayaklı / Flanşlı Helisel Dişlili Motorlu (ya da Motorsuz) Redüktörler ~ A-F-T
2.Sonsuz Vidalı Döküm ve Alüminyum Gövdeli Redüktörler ~ ERS
3.Delik Şaftlı Tek ve Çift Kademeli Redüktörler ~ EP
4.D Tip Monoblok Gövdeli Delik Şaftlı Redüktörler ~ED
5.Yatık Paralel Milli ve Yatık Paralel Milli Ekstruder Tip Redüktörler ~ K ve EK redüktörler olarak sıralanmaktadır.

"Ege Redüktör Markası" ile üretilen redüktörlerin gövdeleri; pik ve alüminyum döküm olmak üzere iki çeşittir. Alüminyum enjeksiyon gövdeler; ETİ-AL 171 malzemesinden ve metal enjeksiyon makinalarında, pik döküm gövdeler ise GG24 malzemeden imal edilmektedir.

Redüktörlerde kullanılan "Helisel Dişliler" ve "Sonsuz Vidalar" 8620 (21NiCrMo2) sementasyon çeliğinden imal edilmekte ve 58 ~ 60 HRC değerinde sertleştirilmektedir.
Dişlilere sementasyon işlemi uygulandıktan sonra profilleri taşlanarak, redüktörlerin sessiz çalışması, uzun ömürlü yüksek verimli ve yüksek mukavemetli olması sağlanır.
Sonsuz vida çark dişlileri; GGG50 sfero çıkış mili üzerine CuSn12 Bronz alaşımının dökülmesiyle elde edilen yekpare bir yapıdır. Bu yapı sayesinde farklı yönde etki eden yüklere karşı oldukça mukavim sistem elde edilmiş olur.

Redüktörün çalışma sıcaklığı –30 °C' den düşük 60 °C' den yüksek olması durumunda özel keçeler kullanılması gerekmektedir.
0 °C' nin altında çalışan redüktörlerin de özel gereksinimleri vardır.

Bunlar:

1. Motorlar ortam çalışma sıcaklığına uygun olarak seçilmelidir.
2. Düşük sıcaklıklarda startta motorun uygulaması gereken tork daha fazladır.
3. –15 °C' de dökme demir, gevrek bir iç yapıya sahip olarak kırılganlaşır.

The main products which composes our serial manufacture to handle with various duty requirements compiled as;

1. *Foot / Flange Mounted Helical Geared Motorized (or Non – Motorized) Reducers ~ A-F-T*
2. *Worm Geared Reducers With Cast Iron and Aluminum Injection Body*
3. *Hollow Shaft, Single or Double Stage Reducers ~ EP*
4. *D Type Hollow Shaft Reducers With Monoblock Body ~ ED*
5. *Horizantal Parallel Axle and Extruder Parallel Axle Type Reducers ~ K and EK The bodies of the reducers manufactured as the trade mark of "Ege Redüktör Mak. San" are two types as cast iron and aluminum die casting. Aluminum injection bodies are made by the material ETI-AL 171 and by die casting moulding, cast iron bodies are made by the material GG24.*

The "Helical Gears" and "Worm Gears" used in the reducers are made by 8620 (21NiCrMo2) case hardening steel and hardened to the value of 58 ~ 60 HRC.
After case hardening the gears the teeth profiles are grinding so the reducers become silent, long lifed, high efficiency.
Worm gear cogwheels are monobloc bodies made by, over GGG50 output shaft, CuSn12 Bronze alloy. By this body we have a quite durable system to the loads which effects from different directions.
When the temperture of the reducer's operating ambient is lower than – 30 °C and higher than 60 °C then special seals must be used.
The reducers which work under 0 °C needs special requirements.

These are:

1. *Reducer's motors must be chosen suitable for the ambient temperture.*
2. *At low tempertures motor needs more torque for start.*
3. *At –150 °C cast iron becomes fragile by its brittle in-structure.*

Genel Bilgiler
General Information

SERVİS FAKTÖRÜ:

Redüktörlerin çalışma şartlarına bağlı olarak üzerlerine gelen farklı kuvvetler nedeniyle farklı yüklere maruz kalırlar. Uzun yıllar boyu gözlenen çalışma şartlarına bağlı olarak yapılan hesaplamalar; güç kaynağı ile tahrik edilen tarafta bulunan makina ve makina elemanlarının cinsine göre farklı değerde emniyet katsayılarını kullanma zorunluluğunu gündeme getirmiştir.

İşte bu redüktörün, çalıştığı şartlar ile uyumlu olması için gerekli olan emniyet katsayısı "Servis Faktörü" dür.

Servis faktörünü etkileyen parametreler:

1. Yük Sınıfı
2. Saatteki Start Sayısı
3. Günlük Çalışma Süresi
4. Redüktörün Tahrik Tipi olarak sıralanabilir. Bu özelliklerden de anlaşılacağı gibi servis faktörü, bir redüktörün karakteristiğini ortaya koyan bir kavramdır.

SERVICE FACTOR:

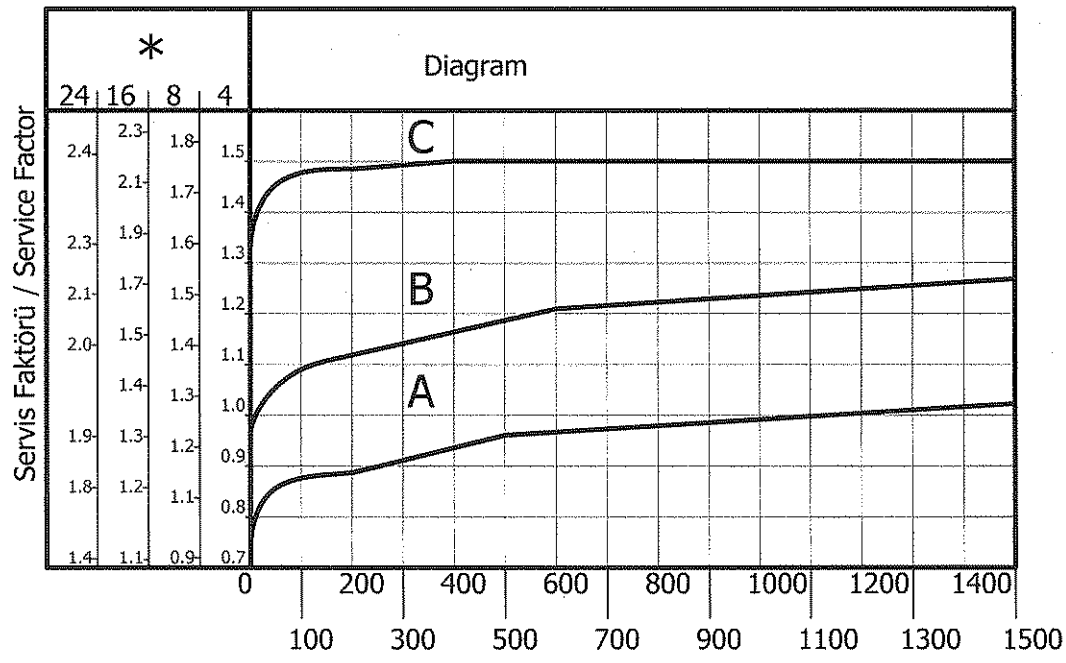
Reducers exposure different types of loads causing different operating conditions. Experiences of a long time period has shown us to consider different values of service coefficiant due to different power supply and machine equipment.
The safety coefficiant which is important for concordance of operating conditions and reducers called "Service Factor".

The parameters which effects service factor:

1. *Load classification*
2. *Number of start per hour*
3. *Daily operating time*
4. *Type of reducer's turning on*

As understood by these parameters, service factor is a concept which explains the character of a reducer.

* Günde Çalışma Süresi (saat/gün)
* Operating Time Hours (hours/day)



Genel Bilgiler
General Information

Yük Sınıflandırması

	Krenler
U	Kaldırma dişlileri
	Palanga dişlileri
M	Bomlu Vinç Dişlileri
	Yana Döndürme Dişlileri
H	Yürütme Dişlileri

	Pompalar
U	Santrifüj Pompalar(İnce sıvı)
M	Santrifüj Pompalar(Yarı sıvı)
H	Basınçlı Pompalar
	Dalgıç Pompalar

	Taş ve Kil İşleme Makineleri
H	Çekiçli Değirmenler
	Döner Fırınlar
	Dövücü Değirmenler
	Kırıcılar
	Küreli Değirmenler
	Tuğla Presi
	Tüp Değirmenler

	Tekstil Makineleri
M	Basma ve Boyama Makineleri
	Dokuma Tezgahları
	Hallaç Makineleri
	Harman Makineleri
	Taneleme (Debegat) Makineleri

	Yağ Sanayi
M	Besleme Pompaları
	Döner Delme Tehçizatları

	Yiyecek Sanayi
M	Kutu Bıçaklar
	Kutu Kaplama
	Mayalama Tekneleri
H	Kenar Açma

	Çamaşır Yıkama Makineleri
M	Döner Kurutucular
	Yıkama Makineleri

	Hatte Makineleri
M	Hız Ayarlı Silindirler
	Sabit Silindirler
	Sarma Makaraları
	Tel Çekme
H	Çubuk Kesme Makineleri
	Döner Tablalar
	Kabuk Sıyırma
	Plaka Haddeleme
	Silindir Haddeleme
	Soğuk Haddeleme

	İnşaat makineleri
M	Beton Mikserleri
	Ağır Yük Asansörleri

	Kağıt Makineleri
H	Islak Presler
	Kağıt Hamur Makineleri
	Kurutma Silindirleri
	Perdahlama Silindirleri

	Kauçuk Makineleri
M	Kalenderler
	Mikserler
H	Ekstruderler
	Hamur Karma Makineleri
	Silindirler

	Kimya Sanayi
M	Agitetörler
	Kurutma Merdaneleri
	Mikserler ve Silindirler

	Konveyörler
M	Bant Cepli Konveyörler
	Çelik Bantlı Konveyörler
	Dökme Yüklü Kayışlı Konveyörler
H	Yük Asansörleri
	Parça Yüklü Kayışlı Konveyörler

U: Hafif Yükeleme
M: Orta Yükleme
H: Ağır Yükleme

Genel Bilgiler
General Information

Load Classification

Cranes		**Metal Rolling Mills**	
U	Hoist Gears	M	Roller Adjustments Drives
	Lifting Gears		Roller Straightened
M	Defrocking jib Gears		Winding Machines
	Slowing Gears		Wire Drawing Benchs
H	Travelling Gears	H	Billet Shears
Pumps			Rollers Tables(heavy)
U	Centrifugal Pumps (light liquids)		Descaling Machines
M	Centrifugal Pumps (semi liquids)		Sheet Mills
H	Pressure Pumps		Manipulators
	Plunger Pumps		Cold Rolling Mills
Stone and Clay Working Machines		**Building Machines**	
H	Hammer Mills	M	Concreate Mixers
	Rotary Ovens		Hoist
	Beater Mills	**Paper Machines**	
	Breakers	H	Wet Presses
	Ball Mills		Pulpers
	Brick Presses		Drying Cylinders
	Tube Mills		Glazing Cylinders
Textile Machines		**Rubber Machinery**	
M	Printing and Dyeing Machines	M	Calenders
	Looms		Mixers
	Willow	H	Extruders
	Batchers		Pug Mills
	Tanning Vats		Rolling Mills
Oil Industry		**Chemical Industry**	
M	Pipeline Pumps	M	Agigators
	Rotary Drilling Equipment		Drying Drums
Food Industry			Mixers and Rolling Mills
M	Cane Knives	**Conveyors**	
	Cane Crushers	M	Band Pocket Conveyors
	Mach Tubs		Steel Belt Conveyors
H	Cane Mills		Belt Conveyors
Laundries		H	Hoists
M	Tumblers		Bulk Belt Conveyors
	Washing Machines		

U : Uniform Load
M : Moderate Loads
H : Heavy Shock Load

Genel Bilgiler
General Information

TİP TANIMLAMALARI:

a. Sonsuz Vidalı Redüktörler:

"Sonsuz Vidalı Redüktörler" in; dokuz adet ana gövde dahilinde (bunlardan ERS30-ERS40-ERS50 ERS63-ERS75 alüminyum enjeksiyon, ERS90, ERS110, ERS130, ERS150 pik döküm), 0.12Kw ~ 15 kW güç aralığı, bir~iki~üç aktarmadan elde edilen; 0.3 d/d~373 d/d devir aralığı ile motorlu ve motorsuz, kare flanşlı, tek veya çift çıkış milli seçenekleri mevcuttur.

1. Yağ Bazı:

Sentetik yağların maliyeti, mineral bazlı yağlara göre yüksek olup avantajları aşağıda belirtilmiştir.

1.Düşük sürtünme katsayısına sahiptir böylece yüksek verimle çalışır.

2.Kimyasal yapısını uzun zaman korur, bu da yağ ömrünün uzamasını sağlar.

3.Daha iyi viskozite içeriğine sahip olmasıyla değişik sıcaklık şartlarına daha iyi uyum sağlar.
Madeni yağların, sentetik yağlara tercih edilmesinin sebebi; sentetik yağlarda gözlenen kolay tutuşabilme, zehirleme, her malzemeyle uyum sağlayamama, her katkıyı içinde çözümleyememe ve yüksek fiyat gibi dezavantajlara sahip olmamasıdır.

YAĞLAMA:

Redüktörde kullanılacak yağ; redüktörün kullanım ortamına, yapılan işleme, devir sayısına bağlı olarak seçilmelidir.

Kullanılan yağın karakteristiğini belirleyen etmenler:

1. Yağ Bazı
2. Viskozite
3. Katkı Maddeleri

TYPE DESIGNATION:

a. Worm Geared Reducers:

In "worm gear reducers" type; there are nine main bodies (ERS 30-ERS40-ERS50–ERS63-ERS75 aluminum injection die casting, ERS90-ERS110-ERS130-ERS150 cast iron), 0.12 kW ~15 kW power range, 0.3 r.p.m. ~ 373 r.p.m. gained by one ~ two ~ three stages, motorized and non-motorized, square flanged, single or double output shaft options.

1. Lubricant Content:

Synthetic lubricant is expensive but have the advantages as told below.

1.*Its friction coeffeciant is lower so works with high efficiancy.*

2.*Keeps its chemical structure for long time so it means lond life lubricant.*

3.*Concordance of various temperture conditions by having a better viscocity content.*
Mineral lubricants are prefered to synthetic lubricants have the disadvantage of catching fire easily, botulism, missolve the additives, high cost, mismatch the other maters.

LUBRICATION:

The lubricant used in the reducer must be chosen for the workin ambient, process and the r.p.m.

The parameters which effects on lubricant

1. *Lubricant base*
2. *Viscocity*
3. *Additive mater*

2. Viskozite:

Redüktörlerde kullanılan yağın viskozitesi ilk çalışma anında yüksektir. Eğer mümkünse, yağ viskozitesini düşürmek amacıyla, redüktör yüksüz olarak birkaç dakika çalıştırılmalıdır.
Kullanılan yağın viskozitesi redüktörün sıcaklığına ve hızına bağlı olarak değişir.

Yüksek viskozite; düşük devirli ve/veya yüksek sıcaklıkta çalışan redüktörler için tavsiye edilir.
Düşük viskozite ise yüksek dönme hızı ve/veya düşük sıcaklıkta çalışan redüktörler için tavsiye edilir.

3. Katkı Maddeleri:

Tüm mineral yağlar; aşınmayı, oksidasyonu ve köpürmeyi önlemek amacıyla katkı maddesi içerirler. Bu katkı maddeleri, çalıştıkları ortam ve makina elemanları için (özellikle yağ keçeleri) bir sorun teşkil etmezler.

Tüm redüktörlerimiz, gerekli yağ miktarları doldurularak sevk edilir.

BAKIM:

Mineral yağ kullanılması durumunda; yağ, ilk kullanımdan 500 – 1000 çalışma saati sonra değiştirilmeli ve redüktörün iç kısmı iyi bir şekilde temizlenmelidir.

Yağ seviyesi 4000 çalışma saatinden sonra düzenli olarak kontrol edilmelidir ve gerekli ise yağ ilave edilmelidir.
Sentetik yağ kullanılmış ise yağ 12.500 çalışma saatine kadar sorun çıkarmadan çalışır.

Eğer yüksek neme maruz ortamda uzun süre kullanılmadan muhafaza edilecekse bu durumda redüktör yağla doldurulmalı ve tekrar kullanılacağı zaman kullanım seviyesine indirilmelidir.

Çalışma sırasında redüktörün içindeki hava, çalışma şartlarına bağlı olarak genleşir ve bu genleşme sonucunda basınç ve buna bağlı olarak sıcaklık artışı gözlenir. İşte bu artışı önlemek amacıyla "havalandırma tapası" kullanılır.

Bu yüzden havalandırma tapalarının çalışır durumda olması redüktör ömrü için çok önemlidir.

2. Viscocity:

At the begining the viscocity of the lubricant higher. If it is possible to decrease the viscocity reducer should be turned on for a while.
The viscocity of the lubricant changes according to the temperture and speed.

High viscocity; it is recommended for low r.p.m. and / or high temperture of operating ambient.
Low viscocity; it is recommended for high r.p.m. and / or low low temperture of operating ambient .

3. Additive Maters:

All the lubricants contain additives to prevent corrosion, oxidation, frothing. These additives don't cause any problem neither for the operating ambient nor the machine element (esp. for the seals)

All of our reducers sent to the customers after filling in enough lubicant.

MAINTENANCE:

In the case of using mineral lubricant, the lubricant should be changed after 500 – 1000 operating hour period an the inside of the reducer should be cleaned as well as possible. The level of the lubricant should be checked regularly after a 4000 operating hour period and if it's necessary lubricant should be added.

If the lubricant is synthetic, there isn't any problem by 12.500 operating hour period.

If the reducers will keept in the moisture ambient then the reducer should be filled by lubricant and the lubricant level must be decrease when it will be used.

During the operation the air in the reducer, expands depending on the operating conditions, and this expanding causes the increase of boht pressure and temperture. To prevent these events "ventilation plug" is used.

Because of this operating of ventilation plug is very important for the reducer life.

Yağlar
Lubricant

YAĞ CİNSİ *LUBRICANT*	*KULLANIM SICAKLIĞI* *USAGE TEMPERATURE*	*ISO VİSKOZİTE SINIFI* *ISO VISCOSITY CLASS*	Petrol Ofisi	ARAL	bp	Esso	KLÜBER LUBRICATION	Mobil	Shell	Castrol
MİNERAL YAĞLAR *Mineral Oil*	0.....+ 100	ISO VG 680	Gravis MP 680	Degol BG 680	Energol GR-XP680	Spartan EP 680	GEM 1 680	Mobilgear Gear 636	Omala 680	Alpha SP 680
	0.....+ 100	ISO VG 460	Gravis MP 460	Degol BG 460	Energol GR-XP460	Spartan EP 460	GEM 1 460	Mobilgear Gear 634	Omala 460	Alpha SP 460
	0.....+ 100	ISO VG 320	Gravis MP 320	Degol BG 320	Energol GR-XP320	Spartan EP 320	GEM 1 320	Mobilgear Gear 632	Omala 320	Alpha SP 320
	-5.....+ 100	ISO VG 220	Gravis MP 220	Degol BG 220	Energol GR-XP220	Spartan EP 220	GEM 1 220	Mobilgear Gear 630	Omala 220	Alpha SP 220
	-5.....+ 100	ISO VG 150		Degol BG 150	Energol GR-XP150	Spartan EP 150	GEM 1 150	Mobilgear Gear 629	Omala 150	Alpha SP 150
	-5.....+ 100	ISO VG 100		Degol BG 100	Energol GR-XP100	Spartan EP 100	GEM 1 100	Mobilgear Gear 627	Omala 100	Alpha SP 100
SENTETİK YAĞLAR *Synthetic Oil*	-20.....+ 140	ISO VG 680		Degol GS 680	Enersyn SG-XP680		Syntheso D 680 EP	Gylgoyle HE 680		
	-20.....+ 140	ISO VG 460	SP 460	Degol GS 460	Enersyn SG-XP460	Glycolube EP 460	Syntheso D 460 EP	Gylgoyle HE 460	Tivela SD	Alphasyon PG 460
	-25.....+ 140	ISO VG 320		Degol GS 320	Enersyn SG-XP320	Glycolube EP 320	Syntheso D 320 EP	Gylgoyle HE 320		Alphasyon PG 320
	-25.....+ 140	ISO VG 220	SP 220	Degol GS 220	Enersyn SG-XP220		Syntheso D 220 EP	Gylgoyle HE 220	Tivela WB	Alphasyon PG 220
	-30.....+ 140	ISO VG 150		Degol GS 150	Enersyn SG-XP150		Syntheso D 150 EP			Alphasyon PG 150
	-30.....+ 140	ISO VG 100			Enersyn SG-XP100		Syntheso D 100 EP			

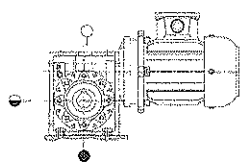
Gresler
Grease

YAĞ CİNSİ *LUBRICANT*	*KULLANIM SICAKLIĞI* *USAGE TEMPERATURE*	ARAL	bp	Esso	KLÜBER LUBRICATION	Mobil	Shell	Castrol
MİNERAL GRESLER *Mineral Grease*	-20.....+ 120	Degol BG 680	Energol GR-XP680	Spartan EP 680	GEM 1 680	Mobilgear Gear 636	Omala 680	Alpha SP 680
SENTETİK GRESLER *Synthetic Grease*	-30.....+ 100	Degol BG 460	Energol GR-XP460	Spartan EP 460	GEM 1 460	Mobilgear Gear 634	Omala 460	Alpha SP 460

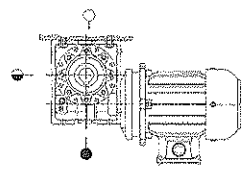
ERS Tip Redüktörler Montaj Pozisyonları
ERS Type Reducers Mounting Positions

Yatay Montaj
Horizontal Mounting

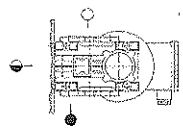
B3



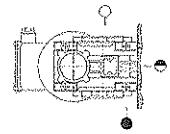
B8



B6

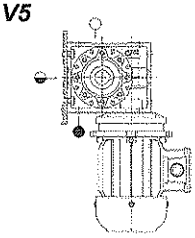


B7

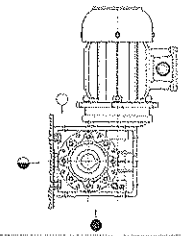


Dikey Montaj
Vertical Mounting

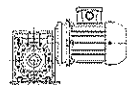
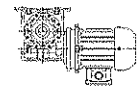
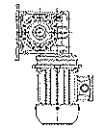
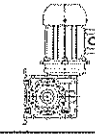
V5



V6

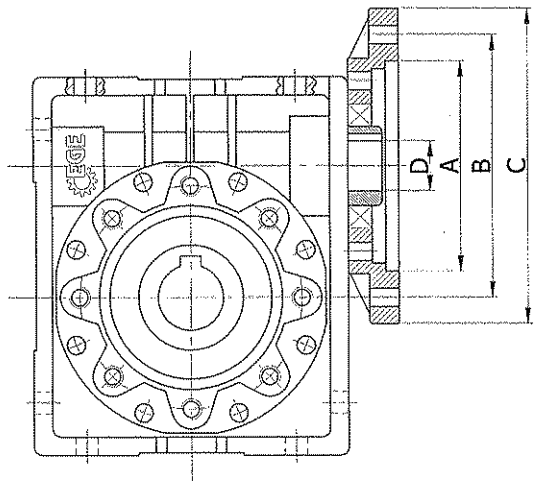


Gövde Büyüklüğüne ve Çalışma Pozisyonlarına Göre Yağ Miktarları
Lubricant Volume According to Working Positions and Reducer Size

Redüktör Tipi *Reducer Type*	 B3	 B6	 B7	 B8	 V5	 V6
	Yağ Miktarları / *Lubricant Volume (l)*					
ERS030	0,03	0,03	0,03	0,03	0,03	0,03
ERS040	0,10	0,10	0,10	0,10	0,10	0,10
ERS050	0,15	0,15	0,15	0,15	0,15	0,15
ERS063	0,30	0,30	0,30	0,30	0,30	0,30
ERS075	0,55	0,55	0,55	0,55	0,55	0,55
ERS090	1	1	1	1	1	1
ERS110	3	2,5	2,5	2,2	3	2,2
ERS130	4,5	3,5	3,5	3,3	4,5	3,3
ERS150	7	5,4	5,4	5,1	7	5,1

ERS Tip Redüktörlere Ait Motor - Devir Uyum Tablosu

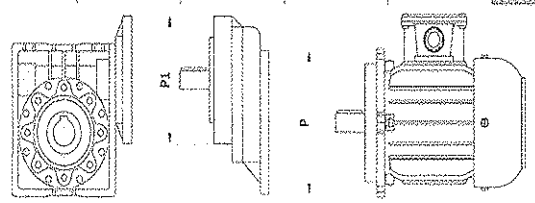
Motor Size Combinations



ERS	MOTOR TİPİ *Motor Size*	A	B	C	TAHVİL / *Ratio* 7,5	10	15	20	30	40	50	60	80	100
					MOTOR MİLİ ÇAPI *Motor Shaft Diameter* (D)									
30	63-B14	60	75	90	11							-	-	-
	56-B14	50	65	80	9									-
40	71-B14	70	85	105	14							-	-	-
	63-B14	60	75	90	11									-
50	80-B14	80	100	120	19					-	-	-	-	-
	71-B14	70	85	105	14									-
63	90-B14	95	115	140	24					-	-	-	-	-
	80-B14	80	100	120	19								-	-
	71-B14	70	85	105	-	-	-	-	-	14				
75	100 / 112-B14	110	130	160	28			-	-	-	-	-	-	-
	90-B14	95	115	140	24						-	-	-	-
	80-B14	80	100	120	-	-	-	19						
90	100 / 112-B14	110	130	160	28					-	-	-	-	-
	90-B14	95	115	140	24								-	-
	80-B14	80	100	120	-	-	-	-	-	19				
110	132-B14	180	215	250	38				-	-	-	-	-	-
	100 / 112-B14	110	130	160	28								-	-
	90-B14	95	115	140	-	-	-	-	24					
	80-B14	80	100	120	-	-	-	-	-	-	-	-	19	
130	132-B14	180	215	250	38						-	-	-	-
	100 / 112-B14	110	130	160	-	-	-	-	28					
	90-B14	95	115	140	-	-	-	-	-	-	-	-	24	
150	160-B14	180	215	250	42				-	-	-	-	-	-
	132-B14	180	215	250	-	-	-	38					-	-
	100 / 112-B14	110	130	160	-	-	-	-	-	-	28			

ERS + PC Kombinasyonları
ERS + PC Combinations

ERS	ÇEVRİM ORANI RATIO (i)	PC 063		PC 071		PC 080			PC 090		
		105 / 11 i=3	105 / 14 i=3	120 / 14 i=3	120 / 19 i=3	160 / 19 i=3	160 / 24 i=3	160 / 28 i=3	160 / 19 i=2.42	160 / 24 i=2.42	160 / 28 i=2.42
40	30										
	40										
	50										
	60										
	80										
	100										
50	30										
	40										
	50										
	60										
	80										
	100										
63	30										
	40										
	50										
	60										
	80										
	100										
75	30										
	40										
	50										
	60										
	80										
	100										
90	30										
	40										
	50										
	60										
	80										
	100										
110	30										
	40										
	50										
	60										
	80										
	100										
130	30										
	40										
	50										
	60										
	80										
	100										

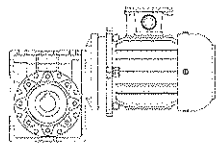


	P1	P	(P)
PC 063	63B5 - 140 / 11	105 / 11	(105 / 14)
PC 071	71B5 - 160 / 14	120 / 14	(120 / 19)
PC 080	80B5 - 200 / 19	160 / 19	(160 / 24)
			(160 / 28)
PC 090	90B5 - 200 / 24	160 / 24	(160 / 19)
			(160 / 28)

GÜÇ ve DEVİR TABLOLARI
Performance Tables

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

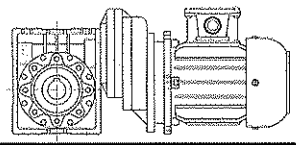
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	186,7	7,5	5,0	3,2		
	140,0	10	6,4	2,6		
	93,3	15	9,1	1,8		
	70,0	20	11,5	1,4	ERS30	63-A4
	46,7	30	15,4	1,2		
	35,0	40	18,2	0,9		
	28,0	50	22,1	0,8		
	120,0	7,5	7,6	2,4		
	90,0	10	9,6	1,9		
	60,0	15	13,4	1,3	ERS30	63-B6
	45,0	20	17,3	1,0		
	30,0	30	22,1	0,9		
	46,7	30	16,3	2,5		
	35,0	40	20,2	1,8		
	28,0	50	24,0	1,4	ERS40	63-A4
	23,3	60	26,9	1,2		
	17,5	80	32,6	1,0		
	14,0	100	36,5	0,8		
	30,0	30	24,0	1,8		
	22,5	40	30,7	1,3	ERS40	63-B6
	18,0	50	34,6	1,1		
	15,0	60	39,4	0,9		
	15,6	90	44,2	1,1		
	11,7	120	54,7	0,9	ERS40 - PC63	63-A4
	9,3	150	63,4	0,7		
	7,8	180	71,0	0,6		
0,12kW	10,0	90	65,3	1,0	ERS40 - PC63	63-B6
0,18 HP	7,5	120	79,7	0,8		
	23,3	60	27,8	2,2		
	17,5	80	33,6	1,8	ERS50	63-A4
	14,0	100	38,4	1,3		
	22,5	40	30,7	2,5		
	18,0	50	36,5	1,9		
	15,0	60	40,3	1,6	ERS50	63-B6
	11,3	80	48,0	1,3		
	9,0	100	53,8	1,0		
	9,3	150	65,3	1,2		
	7,8	180	72,0	1,0	ERS50 - PC63	63-A4
	5,8	240	84,5	0,8		
	4,7	300	94,1	0,7		
	10,0	90	67,2	2,0		
	7,5	120	80,6	1,4		
	6,0	150	93,1	1,1	ERS50 - PC63	63-B6
	5,0	180	103,7	1,0		
	3,8	240	120,0	0,7		
	4,7	300	114,2	1,1		
	3,5	400	136,3	0,9	ERS30 - ERS50	63-A4
	2,8	500	157,4	0,7		
	5,8	240	88,3	1,4	ERS63 - PC63	63-A4
	4,7	300	98,9	1,1		
	6,0	150	97,0	2,0		
	5,0	180	107,5	1,7	ERS63 - PC63	63-B6
	3,8	240	125,8	1,2		
	3,0	300	139,2	1,0		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

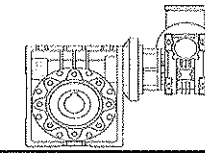
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	2,8	500	164,2	1,2		
	2,3	600	199,7	1,0	ERS30 - ERS63	63-A4
	1,9	750	231,4	0,9		
	1,6	900	312,0	1,1	ERS40 - ERS75	63-A4
0,12 kW	1,2	1200	383,0	0,9		
0,18 HP	0,8	1800	525,1	1,1	ERS40 - ERS90	63-A4
	0,6	2400	667,2	0,9		
	0,5	3000	848,6	1,1		
	0,4	4000	752,6	1,0	ERS50 - ERS110	63-A4
	0,3	5000	890,9	0,8		
	373,3	7,5	3,8	3,0		
	280,0	10	5,0	2,4		
	186,7	15	7,2	1,6	ERS30	63-A2
	140,0	20	9,6	1,2		
	93,3	30	12,5	1,0		
	70,0	40	15,4	0,9		
	186,7	7,5	7,5	2,2		
	140,0	10	9,6	1,7		
	93,3	15	13,4	1,2	ERS30	63-B4
	70,0	20	17,3	1,0		
	46,7	30	23,0	0,8		
	93,3	30	13,4	2,3		
	70,0	40	17,3	1,7	ERS40	63-A2
	56,0	50	20,2	1,3		
	70,0	20	18,2	1,9		
	46,7	30	25,0	1,6		
	35,0	40	30,7	1,2	ERS40	63-B4
	28,0	50	36,5	1,0		
	23,3	60	41,3	0,8		
	15,6	90	67,2	0,8	ERS40 - PC63	63-B4
	11,7	120	81,6	0,6		
0,18kW	46,7	60	23,0	2,0		
0,25 HP	35,0	80	28,8	1,4	ERS50	63-A2
	28,0	100	32,6	1,1		
	35,0	40	31,7	2,2		
	28,0	50	37,4	1,8		
	23,3	60	41,3	1,5	ERS50	63-B4
	17,5	80	49,9	1,1		
	14,0	100	57,6	0,9		
	18,0	50	53,8	1,3		
	15,0	60	60,5	1,0	ERS50	71-A6
	11,3	80	72,0	0,9		
	15,6	90	77,8	1,4		
	11,7	120	83,5	1,0		
	9,3	150	97,0	0,9	ERS50 - PC63	63-B4
	7,8	180	108,5	0,7		
	5,8	240	127,7	0,6		
	10,0	90	100,8	1,3	ERS50 - PC71	71-A6
	7,5	120	121,0	1,0		
	15,0	60	63,4	2,0		
	11,3	80	75,8	1,5	ERS63	71-A6
	9,0	100	86,4	1,3		
	9,3	150	98,9	1,6		
	7,8	180	112,3	1,3	ERS63 - PC63	63-B4
	5,8	240	133,4	1,0		
	4,7	300	148,8	0,8		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

