

Turkey's largest and one of the world's most renowned producers of gearboxes.

# Contents

Company Introduction Services	1
Customer Service	15
Web Site Applications	10
Online Stock and Order Tracking	17
Contracted Dealer Network	10
Service	10
Products	
Gear Units	
M Series	24
N Series	26
D Series	28
K Series	30
E Series	32
Industrial Gearboxes	
P Series	36
R Series	38
H Series	40
B Series	42
Special Application Gearboxes	
Crane Gearboxes	46
Agidator Gearboxes	47
Mixer Gearboxes - Drywell	48
Bandsaw Gearboxes	50
Gearboxes for Extruder Machines	51
Conveyor Gearboxes	54
Elevator Gearboxes	55

Concrete Mixer Gearboxes	56
Gearbox Options and Accessories	
Output Shaft Options	60
Input Flange Options	
Output Flange Options	61
Mounting with Torque Arm	62
Painting and Corrosion Production Classes	
Oil Types	64
Sealing Options	65
Lubrication Options	66
Cooling Options	67
Brake Montage	68
Centrifugal brake	68
Eldro Brake	68
Backstop	69
Torque Limiter	69
Gear Units with Base Frame	70
Couplings	70
Electric Motors	
Single Speed Motors	76
Double Speed Motors	77
Electric Motor Options and Accessories	
Electromagnetic Brakes	78
Hand Release Brake	78
Forced Cooling	78
Forced Cooling with Encoder	
Forced Cooling with Brake and Encoder	78

Backstop	78
Electric Motor Extension Shaft	79
Canopy	79
Protection Class	79
Insulation Class	8
Thermal Protection	8
Heaters and Drain Holes	8
ariable Speed Drives	
Basic Series	8
Advanced Series	8

86

87

88

89

90

Advanced Series

**Expert Series** 

Expert Series

Wall Mounted

Integrated Series

Servo Drive and Motor



Founded in 1958, Yilmaz Reduktor quickly became Turkey's leading gearbox manufacturer, aided by consistent product quality, work discipline, strategic planning and consistent vision. Today Yilmaz Reduktor remains Turkey's leading gearbox producer and is rapidly becoming well known throughout the world. Yilmaz Reduktor uses its extensive experience to develop new products, uses the latest available production technology and continually invests in engineering to provide its customers with products that fulfil the expectations of the world market. Our products are used in many industries and our customers regard us as trusted partners.





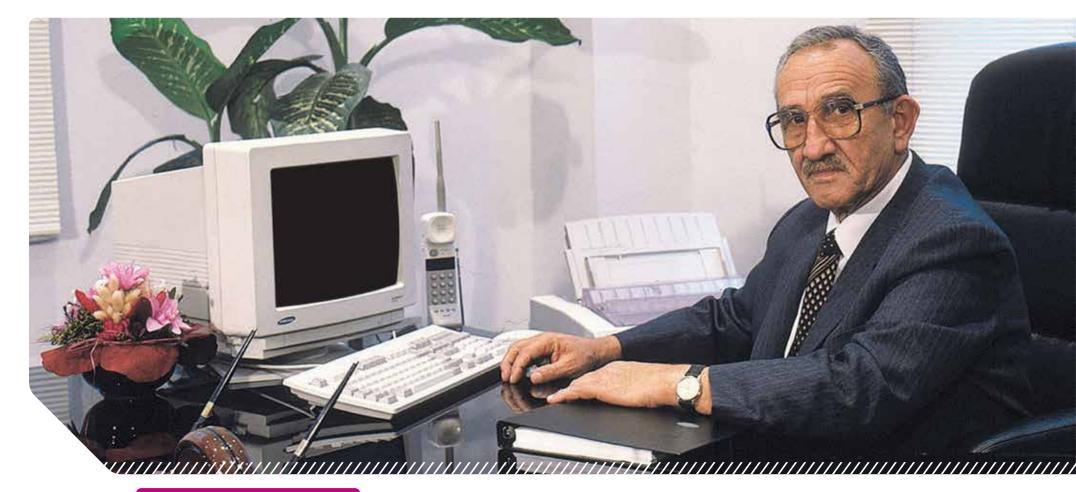
Mesut Yılmaz was born in 1932 in Kastamonu Abana as the third child of the Yılmaz family. He had a hard childhood, marred by World War II and industrialization problems around Turkey. During this period he worked at his father's café in Abana. After leaving primary school, he travelled to Istanbul on a ship to learn a new profession without seeking his family's permission. During his first years in Turkey's capital he encountered many challenges. Living in an attic above a café in Karaköy Perşembe Pazarı, he worked as an apprentice to a Greek craftsman.

Always planning to open his own workshop he worked hard and strove to learn from masters. In those challenging years he married Sabahat Yılmaz. She was born in 1933 in Kastamonu Abana as the daughter of Hulusi Hacıyüzbaşı. They had three children together. She supported Mesut Yılmaz throughout his life and did many great things for her children and for Yılmaz Redüktör.

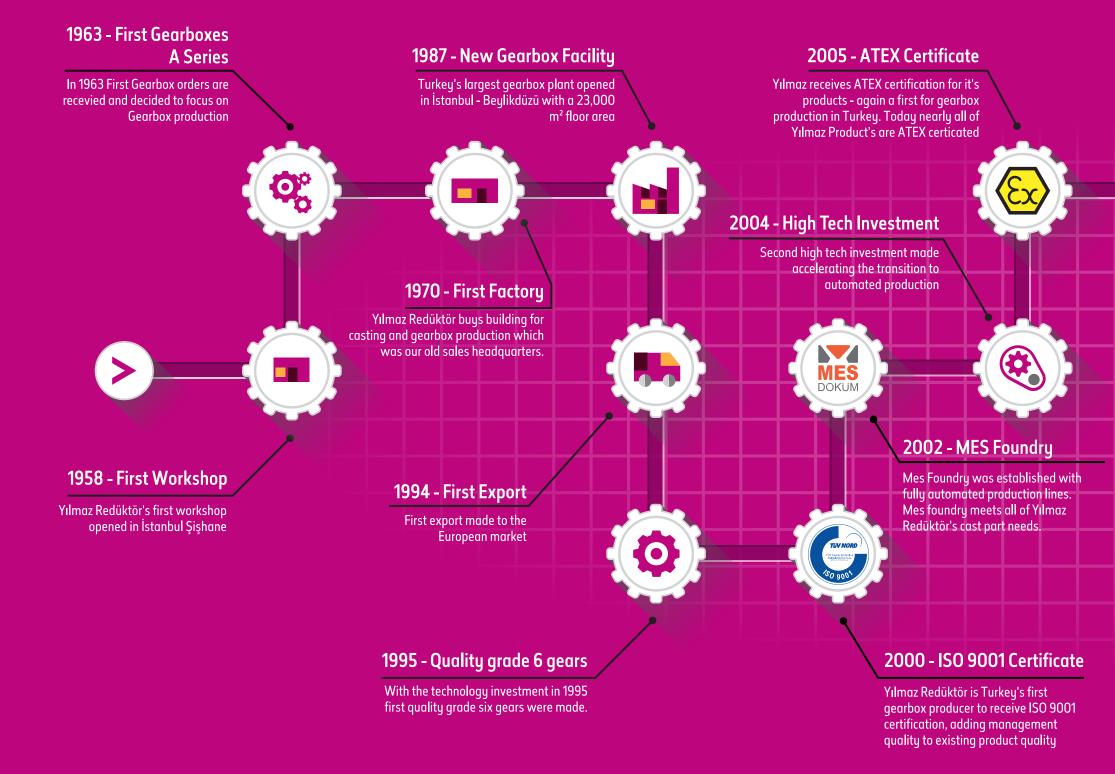
Together with a friend, Mesut Yilmaz opened his first workshop in 1958 at Şişhane İstanbul. Initially they had only three machines: a lathe, a drill, and a sawhorse, all of which they built themselves.

Mesut Yılmaz's life consisted of his family and his work. The few occasions that he did take time off he spent hunting and fishing. He died of heart failure on 17 August 2001 while fishing in his boat. After his death his sons and Sabahat Yılmaz continued his work, striving to accomplish Mesut Yılmaz's dream of establishing Yılmaz Redüktör on the World market.

From its humble beginnings as a producer of machine components in 1958 Yılmaz Redüktör has become Turkey's largest gearbox producer and counts among the world's most renowned manufacturers.



Mesut Yilmaz 1932 - 2001





Production of T series started, which were optimized for conveyor applications.

#### 2017 January - AC Drives

While adding speed control devices to gear unit and AC motor couples, Yılmaz Redüktör start to offer complete solutions for customers



#### 2007 - H Series

In 2007 First Industrial gearboxes presented in Turkey. The new units were labeled as "H"



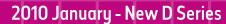
#### 2010 June - New CNC Machines

In 2010 Yılmaz Redüktör invests 30 new CNC Machines, loaded by robots these machines boost production speed and quality.



### 2013 September Electric Motor Works

In 2013 September Yılmaz Redüktör establishes subsdiary company ELK motor plant in Çerkezköy Tekirdağ with second plant for MES Döküm, which will increase production capacity to 20000 tonnes per year



New D Series Gearboxes are designed and started to produce according to "High Power Density" principle.





#### **2011 - P/R Series**

In 2011 Yılmaz Redüktör starts production of Turkey's first mass-produced planetary gearboxes

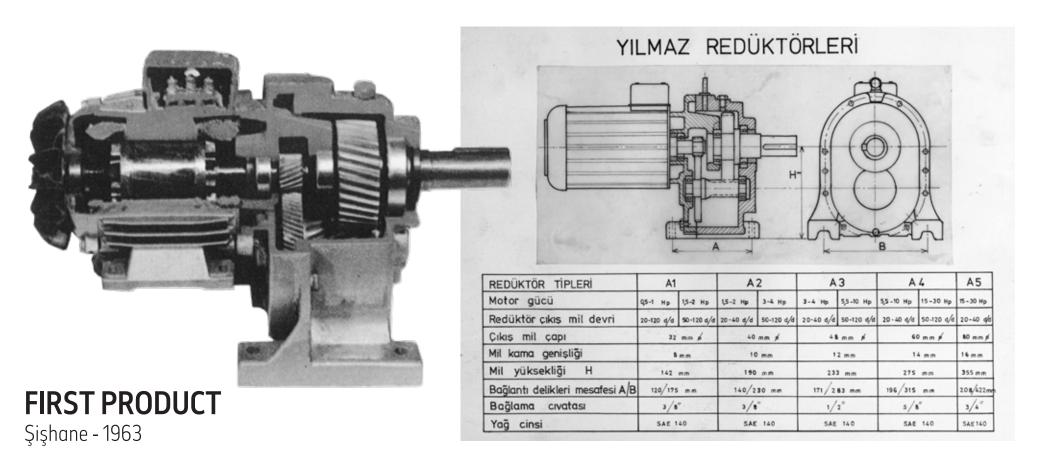
#### 2012 - V Series

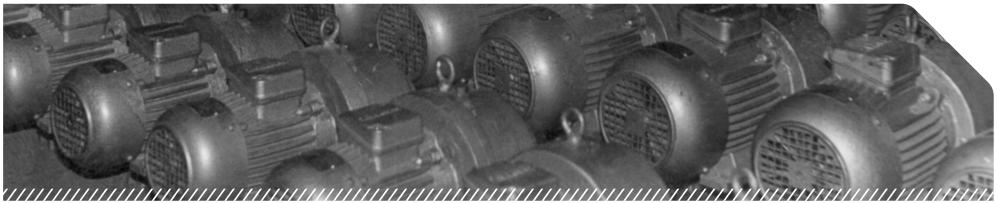
Yılmaz Redüktör releases its V series hoist drum drive units, which is offering alot of advantages for crane manufactur ers.

