

Company Profile

Triveni
TURBINES



Triveni
GEARS



Under licence from **LUFKIN** Industries Inc., U.S.A.
As per API / AGMA / DIN / ISO Standards



We convert your concept into reality in
POWER GENERATION &
POWER TRANSMISSION.

COMPANY PROFILE



บจก. รีวอลูชัน พทีช

REVOLUTION PTC CO., LTD.



ปณิธาน และนโยบายของเรา

ด้วยความต้องการที่หลากหลายที่ไม่จำกัดของลูกค้าในระบบถ่ายเทกำลังชนิดต่างๆ เช่น กำลังไฟฟ้าเป็นกำลังทางกลโดยผ่านระบบเฟืองชนิดต่างๆ และระบบถ่ายเทกำลังจากพลังไอน้ำเป็นกำลังทางกลและเป็นกำลังทางไฟฟ้า โดยผ่านระบบเทอร์โบ & เจ็นเนอเรเตอร์ บริษัท รีวอลูชัน พทีช จำกัด จึงได้ถือกำเนิดขึ้นมาเพื่อตอบสนองความต้องการของลูกค้าที่ไม่จำกัดดังกล่าว ให้มีทางเลือกในการเลือกใช้ได้อย่างไม่จำกัด ด้วยสินค้าที่บริษัทฯ ได้คัดเลือกสรรหา จากทั่วทุกมุมโลก หลากหลายยี่ห้อ ในหลากหลายการใช้งาน หลายระดับราคา เพื่อให้ตรงกับความต้องการของท่านมากที่สุด ในราคาที่เหมาะสม เพื่อความคุ้มค่ากับการลงทุนของท่านมากที่สุด แต่ยังคงไว้ซึ่งคุณภาพเป็นลำดับแรก นั่นคือปณิธาน ของเรา.

สินค้าที่บริษัทเลือกสรรมาเพื่อตอบสนองความต้องการของท่านมีดังต่อไปนี้

- เครื่องสตีมเทอร์โบ และเจ็นเนอเรเตอร์
- เฟืองทดความเร็วรอบสูง (ความเร็วรอบเข้ามากกว่า 3,600 รอบ/นาที)
- เฟืองทดความเร็วรอบต่ำ (ความเร็วรอบเข้า ตั้งแต่ 3,600 รอบ/นาที ลงมา)
- ดับปลิงทุกชนิด
- มอเตอร์ไฟฟ้า

นอกจากการพยายามตอบสนองความต้องการของท่านให้ครบถ้วนแล้ว บริษัทฯ ยังได้จัดทีมงานที่มีประสบการณ์เพื่อบริการหลังการขายทั้งนี้เพื่อนำมา ซึ่งความพึงพอใจสูงสุดของลูกค้าของเรา ทั้งหมดคือความตั้งใจอย่างจริงจัง และจริงใจของทีมงาน รีวอลูชัน พทีช ที่จะทำให้ธุรกิจนี้ในระยะยาวให้เป็นทางเลือกที่ครอบคลุมกับความต้องการของลูกค้าของเรา อย่างยั่งยืนตลอดไป.

About Us.

Revolution PTC Co.,Ltd. have been established as a solutions provider to the Power Generation & Power Transmission field supplying world-class equipments through experienced and value added engineering at maximum return on the customer investment.

Since today's demands of Power Generation & Power Transmission equipments are very and also need periodically development therefore Revolution PTC Co.,Ltd. has dedicated itself to fulfill such demands by providing innovative products with good quality & reasonable prices.

We carefully selected such equipments from across the world, in order to best meet customer's requirement and budgetary with the following field of products ; -

- Condensing and backpressure steam turbine-generator sets with the following range
Power Generation Up to 30 MW
Steam Pressure Up to 105 bara
Steam Temperature Up to 525 Deg C
- Refurbishing / upgrading the old turbine generator set of any make and capacity up to 150 MW.
- High Speed Gears (Input speed higher than 3,600 rpm.) with New Completed Unit / Refurbishing & Upgrading to your old unit.
- Low Speed Gears (Input speed 3,600 rpm. and below) with New Completed Unit / Refurbishing & Upgrading to your old unit.
- Full line of couplings with standard unit and special made couplings.