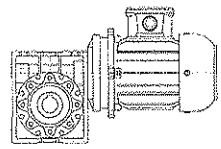
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	10,0	90	102,7	2,3		
	7,5	120	125,8	1,7		
	6,0	150	145,9	1,3	ERS63 - PC71	71-A6
	5,0	180	161,3	1,1		
	3,8	240	189,1	0,9		
	3,0	300	209,3	0,7		
	5,0	180	171,8	1,6		
0,18kW	3,8	240	202,6	1,1	ERS75 - PC71	71-A6
0,25 HP	3,0	300	225,6	1,0		
	2,3	600	347,5	1,0		
	1,9	750	417,6	0,9	ERS40 - ERS75	63-B4
	1,6	900	467,5	0,8		
	1,2	1200	603,8	1,0	ERS40 - ERS90	63-B4
	0,9	1500	705,6	0,8		
	0,8	1800	826,6	1,4	ERS50 - ERS110	63-B4
	0,6	2400	1068,5	1,0		
	373,3	7,5	5,4	2,2		
	280,0	10	6,9	1,7		
	186,7	15	9,6	1,2	ERS30	63-B2
	140,0	20	12,5	0,9		
	93,3	30	17,3	0,8		
	186,7	7,5	10,6	3,4		
	140,0	10	13,4	2,7		
	93,3	15	20,2	1,8	ERS40	71-A4
	70,0	20	25,9	1,4		
	46,7	30	34,6	1,2		
	35,0	40	42,2	0,9		
	120,0	7,5	16,3	2,5		
	90,0	10	21,1	1,9		
	60,0	15	29,8	1,3	ERS40	71-B6
	45,0	20	38,4	1,0		
	30,0	30	50,9	0,9		
	35,0	80	40,3	1,0	ERS50	63-B2
	28,0	100	46,1	0,8		
0,25 kW	70,0	20	25,9	2,6		
0,35 HP	46,7	30	35,5	2,2		
	35,0	40	44,2	1,6	ERS50	71-A4
	28,0	50	51,8	1,3		
	23,3	60	57,6	1,0		
	17,5	80	69,1	0,9		
	45,0	20	38,4	1,8		
	30,0	30	51,8	1,6		
	22,5	40	64,3	1,1	ERS50	71-B6
	18,0	50	74,9	1,0		
	15,0	60	84,5	0,8		
	15,6	90	94,1	1,0	ERS50 - PC71	71-A4
	11,7	120	116,2	0,8		
	28,0	50	53,8	2,3		
	23,3	60	60,5	1,9	ERS63	71-A4
	17,5	80	74,9	1,5		
	14,0	100	83,5	1,3		
	18,0	50	77,8	1,7		
	15,0	60	88,3	1,4	ERS63	71-B6
	11,3	80	105,6	1,1		
	9,0	100	120,0	1,0		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

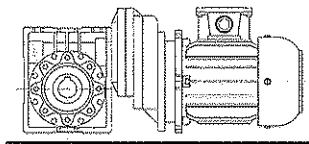
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	15,6	90	96,0	1,9		
	11,7	120	120,0	1,4		
	9,3	150	137,3	1,1	ERS63 - PC71	71-A4
	7,8	180	156,5	1,0		
	5,8	240	184,3	0,7		
	4,7	300	206,4	0,6		
	10,0	90	142,1	1,7		
	7,5	120	173,8	1,2	ERS63 - PC71	71-B6
	6,0	150	202,6	1,0		
	7,0	400	152,6	1,3	ERS30 - ERS63	63-B2
	5,6	500	177,6	1,1		
	17,5	80	78,7	2,2	ERS75	71-A4
	14,0	100	90,2	1,8		
	11,3	80	112,3	1,6	ERS75	71-B6
	9,0	100	127,7	1,3		
	9,3	150	145,0	1,6		
	7,8	180	165,1	1,3	ERS75 - PC71	71-A4
	5,8	240	193,0	1,0		
0,25 kW	4,7	300	220,8	0,9		
0,35 HP	10,0	90	148,8	2,4		
	7,5	120	183,4	1,8	ERS75 - PC71	71-B6
	6,0	150	210,2	1,4		
	5,0	180	238,1	1,1		
	3,5	400	322,6	1,0	ERS40 - ERS75	71-A4
	2,8	500	368,6	0,8		
	5,0	180	252,5	1,8		
	3,8	240	305,3	1,3	ERS90 - PC71	71-B6
	3,0	300	343,7	1,0		
	2,3	600	491,5	1,1		
	1,9	750	574,1	0,9	ERS40 - ERS90	71-A4
	1,6	900	640,3	0,8		
	1,2	1200	905,3	1,2		
	0,9	1500	1021,4	1,1	ERS50 - ERS110	71-A4
	0,8	1800	1147,2	1,0		
	0,6	2400	1559,0	1,0		
	0,5	3000	1857,6	0,8	ERS63 - ERS130	71-A4
	0,4	4000	1964,2	0,6		
	0,3	5000	2332,8	0,5		
	373,3	7,5	7,9	1,5		
	280,0	10	10,6	1,1	ERS30	63-C2
	186,7	15	14,4	0,8		
	373,3	7,5	8,1	3,1		
	280,0	10	10,6	2,5	ERS40	71-A2
	186,7	15	15,4	1,8		
	140,0	20	20,2	1,3		
0,37 kW	186,7	7,5	15,4	2,3		
0,5 HP	140,0	10	20,2	1,8		
	93,3	15	29,8	1,2	ERS40	71-B4
	70,0	20	37,4	1,0		
	46,7	30	50,9	0,8		
	93,3	30	27,8	2,1		
	70,0	40	35,5	1,5		
	56,0	50	42,2	1,1	ERS50	71-A2
	46,7	60	48,0	1,0		
	35,0	80	59,5	0,7		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

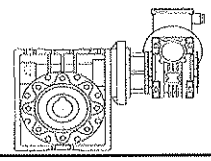
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
0,37 kW ***0,5 HP***	140,0	10	21,1	3,1	ERS50	71-B4
	93,3	15	29,8	2,3		
	70,0	20	38,4	1,7		
	46,7	30	52,8	1,4		
	35,0	40	65,3	1,0		
	28,0	50	76,8	0,9		
	23,3	60	85,4	0,8		
	120,0	7,5	24,0	3,1	ERS50	80-A6
	90,0	10	31,7	2,4		
	60,0	15	45,1	1,7		
	45,0	20	57,6	1,2		
	30,0	30	76,8	1,0		
	35,0	40	68,2	2,0	ERS63	71-B4
	28,0	50	79,7	1,5		
	23,3	60	90,2	1,3		
	17,5	80	110,4	1,0		
	14,0	100	123,8	0,9		
	45,0	20	57,6	2,3	ERS63	80-A6
	30,0	30	78,7	2,0		
	22,5	40	97,9	1,5		
	18,0	50	115,2	1,1		
	15,0	60	131,5	1,0		
	10,0	90	142,1	1,3	ERS63 - PC71	71-B4
	7,5	120	177,6	1,0		
	6,0	150	203,5	0,8		
	9,3	300	173,8	1,2	ERS30 - ERS63	71-A2
	7,0	400	226,6	1,0		
	23,3	60	94,1	1,9	ERS75	71-B4
	17,5	80	116,2	1,5		
	14,0	100	133,4	1,2		
	18,0	50	121,0	1,7	ERS75	80-A6
	15,0	60	138,2	1,4		
	11,3	80	166,1	1,1		
	9,0	100	188,2	1,0		
	15,6	90	220,8	1,6	ERS75 - PC80	71-B4
	11,7	120	271,7	1,2		
	9,3	150	311,0	1,0		
	4,7	300	388,8	1,0	ERS40 - ERS75	71-B4
	3,5	400	478,1	0,7		
	11,3	80	177,6	1,6	ERS90	80-A6
	9,0	100	203,5	1,2		
	7,8	180	257,3	1,4	ERS90 - PC71	71-B4
	5,8	240	308,2	1,0		
	4,7	300	356,2	0,9		
	6,0	150	333,1	1,5	ERS90 - PC80	80-A6
	5,0	180	373,4	1,2		
	3,8	240	452,2	1,0		
	4,7	300	385,9	1,4	ERS40 - ERS90	71-B4
	3,5	400	502,1	1,1		
	2,8	500	586,6	0,9		
	2,3	600	726,7	0,8		
	3,8	240	488,6	1,5	ERS110 - PC80	80-A6
	3,0	300	553,9	1,2		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

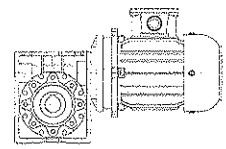
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* ($f_{s)}$	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	1,9	750	912,0	1,2		
0,37 kW	1,6	900	1035,8	1,1	ERS50 - ERS110	71-B4
	1,2	1200	1340,2	0,9		
0,5 HP	0,9	1500	1607,0	1,0	ERS63 - ERS130	71-B4
	0,8	1800	1811,5	0,9		
	373,3	7,5	12,5	2,1		
	280,0	10	16,3	1,7	ERS40	71-B2
	186,7	15	23,0	1,2		
	140,0	20	29,8	0,9		
	186,7	7,5	23,0	1,5		
	140,0	10	30,7	1,2	ERS40	71-C4
	93,3	15	44,2	0,9		
	140,0	20	29,8	1,6		
	93,3	30	41,3	1,4		
	70,0	40	52,8	1,0	ERS50	71-B2
	56,0	50	62,4	0,8		
	46,7	60	71,0	0,7		
	186,7	7,5	24,0	2,8		
	140,0	10	30,7	2,1		
	93,3	15	44,2	1,5	ERS50	80-A4
	70,0	20	56,6	1,1		
	46,7	30	77,8	1,0		
	90,0	10	47,0	1,6	ERS50	80-B6
	45,0	20	85,4	0,9		
	70,0	40	53,8	1,8		
	56,0	50	64,3	1,4		
	46,7	60	73,9	1,1	ERS63	71-B2
	35,0	80	91,2	0,9		
	28,0	100	104,6	0,7		
	70,0	20	58,6	2,1		
0,55 kW	46,7	30	79,7	1,8		
	35,0	40	100,8	1,3	ERS63	80-A4
0,75 HP	28,0	50	119,0	1,0		
	23,3	60	134,4	0,9		
	60,0	15	68,2	2,1		
	45,0	20	86,4	1,5	ERS63	80-B6
	30,0	30	118,1	1,3		
	22,5	40	145,9	1,0		
	15,6	90	210,2	0,9	ERS63 - PC71	71-C4
	35,0	40	103,7	1,9		
	28,0	50	123,8	1,5		
	23,3	60	140,2	1,3	ERS75	80-A4
	17,5	80	172,8	1,0		
	14,0	100	197,8	0,9		
	30,0	30	122,9	1,9		
	22,5	40	152,6	1,4	ERS75	80-B6
	18,0	50	179,5	1,1		
	15,0	60	205,4	1,0		
	15,6	90	220,8	1,2	ERS75 - PC71	71-C4
	11,7	120	272,6	1,0		
	15,6	90	220,8	1,2		
	11,7	120	272,6	1,0	ERS75 - PC80	80-A4
	9,3	150	318,7	0,8		
	10,0	90	327,4	1,0	ERS75 - PC80	80-B6
	11,3	80	181,4	1,4	ERS90	80-A4
	9,0	100	212,2	1,1		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

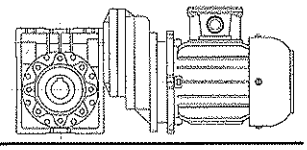
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	18,0	50	190,1	1,9	ERS90	80-B6
	15,0	60	215,0	1,5		
	11,3	80	264,0	1,0		
	9,0	100	302,4	0,9		
	15,6	90	230,4	2,2	ERS90 - PC80	80-A4
	11,7	120	285,1	1,5		
	9,3	150	340,8	1,2		
	7,8	180	382,1	1,0		
	10,0	90	342,7	1,9	ERS90 - PC80	80-B6
	7,5	120	423,4	1,3		
	6,0	150	495,4	1,0		
	5,0	180	554,9	0,9		
	9,3	300	293,8	1,9	ERS40 - ERS90	71-B2
	7,0	400	386,9	1,4		
	5,6	500	451,2	1,1		
	17,5	80	193,0	2,5	ERS110	80-A4
	14,0	100	226,6	1,9		
0,55 kW	11,3	80	282,2	1,8	ERS110	80-B6
0,75 HP	9,0	100	324,5	1,4		
	7,8	180	408,0	17,1	ERS110 - PC80	80-A4
	5,8	240	492,5	1,2		
	4,7	300	573,1	1,0		
	4,7	300	613,4	1,9	ERS50 - ERS110	80-A4
	3,5	400	793,0	1,3		
	2,8	500	944,6	1,0		
	2,3	600	1133,8	1,0		
	1,9	750	1354,6	0,9		
	7,5	120	443,5	2,5	ERS110 - PC80	80-B6
	6,0	150	529,9	1,9		
	5,0	180	595,2	1,5		
	3,8	240	725,8	1,0		
	3,8	240	725,8	1,5	ERS130 - PC80	80-B6
	3,0	300	823,7	1,2		
	2,8	500	956,2	1,5	ERS63 - ERS130	80-A4
	1,9	750	1412,2	1,1		
	1,2	1200	2046,7	0,8		
	373,3	7,5	16,3	1,5	ERS40	80-A2
	280,0	10	22,1	1,2		
	186,7	15	30,7	1,0		
	373,3	7,5	16,3	2,9	ERS50	80-A2
	280,0	10	22,1	2,3		
	186,7	15	31,7	1,6		
	140,0	20	40,3	1,2		
	93,3	30	55,7	1,0		
0,75 kW	186,7	7,5	32,6	2,0	ERS50	80-B4
1 HP	140,0	10	42,2	1,5		
	93,3	15	60,5	1,1		
	70,0	20	77,8	0,9		
	140,0	20	41,3	2,2	ERS63	80-A2
	93,3	30	57,6	1,9		
	70,0	40	73,9	1,3		
	56,0	50	87,4	1,0		
	46,7	60	99,8	0,9		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

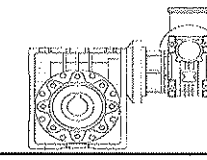
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* ($f_{s)}$	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	93,3	15	61,4	2,1		
	70,0	20	79,7	1,5	ERS63	80-B4
	46,7	30	109,4	1,3		
	35,0	40	137,3	1,0		
	120,0	7,5	49,9	2,8		
	90,0	10	65,3	2,2		
	60,0	15	93,1	1,5	ERS63	90-S6
	45,0	20	118,1	1,1		
	30,0	30	160,3	1,0		
	46,7	60	104,6	1,2		
	35,0	80	128,6	1,0	ERS75	80-A2
	28,0	100	149,8	0,8		
	46,7	30	112,3	1,9		
	35,0	40	141,1	1,4	ERS75	80-B4
	28,0	50	169,9	1,1		
	23,3	60	192,0	1,0		
	60,0	15	94,1	2,3		
	45,0	20	121,0	1,8	ERS75	90-S6
	30,0	30	167,0	1,4		
	22,5	40	207,4	1,0		
	15,6	90	300,5	1,0	ERS75 - PC80	80-B4
	35,0	80	135,4	1,5	ERS90	80-A2
	28,0	100	159,4	1,1		
	28,0	50	176,6	1,7		
	23,3	60	203,5	1,4	ERS90	80-B4
0,75 kW	17,5	80	247,7	1,0		
	14,0	100	289,9	0,9		
1 HP	30,0	30	171,8	2,5		
	22,5	40	217,0	1,7	ERS90	90-S6
	18,0	50	260,2	1,3		
	15,0	60	293,8	1,0		
	15,6	90	313,9	1,6		
	11,7	120	388,8	1,1	ERS90 - PC80	80-B4
	9,3	150	463,7	0,9		
	7,8	180	521,3	0,7		
	7,0	400	527,0	1,0	ERS40 - ERS90	80-A2
	5,6	500	616,3	0,9		
	17,5	80	263,0	1,8	ERS110	80-B4
	14,0	100	309,1	1,4		
	15,0	60	312,0	2,0		
	11,3	80	385,0	1,3	ERS110	90-S6
	9,0	100	443,5	1,0		
	11,7	120	412,8	2,1		
	9,3	150	485,8	1,6	ERS110 - PC80	80-B4
	7,8	180	556,8	1,2		
	5,8	240	672,0	0,9		
	10,0	90	487,7	2,2		
	7,5	120	582,7	1,7	ERS110 - PC90	90-S6
	6,0	150	654,7	1,4		
	4,6	195	798,7	1,0		
	9,3	300	428,2	2,7		
	7,0	400	540,5	2,0	ERS50 - ERS110	80-A2
	5,6	500	659,5	1,5		
	9,3	300	836,2	1,4	ERS50 - ERS110	80-B4
	7,0	400	1081,0	1,0		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

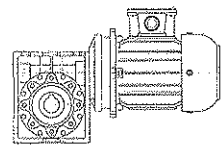
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* **(f_{s1})**	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
0,75 kW ***1 HP***	11,3	80	390,7	2,0	ERS130	90-S6
	9,0	100	451,2	1,6		
	5,8	240	683,5	1,3	ERS130 - PC80	80-B4
	4,7	300	780,5	1,0		
	10,0	90	487,7	3,0	ERS130 - PC90	90-S6
	7,5	120	582,7	2,5		
	6,0	150	654,7	2,0		
	4,6	195	798,7	1,4		
	3,8	240	906,2	1,1		
	5,6	500	1303,7	1,0	ERS63 - ERS130	80-B4
	4,7	600	1565,8	1,0		
	3,7	750	1924,8	0,9		
	3,1	900	2191,7	0,8		
	5,6	500	1239,4	1,7	ERS63 - ERS150	80-B4
	4,7	600	1467,8	1,6		
	3,7	750	1711,7	1,2		
	3,1	900	2126,4	1,0		
	2,3	1200	2572,8	0,9		
	373,3	7,5	24,0	2,0	ERS50	80-B2
	280,0	10	31,7	1,5		
	186,7	15	46,1	1,1		
	140,0	20	59,5	0,9		
	186,7	15	46,1	2,0	ERS63	80-B2
	140,0	20	60,5	1,5		
	93,3	30	84,5	1,3		
	70,0	40	108,5	1,0		
	186,7	7,5	48,0	2,5	ERS63	90-S4
	140,0	10,0	62,4	1,9		
	93,3	15,0	89,3	1,4		
	70,0	20,0	117,1	1,0		
	46,7	30,0	160,3	1,0		
1,1 kW ***1,5 HP***	120,0	7,5	73,0	1,9	ERS63	90-L6
	90,0	10	95,0	1,4		
	60,0	15	136,3	1,0		
	45,0	20	172,8	0,8		
	93,3	30	86,4	1,8	ERS75	80-B2
	70,0	40	111,4	1,3		
	56,0	50	133,4	1,0		
	46,7	60	153,6	0,9		
	93,3	15	92,2	2,0	ERS75	90-S4
	70,0	20	118,1	1,6		
	46,7	30	164,2	1,2		
	35,0	40	207,4	1,0		
	90,0	10	96,0	2,2	ERS75	90-L6
	60,0	15	138,2	1,5		
	45,0	20	176,6	1,2		
	30,0	30	245,8	1,0		
	35,0	80	198,7	1,0	ERS90	80-B2
	28,0	100	234,2	0,8		
	35,0	40	216,0	1,5	ERS90	90-S4
	28,0	50	259,2	1,2		
	23,3	60	298,6	1,0		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

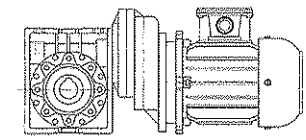
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* ($f_{s)}$	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	30,0	30	252,5	1,7		
	22,5	40	317,8	1,1	ERS90	90-L6
	18,0	50	381,1	1,0		
	15,0	60	430,1	0,8		
	28,0	50	269,8	2,2		
	23,3	60	311,0	1,8	ERS110	90-S4
	17,5	80	385,9	1,2		
	14,0	100	454,1	1,0		
	22,5	40	331,2	2,2		
	18,0	50	397,4	1,7	ERS110	90-L6
	15,0	60	457,0	1,3		
	11,3	80	564,5	1,0		
	10,0	90	716,2	1,5		
	7,5	120	854,4	1,1	ERS110 - PC90	90-L6
	6,0	150	960,0	1,0		
	15,6	90	487,7	1,7		
	11,7	120	575,0	1,4	ERS110 - PC90	90-S4
	9,3	150	658,6	1,0		
	7,2	195	794,9	0,8		
	9,3	300	627,8	1,8		
	7,0	400	811,2	1,3	ERS50 - ERS110	80-B2
	5,6	500	966,7	1,0		
1,1 kW	17,5	80	391,7	2,0	ERS130	90-S4
1,5 HP	14,0	100	460,8	1,4		
	11,3	80	574,1	1,3	ERS130	90-L6
	9,0	100	661,4	1,0		
	10,0	90	716,2	2,1		
	7,5	120	854,4	1,6	ERS130 - PC90	90-L6
	6,0	150	960,0	1,3		
	4,6	195	1171,2	1,0		
	15,6	90	487,7	2,5		
	11,7	120	583,7	1,9		
	9,3	150	658,6	1,5	ERS130 - PC90	90-S4
	7,2	195	809,3	1,1		
	5,8	240	923,5	0,9		
	4,7	300	1259,5	1,2		
	3,5	400	1604,2	1,0	ERS63 - ERS130	90-S4
	2,8	500	1911,4	0,8		
	9,3	150	722,9	2,9		
	7,0	200	927,4	2,3		
	5,6	250	240,0	1,6		
	4,7	300	1309,4	1,6	ERS63 - ERS150	90-S4
	3,5	400	1554,2	1,5		
	2,8	500	1817,3	1,1		
	2,3	600	2152,3	1,1		
	1,9	750	2511,4	0,9		
	373,3	7,5	33,6	1,4		
	280,0	10	43,2	1,1	ERS50	90-S2
	186,7	15	62,4	0,9		
1,5 kW	373,3	7,5	33,6	2,6		
2 HP	280,0	10	44,2	2,0		
	186,7	15	63,4	1,5	ERS63	90-S2
	140,0	20	82,6	1,1		
	93,3	30	115,2	1,0		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

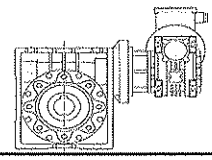
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* ($f_{s)}$	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	186,7	7,5	65,3	1,8		
	140,0	10	85,4	1,4	ERS63	90-L4
	93,3	15	121,9	1,0		
	70,0	20	159,4	0,8		
	280,0	10	44,2	2,9		
	186,7	15	64,3	2,1		
	140,0	20	83,5	1,7		
	93,3	30	118,1	1,3	ERS75	90-S2
	70,0	40	151,7	1,0		
	56,0	50	181,4	0,8		
	46,7	60	209,3	0,7		
	140,0	10	86,4	2,1		
	93,3	15	124,8	1,4	ERS75	90-L4
	70,0	20	161,3	1,2		
	46,7	30	223,7	1,0		
	120,0	7,5	100,8	1,9		
	90,0	10	131,5	1,6	ERS75	100-LA6
	60,0	15	188,2	1,1		
	56,0	50	186,2	1,3	ERS90	90-S2
	46,7	60	265,9	1,0		
	70,0	20	165,1	2,0		
	46,7	30	229,4	1,6		
	35,0	40	294,7	1,1	ERS90	90-L4
	28,0	50	353,3	0,9		
	23,3	60	407,0	0,8		
	90,0	10	132,5	2,6		
1,5 kW	60,0	15	193,0	2,0	ERS90	100-LA6
2 HP	45,0	20	247,7	1,4		
	30,0	30	343,7	1,2		
	46,7	60	226,6	1,9		
	35,0	80	287,0	1,2	ERS110	90-S2
	28,0	100	338,9	1,0		
	35,0	40	306,2	2,1		
	28,0	50	368,6	1,6	ERS110	90-L4
	23,3	60	424,3	1,3		
	17,5	80	526,1	0,9		
	45,0	20	253,4	2,6		
	30,0	30	348,5	2,2		
	22,5	40	452,2	1,6	ERS110	100-L6
	18,0	50	542,4	1,2		
	15,0	60	623,0	1,0		
	15,6	90	665,3	1,2		
	11,7	120	784,3	1,0	ERS110 - PC90	90-L6
	9,3	150	898,6	0,8		
	9,3	300	855,4	1,3		
	7,0	400	1106,9	1,0	ERS50 - ERS110	90-S2
	5,6	500	1318,1	0,8		
	17,5	80	534,7	1,4	ERS130	90-L4
	14,0	100	628,8	1,0		
	22,5	40	467,5	2,2		
	18,0	50	550,1	1,7	ERS130	100-LA6
	15,0	60	632,6	1,3		
	11,3	80	782,4	1,0		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

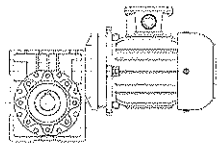
Worm Geared Reducers Performance Tables



Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	15,6	90	665,3	1,8		
	11,7	120	796,8	1,4	ERS130 - PC90	90-L4
	9,3	150	898,6	1,0		
	7,8	180	1103,0	0,8		
	9,3	300	878,4	1,8		
	7,0	400	1119,4	1,3	ERS63 - ERS130	90-S2
	5,6	500	1333,4	1,0		
1,5 kW	4,7	300	1717,4	1,0	ERS63 - ERS130	90-L4
2 HP	3,5	400	2187,8	0,7		
	9,3	150	985,0	2,2		
	7,0	200	1264,3	1,7		
	5,6	250	1537,9	1,2		
	4,7	300	1785,6	1,2	ERS63 - ERS150	90-L4
	3,5	400	2119,7	1,1		
	2,8	500	2478,7	0,9		
	2,3	600	2934,7	0,9		
	373,3	7,5	49,0	1,7		
	280,0	10	64,3	1,4	ERS63	90-L2
	186,7	15	93,1	1,0		
	373,3	7,5	49,0	2,4		
	41,2	68	65,3	2,0		
	186,7	15	94,1	1,4	ERS75	90-L2
	140,0	20	122,9	1,2		
	93,3	30	172,8	0,9		
	186,7	7,5	96,0	1,7		
	140,0	10	126,7	1,4	ERS75	100-LA4
	93,3	15	183,4	1,0		
	140,0	20	125,8	1,9		
	93,3	30	177,6	1,6	ERS90	90-L2
	70,0	40	227,5	1,1		
	56,0	50	273,6	8,6		
	186,7	7,5	97,0	2,8		
	140,0	10	128,6	2,2		
	93,3	15	186,2	1,8	ERS90	100-LA4
2,2 kW	70,0	20	241,9	1,3		
3 HP	46,7	30	337,0	1,1		
	120,0	7,5	149,8	2,1		
	90,0	10	194,9	1,7	ERS90	112-M6
	60,0	15	282,2	1,3		
	45,0	20	362,9	1,0		
	93,3	30	179,5	2,9		
	70,0	40	236,2	2,0	ERS110	90-S2
	56,0	50	284,2	1,6		
	46,7	60	333,1	1,3		
	70,0	20	244,8	2,4		
	46,7	30	341,8	1,9		
	35,0	40	449,3	1,4	ERS110	100-LA4
	28,0	50	540,5	1,1		
	23,3	60	622,1	1,0		
	90,0	10	196,8	3,3		
	60,0	15	286,1	2,5	ERS110	112-M6
	45,0	20	372,5	1,8		
	30,0	30	510,7	1,5		
	31,1	90	495,4	1,4	ERS110 - PC90	90-L2
	23,1	121	592,3	1,1		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

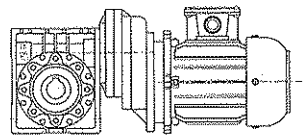
Worm Geared Reducers Performance Tables



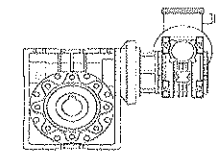
Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* ($f_{s)}$	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	35,0	80	420,5	1,2	ERS130	90-L2
	28,0	100	504,0	1,0		
	35,0	40	449,3	2,1		
	28,0	50	540,5	1,6	ERS130	100-LA4
	23,3	60	622,1	1,3		
	17,5	80	783,4	1,0		
	30,0	30	524,2	2,0		
2,2 kW	22,5	40	672,0	1,5	ERS130	112-M6
	18,0	50	806,4	1,1		
3 HP	15,0	60	927,4	1,0		
	31,1	90	523,2	1,9		
	23,3	120	627,8	1,5	ERS130 - PC90	90-L2
	18,7	150	721,9	1,2		
	28,0	50	547,2	2,4		
	23,3	60	630,7	1,8	ERS150	100-LA4
	17,5	80	783,4	1,3		
	14,0	100	921,6	1,0		
	373,3	7,5	67,2	1,8	ERS75	100-LA2
	280,0	10	88,3	1,5		
	186,7	7,5	131,5	1,3		
	140,0	10	172,8	9,5	ERS75	100-LB4
	93,3	15	250,6	14,3		
	373,3	7,5	68,2	2,9	ERS90	100-LA2
	280,0	10	88,3	2,5		
	186,7	7,5	132,5	2,0		
	140,0	10	174,7	1,6		
	93,3	15	253,4	1,3	ERS90	100-LB4
	70,0	20	330,2	1,0		
	46,7	30	403,2	0,9		
	93,3	15	253,4	2,4		
	70,0	20	334,1	1,8		
	46,7	30	465,6	1,4	ERS110	100-LB4
	35,0	40	612,5	1,0		
3 kW	28,0	50	736,3	0,9		
	120,0	7,5	203,5	2,9		
4 HP	90,0	10	268,8	2,4	ERS110	132-S6
	60,0	15	389,8	1,8		
	45,0	20	506,9	1,3		
	46,7	30	471,4	2,0		
	35,0	40	612,5	1,5		
	28,0	50	736,3	1,2	ERS130	100-LB4
	23,3	60	848,6	1,0		
	17,5	80	1068,5	0,8		
	90,0	10	268,8	3,2		
	60,0	15	389,8	2,5		
	45,0	20	513,6	1,8	ERS130	132-S6
	30,0	30	715,2	1,5		
	22,5	40	916,8	1,1		
	28,0	50	746,9	1,7		
	23,3	60	860,2	1,3		
	17,5	80	1068,5	1,0	ERS150	100-LB4
	14,0	100	1257,6	0,8		

Sonsuz Vidalı Redüktörler Güç Devir Tablosu

Worm Geared Reducers Performance Tables



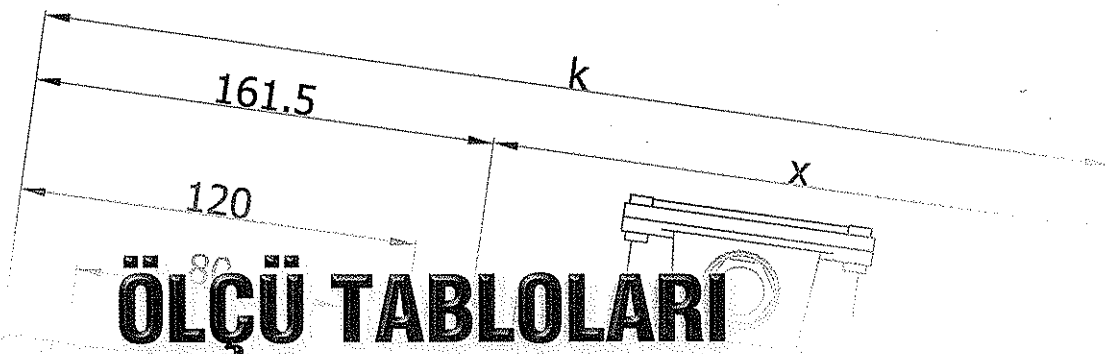
Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
	373,3	7,5	89,3	1,3		
	280,0	10	118,1	1,1	ERS75	112-M2
	186,7	15	174,7	1,0		
	140,0	20	230,4	0,8		
	373,3	7,5	90,2	2,1	ERS90	112-M2
	280,0	10	118,1	1,8		
	186,7	7,5	176,6	1,5		
	140,0	10	233,3	1,5	ERS90	112-M4
	93,3	15	337,9	1,0		
	70,0	20	439,7	0,8		
	140,0	10	233,3	2,4		
	93,3	15	337,9	1,8		
	70,0	20	445,4	1,3	ERS110	112-M4
4 kW	56,0	25	550,1	1,1		
5,5 HP	46,7	30	621,1	1,0		
	120,0	7,5	271,7	2,2		
	90,0	10	359,0	1,8	ERS110	132-M6
	60,0	15	519,4	1,3		
	46,7	30	628,8	1,5		
	35,0	40	817,0	1,1	ERS130	112-M4
	28,0	50	982,1	1,0		
	23,3	60	1131,8	0,8		
	120,0	7,5	275,5	2,9		
	90,0	10	359,0	2,5	ERS130	132-M6
	60,0	15	519,4	1,9		
	45,0	20	684,5	1,4		
	28,0	50	995,5	1,3		
	23,3	60	1147,2	1,0	ERS150	112-M4
	17,5	80	1424,6	0,8		
	186,7	7,5	242,9	2,1		
	140,0	10	320,6	1,7	ERS110	132-S4
	93,3	15	464,6	1,3		
	70,0	20	612,5	1,0		
	140,0	10	320,6	2,4		
	93,3	15	470,4	1,8		
5,5 kW	70,0	20	619,2	1,3	ERS130	132-S4
7,5 HP	46,7	30	864,0	1,1		
	35,0	40	1124,2	0,9		
	70,0	20	619,2	1,9		
	46,7	30	896,6	1,2		
	35,0	40	1124,2	1,2	ERS150	132-S4
	28,0	50	1369,0	1,0		
	23,3	60	1577,3	0,8		
	186,7	7,5	331,2	1,5		
	140,0	10	436,8	1,2	ERS110	132-L4
	93,3	15	633,6	1,0		
	186,7	7,5	335,0	2,0		
	140,0	10	436,8	1,7		
7,5 KW	93,3	15	641,3	1,3	ERS130	132-L4
10 HP	70,0	20	844,8	1,0		
	46,7	30	1178,9	0,8		
	35,0	40	1532,2	0,7		
	70,0	20	844,8	1,4		
	46,7	30	1223,0	0,9	ERS150	132-L4
	35,0	40	1532,2	1,0		