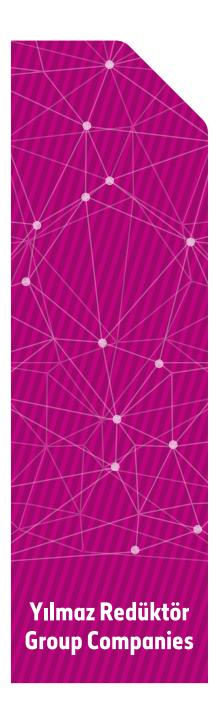
#### 2013 May - New K Series

In 2013 Yılmaz Redüktör releases its K series gearboxes, with higher efficiency than the E series worm gearboxes









#### **ELK Electric Motors San. ve Tic. A.Ş.**

Established as a subsidiary of Yilmaz Reduktor in 2011, ELK's electric motor factory, located in the Cerkezkoy industrial park, began series production in 2013. The factory produces motors of types IE2 and IE3 ranging from size 71 to 225 (0.25 to 45 kW). All motors have been designed and engineered according to EU standarts. They are sold under the ELK or Yilmaz brand.



#### Mes Foundry San. ve Tic. Ltd. Şti.

Subsidiary MES foundry was founded to meet Yilmaz Reduktor's needs for cast part. The company has a capacity of 80.000 tonnes per year and can produce standard cast iron, modular cast iron and bronze castings. The majority of MES Foundry's output – 95 percent – goes to Yilmaz Reduktor. Its facilities consist of induction furnaces, moulding lines, core making machines, and an in-house test lab.



#### Yılmaz Marketing Import Export San. ve Tic. Ltd. Şti.

Established in 1995 Yilmaz Marketing is responsible for import, export, logistics, personnel transport, catering and construction activities of our group companies. Since 2008 our company has extended its construction activities and completed the building of our Cerkezkoy plant. A third plant is currently being built in Kirac, Istanbul. Our experienced and dedicated staff ensures the continued fulfilment of customer expectations.



#### Yılmaz Redüktör Board of Management





### Customer Service

You can take technical advice from our sales engineers with a phone call. You can easily choose suitable gear units for your applications while exchanging technical know-how with them



### Web Site Applications

You can find detailed information about our products and services on our web site. All of our product catalogues, manuels, certifocates, 2D and 3D technical drawings and PDF drawings can be downloaded from our web site. With the help of easy to use "GST" application on our web site you can make enginnering calculations for your application and choose suitable gearbox easily. For additional information about our mobile applications, please contact with our sales engineers.



Online Stock and Order Tracking

You can find online stock and order tracking system under "GST" on our web site, which is available for our dealers and OEM customers. If you are an OEM customer of ours, you can request a user name and password for the system from our sales department.



# Contracted Dealer Network

We are as close to you as your next-door neighbour with our wide dealer network. Our dealers can help you for all of your requests with before and after sales



### Service

Please contact our service head quarters below.

#### **Domestic Service**

Atatürk Mah. Lozan Cad. No:17 34522 Esenyurt - İstanbul - Türkiye Tel: 0090 212 886 90 00

Tel: 0090 212 886 90 00 Fax: 0090 212 886 61 93

#### Service:

Internal: 1223, 1228, 1287 E-Mail: servis@yr.com.tr

#### Spare Parts:

Internal: 1224, 1277

E-Mail: yedekparca@yr.com.tr

#### **International Service**

Yılmaz Redüktör GmbH Molsfeld 3 - 40670 Meerbusch - Germany

Tel: +49 (0)2159 92 84 360 Fax: +49 (0)2159 92 84 364 E-Mail: info@yilmazreduktor.de Website: www.yilmazreduktor.de

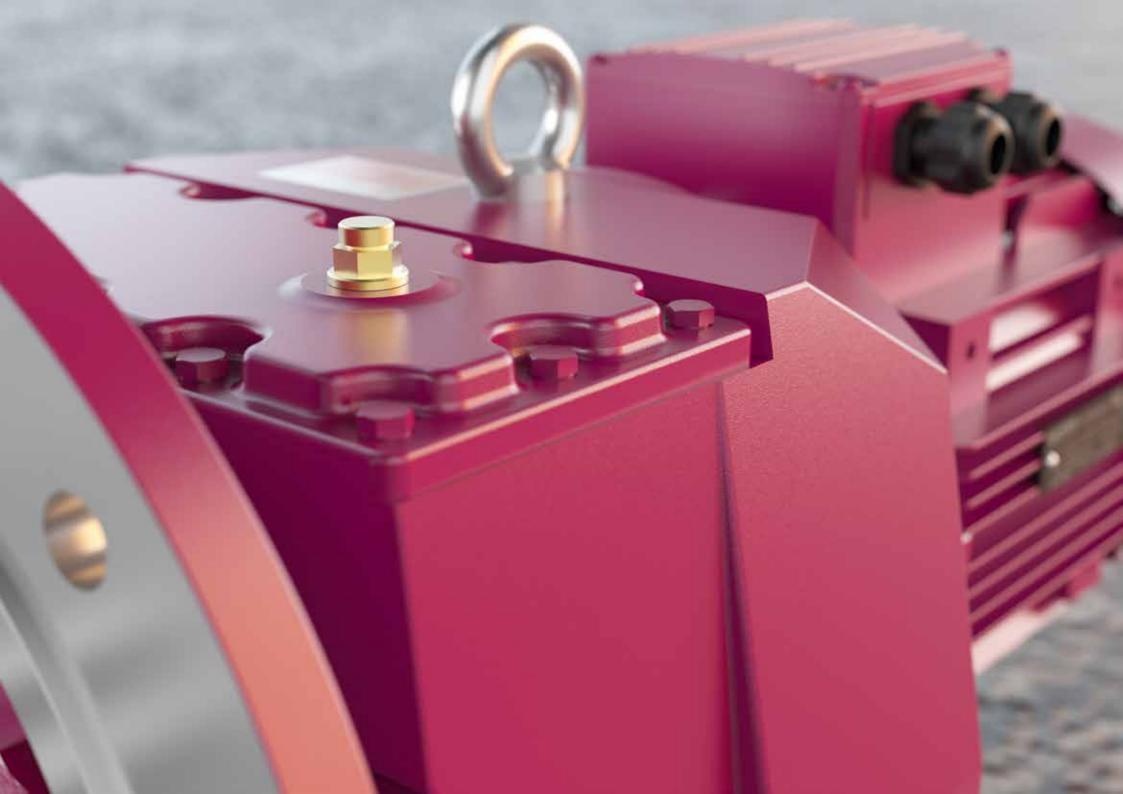




The new generation of Yilmaz gearboxes is of a monoblock (one-piece housing) design, which has the advantages of lower noise level, reduced oil leakage and higher rigidity and gear strength. All bearings are supported by the housing itself and not by split housings. All axes are machined on the same mounting plate, which gives a high precision on all axes with very tight tolerances. The gear manufacturing processes used allows exceptionally tight gear tolerances. This requires machining of the GG22 material housing to obtain the same tight tolerances, which can be achieved only with a monoblock housing. The one-piece housing also makes higher bearing and gear life as well as greater overhung loads possible. Gear strength, bearing life, shaft strength etc. are calculated with professional software applications according to DIN and Niemann's calculation principles. The middle bearing support plate is integrally cast and provides optimum support for bearings used in three-stage gearboxes. The middle bearing support plate allows the gears to be supported from both sides and very close to the gear wheel. This minimizes runout and deformation on running under load, making it possible to make low noise gearboxes. The new generation of gearboxes feature many additional mounting possibilities. According to customer specifications IEC B14, B5 or standard coupled geared motors are available. All models are two- or three-stage and footor flange-mounted. The new gearboxes have lower axle heights than the old models and are more compact at the same power and speed. All gearboxes are of a modular design, allowing double gearboxes to be integrated with minimum change. All gearbox tolerances are actively checked by our quality control system.



### **GEAR UNITS**



# M Series

#### **Foot-Mounted Helical Gearboxes**

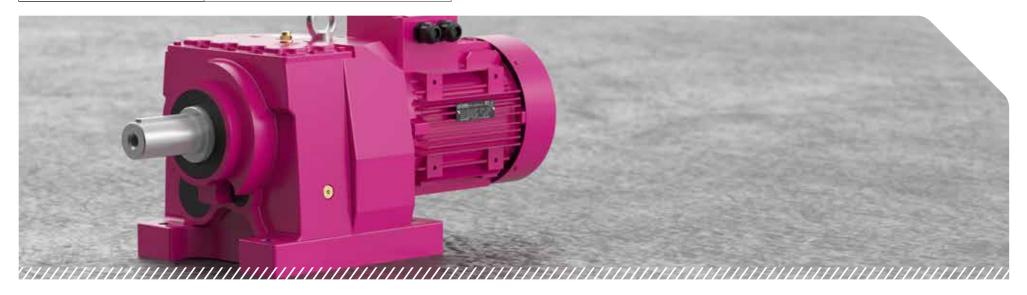
Foot-mounted, helical gear units with solid output shaft, Input and output shafts are parallel to each other.