At Revoluion PTC, we go to extraordinary lengths to ensure that the products we provided precisely meet the performance needs. We strive to ensure that we exceed customer expectations with innovative solutions and reliable products.

Our Vision.

“ To be solution provider in Power Generation field & Power Transmission.”

Our Mission.

“ To convert the customer's requirement with most appropriate Power Generation & Power Transmission equipments and optimized customer's investment ”

OUR ENERGY YOUR POWER

FORTY YEARS of proven experience. Over 2000 installations across 30 countries. Impeccable 24/7 customer service. Over 99% up-time of turbo-generator island. Which explains why Triveni Turbines has gained global repute for its engineered-to-order, cost effective products and power solutions.

With over 50% domestic market share in the 30 MW steam turbine segment and an increasing presence in the global market, the company meets customer needs for co-generation, captive power generation and independent power generation in 18 different industry segments.

A SNAPSHOT

ANUAL SALES REVENUE OF OVER US\$100 MILLION

DISPATCHED 102 STEAM TURBINES IN FINANCIAL YEAR 2008

FIRST STEAM TURBINE COMPANY IN INDIA TO BE CERTIFIED FOR ISO 9001 AND ISO 14001

MANUFACTURING CAPACITY OF 150 TURBINES PER YEAR AND EXPANDABLE

DEDICATED SUPPLIER NETWORK FOR COST AND DELIVERY ADVANTAGE

13 SERVICE CENTERS IN INDIA, LOCATED CLOSE TO CUSTOMERS

150 TRAINED PERSONNEL TO ADDRESS CUSTOMER SERVICE NEEDS WITHIN 24 HOURS OF CALL

CAPABILITY TO REFURBISH ANY MAKE OF TURBINE UP TO 150 MW

PRODUCT RANGE

TYPE : CONDENSING / EXTRACTION CONDENSING

INLET STEAM PRESSURE : 105 BAR (A)

INLET STEAM TEMPERATURE : 525 DEG C

EXTRACTION / BACK-PRESSURE CONDITIONS : AS PER REQUIREMENT

MARKET SERVED

- Sugar / Ethanol / Distillery
- Paper
- Textile
- Palm Oil Mill / Palm Oil Refinery
- Biomass based independent power plants
- Coal based IPPs
- Municipal Solid Waste based power plants
- Oil & Gas
- Chemicals & Fertilizers
- Carbon Black
- Steel
- Others



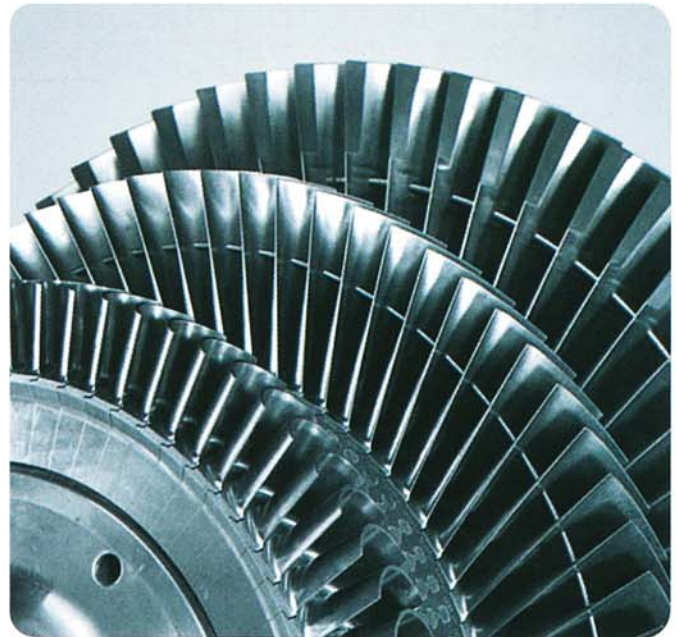
Triveni's state-of-the art manufacturing facility, spread over 15,000 square meters on the outskirts of Bangalore, India, enables it to manufacture critical components in-house, assemble the turbine with precision, and run quality assurance tests to ensure a superior product.