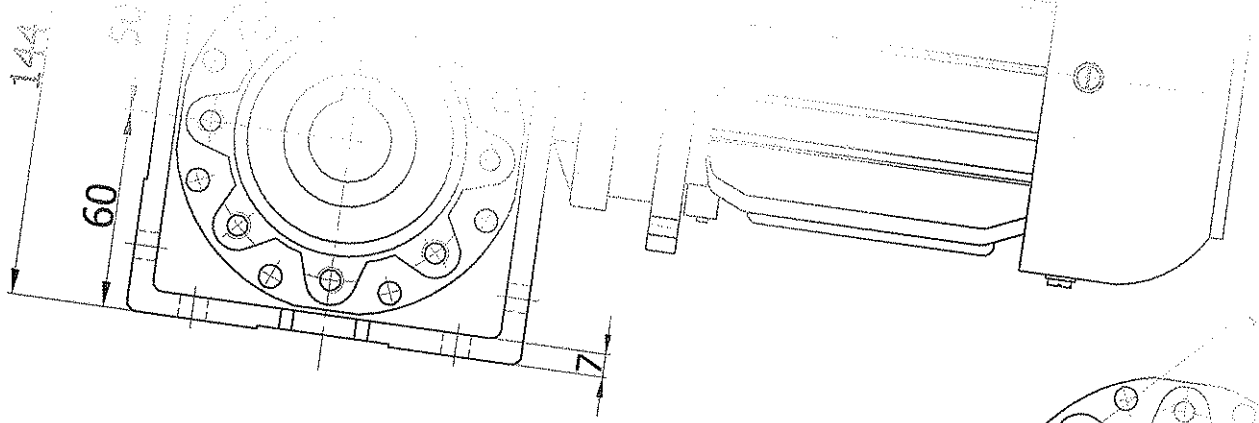
Sonsuz Vidalı Redüktörler Güç Devir Tablosu

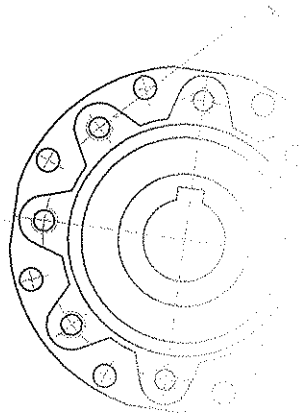
Worm Geared Reducers Performance Tables

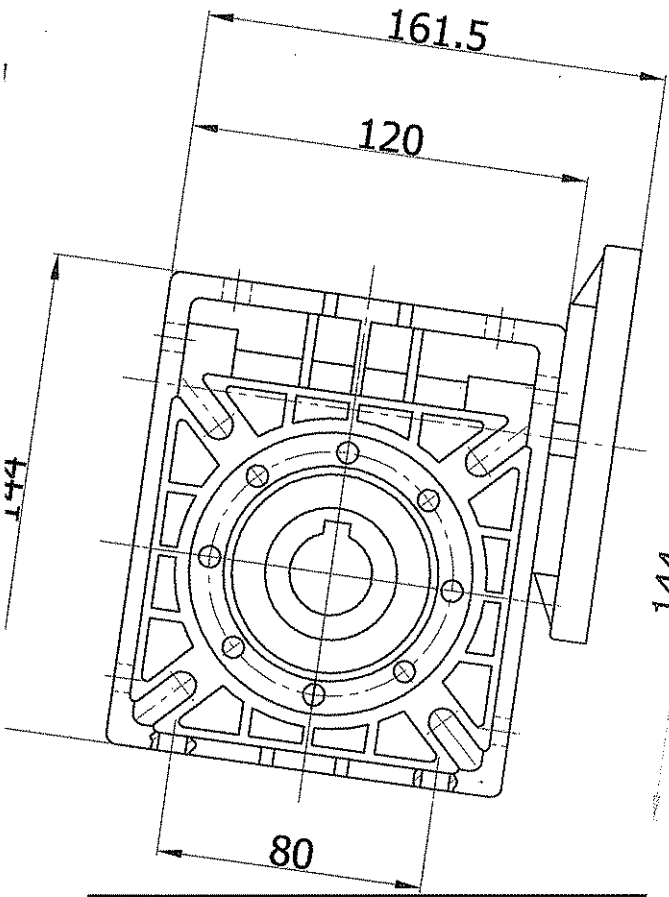
Motor Gücü Motor *Power*	**Çıkış Devri (d/d)** Output *Speed(rpm)*	**Çevrim Oranı (i)** Ratio	**Çıkış Momenti** *Output Torque* **(Nm)**	**Servis Faktörü** *Service Factors* (f_s)	**Redüktör Tipi** *Type*	**Motor Boyutu** Motor *Size*
11 KW	186,7	7,5	491,5	2,2	ERS150	160-M4
	140,0	10	648,0	1,7		
15 HP	93,3	15	950,4	1,2		
	70,0	20	1239,4	1,0		
15 KW	186,7	7,5	670,1	1,6	ERS150	160-L4
	140,0	10	884,2	1,2		
20 HP	93,3	15	1297,0	0,9		
	70,0	20	1689,6	0,7		

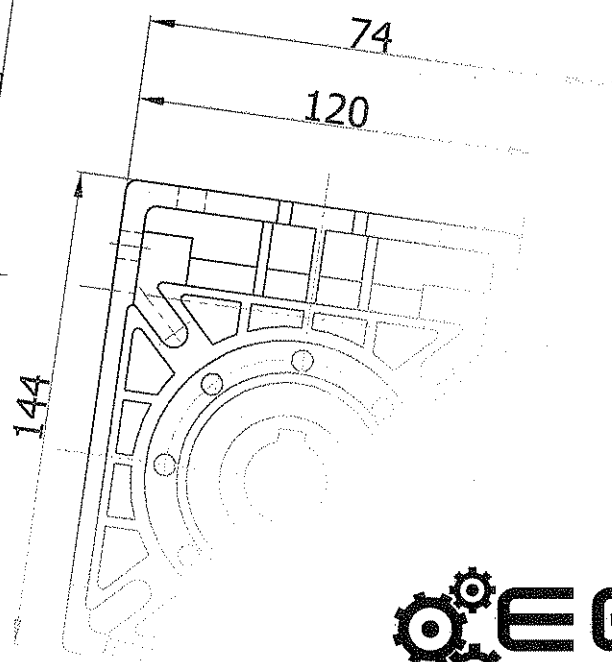


ÖLÇÜ TABLOLARI
Dimension Tables



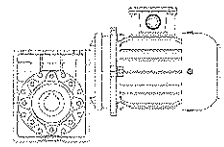


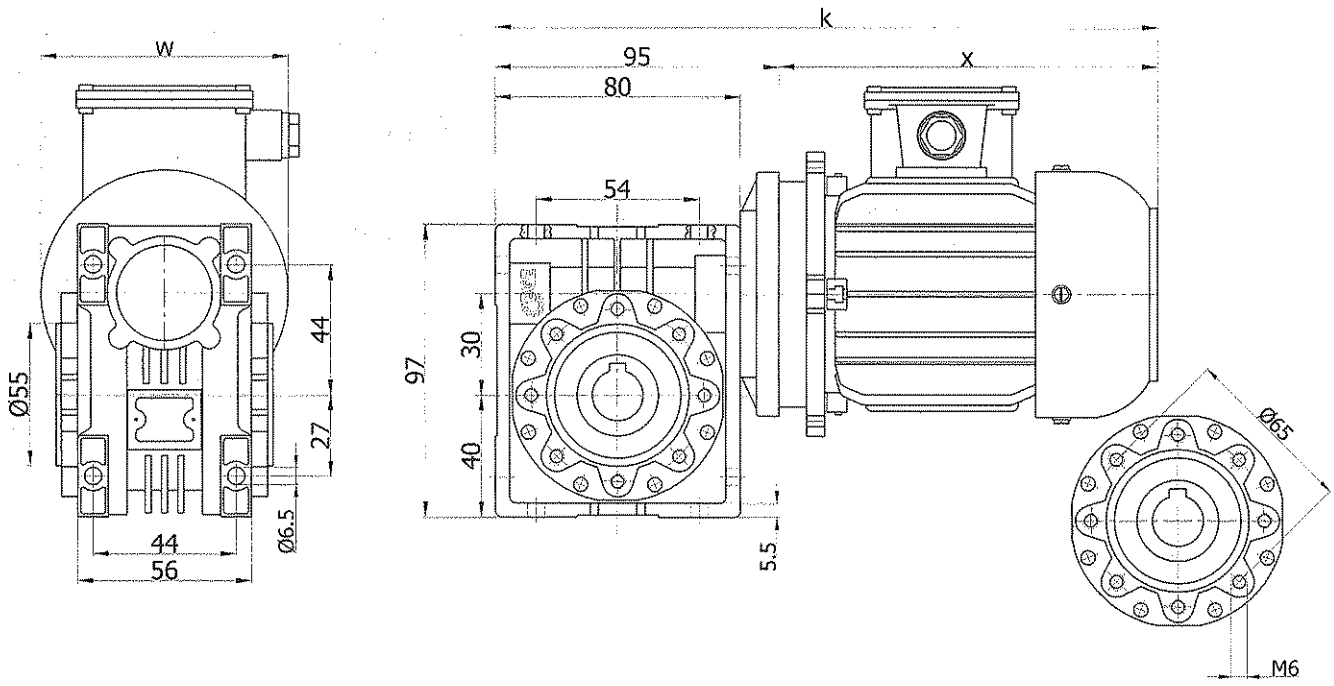


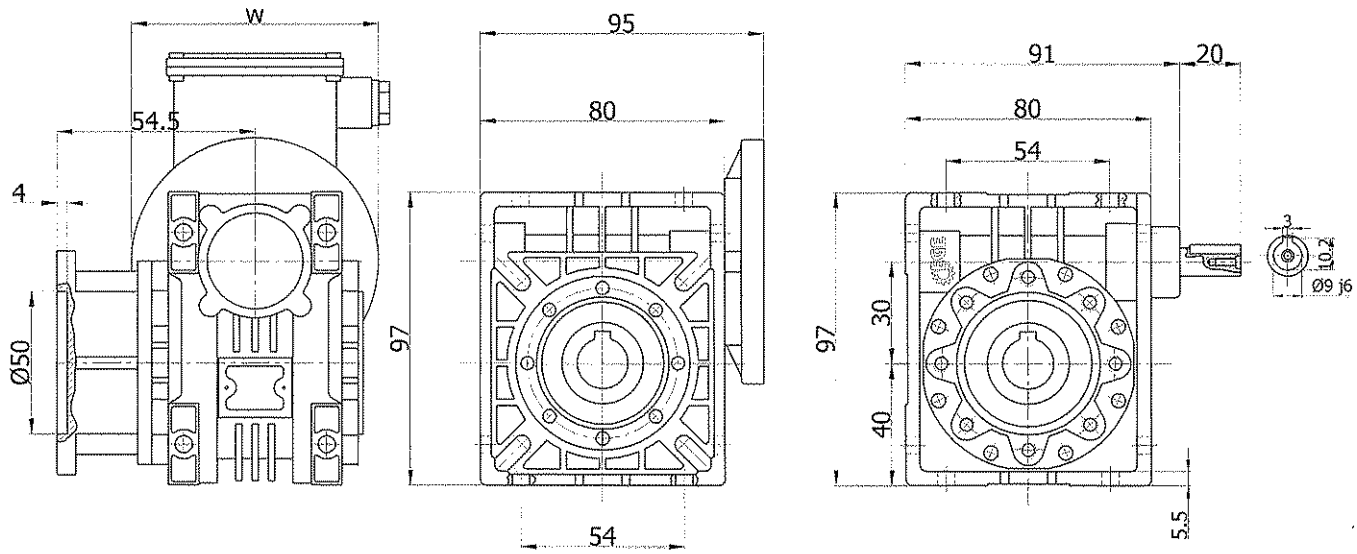


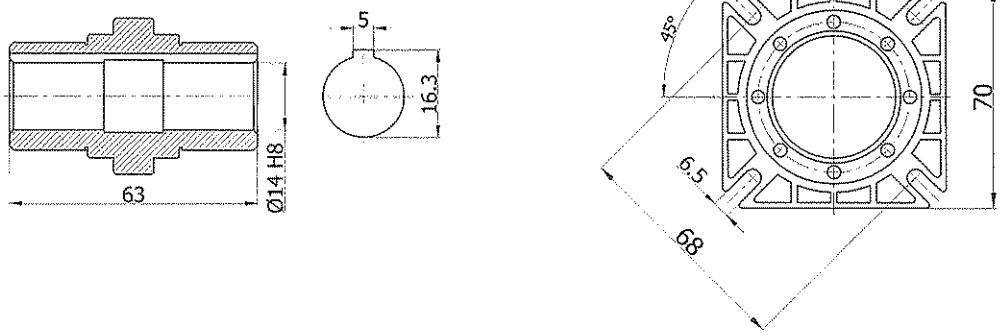
ERS30 Sonsuz Vidalı Motorlu Redüktör

ERS30 Motorized Worm Gear Reducer





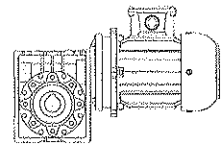


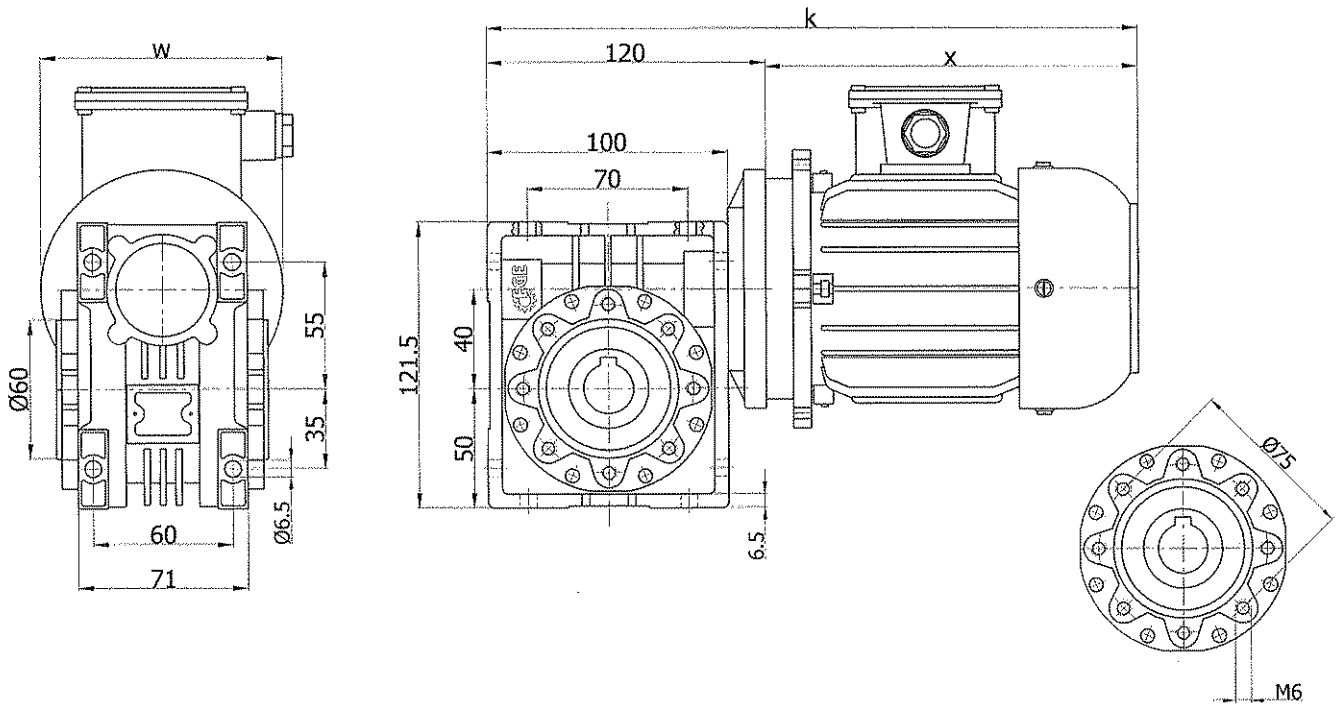


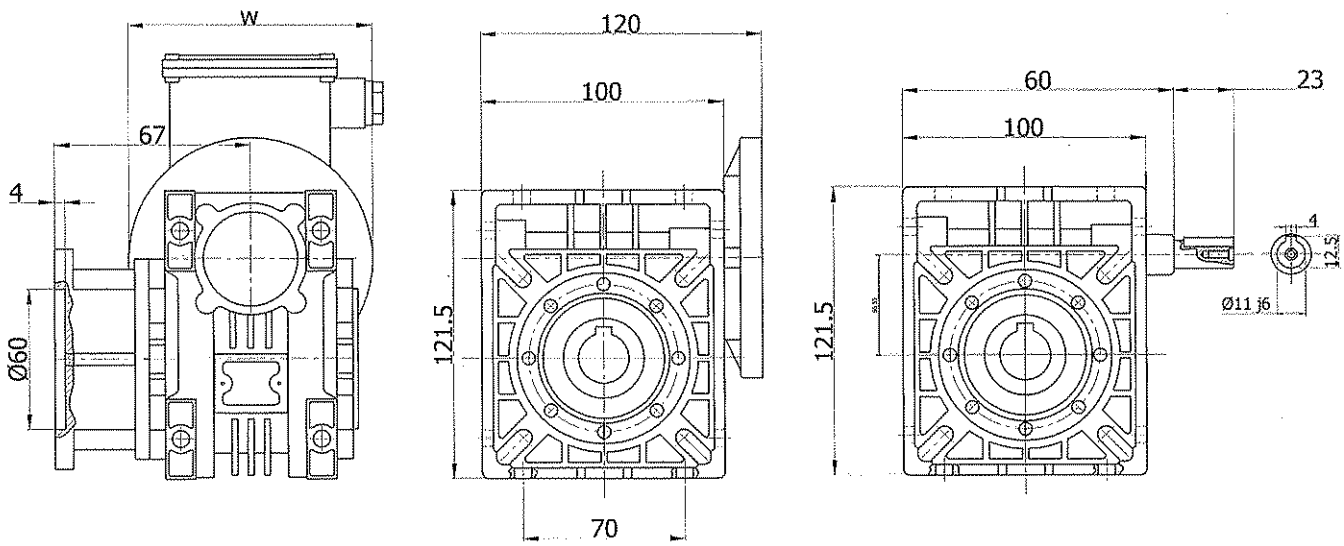
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

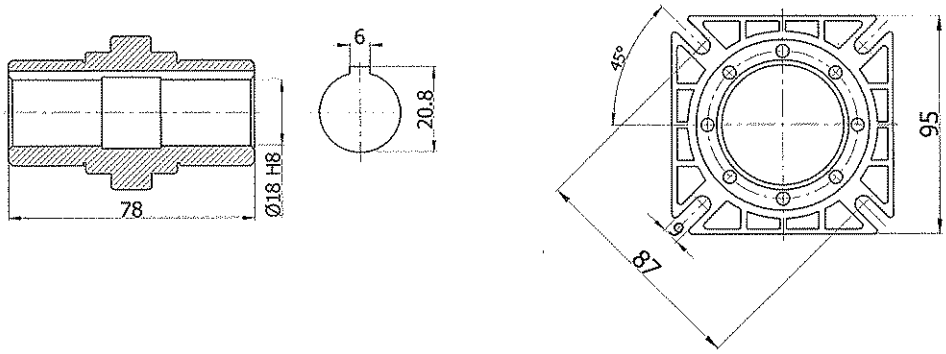
ERS40 Sonsuz Vidalı Motorlu Redüktör

ERS40 Motorized Worm Gear Reducer





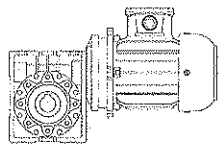


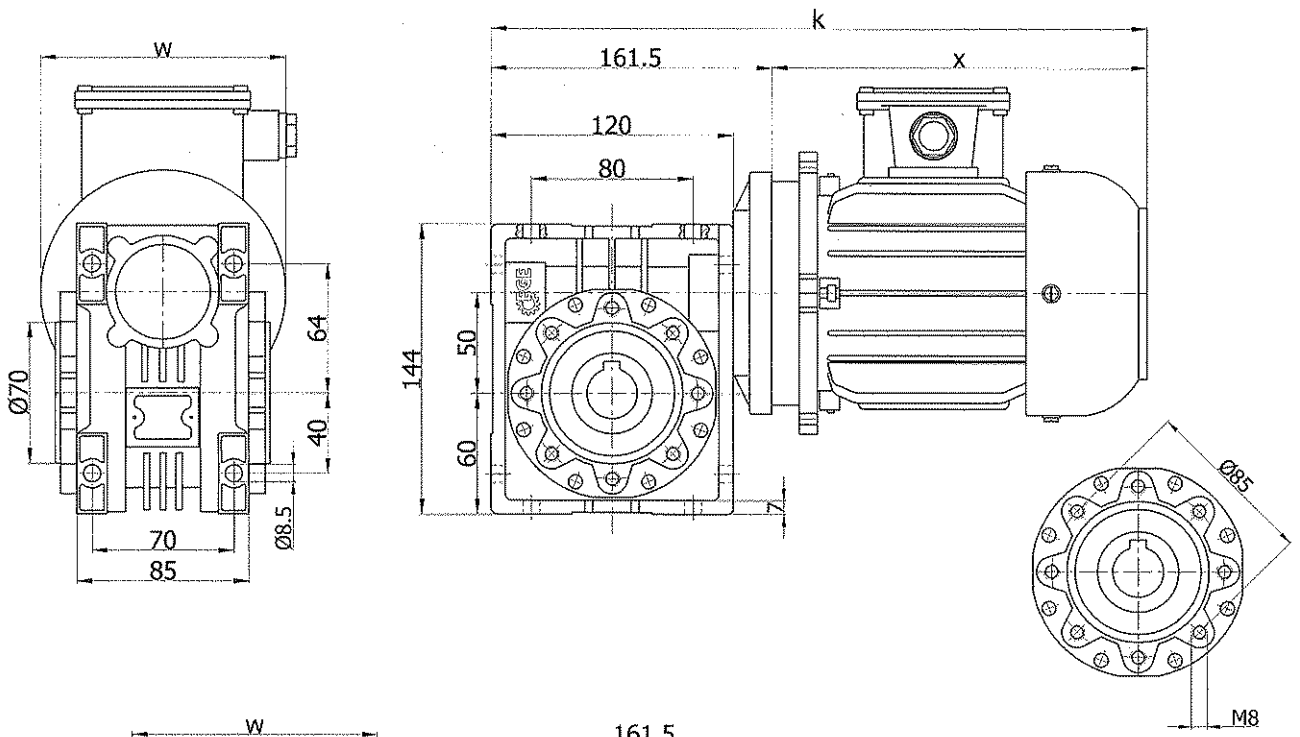


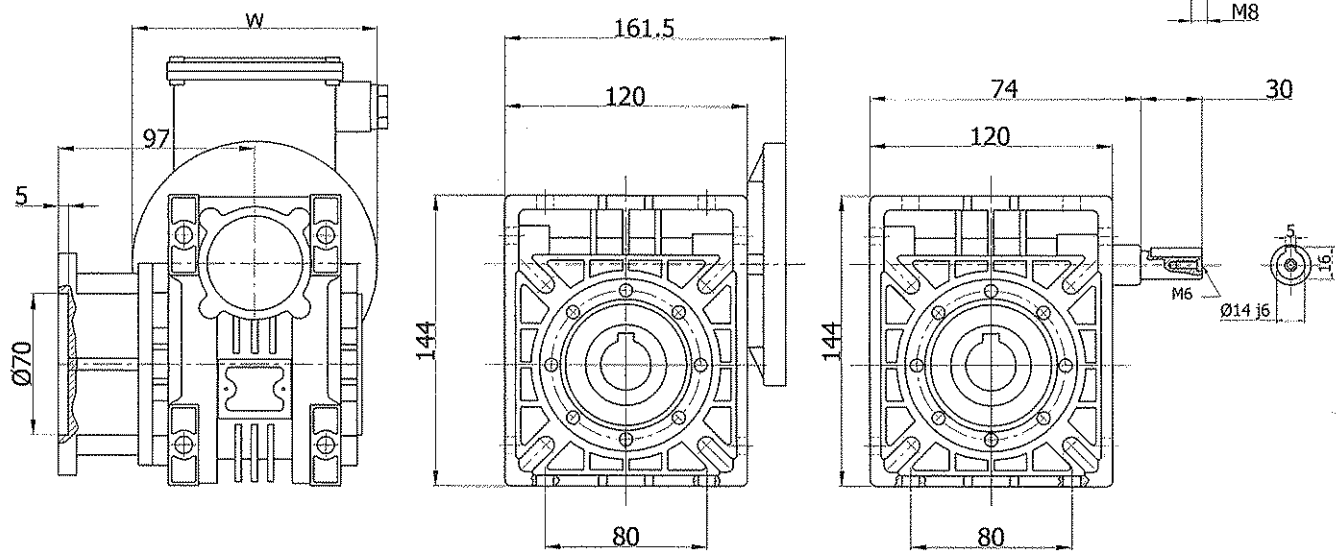
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

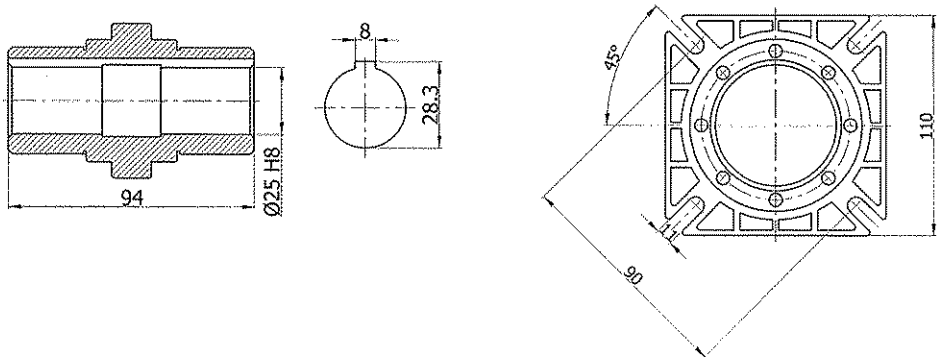
ERS50 Sonsuz Vidalı Motorlu Redüktör

ERS50 Motorized Worm Gear Reducer





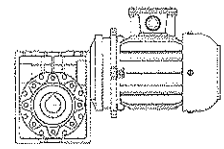


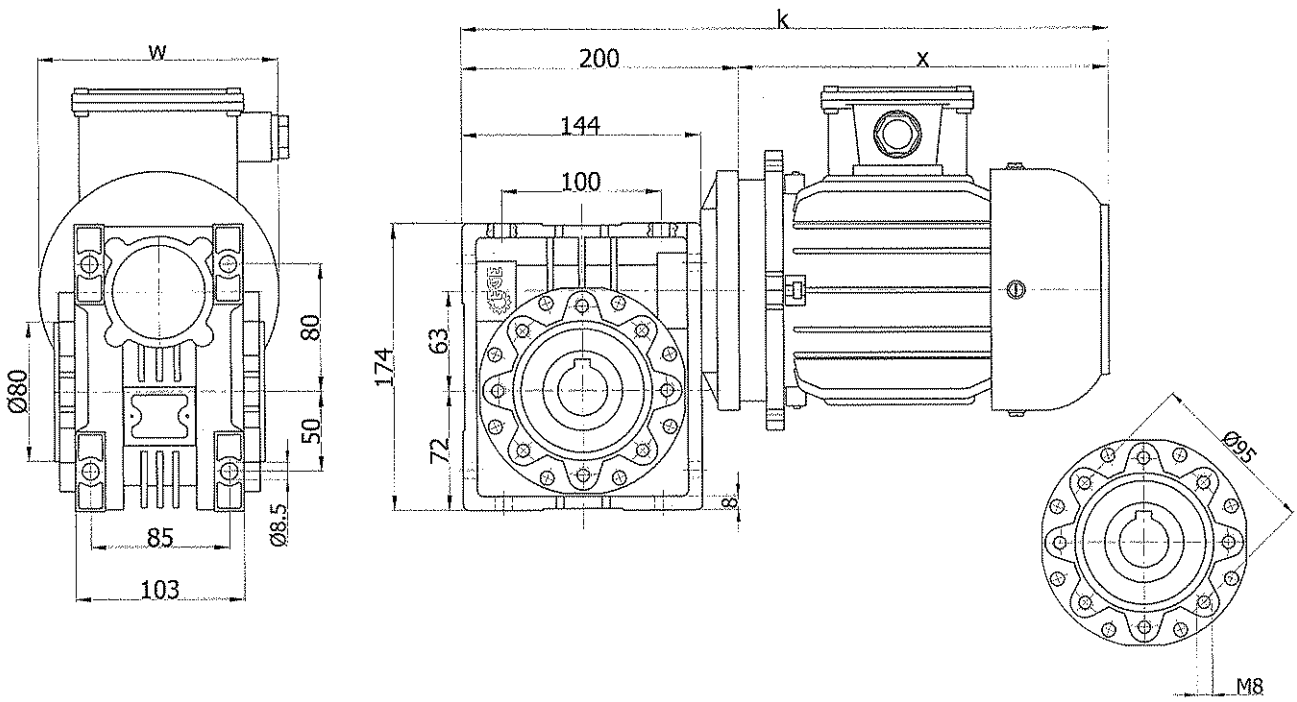


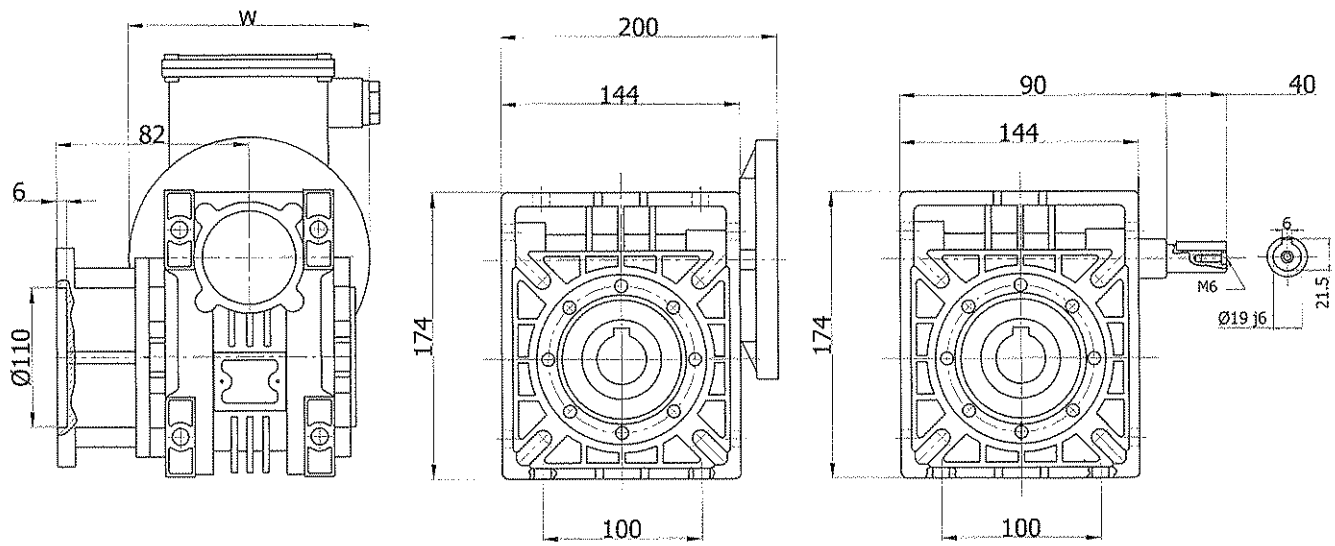
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