Torque Range [Nm]	50 - 18.000
Motor Power Range [kW]	0,12 - 160
Output Speed Range [rpm]	0,1-780

#### **Specifications and Advantages**

- Monoblock housing design
- Two or three stages can be in same housing
- Reduction can be increased up to six stages with additional housing
- Bearing solutions for high radial and axial loads

- Output shaft options
- Servomotor-specific connection flanges
- Electromagnetic brake motors (24V/220V/380V)
- Backstop applications
- 512 or 1024 pulse encoder
- External fan cooling option for frequency inverter applications



#### Input Type



MR Series
Direct motor coupled



MN Series Foot mounted gear unit with IEC B5/B14 motor flange



MV Series With IEC B5/B14 motor mounted



MT Series With input shaft without motor

#### 



MRF With flange and foot mounted

▶ Please see Options and Accessories chapter for additional information

### N Series

#### Flange Mounted Helical Gearboxes

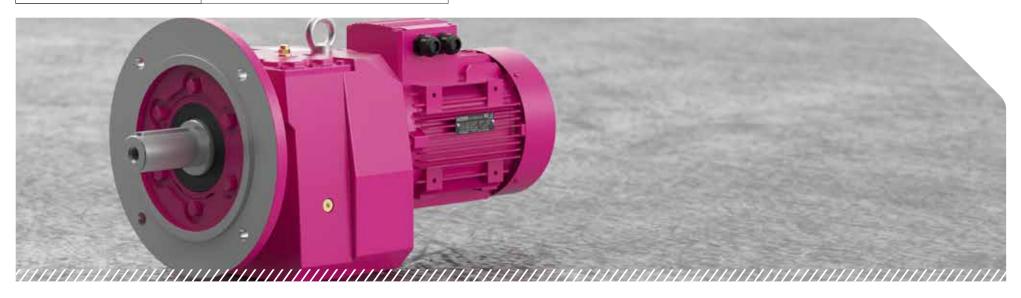
Flange-mounted, helical gear units with solid output shaft, Input and output shafts are parallel to each other.

Torque Range [Nm]	50 - 18.000
Motor Power Range [kW]	0,12 - 160
Output Speed Range [rpm]	0,1-780

#### **Specifications and Advantages**

- Monoblock housing design
- Two or three stages can be in same housing
- Reduction can be increased up to six stages with additional housing
- Bearing solutions for high radial and axial loads
- Output shaft options

- Output shaft and flange options
- Servomotor-specific connection flanges
- Electromagnetic brake motors (24V/220V/380V)
- Backstop applications
- 512 or 1024 pulse encoder
- External fan cooling option for frequency inverter applications



#### Input Type



NR Series
Direct motor coupled



NV Series With IEC B5/B14 motor mounted



NN Series Flange mounted gear unit with IEC B5/B14 motor flange



NT Series With input shaft without motor

#### Output Type



**Output Shaft Options** 

▶ Please see Options and Accessories chapter for additional information

### D Series

#### **Parallel Shaft Helical Gearboxes**

Helical gear units, their input and output shafts are parallel and they can be connected to machines from sides of housing, with torque arm or from output flange.

Torque Range [Nm]	130 – 18.000
Motor Power Range [kW]	0,12 - 160
Output Speed Range [rpm]	0,1-580

#### **Specifications and Advantages**

- Monoblock housing design
- Two or three stages can be in same housing
- Reduction can be increased up to six stages with additional housing
- Bearing solutions for high radial and axial loads
- Output shaft options (Hollow shaft, solid shaft, shrink disk, hollow and solid splines)
- Extruder output option for extruder machines (DRE Type)

- Output flange and output shaft options
- Servomotor specific connection flanges
- Electromagnetic brake motors (24V/220V/380V)
- Backstop application
- 512-1024 pulse encoder applications
- External fan cooling option for frequency inverter applications



#### Input Type



**DR Series**Direct motor coupled



**DN Series**Gear unit with IEC B5/B14 motor flange



**DV Series**With IEC B5/B14 motor mounted



**DT Series**With input shaft without motor

#### Output Type



**D..00** With hollow shaft



D..01 With solid shaft



**D..02** With solid shaft and flange



D..03
With hollow shaft and flange



D..OS
With hollow shaft and shrink disk



**D..0E**With extruder shaft

Please see Options and Accessories chapter for additional information

### **K** Series

#### **Bevel - Helical Gearboxes**

Helical bevel gear units, their input and output shafts are perpendicular to each other. They can be mounted to machine from foot, output flange or with torque arm.

Torque Range [Nm]	80 – 15.000
Motor Power Range [kW]	0,12 - 90
Output Speed Range [rpm]	0,1 - 460

#### **Specifications and Advantages**

- Monoblock housing design
- Two or three stages can be in same housing
- Reduction can be increased up to six stages with additional housing
- Bearing solutions for high radial and axial loads
- Output shaft options (Hollow shaft, solid shaft, shrink disk, hollow and solid splines)
- Extruder output option for extruder machines (KRE Type)

- Output flange and output shaft options
- Servomotor specific connection flanges
- Electromagnetic brake motors (24V/220V/380V)
- Backstop application
- 512-1024 pulse encoder applications
- External fan cooling option for frequency inverter applications



#### Input Type



**KR Series** Direct motor coupled



**KN** Series Gear unit with IEC B5/B14 motor flange



**KV** Series With IEC B5/B14 motor mounted



**KT Series** With input shaft without motor

#### **Output Type**



K..00 With hollow shaft



K..01 With solid shaft



K..02 With solid shaft and flange



K..03 With hollow shaft and flange



K..04 With double solid output shaft





K..05 With double solid output shaft and flange



K..08 With double hollow output shaft and flange



K..OS With hollow shaft and shrink disk



With extruder shaft

▶ Please see Options and Accessories chapter for additional information

# E Series

#### **Worm Gearboxes**

The worm gearboxes of the E series feature input and output shafts that are perpendicular to each other. Their worms are made of steel and gears are made of bronze. They can be mounted to the driven machine by the foot, flange or torque arm on the gearbox.

Torque Range [Nm]	5 – 1.000
Motor Power Range [kW]	0,06 – 7,5
Output Speed Range [rpm]	0,2 - 260

#### **Specifications and Advantages**

- Maximum thermal capacity through optimized design of cooling fins
- Additional helical gear stage for low output speeds
- Bearing solutions for high radial and axial loads
- Special motor flanges

- IEC B5 and B14 motor flanges
- Output flange options
- Special sealings
- Torque arm
- Electromagnetic brakes
- Optional output shaft dimensions
- Servomotor specific connection flanges



#### Input Type



**EV Series** With IEC B5/B14motor mounted



**EN Series** Gear unit with IEC B5/B14 motor flange



**ET Series** With input shaft without motor



**EN + EV Series** Two worm stage gearbox



**EN + NR Series** Worm gearbox with helical gear stage input

#### **Output Type**



E..00 With hollow shaft



E..01 With solid shaft



E..02 With solid shaft and flange



E..03 With hollow shaft and flange



E..04 With double solid output shaft



E..05 With double solid output shaft and flange



E..06 Worm geared motor with shaft extension from opposite side of motor



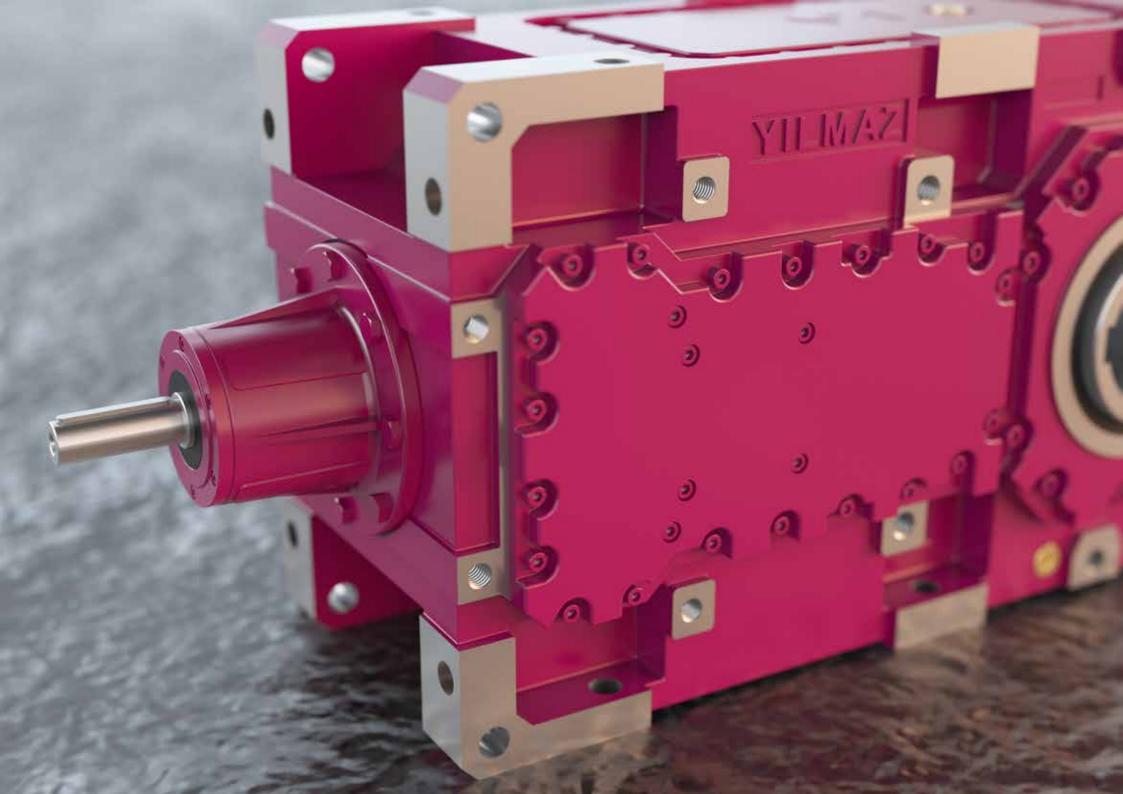
E..07 Worm gear unit with double input shaft



E..08 With Double hollow output shaft

▶ Please see Options and Accessories chapter for additional information

### INDUSTRIAL GEARBOXES



## P Series

#### **Planetary, Flange Mounted Gearboxes**

Gearboxes thats have a modular design and consist of sun, planet and internal gearing, which can be mounted with torque arm or output flange. They are suitable for mobile applications with their high torque capacity and compact design.

Torque Range [Nm]	1.000 – 50.000
Motor Power Range [kW]	0,37 - 75
Output Speed Range [rpm]	0,1 - 410

#### **Specifications and Advantages**

- High torque density with the help of compact housing and bearings
- Bearing solutions for high radial and axial loads
- Output shaft options (Solid shaft, shrink disk, hollow shaft with splines, solid shaft with splines)
- AC and hydromotor flanges
- Perpendicular input shaft options with bevel gear stage
- Worm and bevel gear unit coupling options to decrease output speed
- Different cooling and lubrication options for different working conditions

- Servomotor specific connection flanges
- Electromagnetic brakes
- Electromagnetic and hydraulic brakes
- 512 1024 pulse encoder application
- External fan cooling option for frequency inverter applications
- Special sealings
- Glass oil level indicator



# Input Type



PV..L Series Planetary geared AC or hydro motor with IEC B5, C26 or M46 input flange



PN..L Series Planetary gear unit with IEC B5, C26 or M46 input flange



PT..L Series
Planetary gear unit with solid input shaft



P..K Series Planetary gear unit with bevel stage input



P + EV Series Planetary gear box with worm gear unit coupled



P + KR Series
Planetary gear unit with
bevel gear unit coupled

# Output Type



P..01 Solid output shaft



P..OK/OL Hollow output shaft with splines



P..1K/1L Solid output shaft with splines



P..OS
With shrink disk

Please see Options and Accessories chapter for additional information

# R Series

# **Planetary, Foot Mounted Gearboxes**

Gearboxes thats have a modular design and consist of sun, planet and internal gearing, which can be mounted with mounting holes on housing. They are suitable for mobile applications with their high torque capacity and compact design.