The plant facilities have best-in-class machines like:

- Five-Axis CNC Machining Center (LIECHTI, Germany) for Tapered and Twisted blade machining
- Five-axis CNC Mill Turn Center machine to manufacture critical rotor shaft (WFL)
- Zeiss co-ordinate measuring machines for precision measurements of critical components.

- Vacuum tunnel from SCHENCK RoTec, Germany, for high speed balancing of rotors
- Mechanical Steam Run Test to test the turbines up to full-speed limits in no load condition
- Large fleet of Four-axis CNC machines for blade machining
- Integrated CAD/CAM for seamless manufacturing of turbines parts
- Computerized test facility for carrying out thermal stability test on rotors





AN EMPHASIS ON QUALITY

Triveni's goal is to not just meet the expectations of its client, but to consistently exceed it. The company adheres to an extensive quality assurance system that includes :

ISO 9001 : 2008

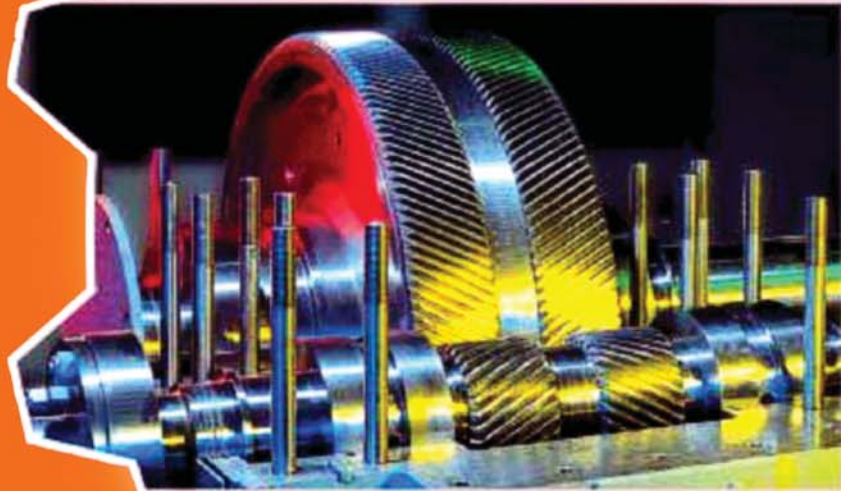
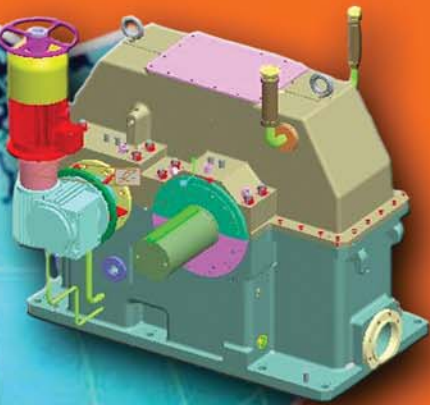
ISO 14001 : 2004

Alignment Check
Radiography
Casing Hydro Test
Thermal Stability Test
Sound Level Measurement

Vibration Measurement
Full Speed Mechanical Steam Run Test
Low Speed Dynamic Balancing
Governor Response
Full Speed Dynamic Balancing

Ultrasonic Test
Magnetic Particle Test
Zygo Test
Natural Frequency Test
Profile Measurement Through CMM

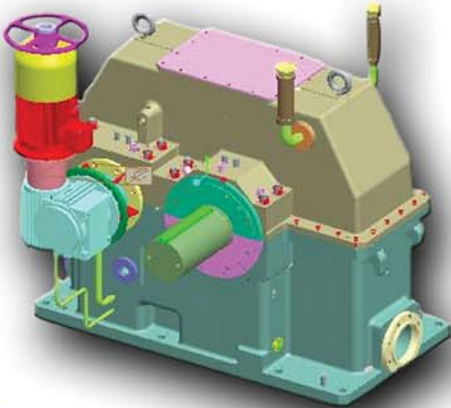
High Power Speed Gear Boxes



- Manufacture of high speed high power gearboxes up to 70 MW capacity for;-
 - Generators / Alternators
 - Compressors
 - Pumps
 - Blowers / Fans
 - Test Rigs
- OEM. Suppliers to : BHEL / Siemens / Triveni / Bellis / KSB / Dresser / KEPL.
- Hydel Gearboxes up to 6MW to OEMs HPP/VA-Tech/BOOM system / Boving Fouress.
- Re-engineering / Refurbishing / Upgrades for all international make of gears.
- Slow Speed Niche applications VRM/Extruder / e-mills / briquetting
- Loose gears for various applications.