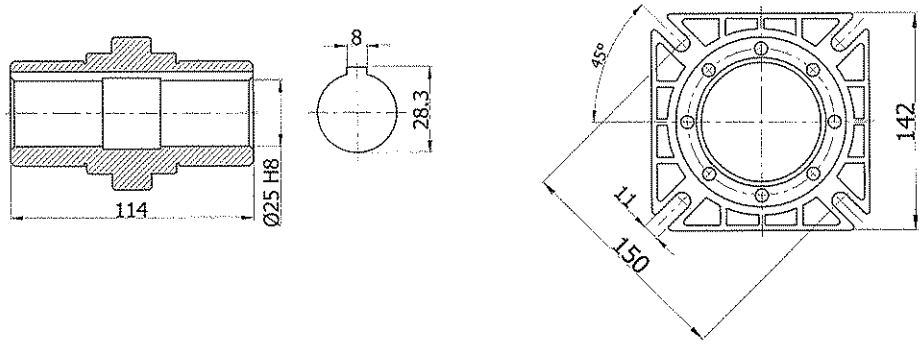
ERS63 Sonsuz Vidalı Motorlu Redüktör

ERS63 Motorized Worm Gear Reducer





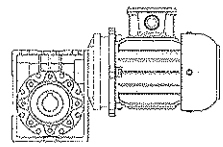


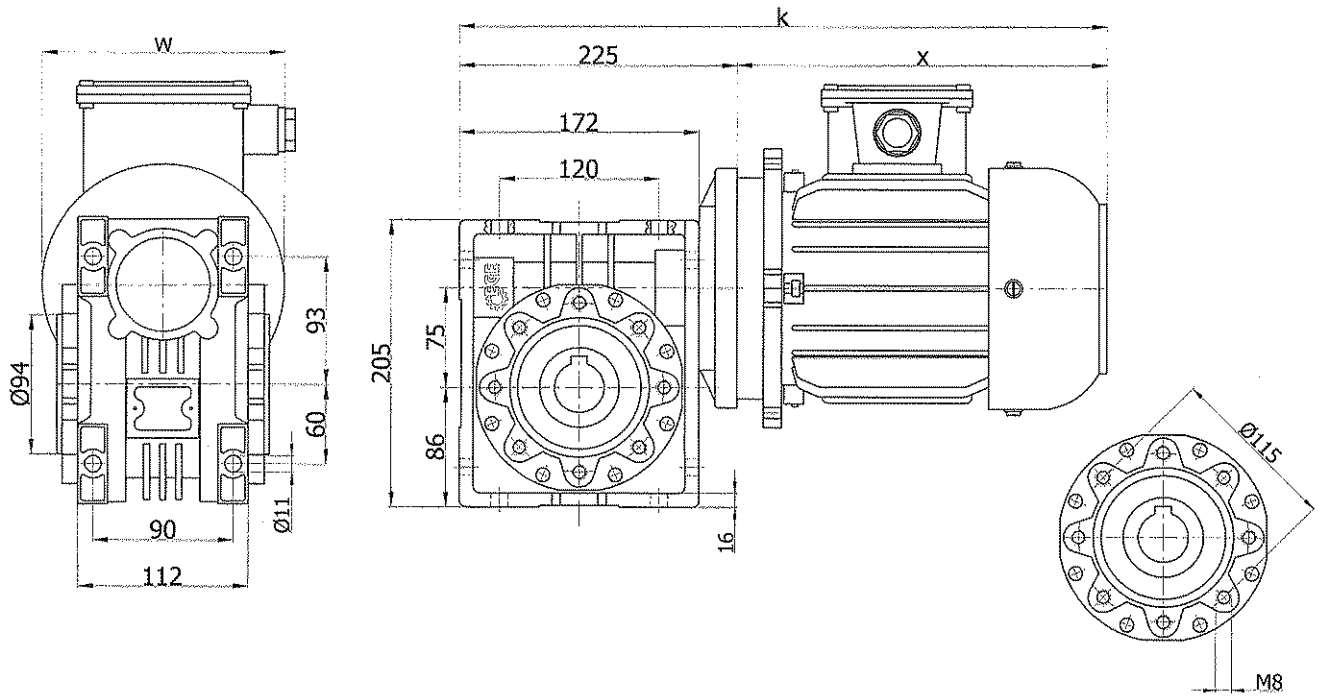


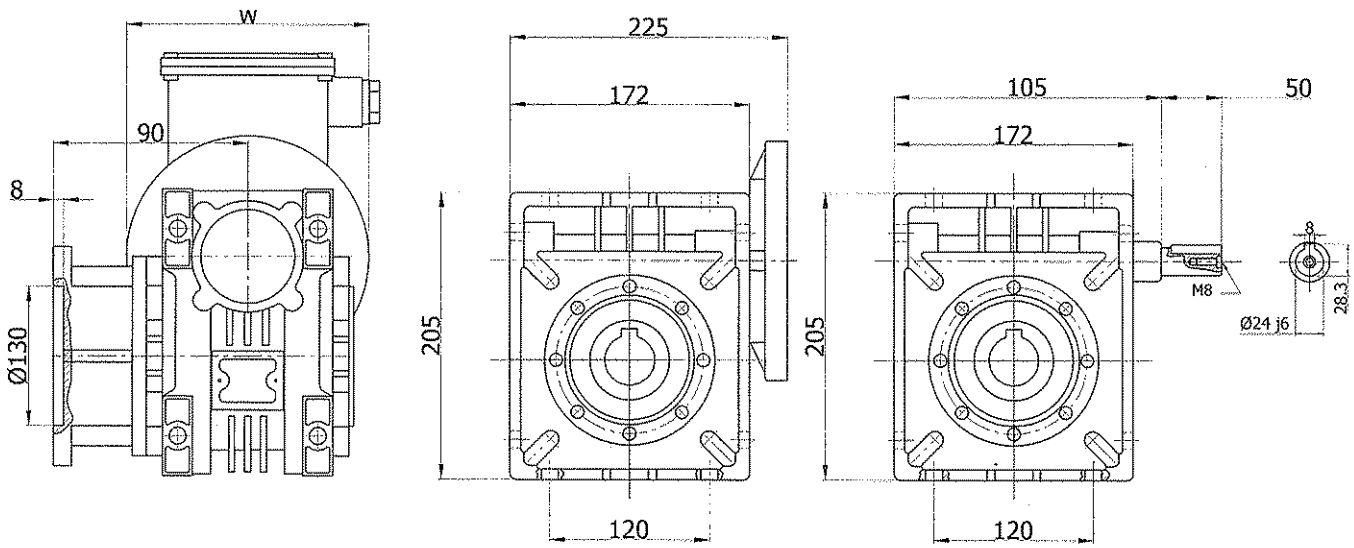
Not: **"k", "x", "w"** ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"k", "w", "x"** dimensions varies according to electrical motor body size. Please look at motor dimension table.

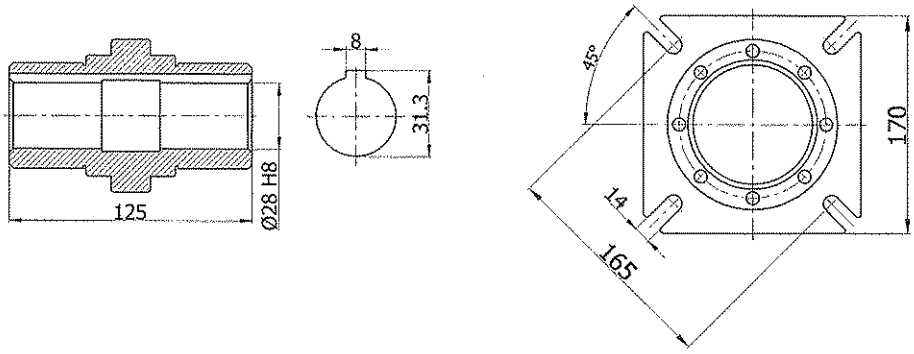
ERS75 Sonsuz Vidalı Motorlu Redüktör

ERS75 Motorized Worm Gear Reducer





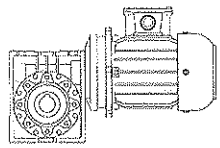


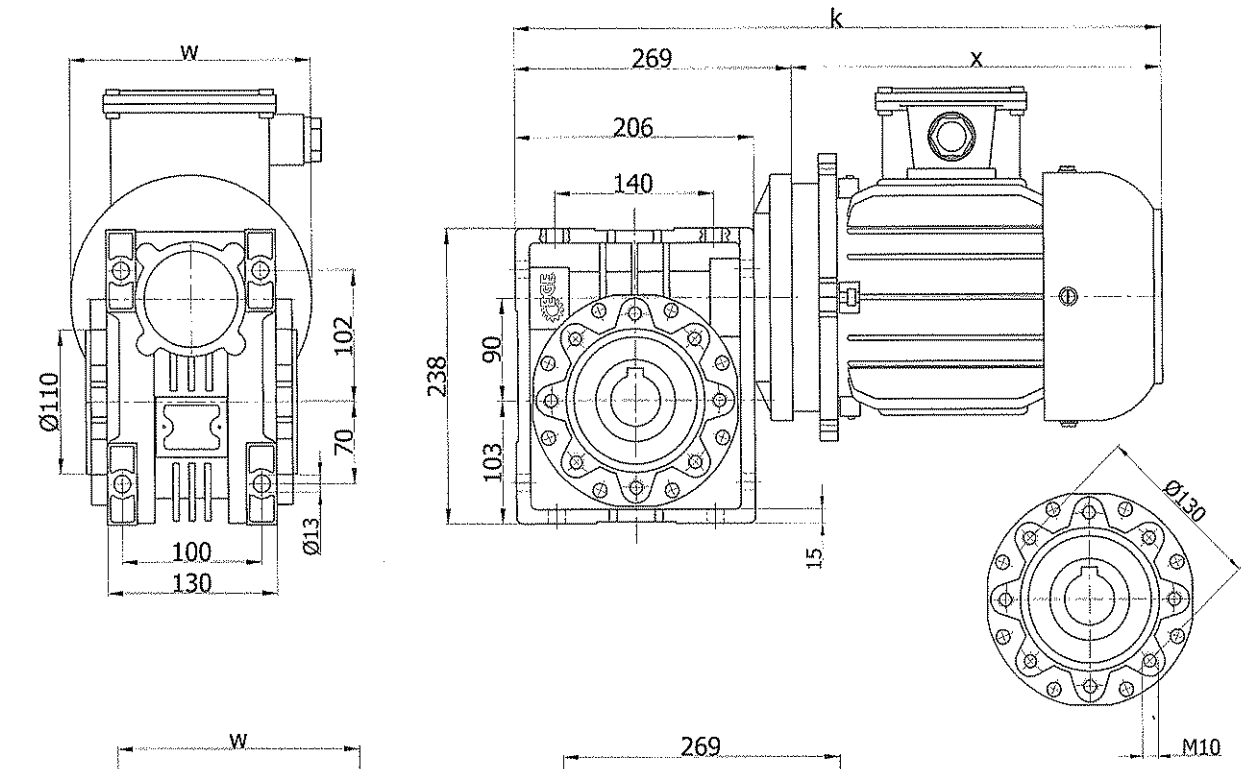


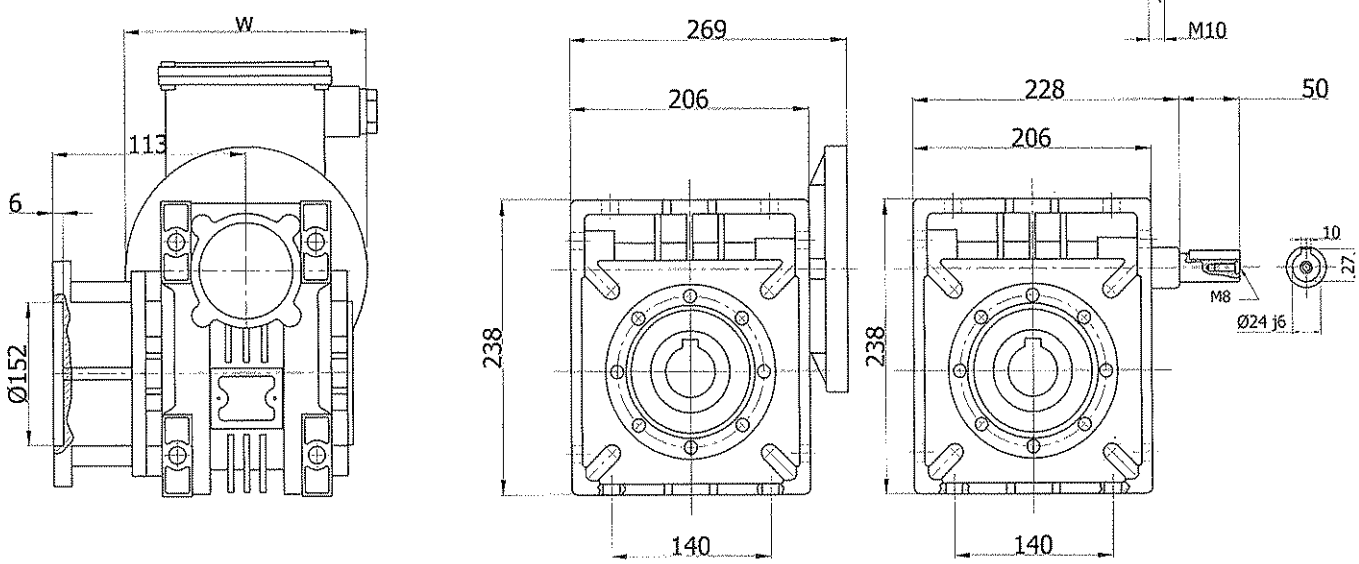
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

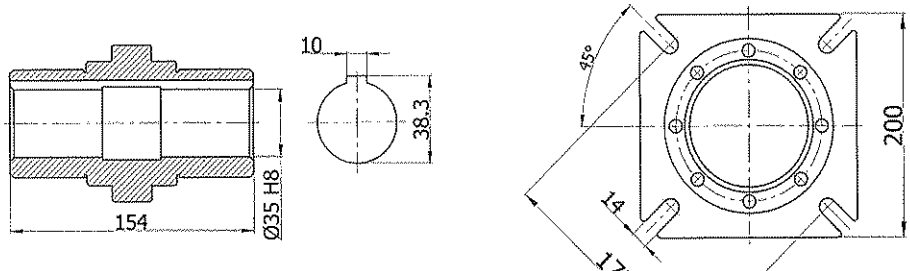
ERS90 Sonsuz Vidalı Motorlu Redüktör

ERS90 Motorized Worm Gear Reducer





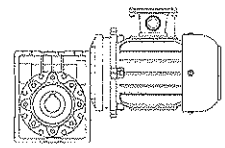


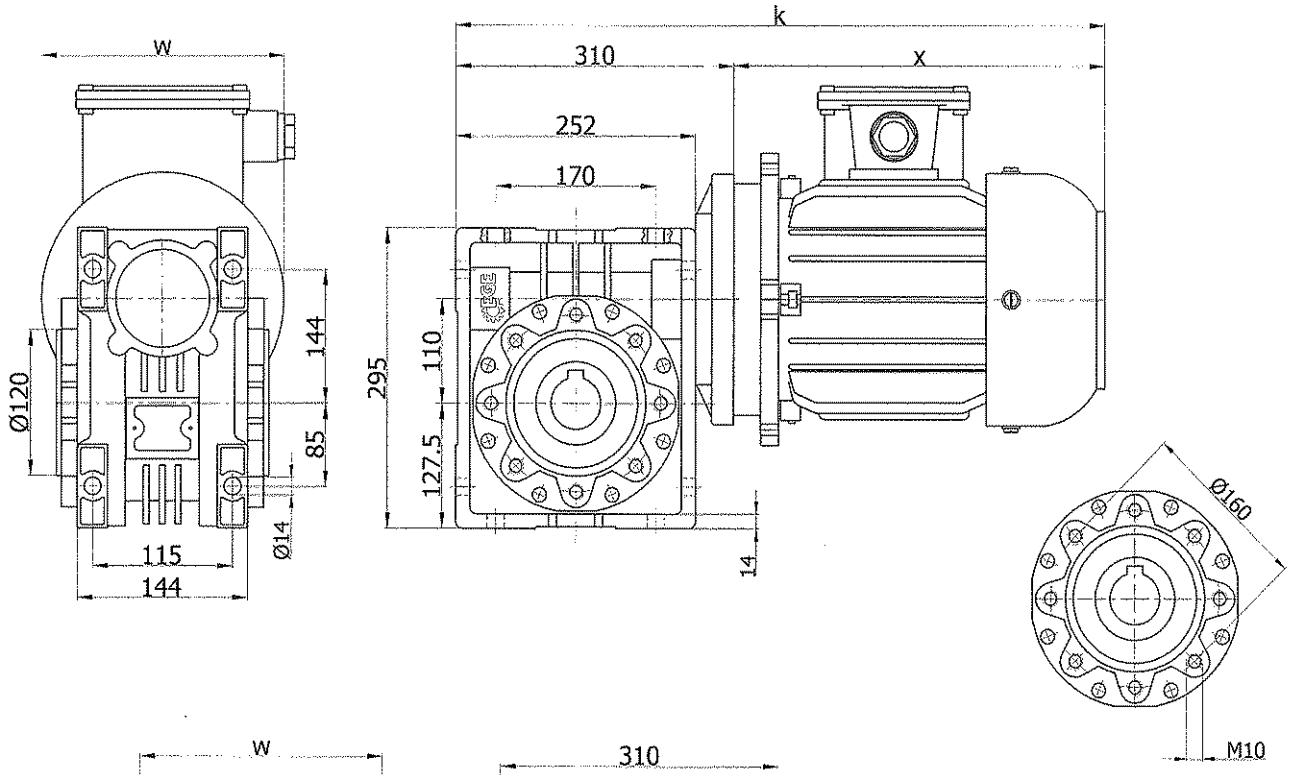


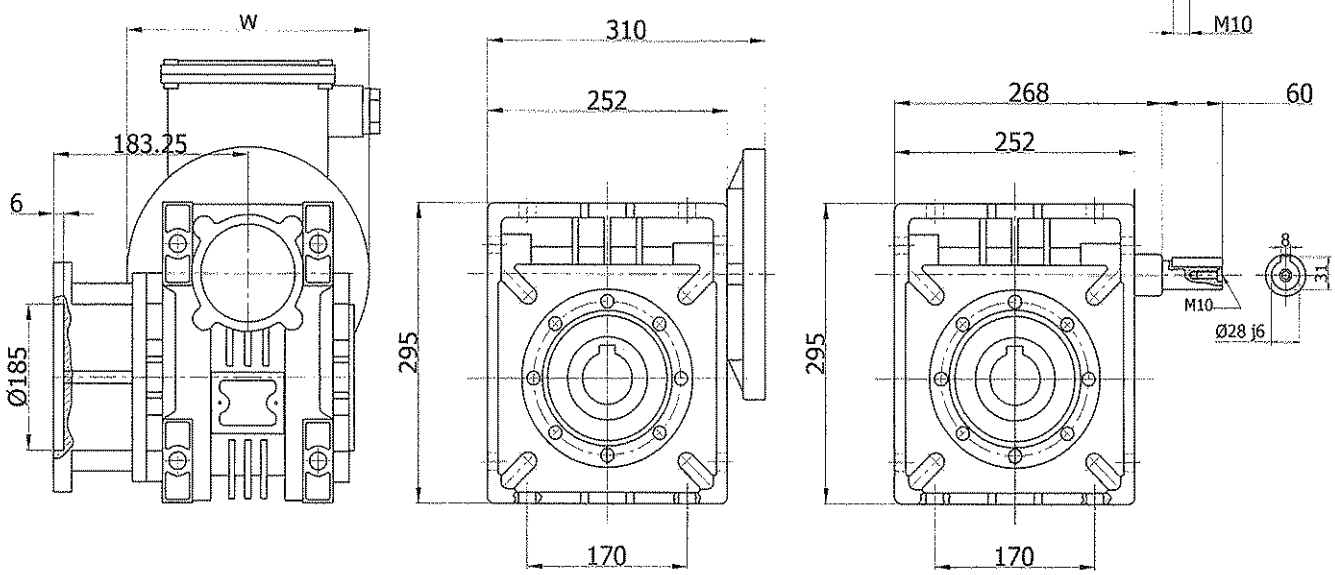
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

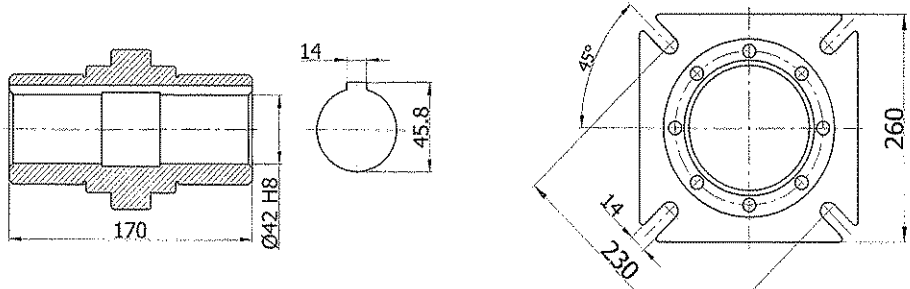
ERS110 Sonsuz Vidalı Motorlu Redüktör

ERS110 Motorized Worm Gear Reducer

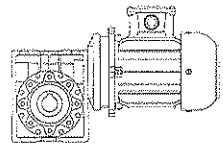






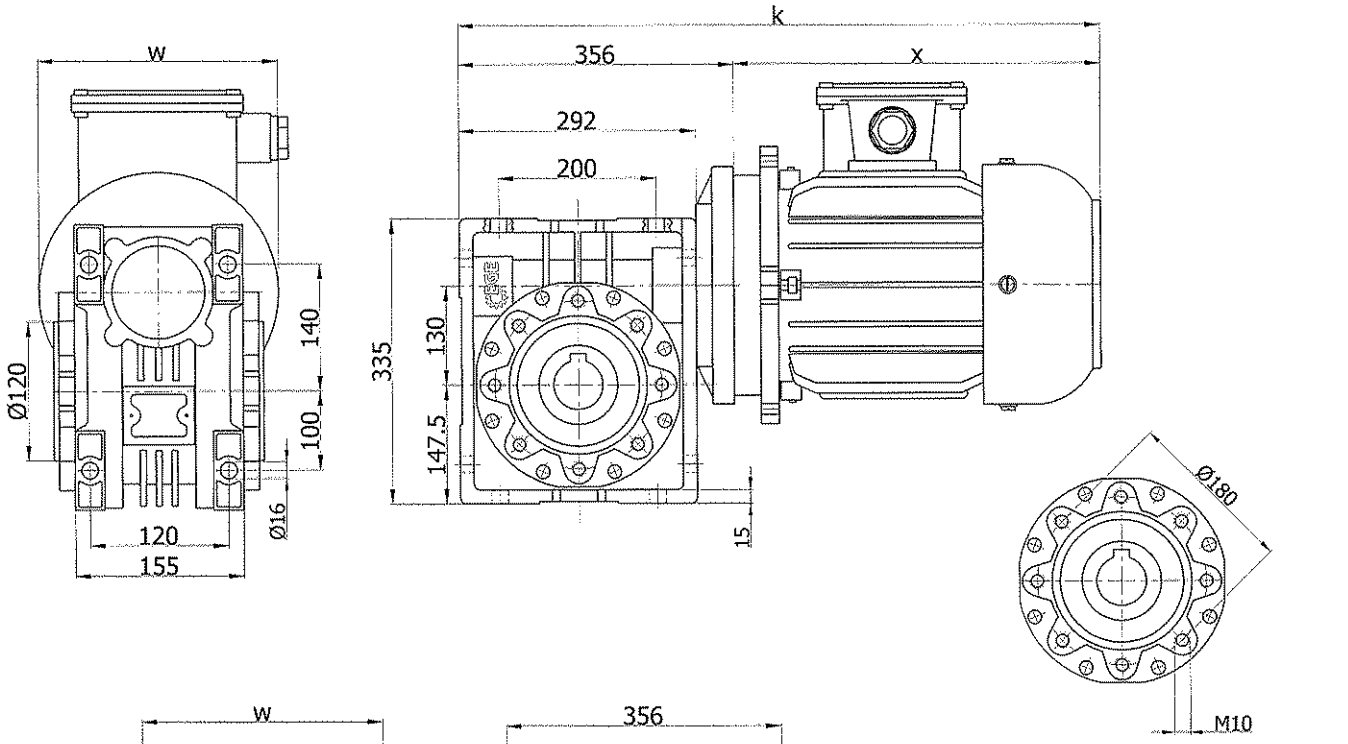


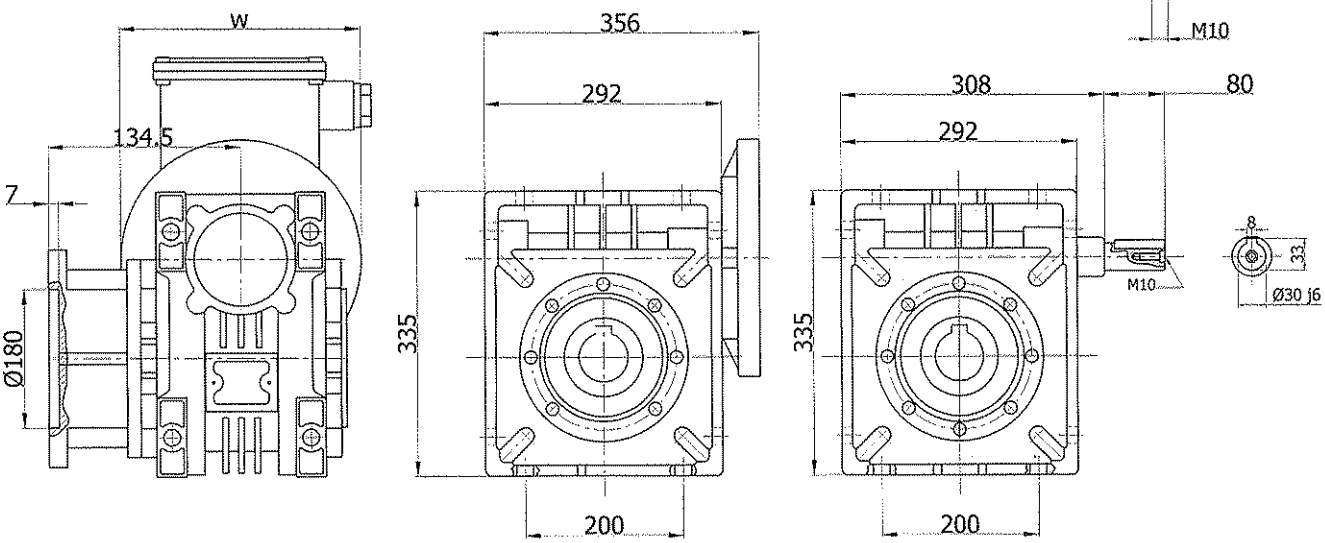
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

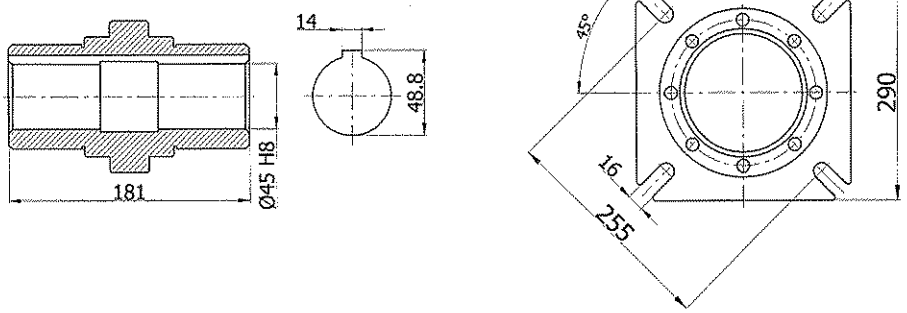


ERS130 Sonsuz Vidalı Motorlu Redüktör

ERS130 Motorized Worm Gear Reducer



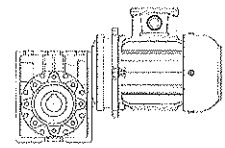


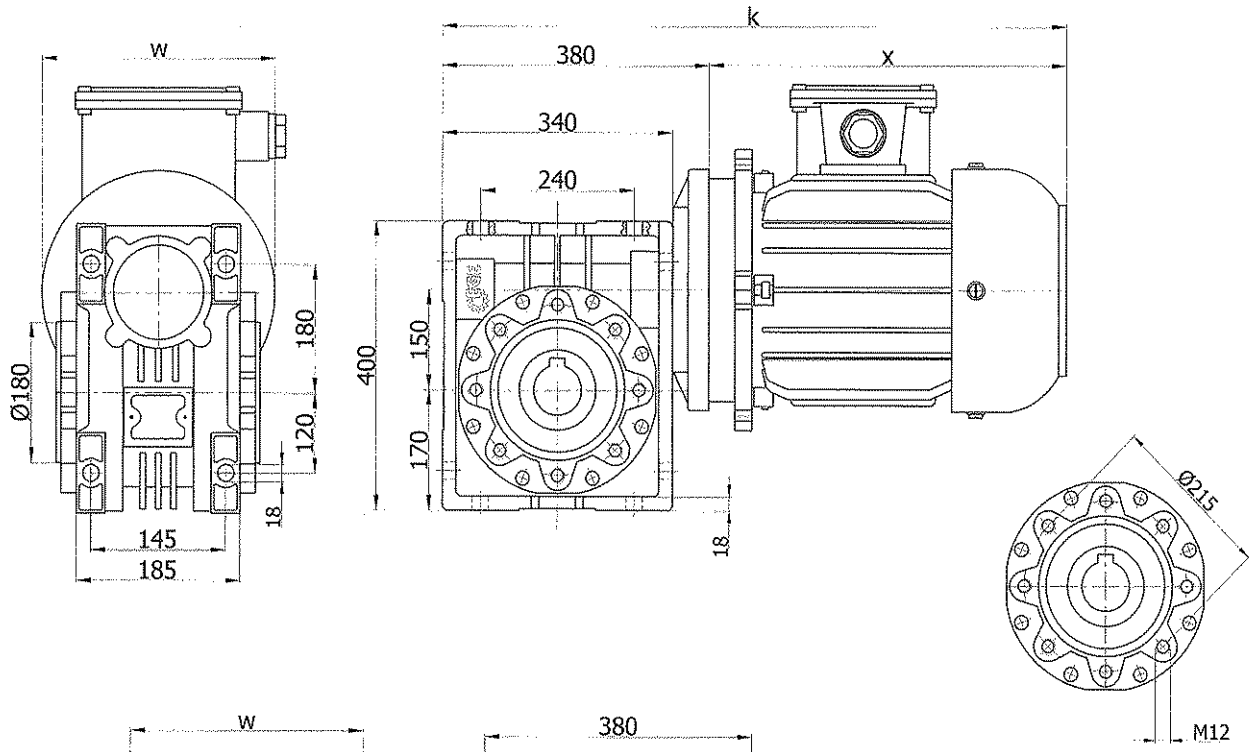


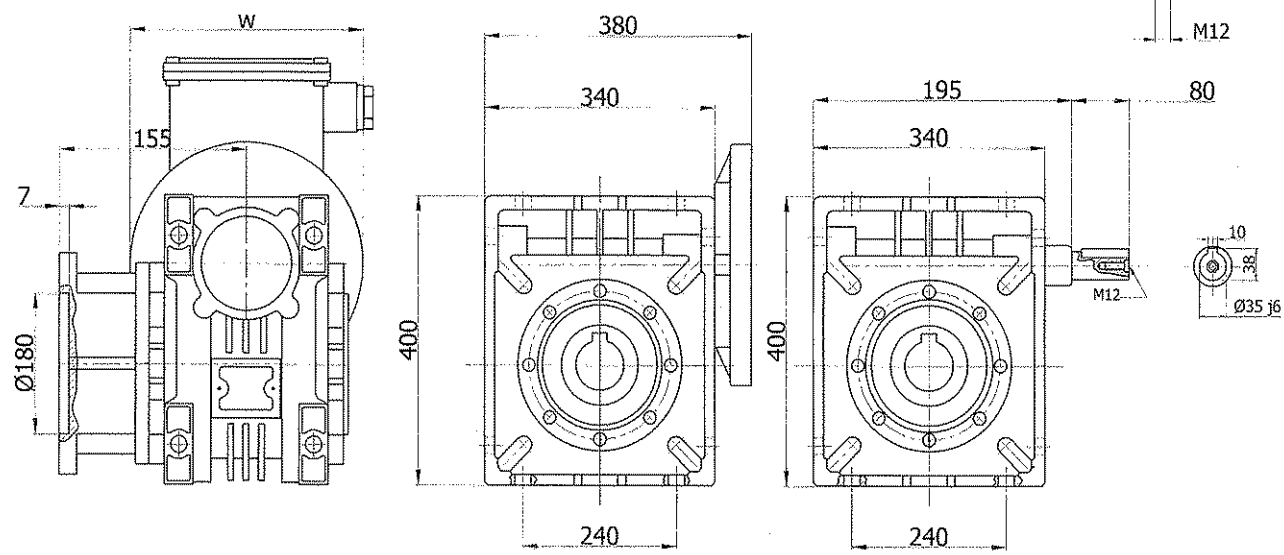
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