Torque Range [Nm]	1.000 – 50.000
Motor Power Range [kW]	0,37 - 75
Output Speed Range [rpm]	0,1 - 410

### **Specifications and Advantages**

- High torque density with the help of compact housing and bearings
- Bearing solutions for high radial and axial loads
- Output shaft options (Solid shaft, shrink disk, hollow shaft with splines, solid shaft with splines)
- AC and hydromotor flanges
- Perpendicular input shaft options with bevel gear stage
- Worm and bevel gear unit coupling options to decrease output speed
- Different cooling and lubrication options for different working conditions

### **Options and Accessories**

- Servomotor specific connection flanges
- Electromagnetic brakes
- Electromagnetic and hydraulic brakes
- 512 1024 pulse encoder application
- External fan cooling option for frequency inverter applications
- Special sealings
- Glass oil level indicator



# Input Type



RV..L Series Planetary geared AC or hydro motor with IEC B5, C26 or M46 input flange



RN..L Series Planetary gear unit with IEC B5, C26 or M46 input solid input shaft



RT..L Series
Planetary gear unit with solid input shaft



R..K Series Planetary gear unit with bevel stage input



R + EV Series Planetary gear box with worm gear unit coupled



R + KR Series Planetary gear unit with bevel gear unit coupled

# Output Type



R..01 Solid output shaft



R..1K/1L Solid output shaft with splines

▶ Please see Options and Accessories chapter for additional information

# H Series

### **Industrial Helical-Geared Units**

Helical industrial type gear units with parallel input and output shaft. They can be mounted to driven machine with foot, output flange or torque arm.

Ratio Range	5,33 - 420	
Torque Range [Nm]	4.850 – 470.000	
Speed Range [rpm]	0,1-263	

### **Specifications and Advantages**

- GGG40 sphero compact housing
- Gears with modifications and tapered rolling bearings
- Mounting from all sides
- Motor mounting with IEC B5 flange
- Output flange options
- Output shaft options (solid shaft, shrink disk, hollow shaft with splines, solid shaft with splines)
- Lubrication options
- Cooling options
- Option for coupling with K series gear units to further increase ratio

### **Options and Accessories**

- Mechanical brake option on housing
- Complete solutions including eldro brake, hydrolic coupling and electric motor on steel base frame
- Oil heater, oil flow sensor, oil filter, glass oil level indicator and special sealings
- Torque arm



# Input Type



HT Series With input shaft without motor



**HK Series**Gear unit with motor



**HK Series**With IEC B5 input flange without motor



HT + KR Series Gear unit with additional housing

# 



H..00 With hollow shaft



H..01
With solid output shaft



H..02 With solid shaft and flange



H..03 With hollow shaft and flange



H..04
With double solid output shaft



H..05
With double solid
output shaft and flange



H..08
With double hollow output shaft and flange



H..0S With shrink disk



H..0E
With extruder output shaft

Please see **Options and Accessories** chapter for additional information

# B Series

## **Industrial Helical-Bevel Gear Units**

Helical and bevel industrial type gear units with perpendicular input and output shaft. They can be mounted to driven machine with foot, output flange or torque arm.

Ratio Range	9,78 - 430
Torque Range [Nm]	4.850 – 470.000
Speed Range [rpm]	0,1-140

### **Specifications and Advantages**

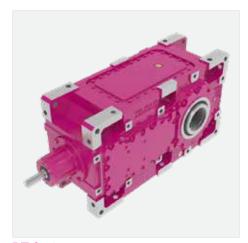
- GGG40 sphero compact housing
- Gears with modifications and tapered rolling bearings
- Mounting from all sides
- Motor mounting with IEC B5 flange
- Output flange options
- Output shaft options (solid shaft, shrink disk, hollow shaft with splines, solid shaft with splines)
- Lubrication options
- Cooling options
- Option for coupling with D series gear units to further increase ratio

### **Options and Accessories**

- Mechanical brake option on housing
- Complete solutions including eldro brake, hydrolic coupling and electric motor on steel base frame
- Oil heater, oil flow sensor, oil filter, glass oil level indicator and special sealings
- Torque arm



# Input Type



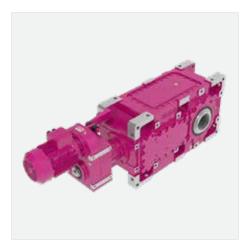
**BT Series** With input shaft without motor



BT.20 Series Gearbox with two input shaft



**BK Series** With IEC B5 input flange with motor



BT + DR Series Gear unit with additional housing

# **Output Type**



B..00 With hollow shaft



B..01 With solid output shaft



B..02 With solid shaft and flange



B..03 With hollow shaft and flange



B..04 With double solid output shaft



B..05 With double solid output shaft and flange



B..08 With double hollow output shaft and flange



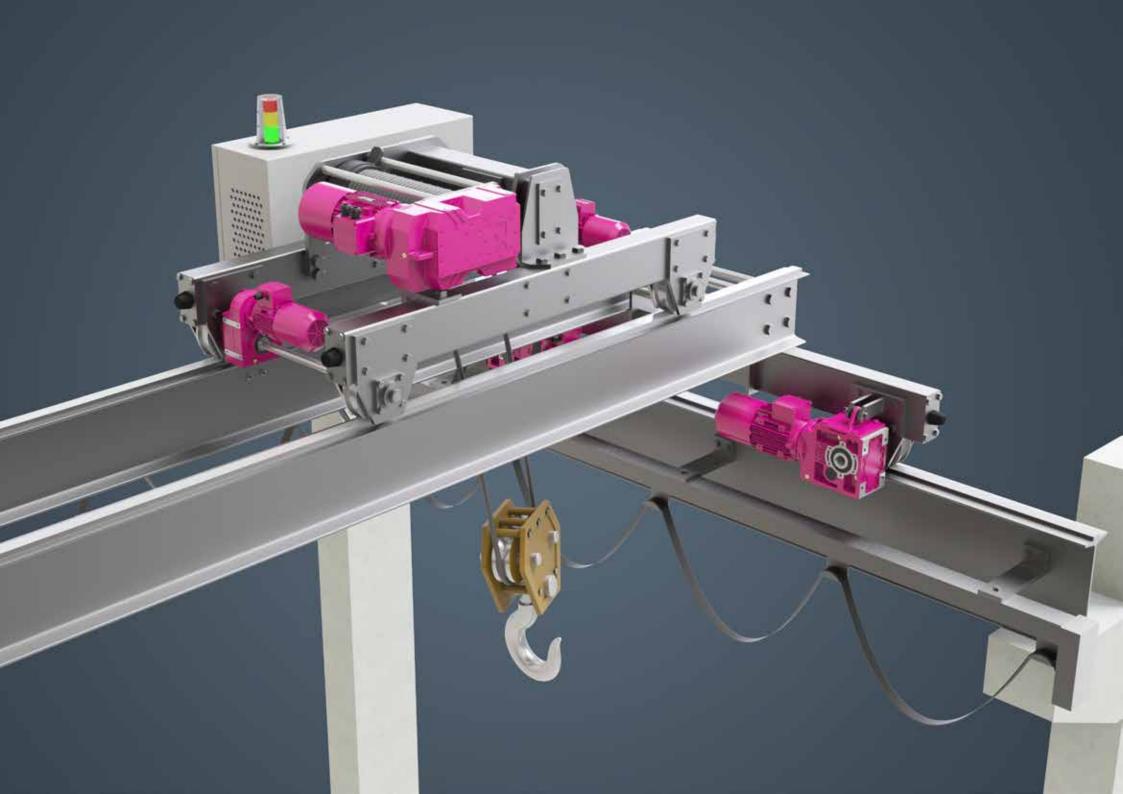
**B..0S** With shrink disk



**B..0E** With extruder output shaft

Please see Options and Accessories chapter for additional information

**Special Application Gearboxs** 



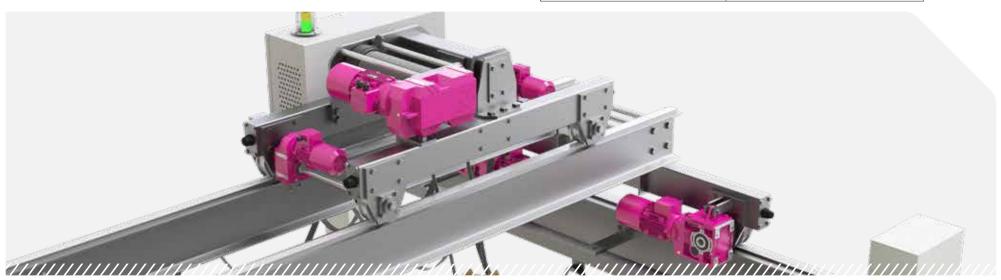




V series gear units are three stage, helical-geared hoist drum drive units. Input and output centre distances are as far apart as possible. Input and output shafts are parallel to each other. Output shafts are splined according to standards.

- GGG40 sphero cast iron housings
- With the help of taper rolling bearings they have the capability of withstanding high radial loads
- Input and output centre distances are as far apart as possible to allow the use of larger drums
- Electromagnetic brakes, encoder and fan cooling applications
- Optional drum connection flange
- Nitrated and splined output shafts
- Bolted connections are made directly on the housing through connection holes
- Wide speed range
- Designed for double- and single-speed brake motors

Ratio Range	23,58 - 233,77
Tonnage Range [Tonne]	0,5 - 50
Motor Rower Range [kW]	0,37 - 45







Helical gearboxes with longer output shaft and reinforced spherical roller bearings for withstanding high radial and axial loads designed specifically for agitator applications.

- Longer output shaft with agitator housing with reinforced spherical roller bearings
- Wide speed and power range
- Special sealings

Torque Range [Nm]	280 – 18.000
Motor Rower Range [kW]	0,12 - 160
Speed Range [rpm]	0,1 - 414







K series mixer gearboxes with forced output shaft bearings, special sealings and extra oil leakage pool to prevent oil leakage out of gear unit. They are specifically designed for food and wastewater treatment industries where oil leakage can be a problem. Oil leakage can also be detected with optional oil sensor.