• HIGH POWER HIGH SPEED GEAR BOXES

PRO-E MODEL OF GEAR BOX



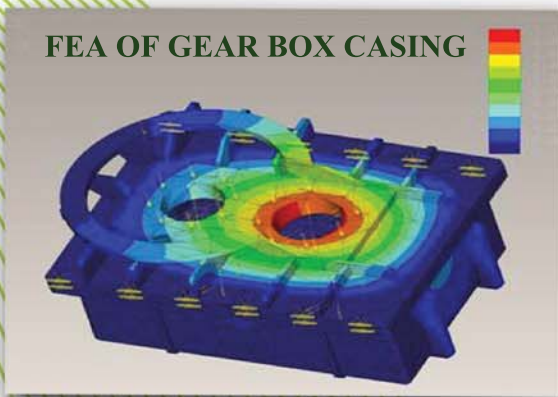
- API- 613
- API- 677
- ISO-6336
- AGMA- 6011- H 98
- AGMA-6010 F 97
- API- 671 for Couplings
- API-614 for Lube Oil systems
(Out Source approved Vendors)
- DIN-3962 For tooth accuracy
- Balancing Standards -
- As per ISO-1940-1986(E)/API

DESIGN STANDARDS / PROCEDURES



**5 axis CNC Gear Profile Grinder with Siemens 840 D Control
Gleason Pfauter Grinder P1600 G (Capacity upto dia.1600 mm.)**

FEA OF GEAR BOX CASING



**5 axis CNC Gear Hobber with Siemens 840 D Control
Gleason Pfauter Hobber P1600/ 2000
(Capacity upto dia. 2000 mm.)**

**Gleason Pfauter Grinder P1600/2000 G
(Capacity upto dia. 2000 mm.)**



• HIGH POWER HIGH SPEED GEAR BOXES



MAAG Semiautomatic Gear Shaping Machine



Jurasti Horizontal Boring Machines TS3



MPI for Gear Wheel



Heat Treatment

Furnaces

- 2 Case carburizing , Max job size 2000mm.dia/2000mm.Long Long
 - 1 Tempering,Max job size2000 mm.dia. Electrical tempering Facility
- Oil quenching facility : 45,000 litres



GER make Hydraulic Cylindrical Grinder



Shot Blasting Machine

Max.Diameter : 2,000 mm.dia.

Max.job thickness : 750 mm.

Max.job length : 2,200 mm.



Quality Testing

- 1000 kW & 200 kW, DC motor drive Speed increasing slave gearbox for getting input speeds up to 12,000 rpm
- Shop lube system
- Bentley Nevada vibration monitoring system
- ADRE software for shaft vibration analysis (Bode plots and Polar Plots)
- Hand held FFT analyzer for casing vibration and noise.



• SOME OF REFERENCES

HIGH SPEED GEARS



Customer : BPK Power Supply, Thailand
Power : 10.7 MW
Input Speed : 7742 RPM
Output Speed : 1500 RPM
Application : Power Plant
Replacement to : BHS Voith, Germany



Customer : HPP Energy Ltd
Power : 4.3 MW
Input Speed : 5082 RPM
Output Speed : 3000 RPM
Application : Hydel



BURIRUM SUGAR CO.,LTD.
BURIRUM , THAILAND
CAPACITY - 560 KW , 4407 / 148.4 RPM
HIGH SPEED GEAR MILL NO.1
REPLACE BY GEAR
INTERNALS - SHIMADZU, JAPAN



Customer : Gujarat State Electricity Corporation Ltd.
Power : 54MW
Input Speed : 5113 RPM
Output Speed : 3000 RPM
Application : Gas Turbine
Replacement to : BHS Voith, Germany