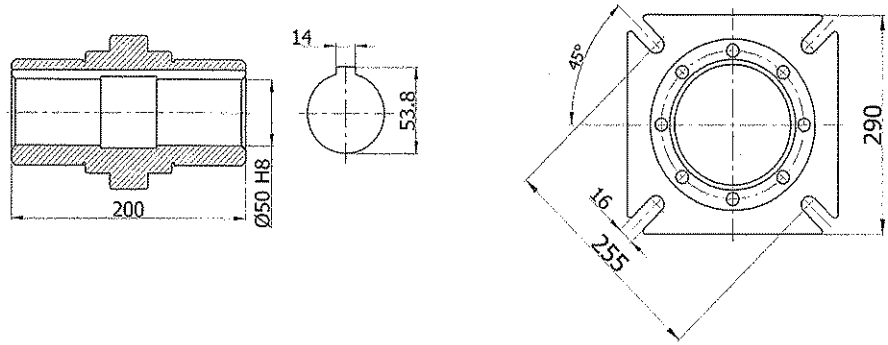
ERS150 Sonsuz Vidalı Motorlu Redüktör

ERS150 Motorized Worm Gear Reducer





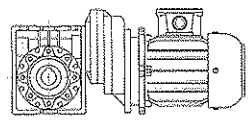


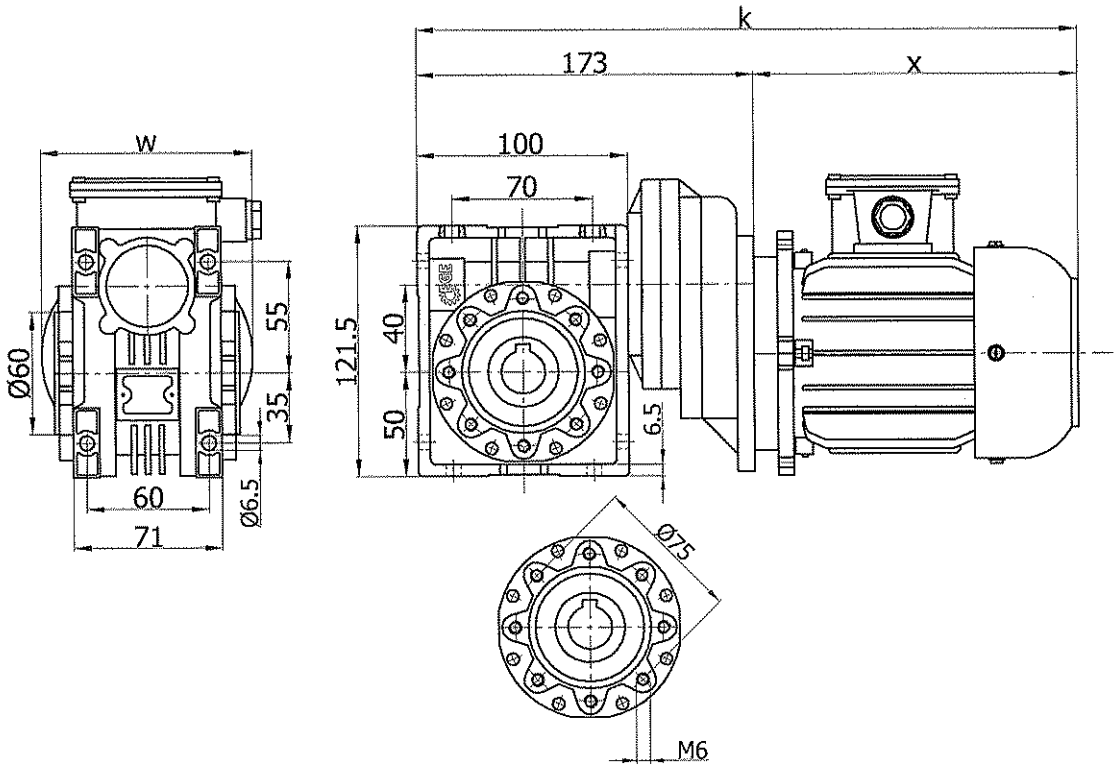


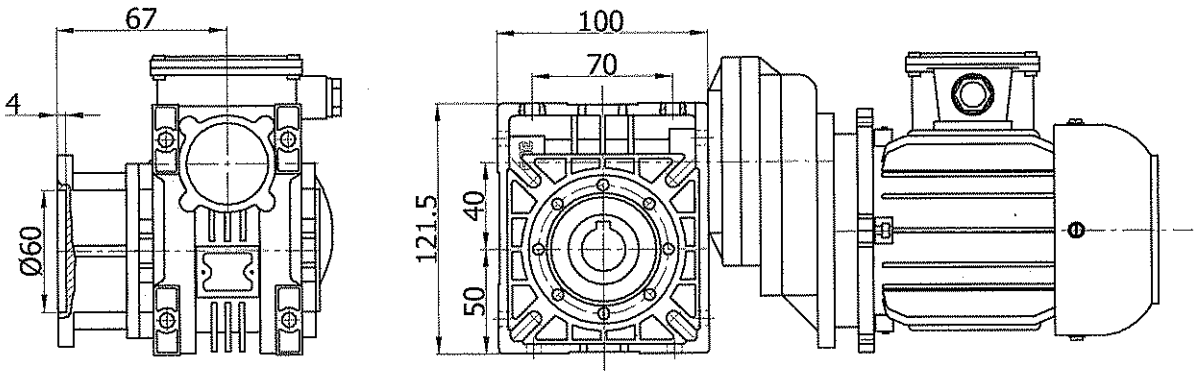
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

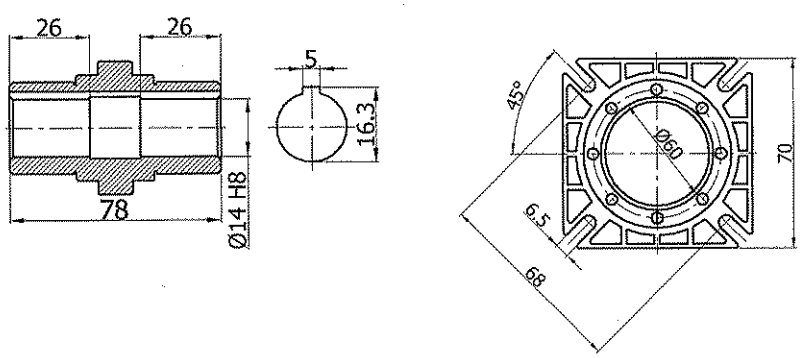
ERS40+PC63 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS40+PC63 Connected, Motorized Worm Gear Reducer





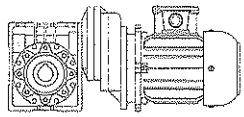


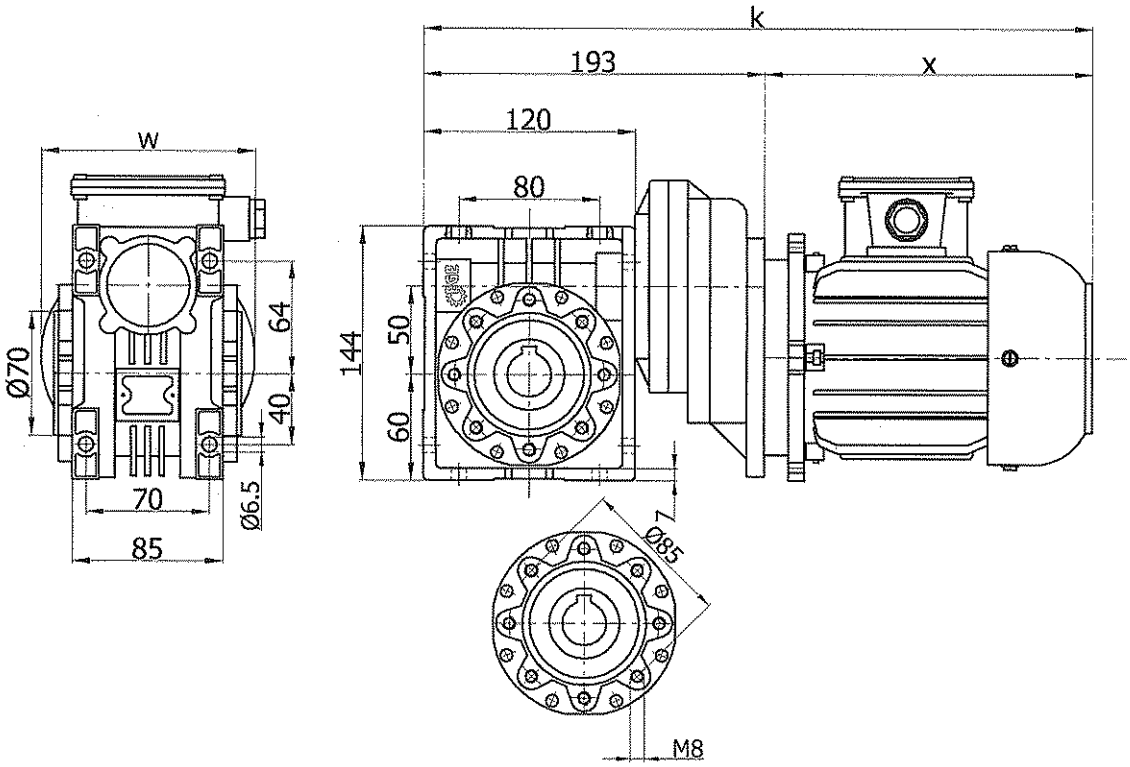


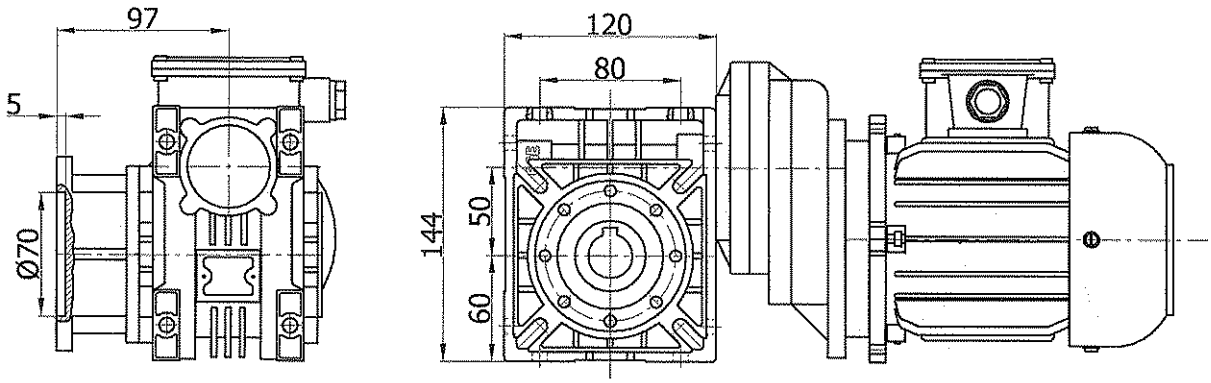
Not: **"k", "x", "w"** ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"k", "w", "x"** dimensions varies according to electrical motor body size. Please look at motor dimension table.

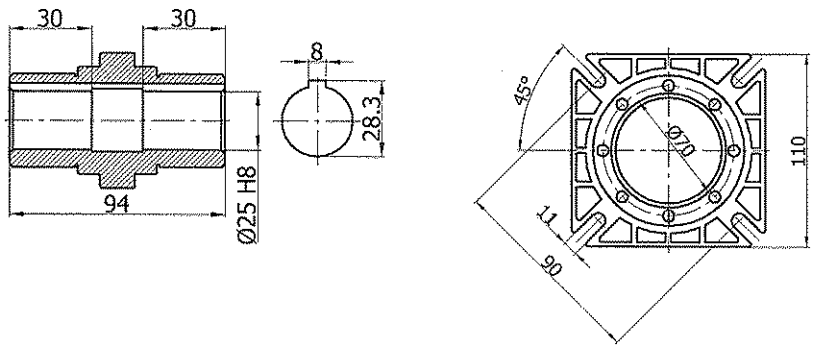
ERS50+PC63 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS50+PC63 Connected, Motorized Worm Gear Reducer





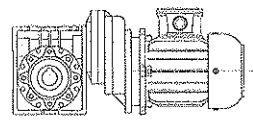


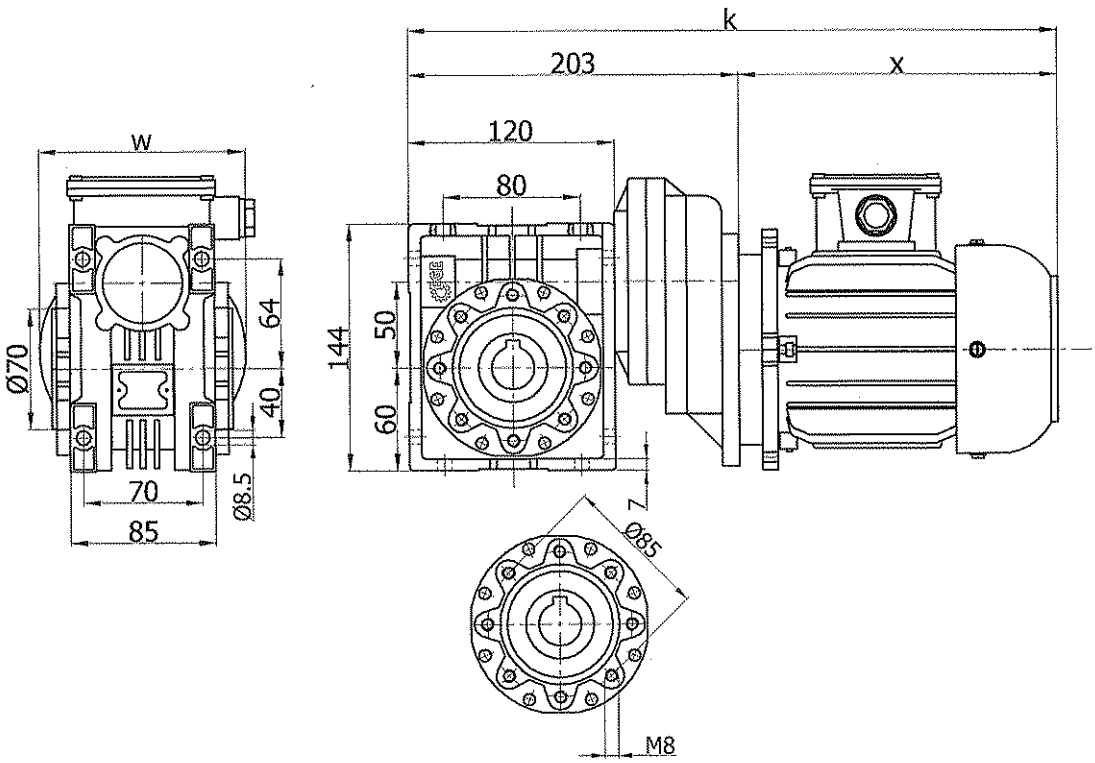


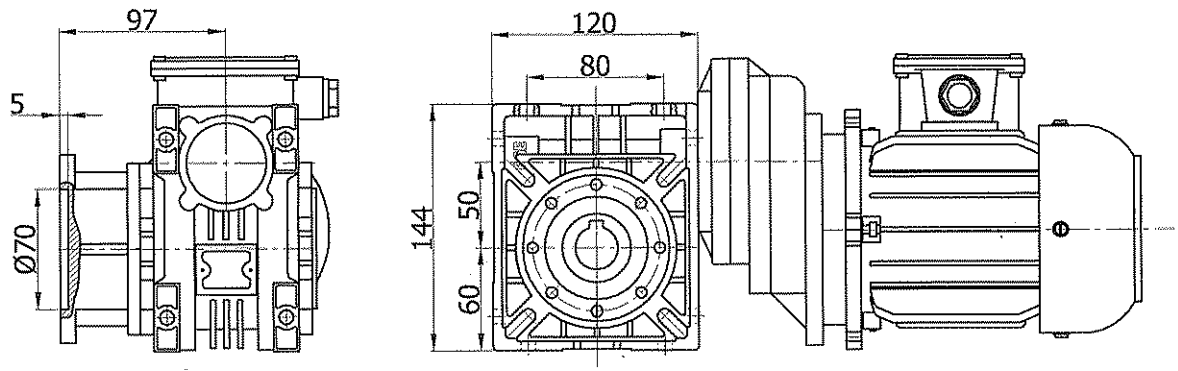
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

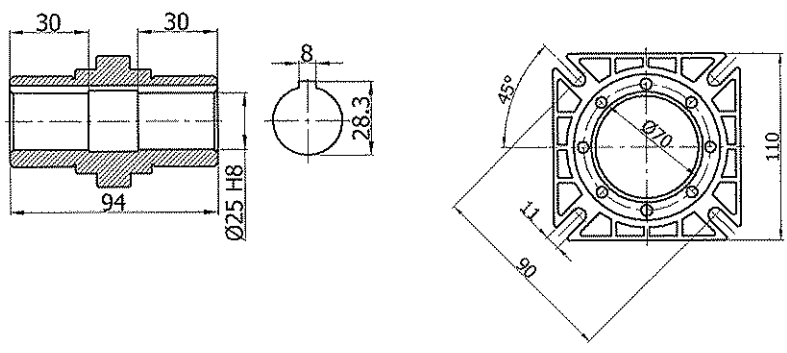
ERS50+PC71 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS50+PC71 Connected, Motorized Worm Gear Reducer





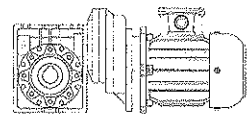


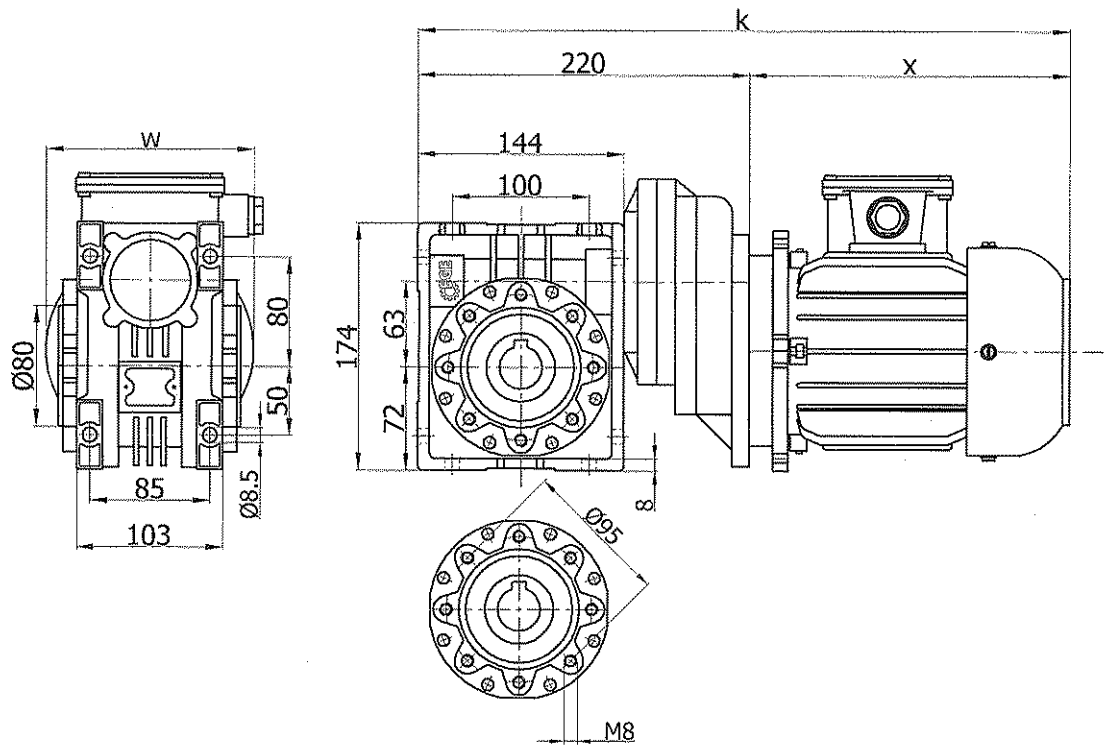


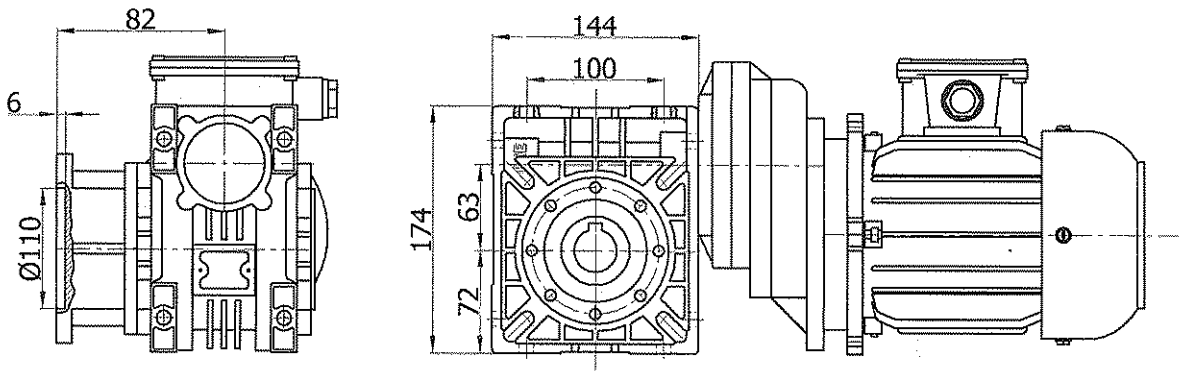
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

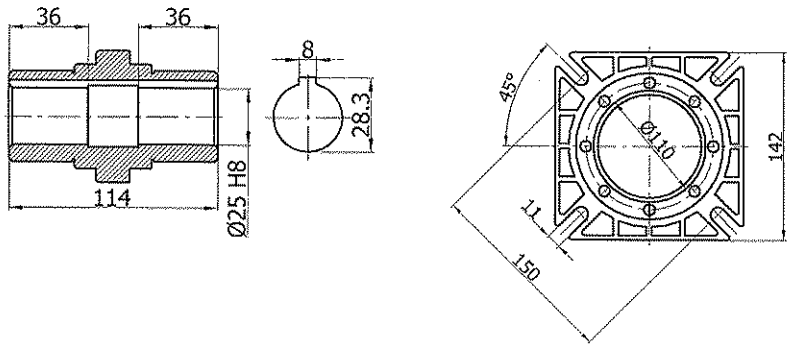
ERS63+PC63 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS63+PC63 Connected, Motorized Worm Gear Reducer





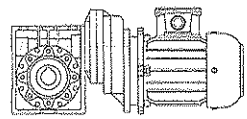


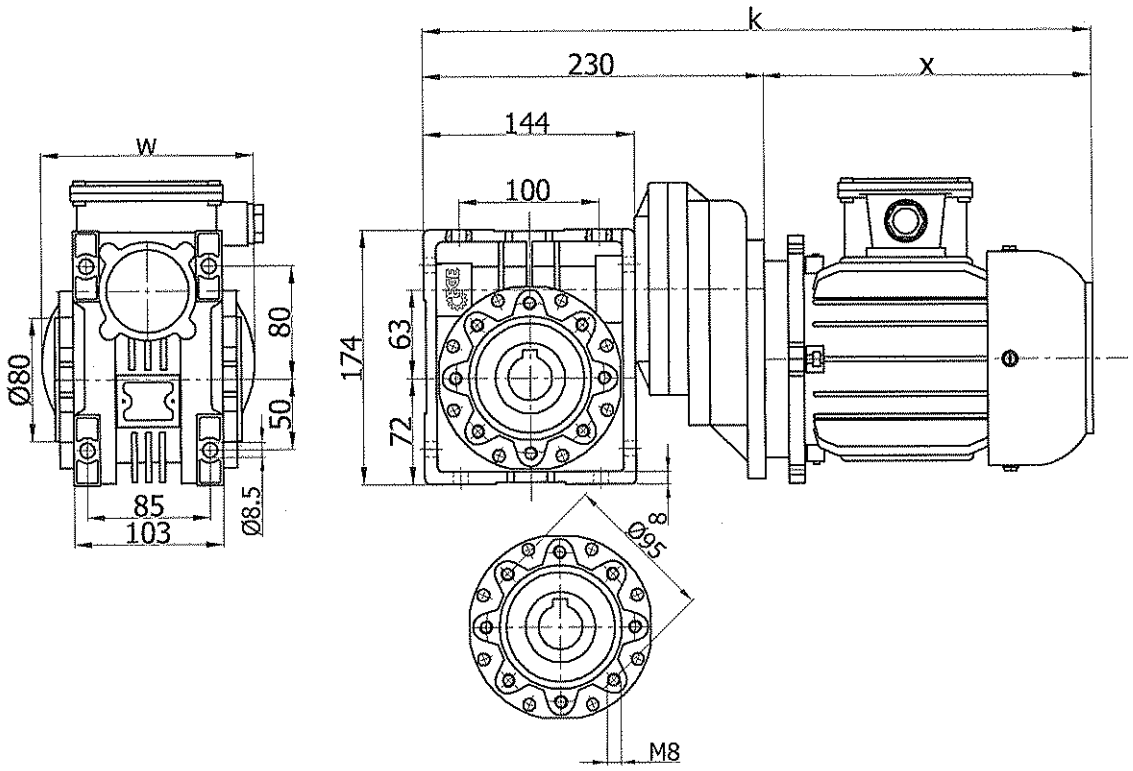


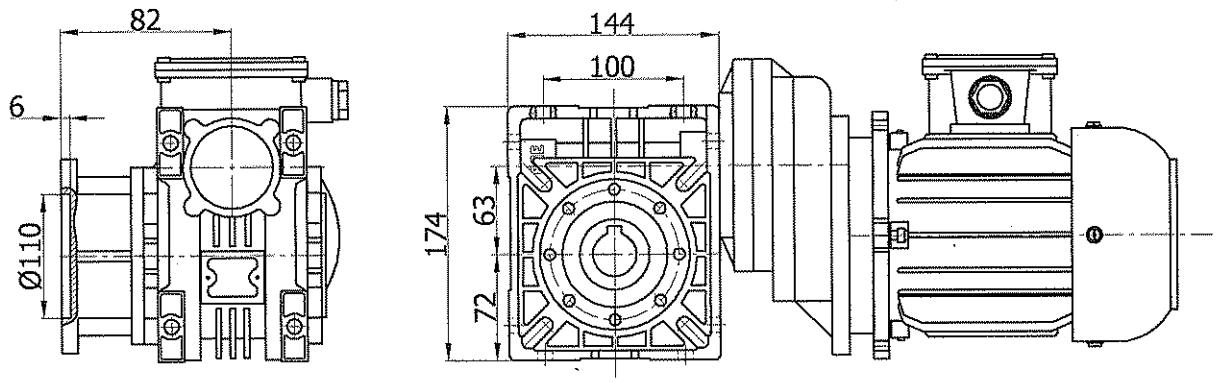
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

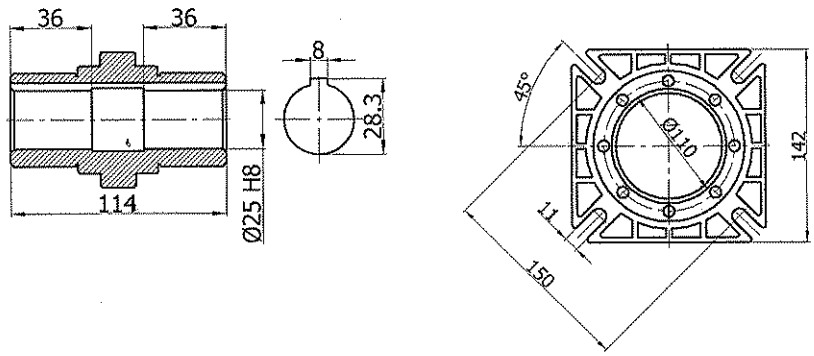
ERS63+PC71 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS63+PC71 Connected, Motorized Worm Gear Reducer





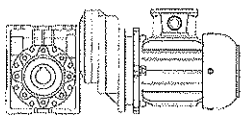


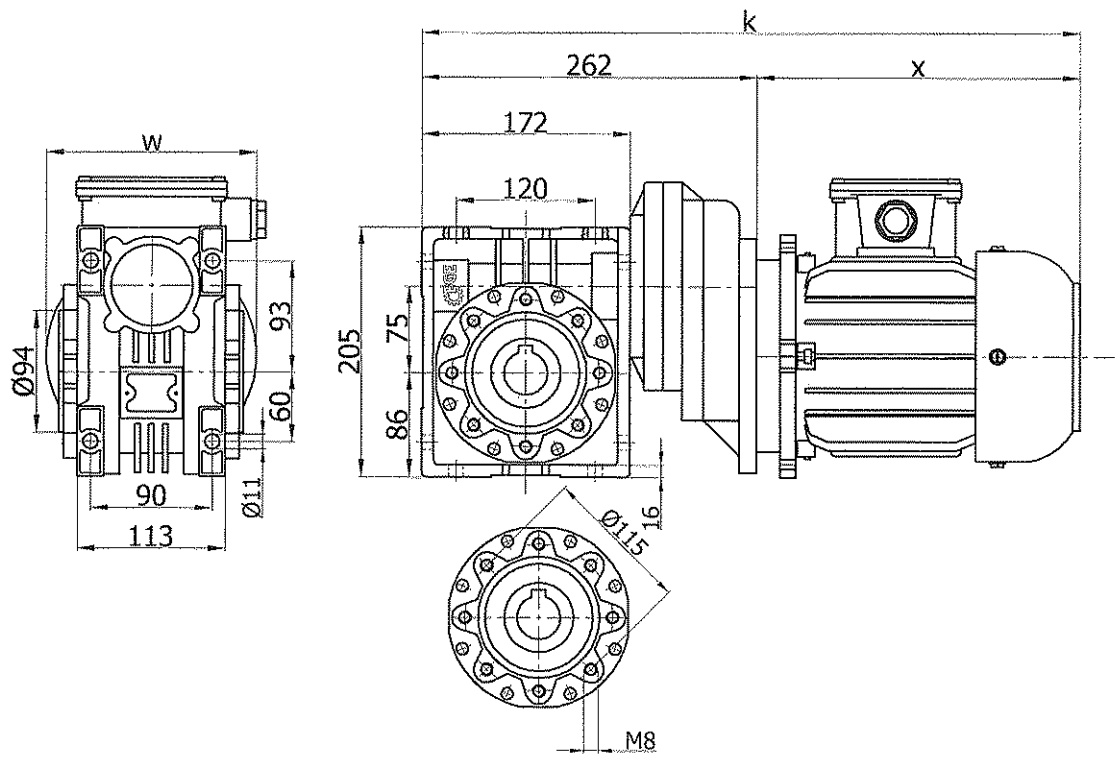


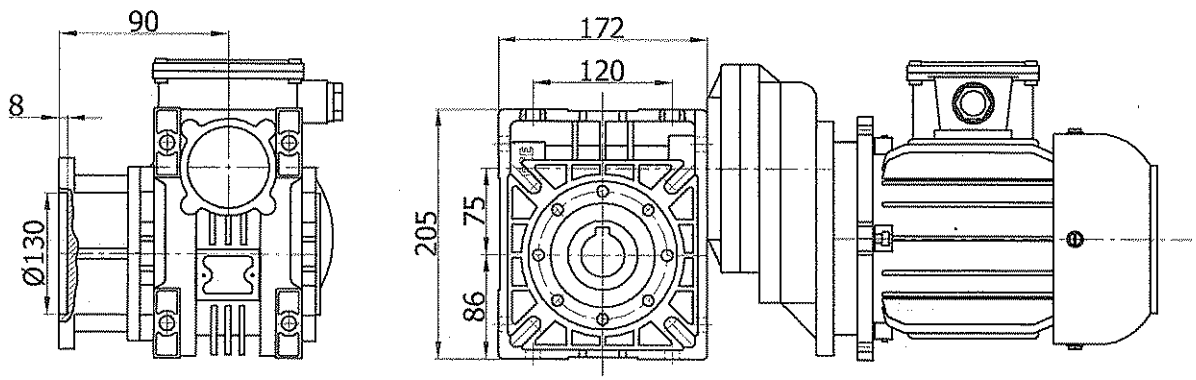
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

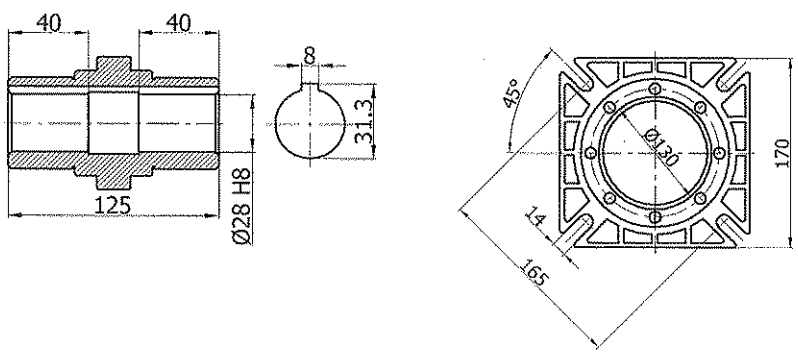
ERS75+PC71 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS75+PC71 Connected, Motorized Worm Gear Reducer