### **Output Flange Properties**

1-Oil slinger ring

2-Transparent oil plug or sensor

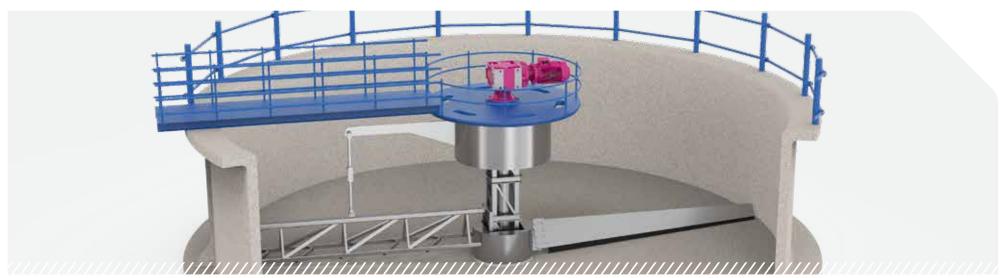
3-Spherical roller bearing

4-Oil leakage room

5-Greaser for bearing

6-Special sealing for excessive dust

Torque Range [Nm]	450 – 15.000
Motor Power Range [kW]	0,37 - 90
Speed Range [rpm]	0,1 - 460



# Mixer Gearboxes -Drywell



D series mixer gearboxes with forced output shaft bearings, special sealings and extra oil leakage pool to prevent oil leakage out of gear unit. They are specifically designed for food and wastewater treatment industries where oil leakage can be a problem. Oil leakage can also be detected with optional oil sensor.



### **Output Flange Properties**

1-Oil slinger ring

2-Transparent oil plug or sensor

3-Spherical roller bearing

4-Oil leakage room

5-Greaser for bearing

6-Special sealing for excessive dust

Torque Range [Nm]	450 – 18.000
Motor Power Range [kW]	0,37 - 160
Speed Range [rpm]	0,1-580







K series gearboxes specifically designed for bandsaw machines with special output shaft housing to withstand high radial loads, with forced output shaft bearings and special sealings.

- Output flange with two row bearings
- Special sealing system to prevent cutting oil to enter gearbox interior
- Nitreated output shafts
- Grinded bevel gear stage to reduce noise
- Optional flange and shaft dimensions

Torque Range [Nm]	280 – 15.000
Motor Rower Range [kW]	0,37 - 90
Speed Range [rpm]	10 - 227



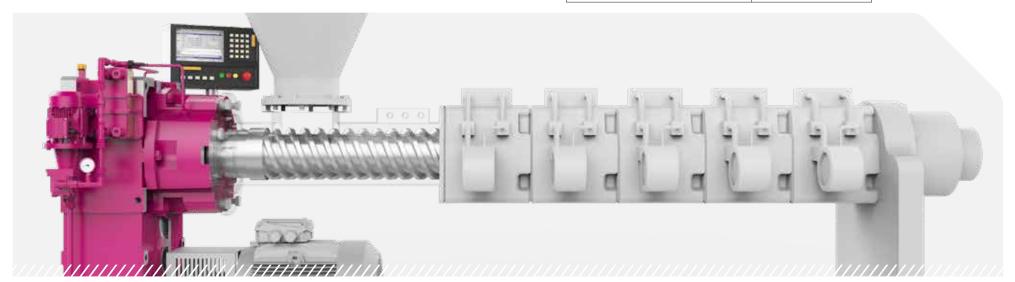




H series gearboxes specifically designed for extruder machines with 29400 series bearings and output shaft housing to withstand high axial loads. They have different cooling options to increase thermal powers at heavy working conditions.

- Housing and output shaft housing made from GGG40 material
- 29400 series output bearings
- Different 29400 bearings sizes according to axial load
- Gears with modification and tapered roller bearings
- Input flange option with IECB5
- Output shaft options (With key or splines)
- Lubrication options according to mounting position
- Cooling options (Heat exchangers or coils)

Ratio Range	5,33 - 420
Torque Range [Nm]	4,850 - 90.000
Speed Range [rpm]	0,1 - 263



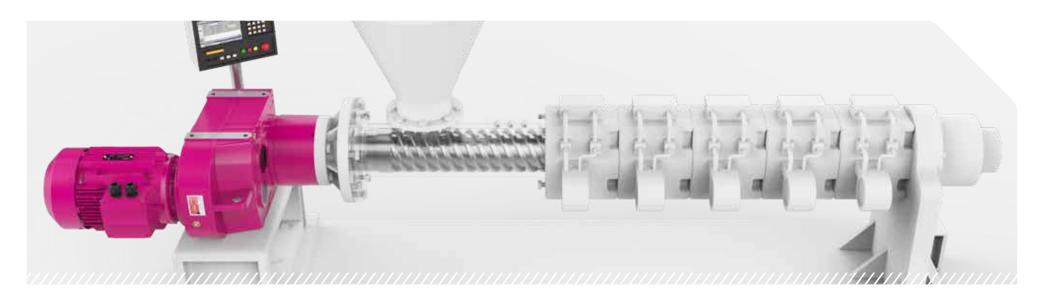




D series parallel shaft gearboxes specifically designed for extruder machines with smaller capacity.

- Compact design with direct coupled AC motor
- 29400 series output bearings
- Four different mounting positions
- Output shaft options (With key or splines)

Torque Range [Nm]	130 – 18.000
Motor Power Range [kW]	0,12 - 160
Speed Range [rpm]	0,1-580



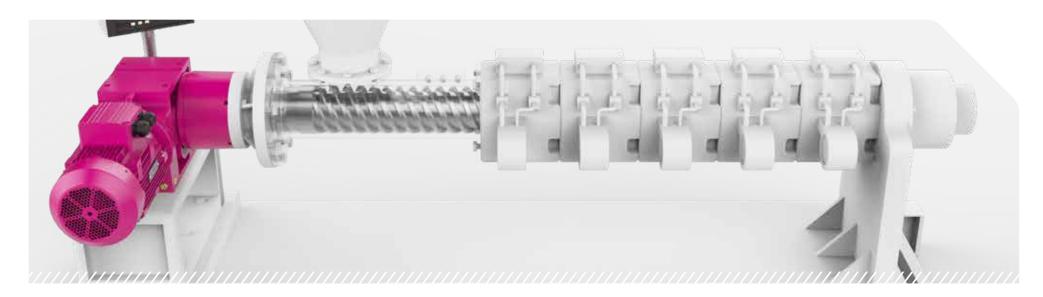




K series gearboxes specifically designed for extruder machines with smaller capacity.

- Direct coupled AC motor with perpendicular input and output shafts
- 29400 series output bearings
- Four different mounting positions
- Output shaft options (With key or splines)

Torque Range [Nm]	80 - 15.000
Motor Power Range [kW]	0,12 - 90
Speed Range [rpm]	0,1 - 460



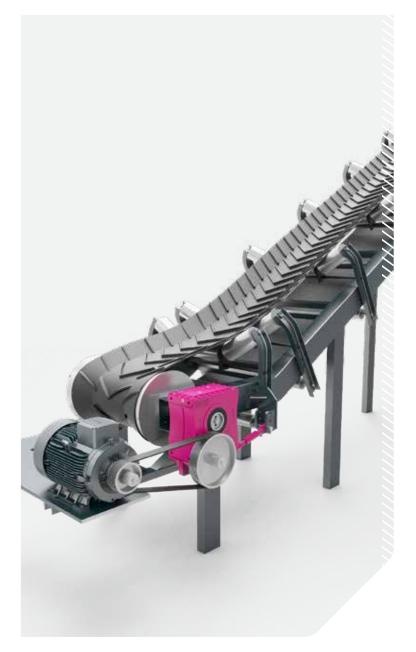
# Conveyor



Two stage compact helical gear units without motor designed for conveyor applications.

- Two stage compact design
- Forced input shaft bearings designed for belt and pulley applications
- 6 different mounting positions
- Optional outshaft dimensions
- Output shafts with key or shrink disk
- Mechanical backstop application for one way conveyors

Ratio Range	5,0 - 30
Torque Range [Nm]	200 – 18.000
Speed Range [rpm]	30 - 600



# Blevator



BT series gearboxes with backstop on housing and auxiliary drive for maintenance of bucket elevators

- Auxiliary drive for low speed working during maintenace
- Two different auxiliary drive options for empty and full bucket conveyors
- Backstop application
- Special backstop application between main drive and auxiliary drive
- IEC B5 input flange option for motor connection
- Cooling options according to working conditions

Ratio range	21-68
Torque Range [Nm]	4.850 – 70.000
Speed Range [rpm]	20 - 70



# Concrete Mixer



Planetary gearboxes with bevel stage input designed for twin shaft concrete mixer applications with special flange for pulley connection.

- Compact design with planet and bevel gear stages
- Input flange suitable for pulley connection
- Tapered Input shaft bearings
- GGG40 material input flange and housing
- Splined interior connections
- Standard output seal cover
- Optional oil expansion tank