RUAM PHOL SUGAR CO.,LTD.
NAKORNSAWHAN , THAILAND
NEWHIGHSPEEDGEAR 3000HP,4000/600RPM
FOR CANE CUTTERNO.2
REPLACE -SEISA, JAPAN



Customer : Petro Vietnam Oil Processing Co.
Power : 54 kW
Input Speed : 5113.5 RPM
Output Speed : 3000 RPM
Application : TG Set

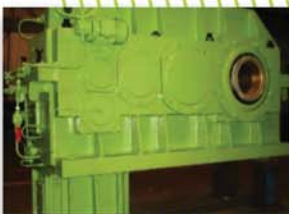
LOW SPEED GEARS



Customer : Thai Multi-Sugar, Thailand
Power : 750kW
Input Speed : 950 RPM
Output Speed : 27.684 RPM
Application : Cane Crushing Mill
Replacement to : Lufkin, USA.



Customer : Maihar Cements
Power : 1350kW
Input Speed : 980 RPM
Output Speed : 33.38 RPM
Application : Vertical Roller Mill
Replacement to : SEISA, Japan



Customer : Rajashree Polyfil Ltd.
Power : 85 kW
Input Speed : 1500 RPM
Output Speed : 6.01 RPM
Application : Agitator
Replacement to : PIV, Germany



Customer : Manikgarh Cements
Power : 1650 kW
Input Speed : 990 RPM
Output Speed : 235.71 RPM
Application : Vertical Roller Mill
Replacement to : Flender, Germany



Customer : BOOM Systems Pvt Ltd.
Power : 4 MW
Input Speed : 167.5 RPM
Output Speed : 750 RPM
Application : Hydel



Customer : Morgan Construction (India) Pvt Ltd.
Power : 90 kW
Input Speed : 568 RPM
Output Speed : 568 RPM
Application : Shearing



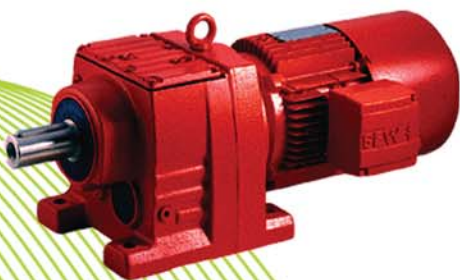
RX-SERIES(Single stage)

RX-SERIES(Single stage)

For high output speeds, the exclusively single-stage gear units Rx57 to Rx107 offer compact solutions for your system design.

Technical data

Gear unit reduction ratio(i)	1.30 ~ 8.65
Output torque (Nm)	36.0 ~ 83.0
Motor power range (kW)	0.12 ~ 45.0



R-SERIES(2 and 3 stages)

R-SERIES(two and three stages)

Our multi-stage gear unit provide something special: Due to their die-cast aluminum design, the R07, R17 and R27 models are three particularly efficient light-weights-ideal as satellite drives and use in light machine constructions. Reduced backlash helical gear units are also available for particularly precise requirements.

Technical data

Gear unit reduction ratio (i)	3.21 ~ 289.74
Multi-stage gear unit ratio (i)	90 ~ 27001
Output torque (Nm)	31 ~ 18000
Motor power range (kW)	0.09 ~ 160



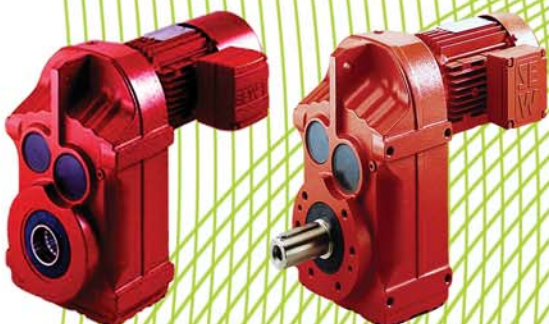
RM-SERIES(AGITATOR TYPE)

RM-SERIES(AGITATOR TYPE)

RM gear motors with extended output bearings hub area special type of helical gear unit. They were designed especially for agitating application and allow for high overhung and axial loads and bending moments.