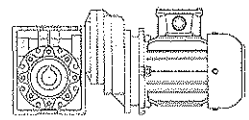






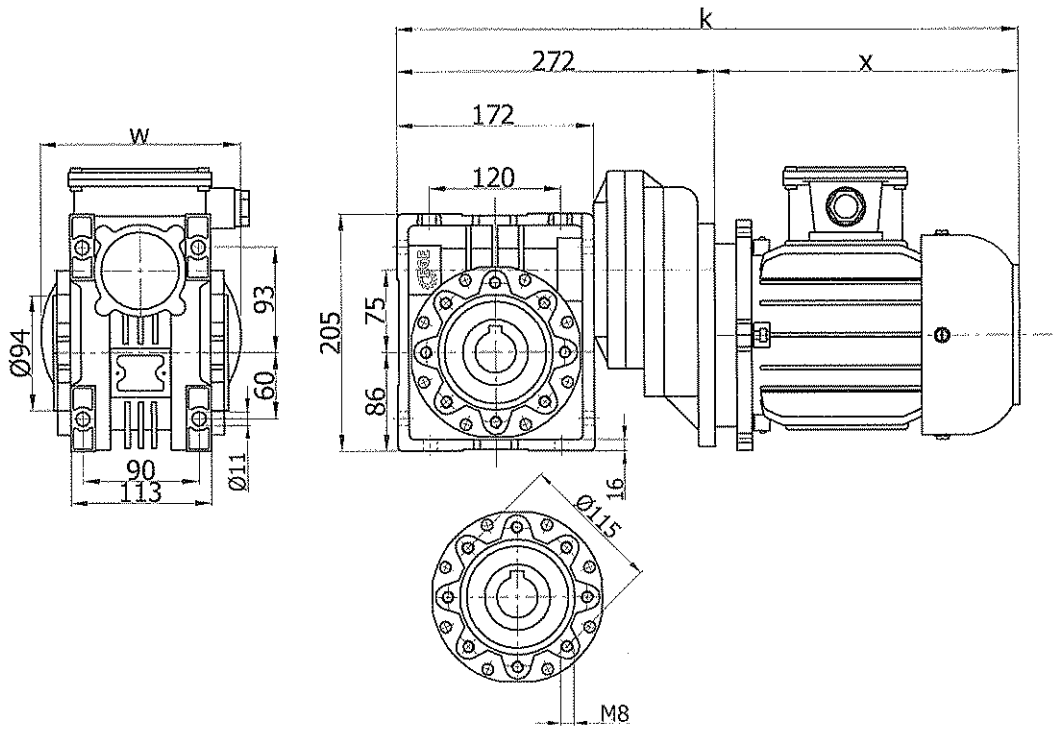


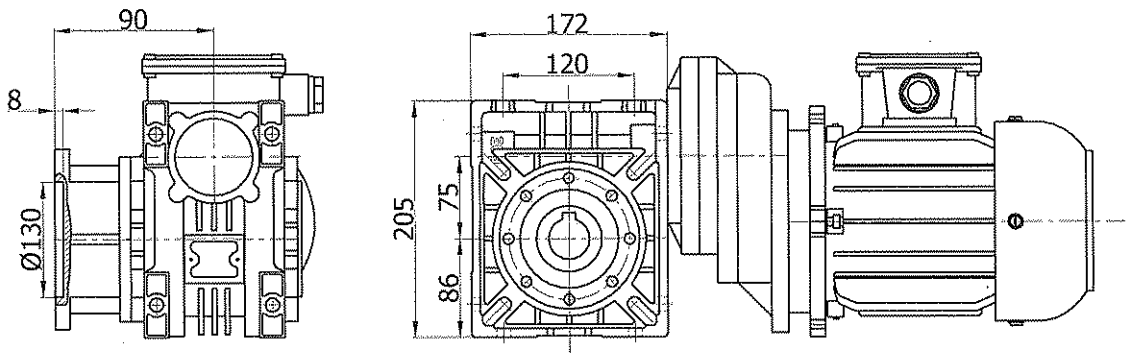
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

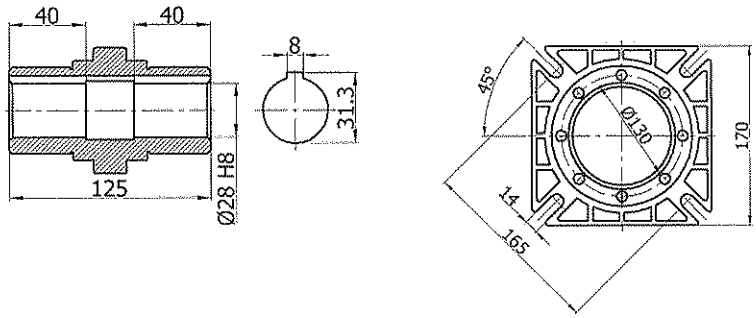


ERS75+PC80 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

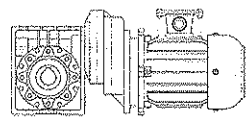
ERS75+PC80 Connected, Motorized Worm Gear Reducer





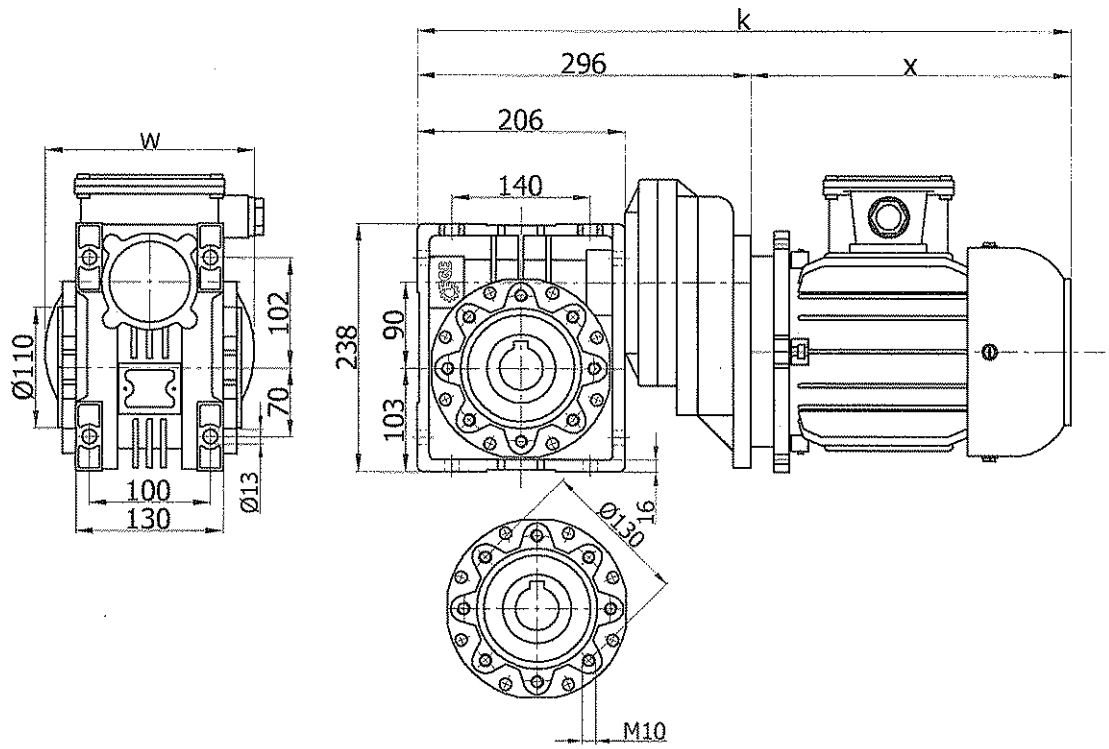


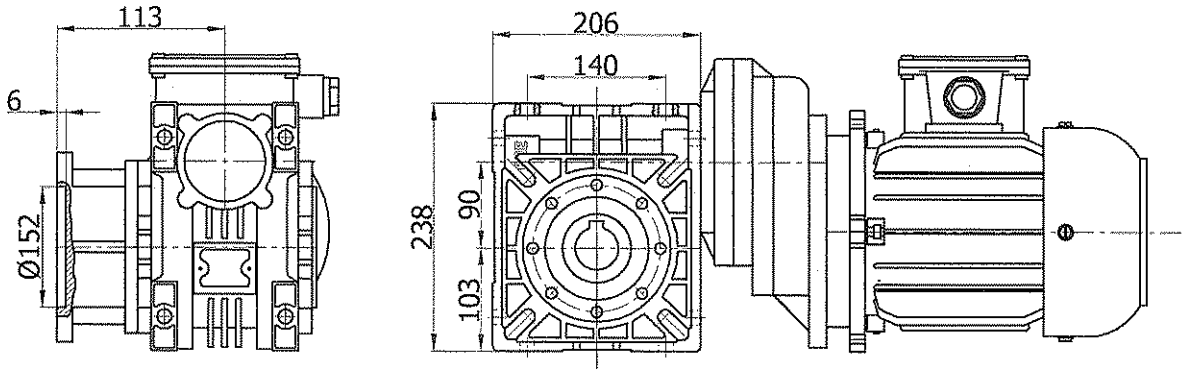
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

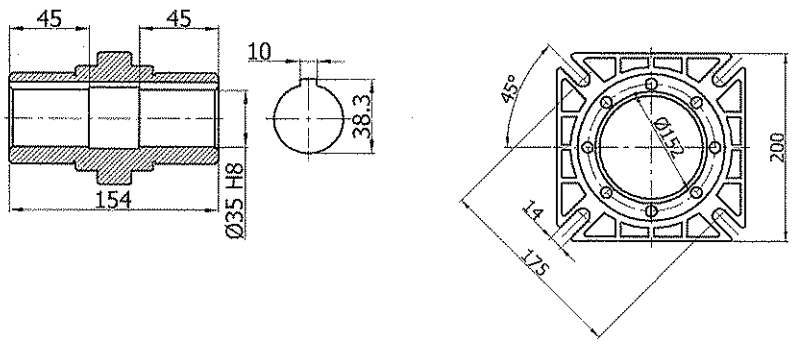


ERS90+PC71 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS90+PC71Connected, Motorized Worm Gear Reducer



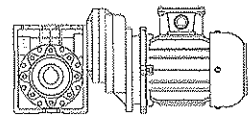


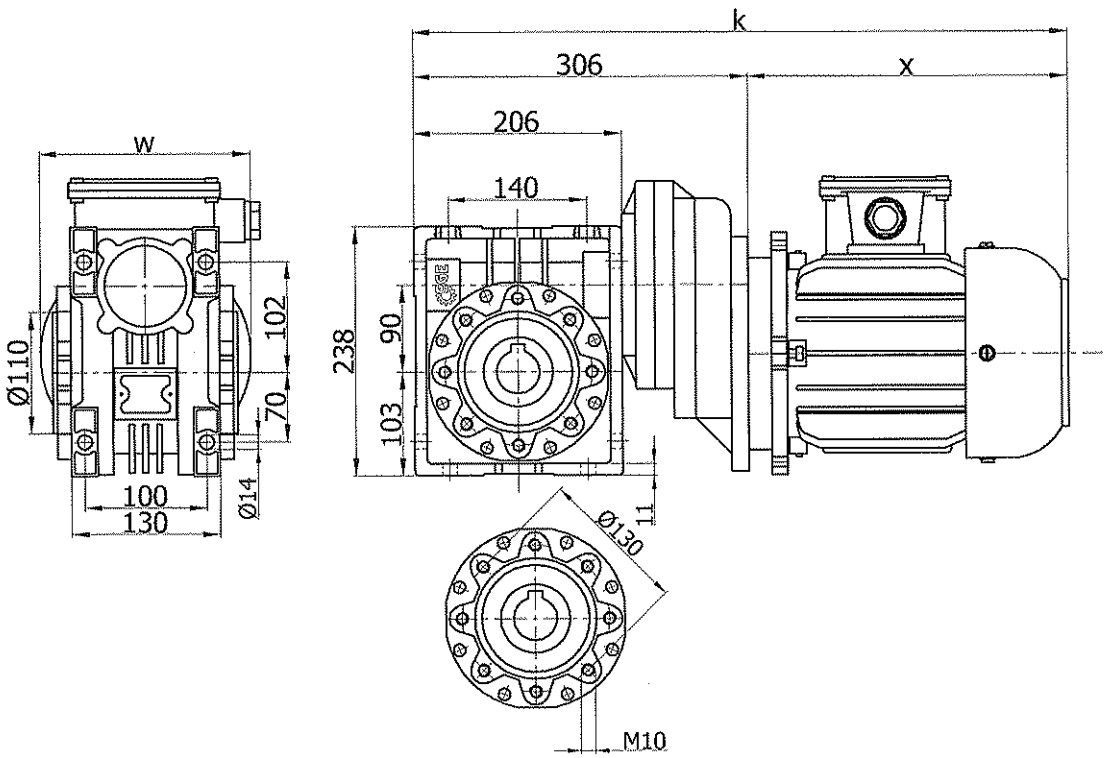


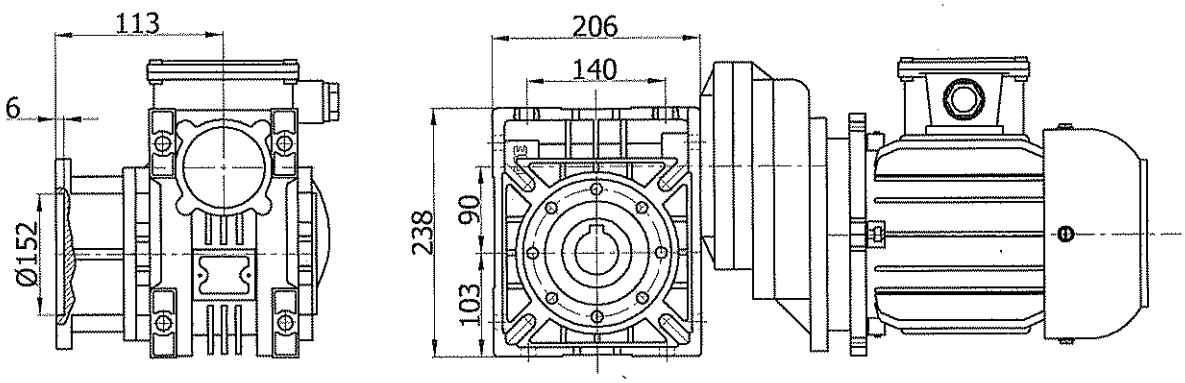
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

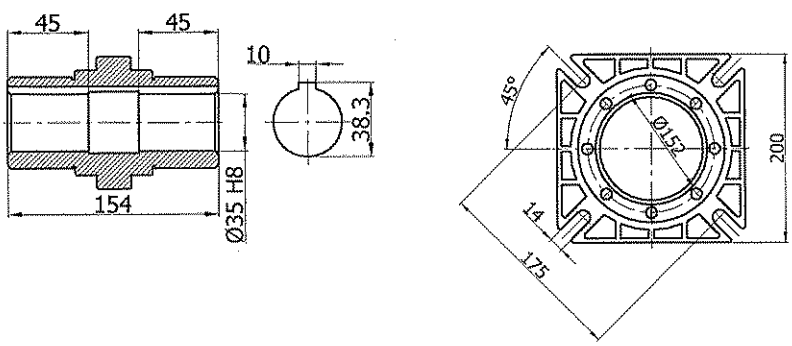
ERS90+PC80 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS90+PC80 Connected, Motorized Worm Gear Reducer





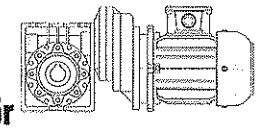


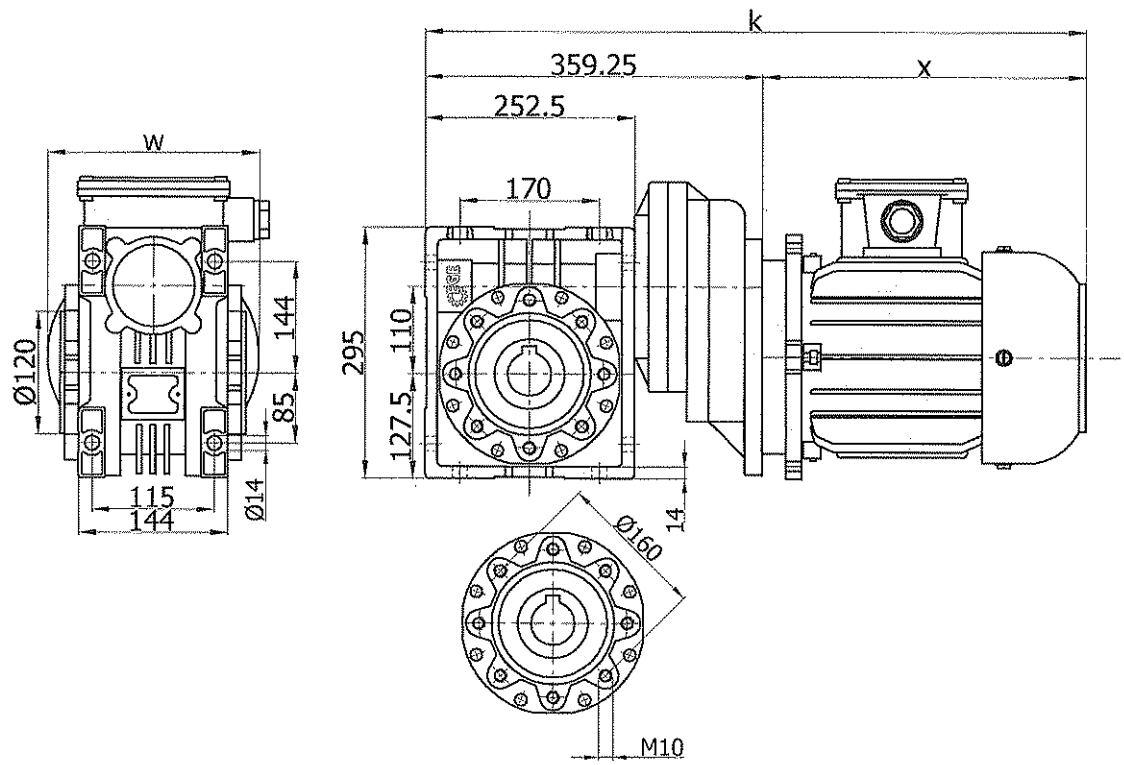


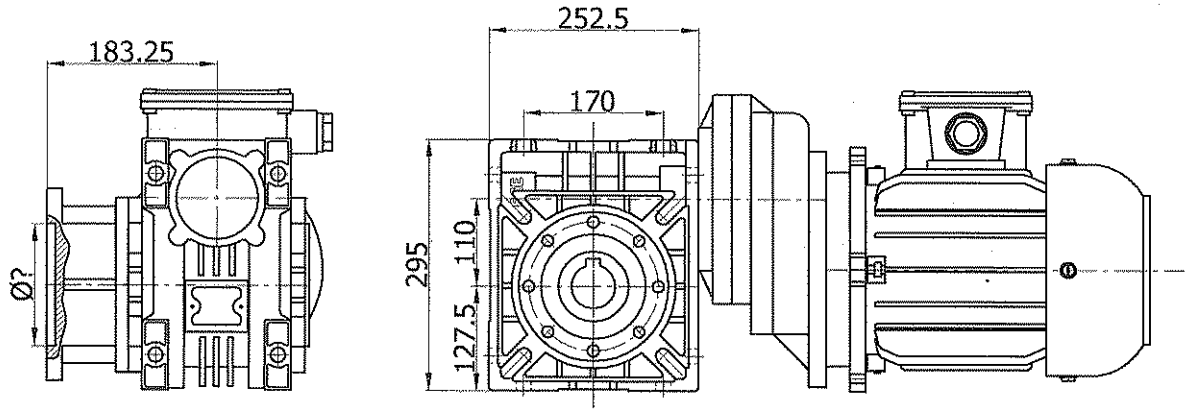
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

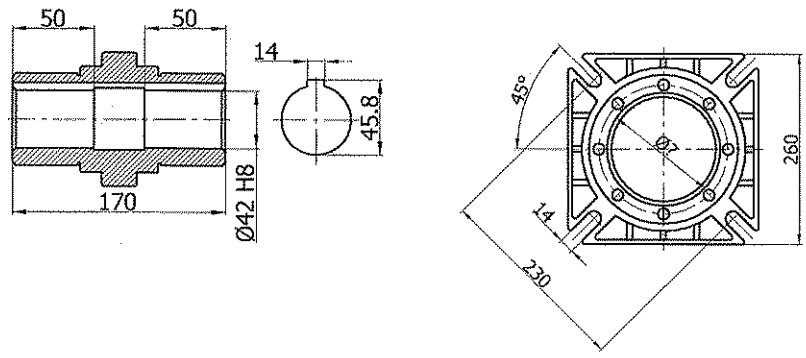
ERS110+PC80 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS110+PC80 Connected, Motorized Worm Gear Reducer





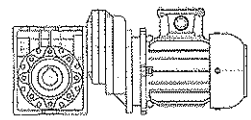


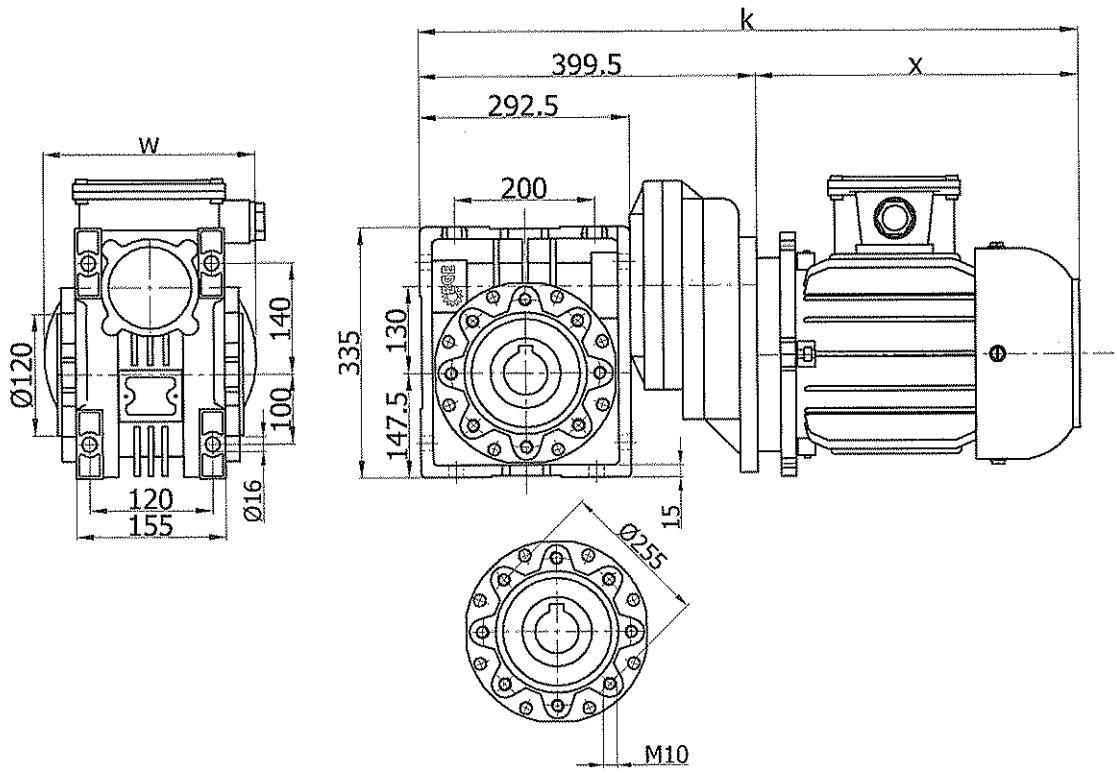


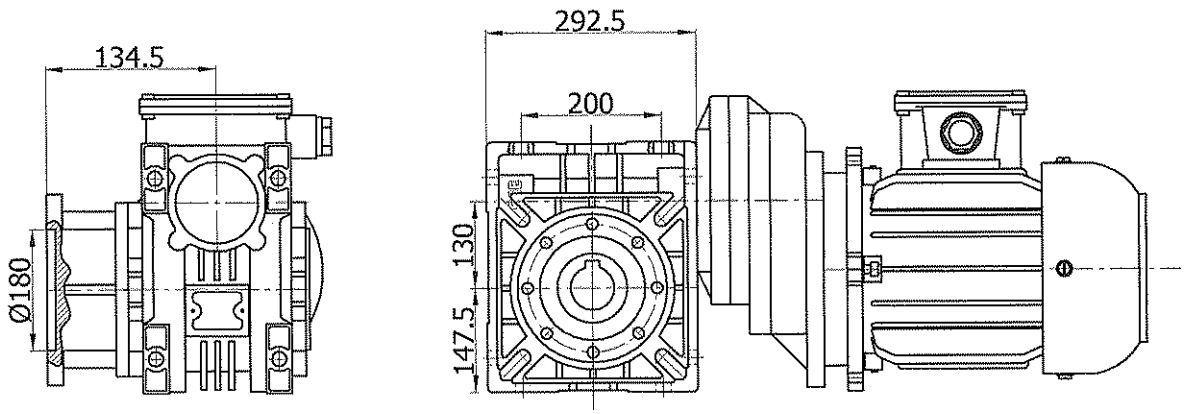
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

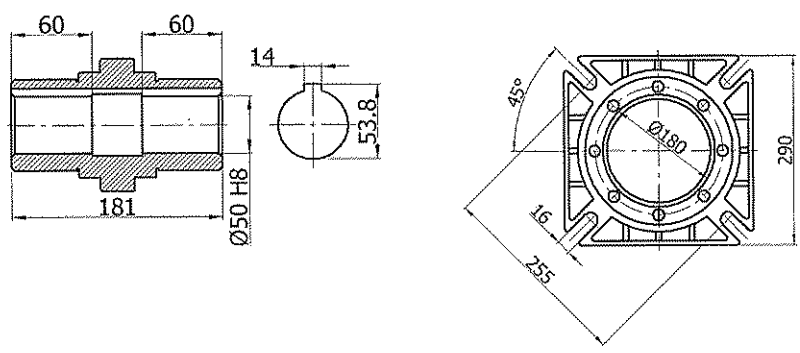
ERS130+PC90 Aktarmalı, Sonsuz Vidalı Motorlu Redüktör

ERS130+PC90 Connected, Motorized Worm Gear Reducer





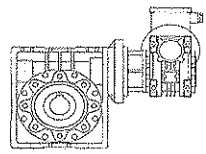


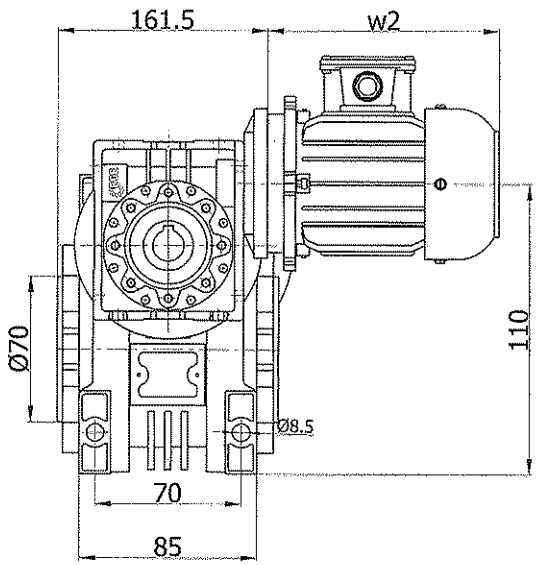


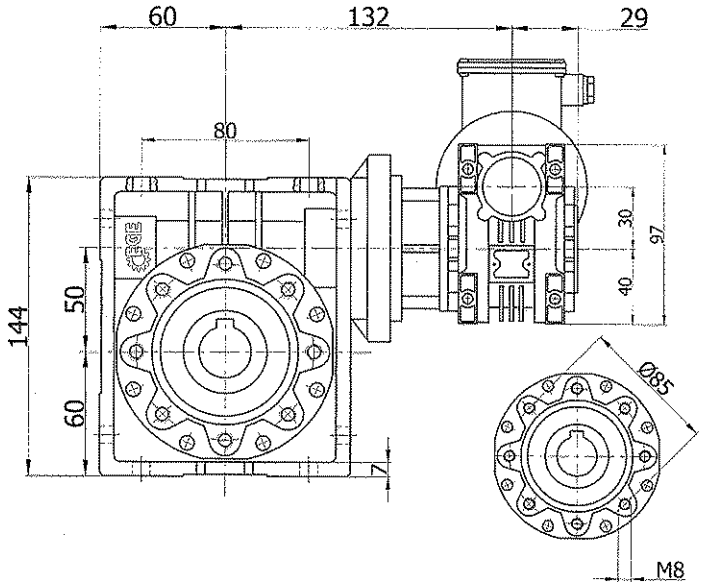
Not: "k", "x", "w" ölçüleri motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "k", "w", "x" dimensions varies according to electrical motor body size. Please look at motor dimension table.

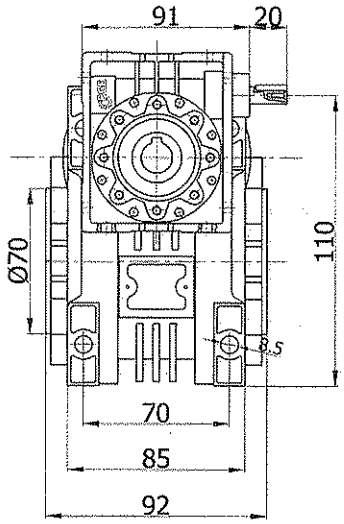
ERS30 - ERS50 Motorlu Çift Redüktör

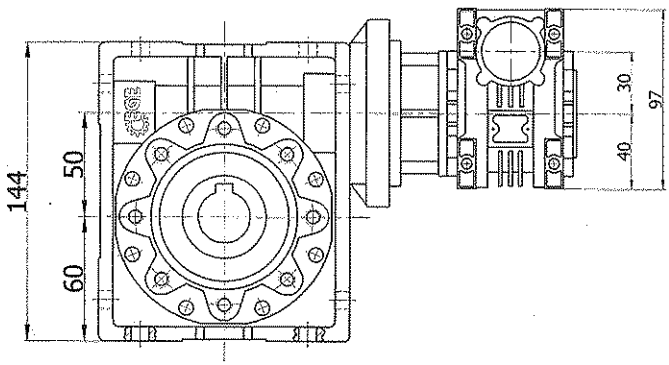
ERS30 - ERS50 Motorized Double Reducer

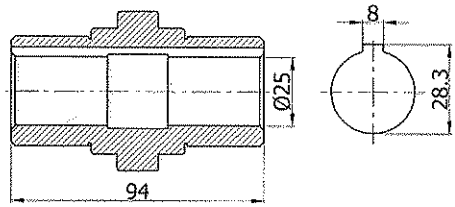








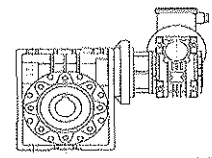


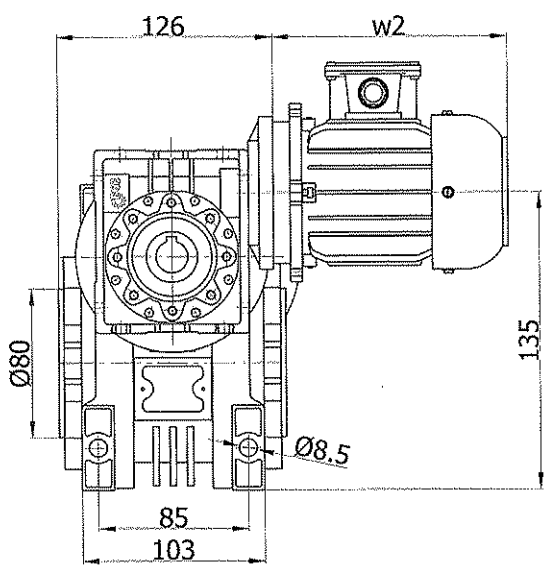


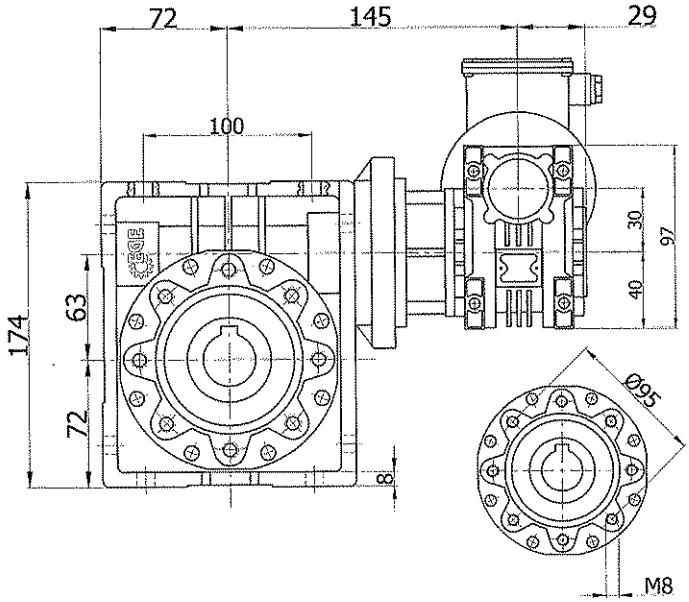
Not: **"w2"** ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"w2"** dimension varies according to electrical motor body size. Please look at motor dimension table.