Ratio Range	10 - 28
Torque Range [Nm]	4.000 - 20.000
Speed Range [rpm]	50 - 150



# BT

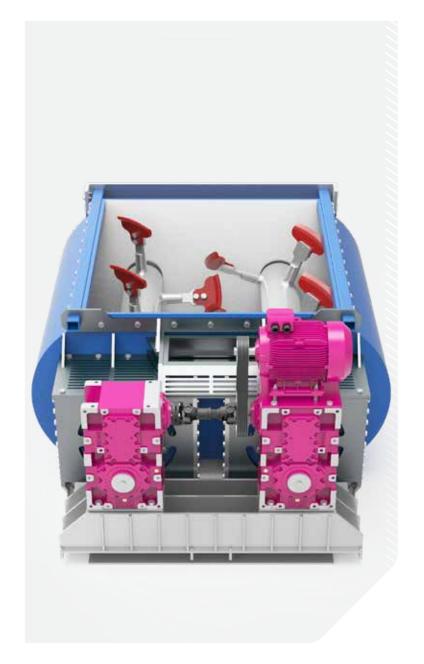
Concrete Mixer



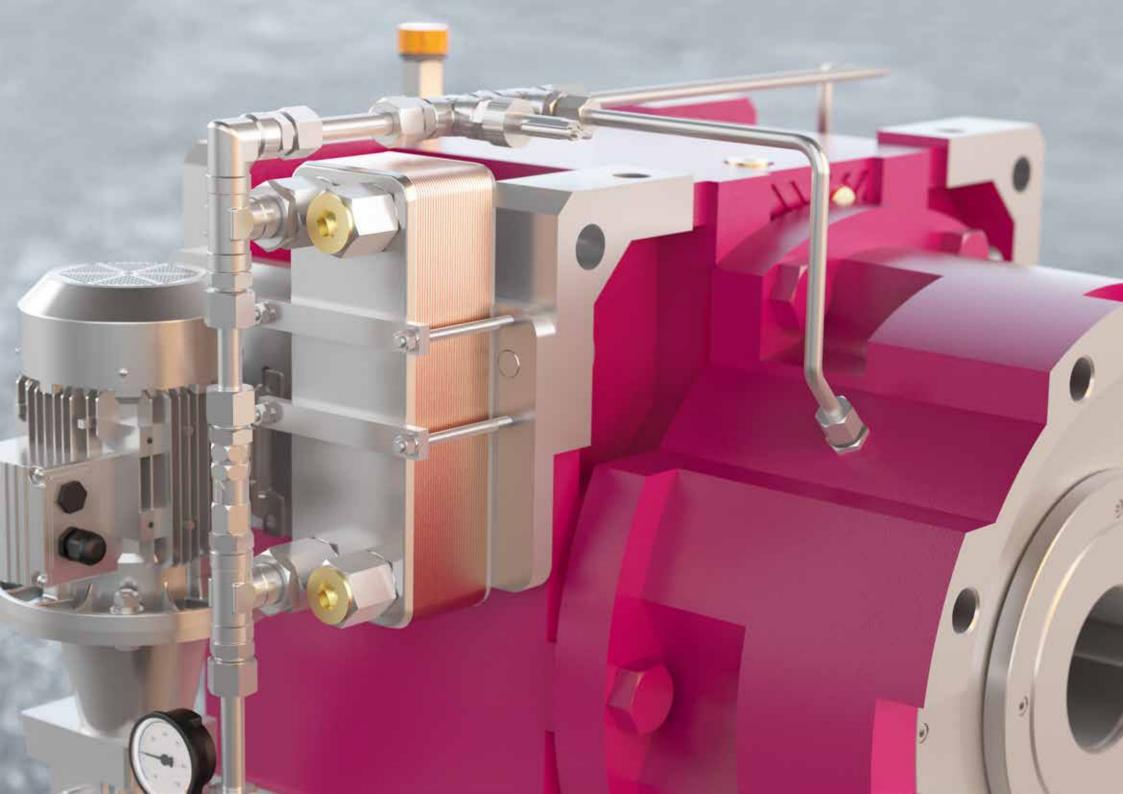
BT series inustrial helical gearboxes with bevel stage input designed for twin shaft concrete mixer applications.

- Perpendicular input and output shafts suitable for twin shaft applications
- Input flange suitable for pulley connection
- Tapered bearings
- GGG40 material housing
- Gears with modifications
- Output shaft options (Hollow, solid, shrink disk, hollow splined shaft, solid splined shaft)
- Lubrication options (Forced lubrication, oil expansion tank)

Ratio Range	9,78 – 86,63
Torque Range [Nm]	4.850 – 70.000
Speed Range [rpm]	18 - 143



# Options and Accessories



# **Output Shaft Options**





### **Solid Output Shaft**

All gearbox types have output shaft with key according to DIN6685. Materials for output shaft are C45 or 42CrMo4 according to size of gear unit.



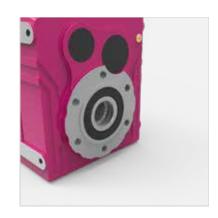
### **Hollow Output Shaft**

Lots of our gearboxes can be manufactured with hollow shaft according to DIN6685.



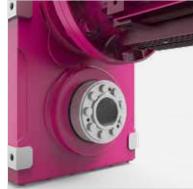
### **Output Shaft with Spline**

Output shafts can be manufactured according to DIN5480 recommended for high frequent start stop applications with high inertia.



### **Hollow Output Shaft with Spline**

Hollow output shafts can be manufactured according to DIN5480 recommended for high frequent start stop applications with high inertia.



### **Output Shaft with Shrink Disk**

Shrink Disk applications are recommended for high frequent start stop working conditions, key is not sufficient. Output shafts are without key and with the help of screws on disk output torque on driven machine can be adjusted. Also it is useful in humid working conditions for easy demontage.

# **Input Flange Options**



# Input Flanges according to IEC B5-B14 and NEMA

Our input flanges and input shafts can be produced according to IEC B5-B14 and NEMA standards.



#### **Servo-Motor connection**

We have different input flange options and dimensions accord ing to common servo-motors in the market.



### **HydroMotor Connection**

P and R series gearboxes input flange can be produced for hydro motor connections.



# Input flanges with coupling and shrink disk

Especially for servo-motors without key, input shaft with shrink disk is suitable. It is recommended for high frequent start stop applications to prevent faults about keys.

## **Output Flange Options**





### **Output Flange**

Our gearboxes have lots of different output flange options with square, circle types. They can be with solid or hollow shafts according to customer needs

# Mounting with Torque Arm



### **E series Torque Arm**

E series torque arm can be used in three different 90 degree positions which is mounted on housing.



### K series Torque Arm

K series have two different torque arm options; standard and optional.



### D series Torque Arm

Rubber torque arms are standard with D series which have to be used when mounting through holes on housing.



### H and B series Torque Arms

H and B series torque arms designed to mount on foot mounting holes.

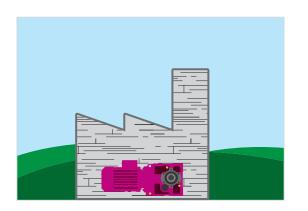


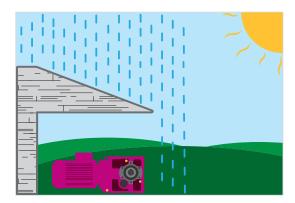


### P series Torque Arm

P series have two different torque arm options; one and two sided.

# Painting and Corrosion Production Classes





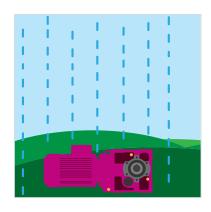
### **C2 Corrosion Category**

Our standard painting class.It is suitable for indoor and outdoor with protection where humidity and contamination is low.



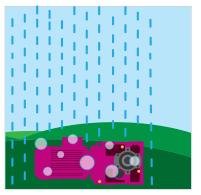
### **C3** Corrosion Category

It is suitable for indoor installation and outdoor installation subject to weathering where humidity and chemical contamination is mean.



### **C4 Corrosion Category**

It is suitable for indoor installation and outdoor installation subject to weathering where humidity and chemical contamination is usually high.



### **C5 Corrosion Category**

It is suitable for indoor installation and outdoor installation subject to weathering where humidity and chemical contamination is permanently high.

## Oil Types



#### **Mineral Oils**

ISO VG 220, 320 and 460 viscosity oils are used in aour units. They are usually recommended for temperatures higher then zero and up to 40 degrees. The mineral lubricant should be changed after every 10000 hours.



### **Synthetic Oils**

They are recommended for higher and lower ambient temperatures compared to mineral oils, because their viscosity change is low with the temperature. 25000 hours change interval is recommended between -25C / 40C ambient temperatures.



#### -40° Ambient Oils

Special ISO VG 150 and 220 viscosity synthetic oils are recommended for gear units working under -25 °C ambient temperature conditions.



#### **Food Grade Oils**

Recommended oils for gear units working in food production lines, where oil can be mix in products accidently. They are suitable for NSF H1 category.



### Biodegradable

They are not harmfull to the environment as low as possible with their high soluble properties. They are compatible to CEC-L-33-A-93 test standard which defines maximum 21 days of biological solubility.

## **Sealing Options**



### Nitrile Sealing (NBR)

Nitrile sealings are suitable for low speed shafts. Their working temperatures are between -40 °C +100 °C. We are using nitrile sealings with dust lip on output shafts of our gear units.



### **Viton Sealing (FKM)**

These sealings are produced from florocarbon material and used on high speed shafts. They are suitable for -25 °C to the +160 °C working temperatures. We use viton sealing on our input shafts.



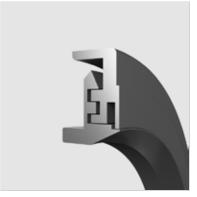
### **PTFE Sealing**

Sealings made from polytet rafluoroethylene material which has low friction coefficient and are very resistant to chemical enviroments. They can work between -80C and +200C temperatures. They are useful for chemical working conditions.



### Cassette Sealing (FKM, NBR)

They are specially designed sealings made from FKM and NBR materials. They are mostly used corrosive environments to prevent these corrosive materials to enter inside gear unit. We use these sealings on low speed shafts.



#### **Labyrinth Seal Application**

Different protective techniques applied on sealings working on very dusty environments.



### **Taconite Sealing Application**

Labyrinth sealing application suitable for very dusty and corrosive working environments. They are usually mounted with extra graser system.

## **Lubrication Options**



#### Oil Bath Lubrication

Lubrication sytem without any additional equipment. All of interior parts(gears, bearings and seals) gets lubricated by splash or directly.



#### **Forced Lubrication**

Especially for industrial gearbox es upper bearings can not get oil with bath lubrication while working on some mounting positions. To lubricate these bearings oil from lower levels pump up directly to the bearing. Efficiency is much higher with the help of lower churning loses.



### **Nilos Ring Application**

Upper bearings thats can not lubricated by splash are made closed bearing by sheet metals named nilos ring. Closed bearings are lubricated by greasers.



### Oil Expansion Tank

While gear unit is working on some mounting positions oil level needs to be very high to lubricate higher working parts and this can cause oil leakage when working speed is high. To prevent leakage an expansion tank is mounted on gear unit, creating extra space for increasing volume of inside oil while working.

## **Cooling Options**



### **Cooling with Fan**

A cooling fan is mounted on input shaft to create air flow through gear unit. It is the most practical cooling option without any need for cooling water. It is suitable for working conditions below 40 degrees and it is not suitable for dusty environments.



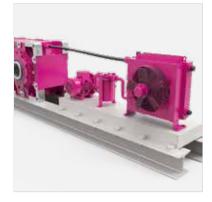
### **Cooling with Coil**

Cooling is done with cold water passing through copper pipes inside gear units oil. It needs cold water maximum 30 °C tempera ture. It is suitable for H and B series gear units for M1 mounting position.



# Cooling with Oil/Water Heat Exchanger

An oil/water heat exchanger with pump is mounted on gear unit. Cooling is done through heat exchanger with cold water. Additional equipment is available if needed like pressure switch, flow switch and manometer. It is suitable for every mounting position.



### Cooling with Oil/Air Heat Exchanger

Cooling system consists oil/air heat exchanger, motor pump and a filter. Gear unit and cooling system mounts on a steel base frame. It is recommended for ambient temperatures below 40C and not very dusty enviroments. Another advantage is that it does not need cooling water.