Technical data

Gear unit reduction ratio (i)	4.29 ~ 289.74
Multi-stage gear unit ratio (i)	134 ~ 27001
Output torque (Nm)	270 ~ 18000
Motor power range (kW)	0.12 ~ 160



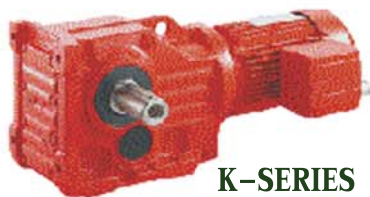
F-SERIES

F-SERIES(two and three stages)

Our extra-slim parallel shaft helical gear motors are the perfect solution when space is limited. Available in many sizes and designs - foot or flange mounted, solid or hollow shaft, B5 or B14 input flange mounted.

Technical data

Gear unit reduction ratio(i)	3.7 ~ 281.71
Multi-stage gear unit ratio (i)	87 ~ 31434
Output torque (Nm)	87 ~ 18000
Motor power range (kW)	0.12 ~ 200



K-SERIES

K-SERIES/HELICAL-BEVEL GEARED MOTOR (three stages)

Helical-bevel gear units from **SEW-EURODRIVE** provide a high efficiency of over 96% in both torque directions and at all input speeds. With our remarkably highly efficient helical-bevel gearmotors, you can have energy saving angular gear drives at your disposal. Available in many sizes and design-foot or flange mounted, solid or hollow shaft, B5 or B14 input flange mounted.

Technical data

Gear unit reduction ratio (i)	3.98 ~ 197.37
Multi-stage gear unit ratio (i)	94 ~ 32625
Output torque (Nm)	125 ~ 50000
Motor power range (kW)	0.12 ~ 200



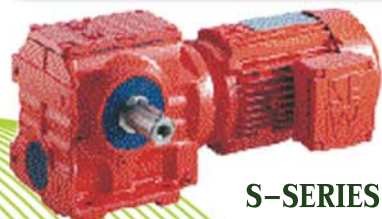
S-SERIES

S-SERIES / HELICAL-WORM GEARED MOTOR

SEW-EURODRIVE helical-worm gear units are helical/helical-worm combinations so that they have greater efficiency than plain helical-worm gear units. The reduction ratios effected by the worm gear stage and the low noise levels during operation make these gear motors ideal low-cost solutions for simple applications. They also available in many sizes and design-foot or flange mounted, solid or hollow shaft, B5 or B14 input flange mounted.

Technical data

Gear unit reduction ratio (i)	6.80 ~ 288.00
Multi-stage gear unit ratio (i)	110 ~ 33818
Output torque (Nm)	43 ~ 4000
Motor power range (kW)	0.12 ~ 22



W-SERIE

W-SERIES / SPIROPLAN GEARED MOTOR

SPIROPLAN gear motors are robust right-angle gear motors with **SPIROPLAN** gearing. They have three main differences from the helical-worm gear units: 1) The material combination of the steel-on-steel gearing. 2) The special tooth meshing relationships. 3) The aluminum housing. These features make **SPIROPLAN** gearmotors very quiet, wear free and light weight. They available in foot or flange mounted, B5 or B14 input flange mounted

Technical data

Gear unit reduction ratio (i)	3.20 ~ 75.00
Max. output torque (Nm)	12 ~ 110180.00
Motor power range (kW)	0.09 ~ 3.00



VARIBLOC

VARIABLE SPEED GEAR MORTORS

VU/VZ-SERIES / VARIBLOC

VARIBLOC wide V-belt variable speed gearmotors are used with power ranges of 0.75kW up to 45kW. Typical speed setting ranges are 1:4, 1:6 and 1:8. The U or Z shaped power flow and numerous combination possibilities with reduction gear units mean that these speed gear motors can be supplied in a broad range of designs. They can easily be tailored to the most diverse machine structures.