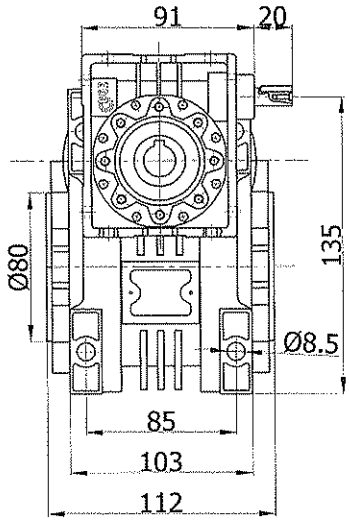
ERS30 - ERS63 Motorlu Çift Redüktör

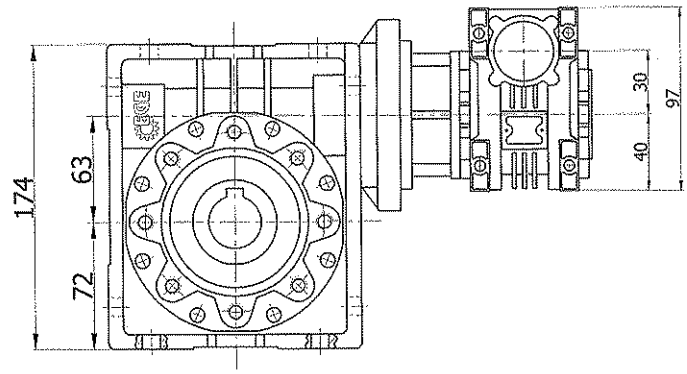
ERS30 - ERS63 Motorized Double Reducer

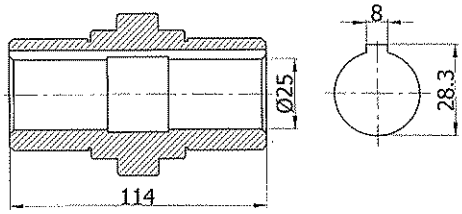








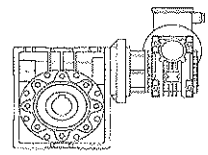


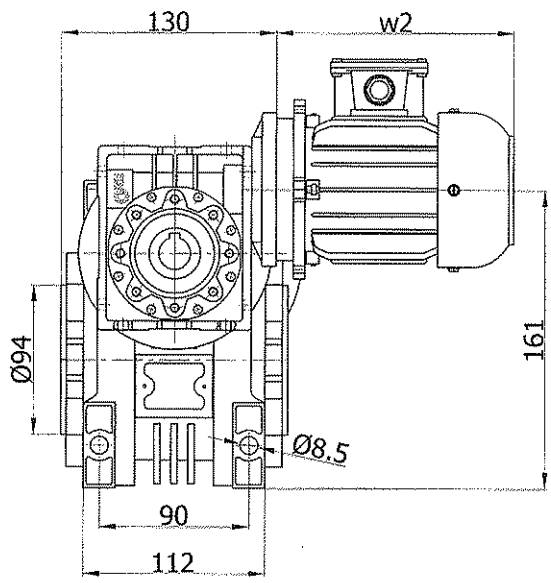


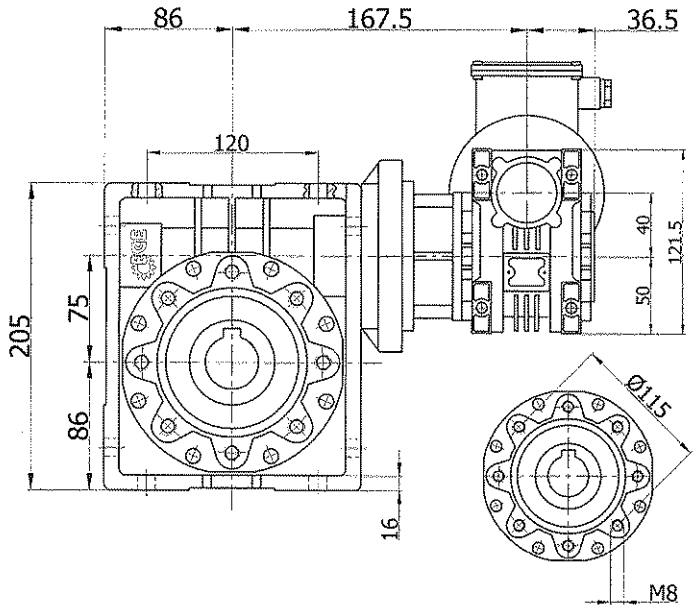
Not: **"w2"** ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"w2"** dimension varies according to electrical motor body size. Please look at motor dimension table.

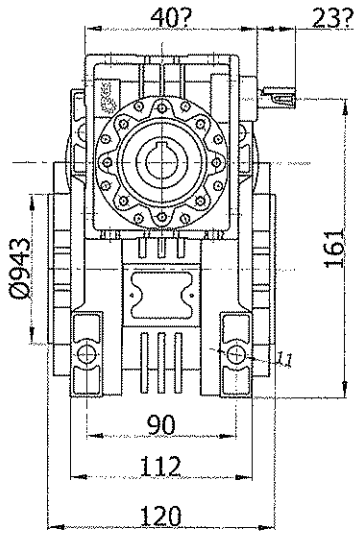
ERS40 - ERS75 Motorlu Çift Redüktör

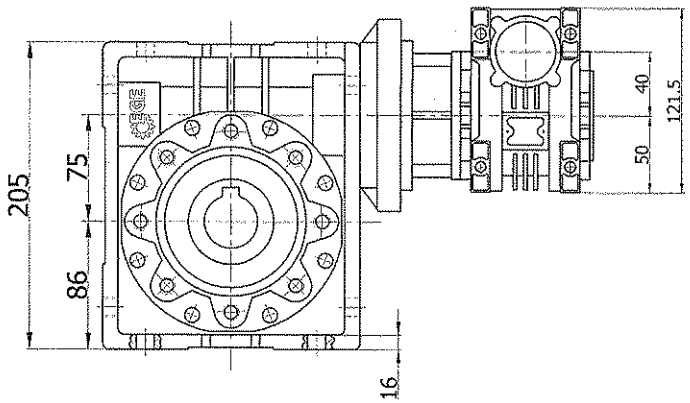
ERS40 - ERS75 Motorized Double Reducer

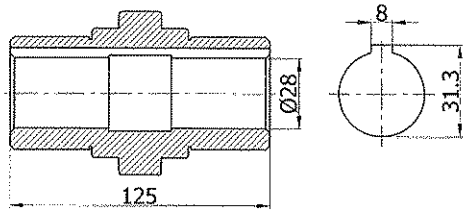








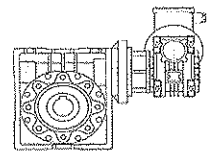


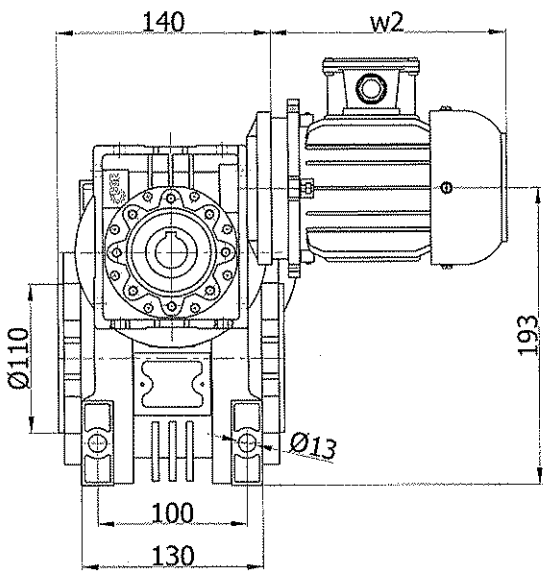


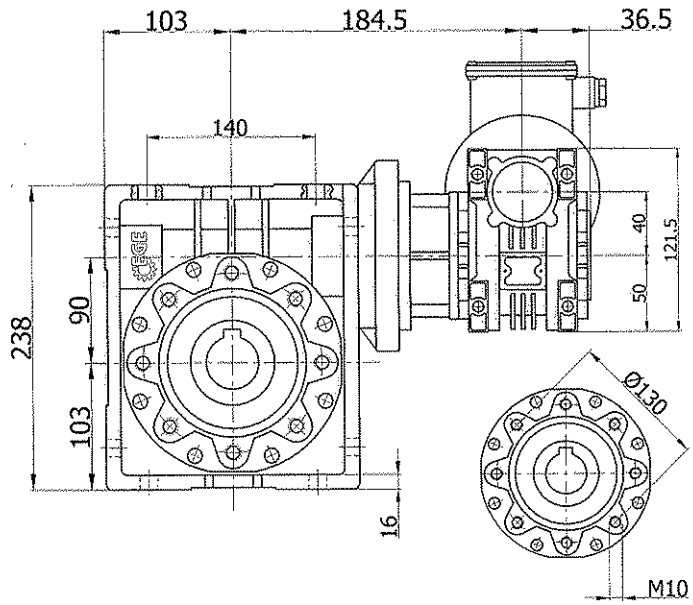
Not: "w2" ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "w2" dimension varies according to electrical motor body size. Please look at motor dimension table.

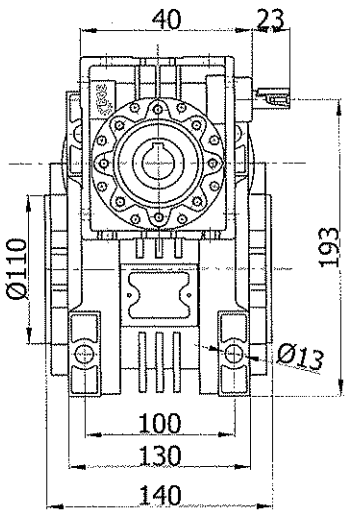
ERS40 - ERS90 Motorlu Çift Redüktör

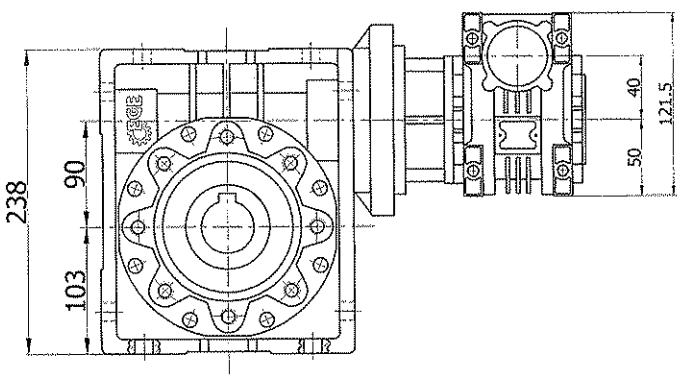
ERS40 - ERS90 Motorized Double Reducer

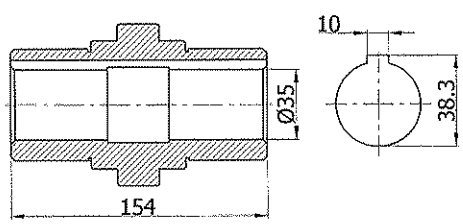








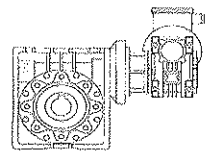


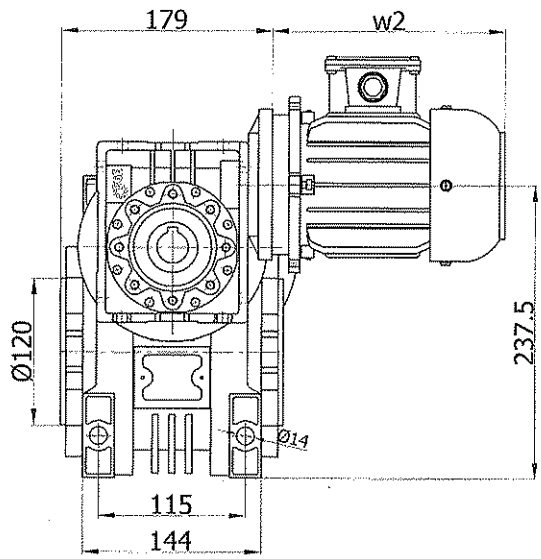


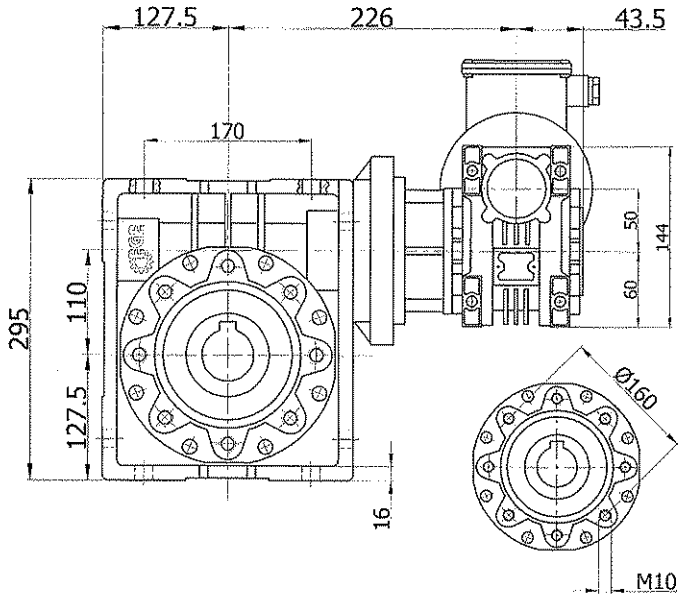
Not: **"w2"** ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"w2"** dimension varies according to electrical motor body size. Please look at motor dimension table.

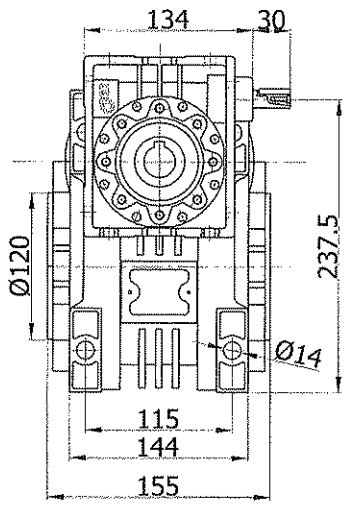
ERS50 - ERS110 Motorlu Çift Redüktör

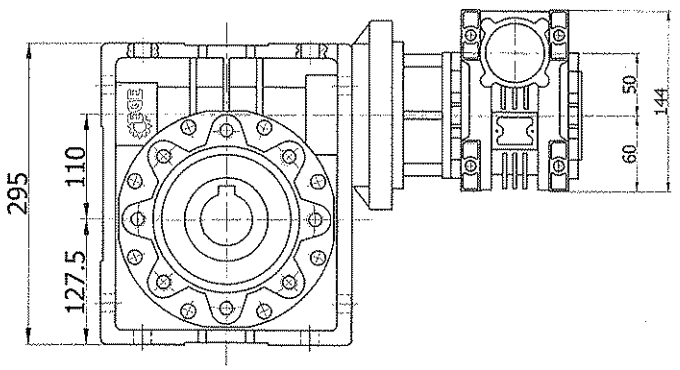
ERS50 - ERS110 Motorized Double Reducer

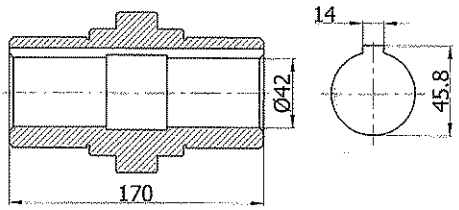








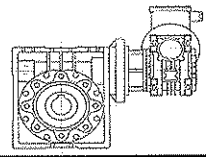


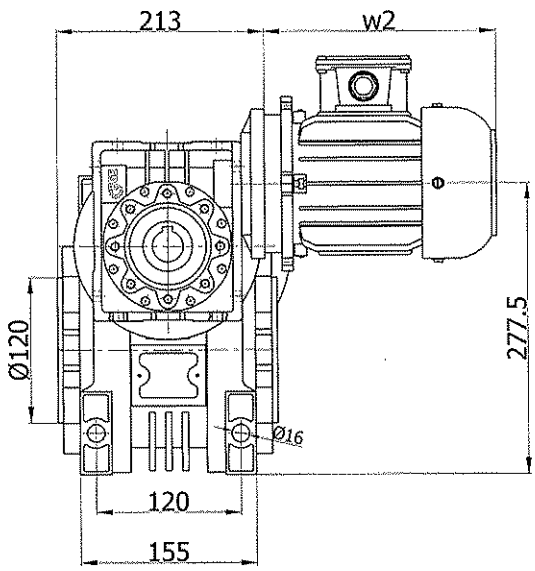


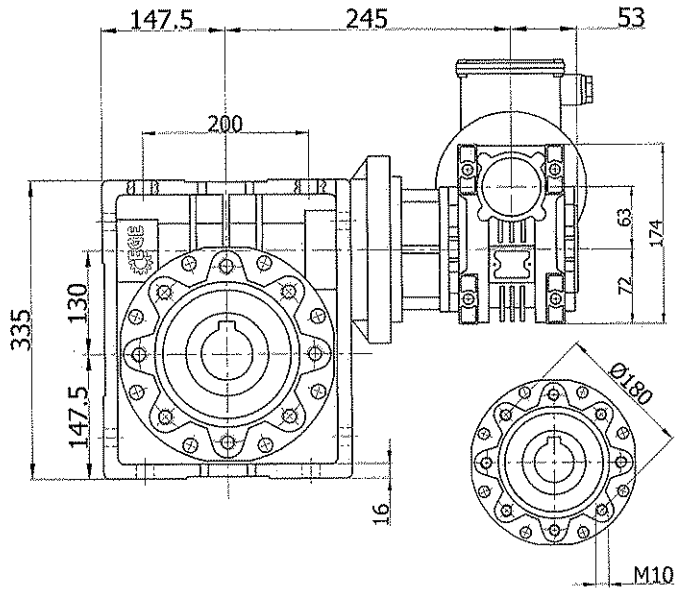
Not: **"w2"** ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"w2"** dimension varies according to electrical motor body size. Please look at motor dimension table.

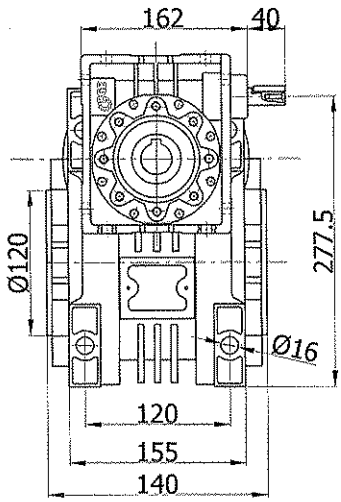
ERS63 - ERS130 Motorlu Çift Redüktörler

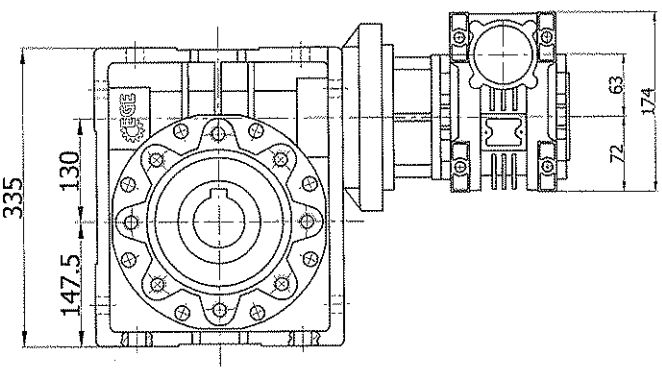
ERS63 - ERS130 Motorized Double Reducer

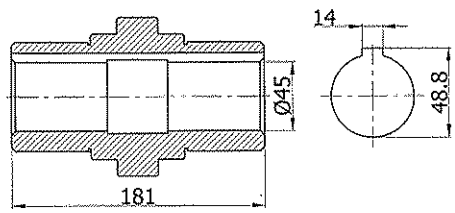








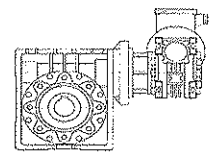


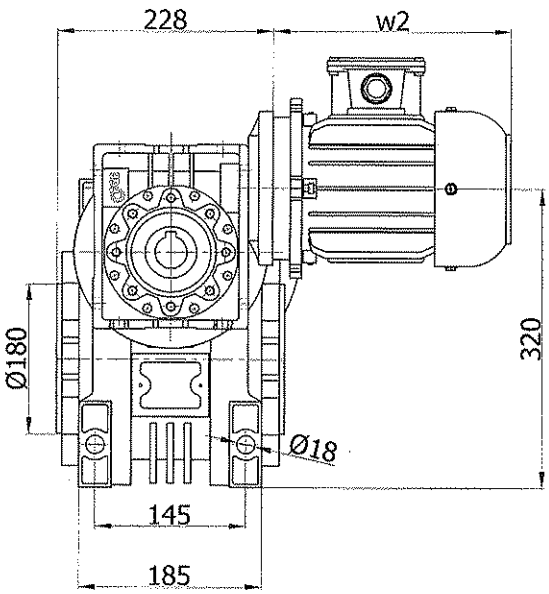


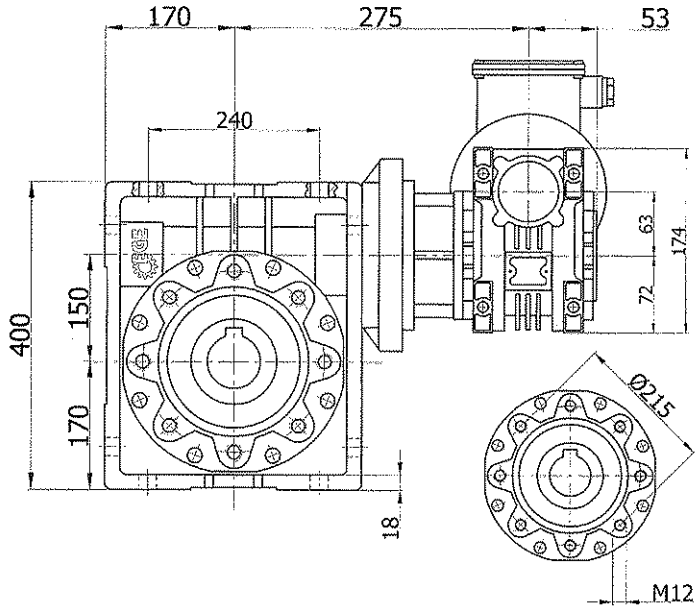
Not: "w2" ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: "w2" dimension varies according to electrical motor body size. Please look at motor dimension table.

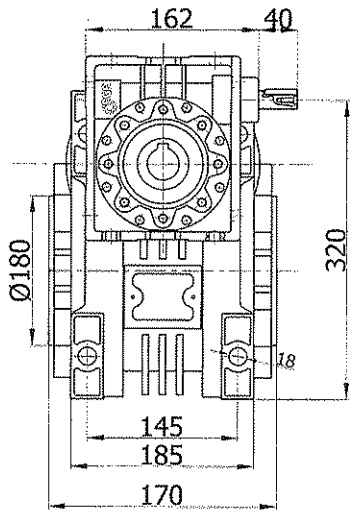
ERS63 - ERS150 Motorlu Çift Redüktörler

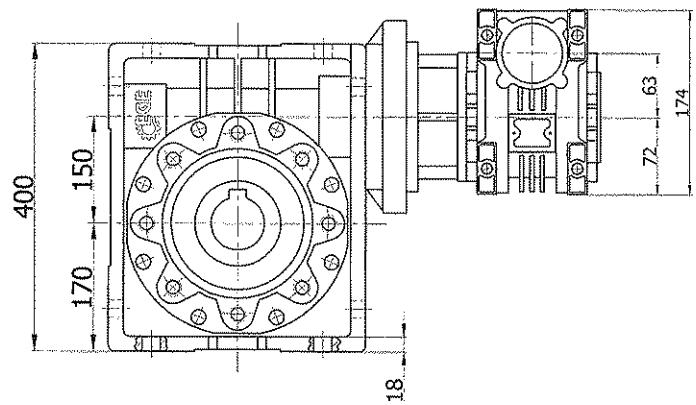
ERS63 - ERS150 Motorized Double Reducer

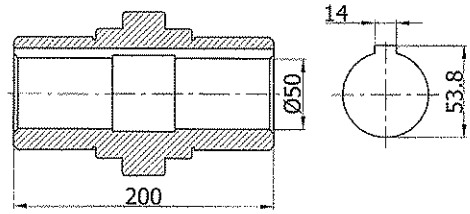




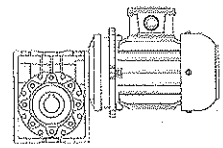




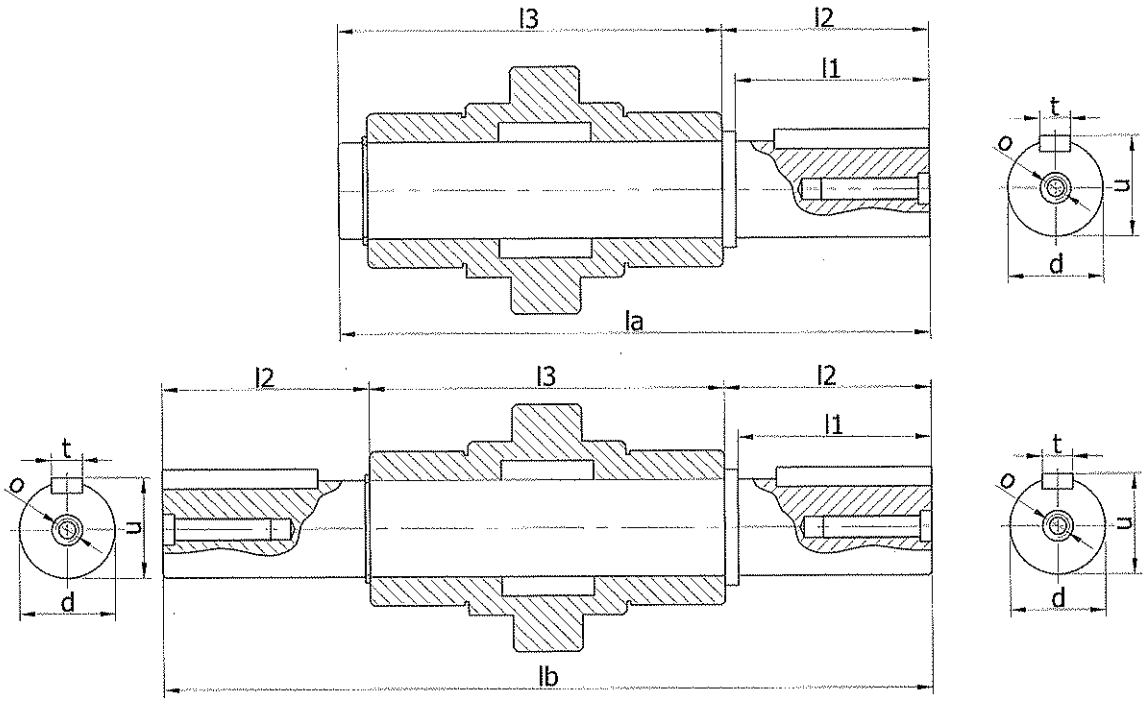




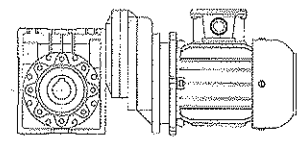
Not: **"w2"** ölçüsü motor boyutlarına bağlı olarak değişmektedir. Bu ölçüler için "MOTOR BOYUTLARI SAYFASI'na" bakınız.
Note: **"w2"** dimension varies according to electrical motor body size. Please look at motor dimension table.

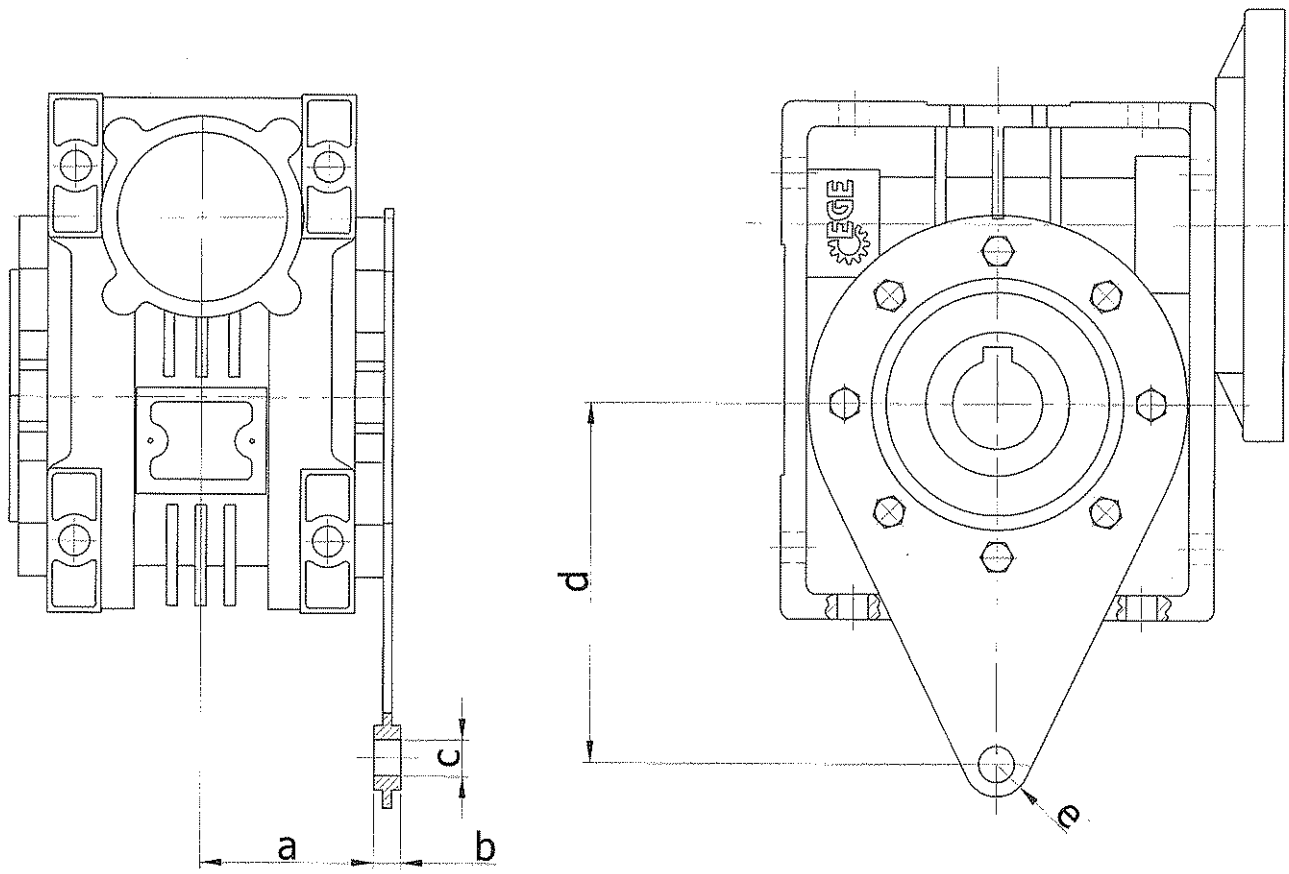


Çıkış Mili Ölçüleri
Output Shaft Dimensions

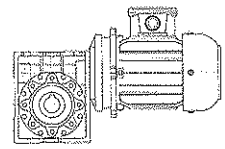


ÖLÇÜ / TİP	la	lb	l1	l2	l3	d	t	u	o
ERS30	102	128	30	32.5	63	14	5	16	M6
ERS40	128	164	40	43	78	18	6	20.5	M6
ERS50	153	199	50	53.5	92	25	8	28	M10
ERS63	173	219	50	53.5	112	25	8	28	M10
ERS75	192	247	60	63.5	120	28	8	31	M10
ERS90	234	309	80	84.5	140	35	10	38	M12
ERS110	249	324	80	84.5	155	42	12	45	M16
ERS130	265	340	80	85	170	45	14	48.5	M16
ERS150	297	374	82	87	200	50	14	53.5	M16



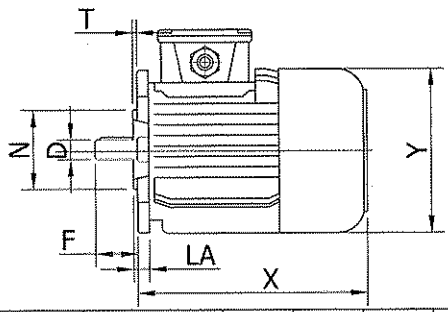


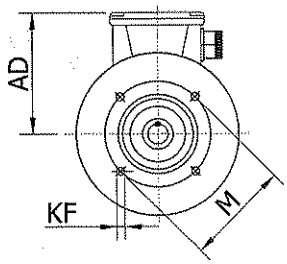
	a	b	c	d	e
ERS30	24	14	8	85	15
ERS40	31.5	14	10	100	18
ERS50	38.5	14	10	100	18
ERS63	49	14	10	150	18
ERS75	47.5	25	20	200	30
ERS90	57.5	25	20	200	30
ERS110	62	30	25	250	35
ERS130	69	30	25	250	35
ERS150	84	30	25	250	35