# Brake Montage



### **Electromagnetic Brakes on Housing**

Electromagnetic brakes are mounted on opposite side of input shaft in H series gear units. Usually preferred for crane applications because they enable easy maintenance of AC motor.

## Centrifugal Brake



### **Centrifugal Brake**

Centrifugal brakes are mounted between AC motor and gear unit for extra safety purposes with main brake. It stops the AC motor while running with inertia of main load that occurs if main brake has any failure.

### Eldro Brake





### **Eldro Brake Application**

Eldro brakes are usually preferred for high tonnage crane applications. They are mounted between gear unit and AC motor. We use Eldro brakes on H series gear units if our customer wants.

## Backstop



### Backstop on AC Motor Shaft

Backstop applications thats are mounted on back side cover of AC Motor. They are usually preferred because they are economic and compact.



# B5/B14 Input Flange with Backstop

Backstop can be supplied inside new B5/B14 input flange which includes two bearings and elastic coupling.



### **Backstop on Housing**

Backstop application that are mounted opposite side of input shafts on H series gear units and on secondary stage shafts on K and B series gear units.

## **Torque Limiter**



### **Torque Limiter**

Torque limiters are mounted between AC motor and gear unit with B5 flange. They limit the passing torque to the set value between motor and gearbox. When the limit torque reached proximity sensor sends signal to stop motor to prevent damage to limiter.

### Gear Units with Base Frame



### BT Series Base Frame Application

BT series gear unit, coupling and AC motor with foot are all mounted on steel base frame. Couplings can be geared, rubfleks or hydraulic.



### BT Series Base Frame Application with Torque Arm

BT series gear unit with hollow output shaft, coupling and AC motor with foot are all mounted on steel base frame with torque arm. Gear units are mounted to driven machine shaft with hollow output shaft and base frame is mounted to machine base with torque arm.



### HT Series Base Frame Application

HT series gear unit, coupling and AC motor with foot are all mount ed on steel base frame. Couplings can be geared, rubfleks or hydraulic

## Couplings



### **Rubfleks Coupling**

It can be used on input or output shafts of gear units. It compansates misalignment of shaft connection. Material of coupling housing is GS52 steel.

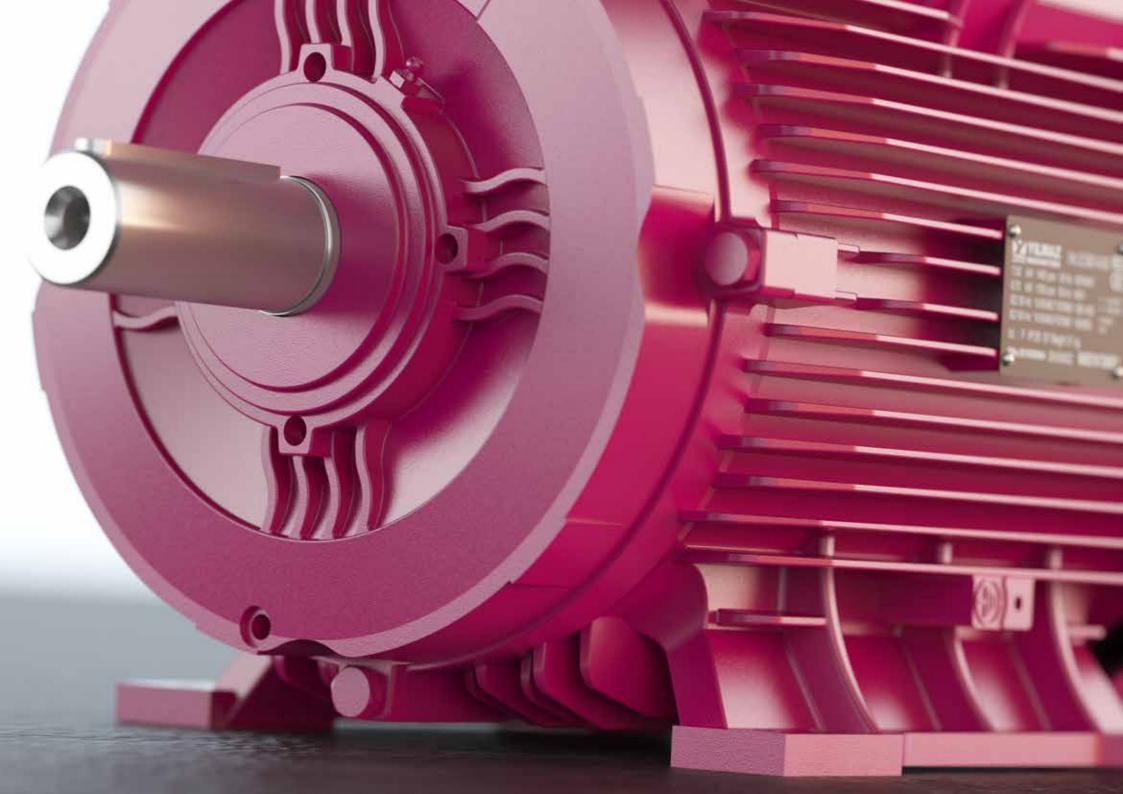


### **Hydraulic Coupling**

They are mounted between AC motor and gear unit. It is preferred for applications with high inertia to soft start the motor and lenght en the gearbox life.



# **Electric Motors**



#### **ELK Electric Motors San. ve Tic. A.Ş.**

ELK Motor has been founded by major shareholders of Yılmaz Redüktör A.Ş. as the continuation of the product family. ELK Motor manufactures electric motors in a  $40.000 \, \text{m}^2$  closed area built on a  $100.000 \, \text{m}^2$  open area.

ELK Motors are designed and manufactured completely in accordance with European standard with its whole product range. IE2 and IE3 efficiency classes are available in full product range currently. Motor shafts and end shields are manufactured by fully automatic CNC machines under a continuous quality control. The rotor and stator cores are manufactured in our fully automatic punching and interlocking lines.





# Single Speed\* Motors

# 6, 4 and 2 Poles

Power Range [kW]	0,25 - 45
Frame Size	71 - 225
Speed Range [rpm]	1000, 1500, 3000
Efficiency Class	IE2, IE3
Voltage [V]	400
Insulation Class	F, H
Protection Class	IP55, IP56, IP65, IP66

The main design and technology of ELK Motor is completely suitable to the IE3 efficiency class. Since the outside dimensions of the IE3 and IE2 design are completely same the replacement of the IE2 motor with IE3 motors will be done easily.

In addition to the motors according to the European standards, ELK Motor also manufactures special motors for its customers to decrease the cost and increase the productivity.

#### **Specifications and Advantages**

- IE2 and IE3 efficiency class motors with VDE certificate from 0,25 kW motor power
- High starting and brake down torques
- Single winding and double winding double speed motors
- Detachable feet between 71 and 132 frames that make getting left or right terminal box very easy for the customer
- IE2 efficiency class compact engines
- Specially designed engines for 87 Hz applications
- Motors available for S3 intermittent periodic duty type



# Double Speed Motors

ELK motor has single winding and double winding double speed motors in its standard production lines. ELK motor recommends single winding dahlender type motors for double the difference between speeds and double winding motors for higher speed differences. Also 12/2 poles double speed motors are available for crane industry.

### Constant Torque Dahlender (Single) Winding Motors

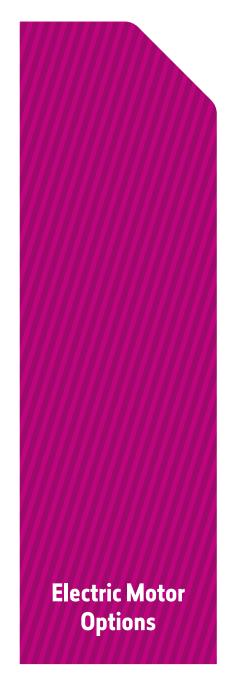
4/2 Poles – 1500/3000 Rpm		
Power [kW]	Frame Size	
1/1,3	90	
1,3 / 1,8	90	
3,7 / 4,5	112	
4,7 / 5,9	112	
6,3 / 7,5	132	
9 / 11	160	
12,5 / 15	160	

4/2 Poles – 1500/3000 Rpm		
Power [kW]	Frame Size	
0,35 / 0,55	80	
0,6 / 0,9	90	
1/1,6	100	
1,5 / 2,5	112	
2,2 / 3,4	132	
3,5 / 5,5	132	
5,5 / 7,5	160	
7,5 / 11	160	

### Constant Torque Double Winding Motors (Crane Motors)

4/2 Poles – 1500/3000 Rpm	
Power [kW]	FrameSize
1/1,3	90
1,3 / 1,8	90
3,7 / 4,5	112
4,7 / 5,9	112

12/2 Poles – 500/3000 Rpm		
Power [kW]	FrameSize	
0,37 / 2,5	100	
0,8 / 4,9	112	
1,6 / 9,5	132	
4,7 / 5,9	160	





#### **Electromagnetic Brakes**

Available for all motor sizes. We are using from 5 Nm up to the 1600 Nm with 24 Volt, 230 Volt and 400 Volt DC voltage electromagnetic brakes according to customer needs.



#### Hand Release Brake

When electricity is cut or manually releasing of brakes is needed, hand release brakes can be used.



#### **Forced Cooling**

Especially for encoder applications where motor speed is not enough for cooling an, extra self powered fan is needed.



#### **Forced Cooling with Encoder**

If needed; encoder and self powered fan can be mounted on back of motor, inside cover where synchronous working is essential.



# Forced Cooling with Brake and Encoder

If needed; brake, encoder and self powered fan can be mounted on back of motor, inside cover.



#### **Backstop**

Applications thats are working one way and reverse movement needs to be stopped, backstops are necessary. They can be mounted inside motor cover.



# **Electric Motor Extension Shaft**

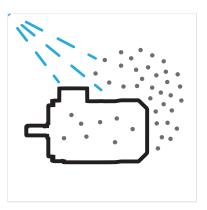
When motor movement needed on backside or motor needs to be turned manually an extension shaft at the back of the motor can be produced.



#### Canopy

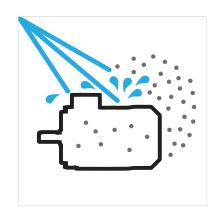
Canopy for electric motors thats are working outside is available to prevent rain to enter inside motor.

#### **Protection Class**



#### IP55 (Standard)

The ingress of dust is not totally prevented, but dust does not enter in sufficient quantity to interfere with satisfactory operation of the motor. Water projected by a nozzle against the motor from any direction will have no harmful effect.



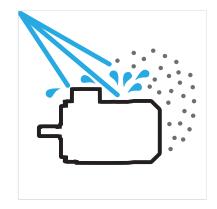
#### **IP56**

The ingress of dust is not totally prevented, but dust does not enter in sufficient quantity to interfere with satisfactory operation of the motor .Water from heavy seas or water projected in powerful jets will not enter the motor in harmful quantities



#### **IP65**

The ingress of dust is totally prevented, water projected by a nozzle against the motor from any direction will have no harmful effect



#### **IP66**

The ingress of dust is totally prevented, water from heavy seas or water projected in powerful jets will not enter the motor in harmful quantities.

# Insulation Class

10 °C 105 °C 40 °C

#### F (Standard)

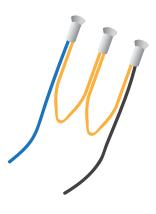
ELK motors standard isolation class is F. Permissible winding temperature is 155°C at 40°C ambient temperature.

15 °C 125 °C 40 °C

#### Н

ELK motors can be produced in H isolation class. Permissible winding temperature rises to 180°C at 40°C C ambient temperature.

#### **Thermal Protection**



#### **PTC Thermistor**

When the temperature of windigs rises too high thermistor mounted inside motor windings cuts the circuit and protects motor from any harm.



#### **Thermostat**

When the temperature of windigs rises too high thermostat mounted inside motor windings cuts the circuit and protects motor from any harm.

### Heaters and Drain Holes



#### **Heaters and Drain Holes**

There can be condensation of water when motor is working in very humid environments. To prevent this heaters are mounted inside motor to keep temperatures of windings stable. Additionally drain holes are opened to prevent accumulation of water inside motor.



# **Variable Speed Drives**

Yılmaz Redüktör has been offering the gearbox and AC motor portfolio of its own manufacturing plants to industry sector for 60 years by now. Recently Yılmaz Redüktör has established Automation Division to include AC drives to this portfolio to provide complete drive train solutions to world-wide distributors, OEMs and end users under same roof. By this horizontal growth move, Yılmaz Redüktör targets to more efficiently serve his powerful engineering experience and skills to all users within same brand name.  A quick glance at Yılmaz Redüktör drive family products reveals that drive products are categorized within four sub groups. These are;
<ul> <li>YI – Yılmaz Integrated</li> <li>YB – Yılmaz Basic</li> <li>YA – Yılmaz Advanced</li> <li>YE – Yılmaz Expert</li> </ul>

# YA 2000

**Advanced Series** 



- Power Rate: Up to 280kW
- Supply: 1 Phase 230V +/- %15
- Supply: 3 Phase 400V +/- %15
- Auto identification
- Simple to use, user friendly oriented
- RS485 (MODBUS) Communication
- Multi-functional I/O
- PID Process Control
- Jogging
- SLVC Sensorless Vector Control
- Coated PCBs
- Sized for heavy duty use (%180 for 3s, %150 for 60s)

# YE 8000

# **Expert Series**



- Power Rate: Up to 630kW
- Supply: 1 Phase 230V +/-%15
- Supply: 3 Phase 400V +/-%15
- Auto identification
- Simple to use, user friendly oriented
- Permanent Magnet Motor Control
- RS485 (MODBUS) Communication
- Multi-Functional I/O
- PID Process Control
- Jogging
- SLVC Open Loop Vector Control
- Closed Loop Vector Control (with Encoder)
- Coated PCBs
- Sized for Heavy Duty Use (3s %180, 60s %150)

# Y

# **Integrated Series**



- Motor-integrated Building
- High protection class (IP65)
- Power Rate: Up to 7.5kW
- Auto identification
- Supply: 1 Phase 230V / 3 Phase 400V
- Communication Modules
- Vector Control
- Usable under Heavy Duties (%150 for 60s)

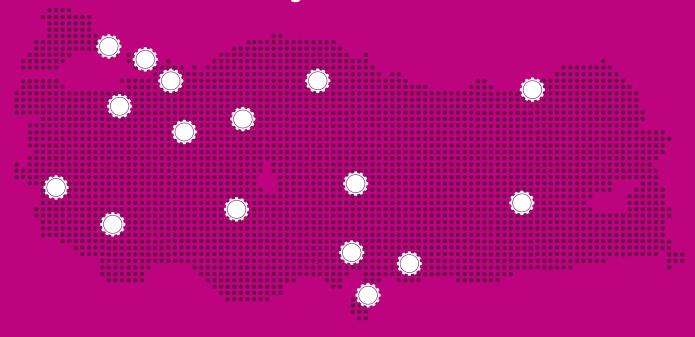
# YSS

Servo Drive and Motor



- Power Rate: Up to 3kW
- Supply: 1 Phase 230V
- Supply: 3 Phase 400V
- High overloading capacity for maximum dynamics (%300 peak overload capacity)
- Electronic Gear function
- Position, Speed and Torque Control Modes
- Analogue and Pulse-Direction Modes
- Motor Protection Level IP65
- Drive Protection Level IP20

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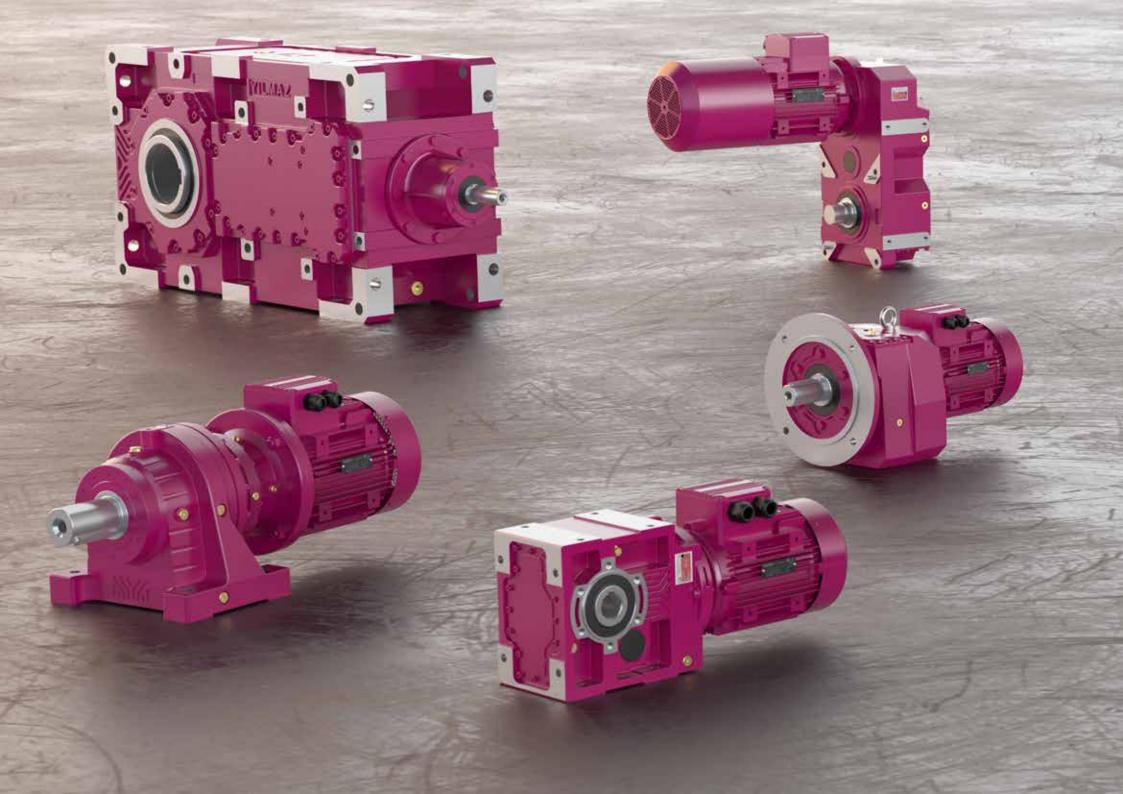
# Africa

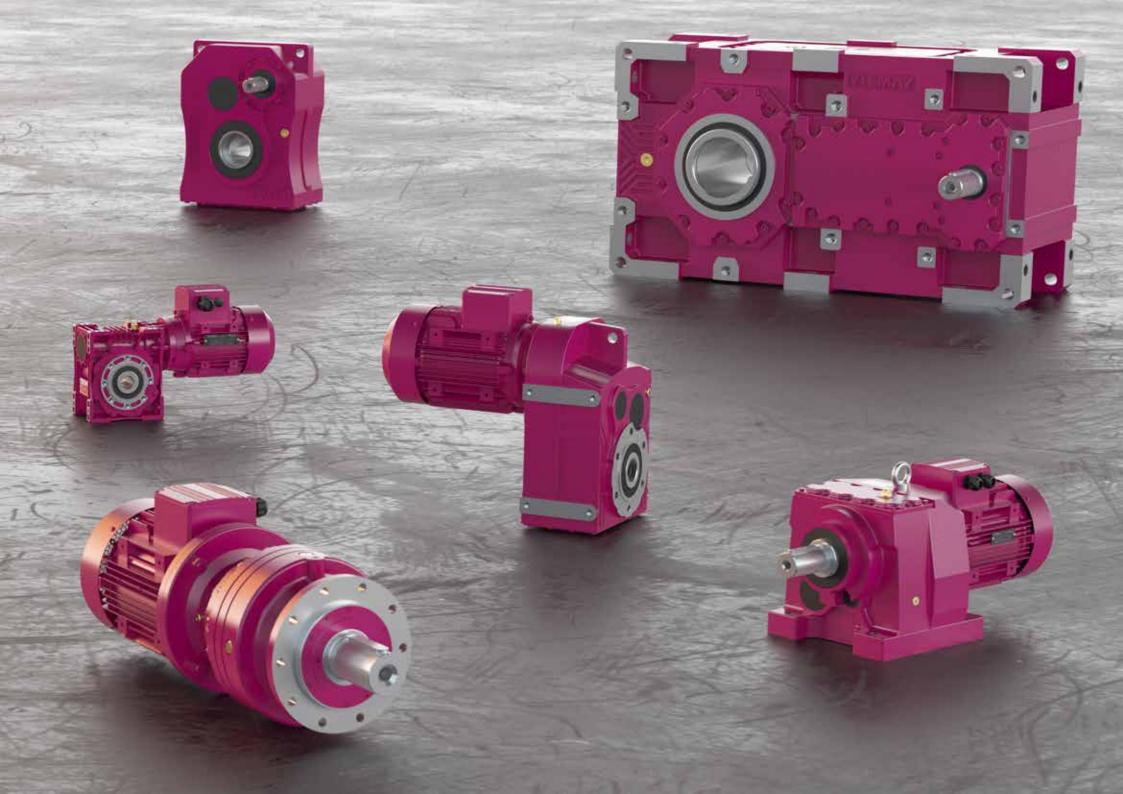
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