Motor Ölçüleri
Motor Dimensions

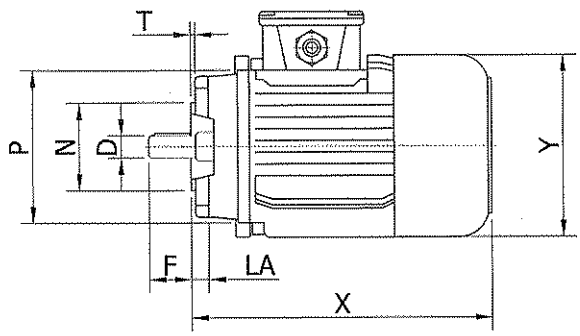
B5

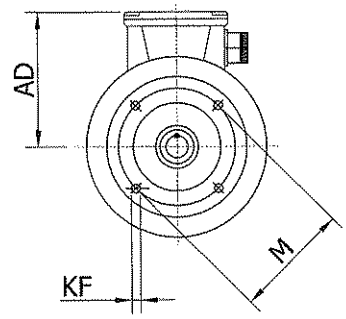




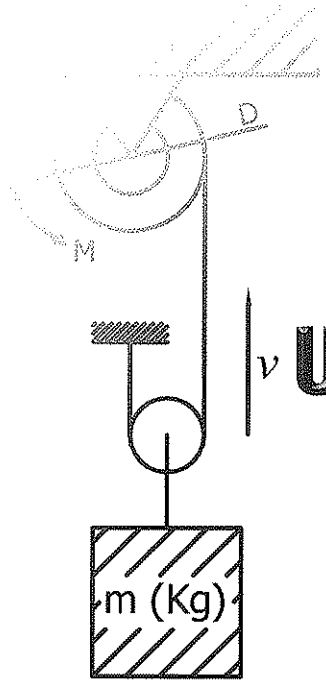
B5	2p		4p		6p		D	F	N	M	P	T	# KF	# LA	# AD	# X	# Y	# Kg
	HP	kW	HP	kW	HP	kW												
56A	0.12	0.09	0.08	0.06	-	-	9	20	80	100	120	2.5	7					
56B	0.16	0.12	0.12	0.09	-	0.06								7	85	156	110	4
63A	0.25	0.18	0.16	0.12	-	0.09	11	23	95	115	140	3	9					
63B	0.33	0.25	0.25	0.18	-	0.12								10	90	187	122	4.3
*63C	0.5	0.37	0.3	0.22	0.2	0.15												
71A	0.5	0.37	0.33	0.25	0.25	0.18	14	30	110	130	160	3.5	9					
71B	0.75	0.55	0.5	0.37	0.33	0.25								10	106	212	140	7.2
*71C	1	0.75	0.75	0.55	-	-												
80A	1	0.75	0.75	0.55	0.5	0.37	19	40	130	165	200	3.5	11					
80B	1.5	1.1	1	0.75	0.75	0.55								12	112	232	159	11
80C	2	1.5	1.3	0.92	-	-												
90S	2	1.5	1.5	1.1	1	0.75	24	50	130	165	200	3.5	11					
90L	3	2.2	2	1.5	1.5	1.1								12	125	270	177	16
*90LL	-	-	2.5	1.8	-	-												
100LA	4	3	3	2.2	2	1.5	28	60	180	215	250	4	14	16	144	315	204	28
100LB	-	-	4	3	-	-												
112M	5.5	4	5.5	4	3	2.2												
*112MS	-	-	6.5	4.8	-	-												
132S	7.5-10	5.5-7.5	7.5	5.5	4	3	38	80	230	265	300	4	14	14	203	425	260	60
132M	12.5	9	10	7.5	5.5-7.5	4-5.5												
*132L	-	-	12.5	9.2	-	-												
160M	15-20	11-15	15	11	10	7.5	42	110	250	300	350	5	18	15	245	545	320	90
160L	25	18.5	20	15	15	11												
180M	30	22	25	18.5	-	-	48	110	250	300	350	5	18	15	245	580	320	120
180L	35	26	30	22	20	15												
200L	40-50	30-37	40	30	25-30	18.5-22	55	110	300	350	400	5	18	15	275	640	360	190

B14



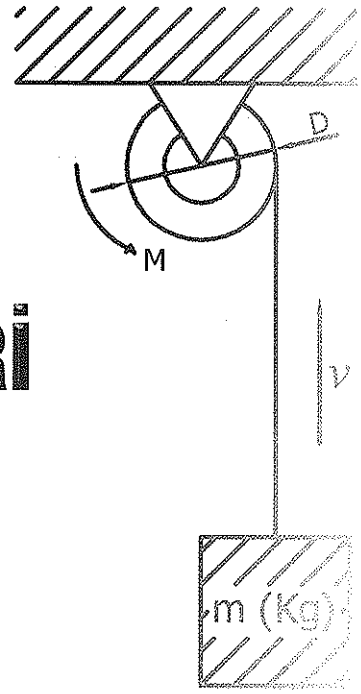


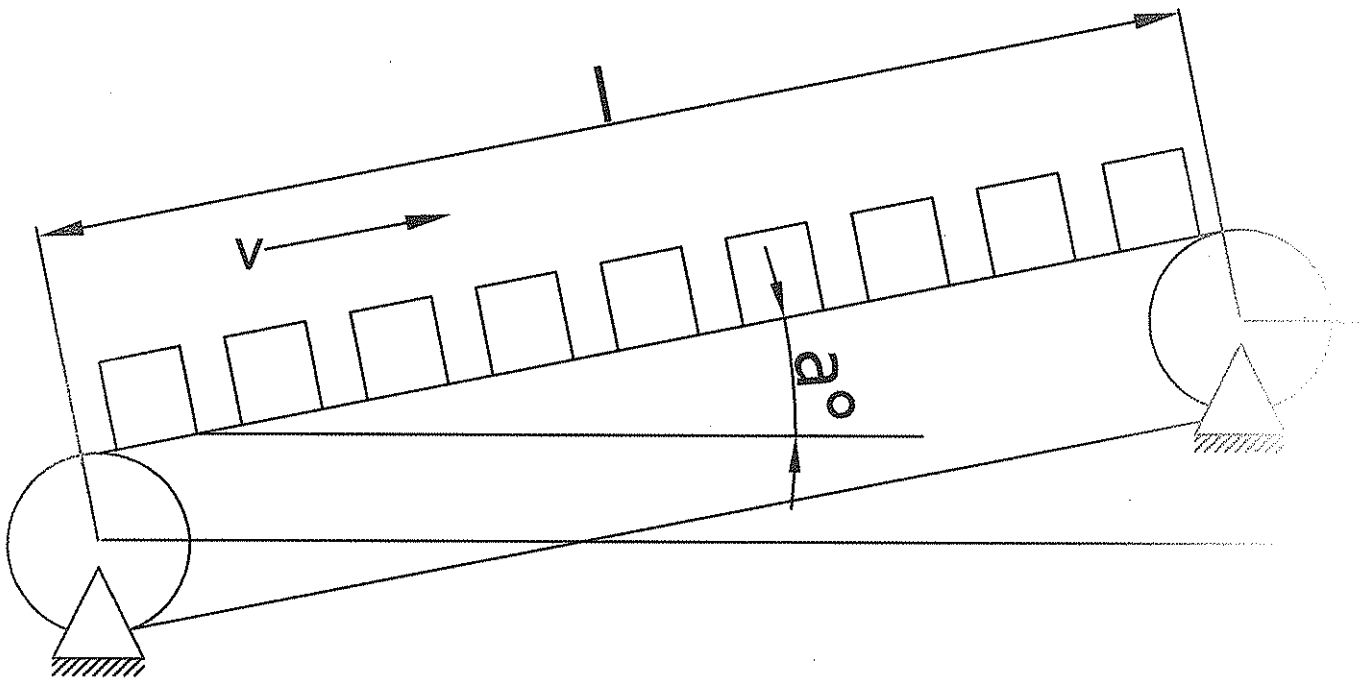
B14	2p		4p		6p		D	F	N	M	P	T	# KF	# LA	# AD	# X	# Y	# Kg
	HP	kW	HP	kW	HP	kW												
56A	0.12	0.09	0.08	0.06	-	-	9	20	50	65	80	2.5	M5	8	85	156	110	4
56B	0.16	0.12	0.12	0.09	-	-												
63A	0.25	0.18	0.16	0.12	-	-	11	23	60	75	90	3	M5	8	90	187	122	4.3
63B	0.33	0.25	0.25	0.18	-	-												
*63C	0.5	0.37	0.3	0.22	0.2	0.15												
71A	0.5	0.37	0.33	0.25	0.25	0.18	14	30	70	85	105	3.5	M6	8	106	212	140	7.2
71B	0.75	0.55	0.5	0.37	0.33	0.25												
*71C	1	0.75	0.75	0.55	-	-												
80A	1	0.75	0.75	0.55	0.5	0.37	19	40	80	100	120	3.5	M6	8	112	232	159	11
80B	1.5	1.1	1	0.75	0.75	0.55												
*80C	2	1.5	1.3	0.92	-	-												
90S	2	1.5	1.5	1.1	1	0.75	24	50	95	115	140	3.5	M8	10	125	270	177	16
90L	3	2.2	2	1.5	1.5	1.1												
*90LL	-	-	2.5	1.8	-	-												
100LA	4	3	3	2.2	2	1.5	28	60	110	130	160	4	M8	10	144	315	204	28
100LB	-	-	4	3	-	-												
112M	5.5	4	5.5	4	3	2.2												
*112MS	-	-	6.5	4.8	-	-												

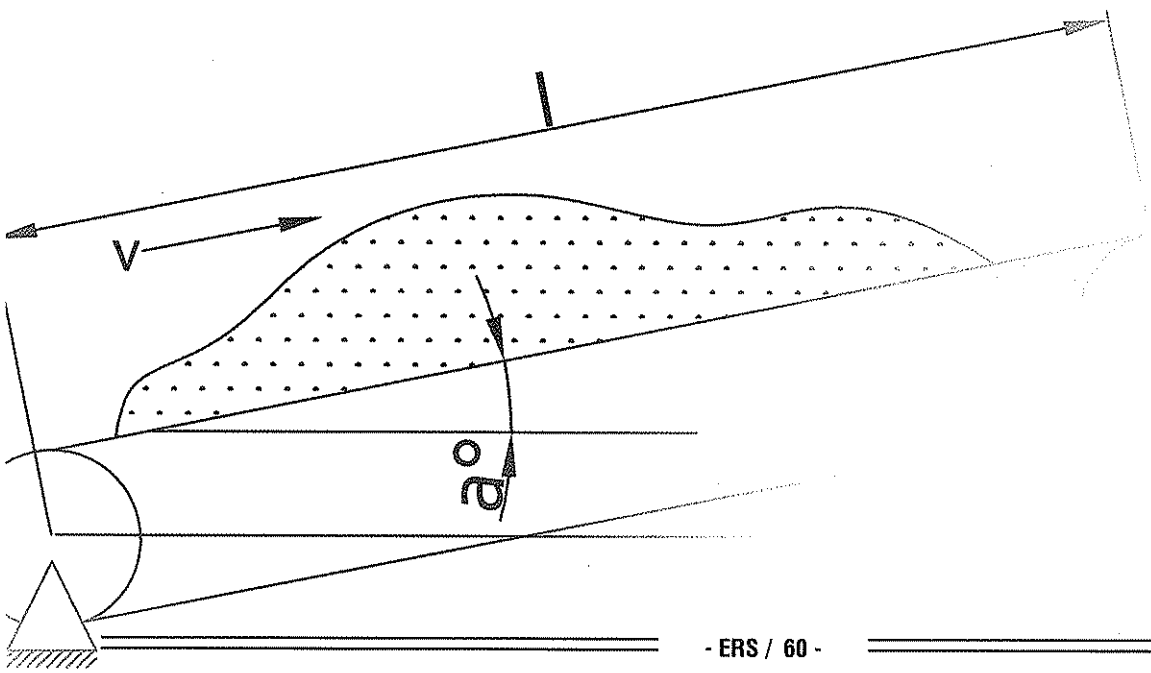


UYGULAMA ÖRNEKLERİ

Examples

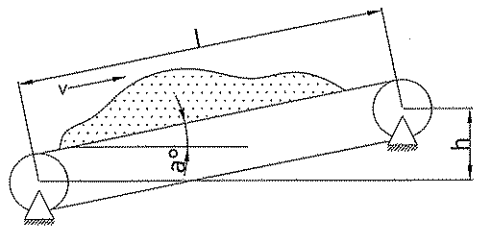






1. DÖKME YÜK TAŞIYAN –DEĞİŞKEN KÜTLELİ- KONVEYÖR HESABI:

80 m. uzunluğunda, 470 mm. tambur çapına sahip bir konveyörde, saatte 500 ton yük 1.2 m/s hızla 10 m. yüksekliğe taşınmak isteniyor. Sistemin 10 saat çalıştığı ve bant ağırlığının 10 kg/m olduğu göz önüne alınarak bu sistemde kullanılması gereken redüktör gücü ve devrini bulalım:



M: 500 ton / saat
Konveyör uzunluğu (l):80 m
Konveyör yüksekliği (h):10 m
Redüktör verimi (η): 0,9

Konveyör hızı (v) : 1.2 m/s
Günlük çalışma süresi:10 saat
Tambur çapı:470 mm
Bant ağırlığı(m_b) : 10 kg/m

Sistemimizde kullanılacak redüktörün gücü:

$$P = \frac{A \times m \times v}{1000 \times \eta}$$ .....**(1)** formülünden elde edilir.

Bu formüldeki "A" değerini aşağıdaki tablodan interpolasyon yöntemi (*) ile bulursak:

$$\frac{A-0.25}{7-0} = \frac{2.35-0.25}{10-0} \rightarrow \mathbf{A = 1.72}$$

Konveyörde bulunan yük değişken kütleli olduğu için; *m* değerini

$$m : \frac{M \times l}{3600 \times v} + m_b \qquad m = \frac{500.000 \times 80}{3600 \times 1.2} + 2 \times 10 \times 80 \rightarrow \mathbf{m = 10859.25Kg}$$ bulunur.

Bulduğumuz *"m"* değerini **(1)** no.lu formülde yerine koyarsak:

$$P = \frac{1.72 \times 10859.25 \times 1.2}{1000 \times 0.9} \rightarrow \mathbf{P = 24.9kW}$$ ~30 kW olmalıdır.

Ve gerekli redüktör devri de;

$$\left.\begin{array}{l} P = \dfrac{Mo \times n}{9550 \times \eta} \\ Mo = m \times A \times r \end{array}\right\} \rightarrow n = \frac{9550 \times \eta \times P}{m \times A \times r} \rightarrow n = \frac{9550 \times 0.9 \times 21.23}{10859.25 \times 1.72 \times 470 \cdot 10^{-3}} \rightarrow n = 24.47 d/d \sim \mathbf{25 d/d}$$

Servis faktörünü belirleyecek olursak;

$$F_i = \frac{J_{ind}}{J_{motor}}$$ ..... **(2)** **Not:** J_{motor} değeri ilgili motor gücü için motor katalogundan seçilmiştir.

$$J_{ind} = 91.2 \times m \times \frac{v^2}{n^2} \rightarrow J_{ind} = 91.2 \times 10859.25 \times \frac{1.2^2}{1400^2} \rightarrow \mathbf{0.727\ kgm^2}$$

Bulunan J_{ind} değerini (2) no.lu formülde yerine koyarsak;

$$F_i = \frac{J_{ind}}{J_{motor}} \rightarrow F_i = \frac{0.727}{0.16} \rightarrow \mathbf{F_i = 4.54}$$

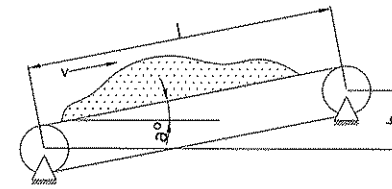
Tablo B' de verilen değerlere göre F_i< 10 olduğu için yük sınıfı "H" olup, servis faktörü (f_s) 1.5' tur.

Kullanılabilecek freni bulabilmek için "Fren momenti"nin bulunması gerekir.

$$\left.\begin{array}{l} M_{fm} = 2 \times M_L \\ M_L = A \times m \times r \end{array}\right\} \rightarrow M_{fm} = 2 \times A \times m \times r \rightarrow M_{fm} = 2 \times 1.72 \times 10859.25 \times 470 \cdot 10^{-3} \rightarrow \mathbf{M_{fm} = 17557.2Nm}$$

1 Pouring Load – Variable Load – Bearing Conveyor Calculation

A 500 ton load will be carried by a conveyor, which is 80 m. long and has a drum diametered as 470 mm, to 10 m. height with a speed of 1,2 m/s. Cosdering 10 hours working period and weigth of the band is 10kg/m let's find the power and r.p.m of the reducer.



M:500 ton / hour
Length of the conveyor (l): 80 m
Heigth of the conveyor (h): 10 m
Reducer Efficiency (η): 0,90

Speed of the conveyor (*v*): 1,2 m/s
Daily working period: 10 hours
Diameter of the drum: 470 mm
Weigth of the band: 10 Kg/m

The power of the reducer which will be used in our system can be found by using the formula shown below:

$$P = \frac{A \times m \times v}{1000 \times \eta} \quad \text{.....(1)}$$

The value of "A" in the formula can be found by interpolation from the table;

$$\frac{A-0.25}{7-0} = \frac{2.35-0.25}{10-0} \rightarrow \mathbf{A = 1.72}$$

The load on the conveyor is variable so we can find the mass by;

$$m : \frac{M \times l}{3600 \times v} + m_b \qquad m = \frac{500.000 \times 80}{3600 \times 1.2} + 2 \times 10 \times 80 \rightarrow \mathbf{m = 10859.25Kg}$$

If we use the "m" value in the **(1)** numbered formula;

$$P = \frac{1.72 \times 10859.25 \times 1.2}{1000 \times 0.9} \rightarrow \mathbf{P = 24.9kW}$$ ~30 kW is found.

And the essential reducer r.p.m. is;

$$\left.\begin{array}{l} P = \dfrac{Mo \times n}{9550 \times \eta} \\ Mo = m \times A \times r \end{array}\right\} \rightarrow n = \frac{9550 \times \eta \times P}{m \times A \times r} \rightarrow n = \frac{9550 \times 0.9 \times 21.23}{10859.25 \times 1.72 \times 470 \cdot 10^{-3}} \rightarrow n = 24.47 d/d \sim \mathbf{25 d/d}$$

The service factor can be found by;

$$F_i = \frac{J_{ind}}{J_{motor}} \quad \text{.....(2)}$$ J_{motor} is chosen from the motor catalogue.

$$J_{ind} = 91.2 \times m \times \frac{v^2}{n^2} \rightarrow J_{ind} = 91.2 \times 10859.25 \times \frac{1.2^2}{1400^2} \rightarrow \mathbf{0.727\ kgm^2}$$

If we use the value of J_{ind} in (2) numbered formula;

$$F_i = \frac{J_{ind}}{J_{motor}} \rightarrow F_i = \frac{0.727}{0.16} \rightarrow \mathbf{F_i = 4.54}$$

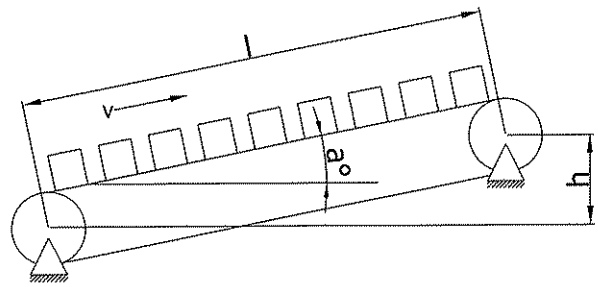
According to Table B, $F_i < 10$ so load classification is "H" and the service factor is (f_s) 1.5.

To find the brake we need to find "Momentum of Brake".

$$\left.\begin{array}{l} M_{fm} = 2 \times M_L \\ M_L = A \times m \times r \end{array}\right\} \rightarrow M_{fm} = 2 \times A \times m \times r \rightarrow M_{fm} = 2 \times 1.72 \times 10859.25 \times 470 \cdot 10^{-3} \rightarrow \mathbf{M_{fm} = 17557.2Nm}$$

2 PARÇA YÜK TAŞIYAN KONVEYÖR HESABI:

Bir tanesinin ağırlığı 18 Kg olan 9 adet koli 10 m uzunluğunda ve 150 mm tambur çapında bir konveyörle 0.7 m/s hızla ve 2 metre yükseğe taşınmak istenmektedir. 21 saat günlük çalışma şartlarına uygun kullanılması gereken redüktör gücü ve devrini bulmak için;



m: 18 Kg
Bir defada taşınacak koli adeti:9
Konveyör hızı (*v*): 0.7 m/s
Konveyör boyu (l): 10 m
Konveyör yüksekliği (h) : 2 m
Tambur çapı (r): 150 mm

Konveyör için gerekli gücü $P = \frac{A \times m \times v}{1000 \times \eta}$ **(1)** formülü yardımıyla bulabiliriz. Bu denklemin kullanılabilmesi için "A" ve "m" değerlerinin bulunması gerekmektedir.

"A" değeri için interpolasyon uygularsak;

$\frac{A-2.35}{11.53-10} = \frac{3.6-2.35}{20-10} \rightarrow \mathbf{A = 2.54}$ bulunur.

Buradan bulunan değer **(1)** numaralı formülde yerine konursa:

$$P = \frac{A \times m \times v}{1000 \times \eta} \rightarrow P = \frac{2.54 \times 18 \times 9 \times 0.7}{1000 \times 0.9} \rightarrow P = 0.32kW$$ **P=0.37 kW**

Redüktör için gerekli güç devri için verilen formül:

$$\left.\begin{array}{l} P = \frac{M \times n}{9550 \times \eta} \\ M = A \times m \times r \end{array}\right\} \rightarrow n = \frac{9550 \times 0.9 \times 0.32}{2.54 \times 18 \times 9 \times 150 \times 10^{-3}} \rightarrow n = 44.56\,\text{d/d} \sim \mathbf{45\ d/d}$$

Servis faktörünü belirleyebilmek için Tablo B' yi kullanmamız gerekmektedir. Tablo B' nin kullanılabilmesi için "Yük sınıfı" nın belirlenmesi gerekir.

$$F_i = \frac{J_{ind}}{J_{motor}}$$ **(2)**

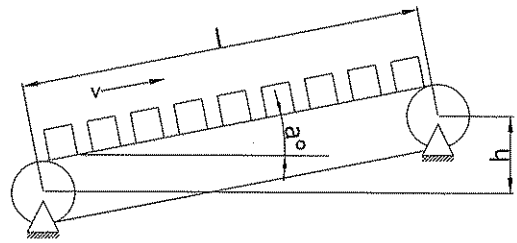
Not: J_{motor} değeri ilgili motor gücü için motor katalogundan seçilmiştir.

$$J_{ind} = 91.2 \times m \times \frac{v^2}{n^2} \rightarrow J_{ind} = 91.2 \times 18 \times 9 \times \frac{0.7^2}{1400^2} \rightarrow \mathbf{3.6936.10^{-3}\ kgm^2}$$

Bulunan J_{ind} değerini (2) no.lu formülde yerine koyarsak;

$$F_i = \frac{J_{ind}}{J_{motor}} \rightarrow F_i = \frac{3.6936 \cdot 10^{-3}}{0.00048} \rightarrow \mathbf{F_i \cong 7.7}$$

2 CALCULATION FOR A LUMP LOAD CONVEYOR:



9 boxes, each one's weight is 18 Kg, are wanted to be carried by a conveyor which has the length of 10 m. and a drum with a diameter of 150 mm. The speed of the conveyor is 0.7 m/s and its heigth is 2 m. To find the reducer power and r.p.m.;

m: 18 Kg
Quantitiy of the boxes:9
Speed of the conveyor: 0.7 m/s
Length of the conveyor: 10 m.
Heigth of the conveyor: 2 m.
Diameter of the drum: 150 mm.

By the help of the formula; $P = \frac{A \times m \times v}{1000 \times \eta}$ **(1)** we can find the essential power for the reducer. To use this formula we need the values of "*A*" and "*m*".

For the value of "A" by interpolation;

$$\frac{A-2.35}{11.53-10} = \frac{3.6-2.35}{20-10} \rightarrow \mathbf{A = 2.54}$$

If we use the value of "A" in the equation (1);

$$P = \frac{A \times m \times v}{1000 \times \eta} \rightarrow P = \frac{2.54 \times 18 \times 9 \times 0.7}{1000 \times 0.9} \rightarrow P = 0.32kW \quad \textbf{P=0.37 Kw}$$

For the r.p.m. of the reducer is given below:

$$\left.\begin{aligned} P &= \frac{M \times n}{9550 \times \eta} \\ M &= A \times m \times r \end{aligned}\right\} \rightarrow n = \frac{9550 \times 0.9 \times 0.32}{2.54 \times 18 \times 9 \times 150 \times 10^{-3}} \rightarrow n = 44.56 \text{ d/d} \sim \textbf{45 d/d}$$

To find the service factor we must use the Table B and for usng the table B we must specify the load classification.

$F_i = \frac{J_{ind}}{J_{motor}}$ **(2)** J_{motor} is chosen from the motor catalogue.

$$J_{ind} = 91.2 \times m \times \frac{v^2}{n^2}$$

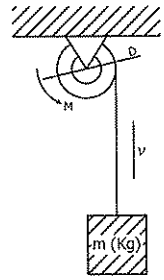
$$\rightarrow J_{ind} = 91.2 \times 18 \times 9 \times \frac{0.7^2}{1400^2}$$

$$\rightarrow \mathbf{3.6936.10^{-3} Kgm^2}$$

If we use the value of J_{ind} in the equation of **(2)**;

$$F_i = \frac{J_{ind}}{J_{motor}} \rightarrow F_i = \frac{3.6936 \cdot 10^{-3}}{0.00048} \rightarrow \mathbf{F_i \cong 7.7}$$

3 TEK HALATLI KALDIRMA MEKANİZMASI HESABI:



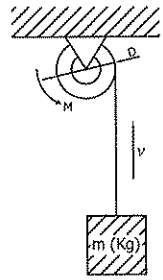
1200 Kg' lık bir yükün 220 mm çapa sahip bir tambur yardımıyla 0.5 m/s hızla tek halatla yukarı doğru çekilebilmesi için gerekli motor gücü ve redüktör devri nedir?

Çekilecek Yük (m) : 1200 Kg
Tambur Çapı (D_t) : 220 mm
Yükün Yukarı Çekilme Hızı (ν) : 0.5 m/s
Redüktör Verimi (η) :0.90
Halat Sayısı (h_s) : 1

$$P = \frac{m \cdot g \cdot v}{1000 \cdot \eta} \rightarrow P = \frac{1200 \cdot 9{,}81 \cdot 0{,}5}{1000 \cdot 0.90} \rightarrow P = \mathbf{6.54\,kW \sim 7\,kW}$$

$$n = \frac{60 \cdot v}{2 \cdot \pi \cdot r} \cdot h_s \rightarrow n = \frac{60 \cdot 0{,}5}{2 \cdot \pi \cdot 220 \cdot 10^{-3}} \cdot 1 \rightarrow n = 21{,}7 \text{ d/d} \sim \mathbf{22\ d/d}$$

3 HOLDING MECHANISM WITH SINGLE ROPE:



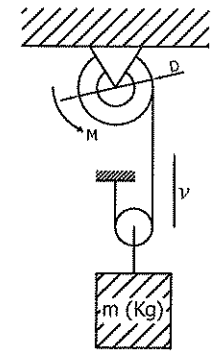
What's the essential reducer power and r.p.m. to hitch up a 1200 Kg mass by the help of a drum diametered 220 mm. with the speed of 0.5 m/s and the number of rope is one.

Amount of the mass (m) : 1200 Kg
Diameter of the drum (D_t) : 220 mm.
Speed of the hitching up (ν) : 0.5 m/s
Efficiency of the reducer (η) : 0.9
Number of rope (h_s) : 1

$$P = \frac{m \cdot g \cdot v}{1000 \cdot \eta} \rightarrow P = \frac{1200 \cdot 9{,}81 \cdot 0{,}5}{1000 \cdot 0.90} \rightarrow P = \mathbf{6.54\,kW \sim 7\,kW}$$

$$n = \frac{60 \cdot v}{2 \cdot \pi \cdot r} \cdot h_s \rightarrow n = \frac{60 \cdot 0{,}5}{2 \cdot \pi \cdot 220 \cdot 10^{-3}} \cdot 1 \rightarrow n = 21{,}7 \text{ d/d} \sim \mathbf{22\ d/d}$$

4 ÇİFT HALATLI KALDIRMA MEKANİZMASI HESABI:



Günde 8 saat çalışacak olan bir mekanizma ile 3500 Kg' lık yük 200 mm çapa sahip tamburlar yardımıyla iki halatla, 0,2 m/s hızla yukarı çekilebilmesi için gerekli motor gücü ve redüktör devri nedir?

Kütle : 3500 Kg
Tambur çapı (D_t) : 200 mm
Yükün yukarı çekilme hızı (ν) : 0,2 m/s
Redüktör verimi (η) : 0,90
Halat sayısı (h_s) : 2
Günlük Çalışma Süresi : 8 saat

$$P = \frac{m \cdot g \cdot v}{1000 \cdot \eta} \rightarrow P = \frac{3500 \cdot 9{,}81 \cdot 0{,}2}{1000 \cdot 0{,}90} \rightarrow P = 7{,}63kW \sim \mathbf{11\ kW}$$

$$n = \frac{60 \cdot v}{2 \cdot \pi \cdot r} \cdot h_s \rightarrow n = \frac{60 \cdot 0{,}2}{2 \cdot \pi \cdot 200 \cdot 10^{-3}} \cdot 2 \rightarrow n = 19{,}09 d/d \sim \mathbf{30\ d/d}$$

$$F_i = \frac{J_{ind}}{J_{motor}} \quad \textbf{.....(1)}$$

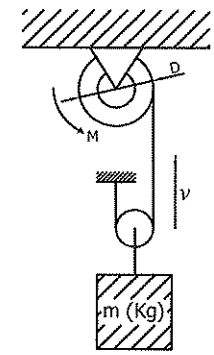
$$J_{ind} = 91{,}2 \cdot m \cdot \frac{v^2}{n_1^{\,2}} \rightarrow J_{ind} = 91{,}2 \cdot 3500 \cdot \frac{(0{,}2)^2}{1400^2} \rightarrow J_{ind} = \mathbf{0{,}0065 Kgm^2}$$

Ve motor kataloğundan ilgili motor için $\mathbf{J_{motor}}$;**0,34 Kgm²** bulunur.

Bulunan bu değerler **(1)** no.lu denklemde yerine konursa;

$F_i = \frac{0{,}0065}{0{,}34} \rightarrow Fi = 0{,}19$ bulunur. Verilen değerler göz önüne alındığında Tablo B' den yük sınıfı U ve güvenlik faktörü (f_s) 0,95 bulunur.

4 HOLDING MECHANISM WITH DOUBLE ROPE



What's the essential power and r.p.m. for a mechanism which will work for 8 hours a day and hold 3500 Kg mass by a drum diametered 200 mm. The number of the rope is two and the speed of the mechanism is 0.2 m/s.

Mass : 3500 Kg
Diameter of the drum (D_t) : 200 mm.
Speed of hitching up (ν) : 0.2 m/s
Efficiency of the reducer (η) : 0.90
Number of rope (h_s) : 2
Daily working period : 8 hours/day

$$P = \frac{m \cdot g \cdot v}{1000 \cdot \eta} \rightarrow P = \frac{3500 \cdot 9{,}81 \cdot 0{,}2}{1000 \cdot 0{,}90} \rightarrow P = 7{,}63kW \sim \mathbf{11\ kW}$$

$$n = \frac{60 \cdot v}{2 \cdot \pi \cdot r} \cdot h_s \rightarrow n = \frac{60 \cdot 0{,}2}{2 \cdot \pi \cdot 200 \cdot 10^{-3}} \cdot 2 \rightarrow n = 19{,}09 d/d \sim \mathbf{30\ d/d}$$

$$F_i = \frac{J_{ind}}{J_{motor}} \quad \textbf{.....(1)}$$

$$J_{ind} = 91{,}2 \cdot m \cdot \frac{v^2}{n_1^{\,2}} \rightarrow J_{ind} = 91{,}2 \cdot 3500 \cdot \frac{(0{,}2)^2}{1400^2} \rightarrow J_{ind} = \mathbf{0{,}0065 Kgm^2}$$

From the motor catalogue J_{motor};0,34 Kgm^2 is chosen.

If we use the values found above, in equation **(1)**;

$F_i = \frac{0{,}0065}{0{,}34} \rightarrow Fi = 0{,}19$. After evaluating the datas we found the load classification as U and the service factor (f_s) 0.95.