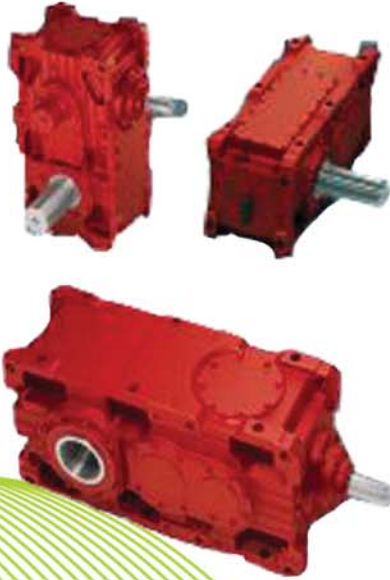
VARIMOT

D-SERIES / VARIMOT

VARIMOT friction disk variable speed gear motors are intended for power range up to 11kW and speed setting ranges 1:4 or 1:5. The contact pressure between the driving pulley and the friction ring required for torque transmission is set automatically. The speed control can be adjusted even when the gearmotor is at a standstill.



X-Series : Robust and universal Gear Unit Series

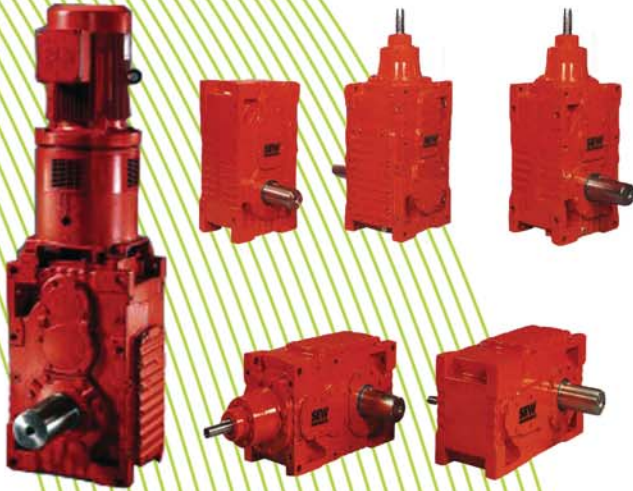


Robust and universal gear unit series which can be optimally adjusted to the task due to finely stepped torque ratings. The universal modular system concept sets new standards with respect to availability and offers a broad range of application options, e.g. for conveyor systems, ball mills and agitators. Application gear units, such as for bucket conveyors, complete the range.

- Extremely robust gear unit housing
- Reduced costs and weight due to high power density and finely stepped sizes
- Effective cooling systems
- CCW and CW versions may be implemented in a single gear unit version
- Flexible mounting capability
- Efficient project planning tools including 2D and 3D dimension drawing generators
- Short delivery times for standard versions and spare parts
- Worldwide service

Technical data			
Gear unit version	Stages	Reduction ratios	Rated torque M_{n2} (kNm)
Helical gear unit X.F...;	2,3 and 4 stages	6 to 400	58 to 475
Helical-bevel gear unit X.K...;	2,3 and 4 stages	6 to 400	58 to 475
Helical-bevel gear unit X.T...;	3 and 4 stage	12 to 400	58 to 475

MC-Series : Compact Gear Unit Series



MC series industrial gear units are particularly compact helical and helical-bevel gear units. With its seven sizes, the MC series covers a torque range of 6 to 48 kNm. This parallel shaft design offers you a great deal of freedom in system design and requires remarkably little space. Application range for MC gear units: e.g. in materials handling, transporting heavy loads, mixing, crane drives and shredders. A version, based on this series, with extended bearing distance and reinforced output shaft, is also available.

- High power density
- The compact drive ensures high torque transfer capacity
- Finely graduated torque
- Modular product concept
- Parts for standard versions are in stock, ensuring short delivery times
- Heavy-duty unit thanks to block housing

Technical data			
Gear unit version	Stages	Reduction ratios	Rated torque M_{n2} (kNm)
MC.P...helical gear units;	2 and 3 stages	7.1 to 112	6 to 48
MC.R...bevel-helical gear units;	2 and 3 stages	7.1 to 112	6 to 48

M-Series : Industrial Gear Unit

M stands for modular - and the series is based on this idea both in terms of design and economy. Customization to the required characteristics of the drive and the machine design is made easier by simply adding options and mounting parts. Supported by progressive CAD and CAM technology, the gear units are produced upon receipt of an order. A modification of the output shaft or a dry well can be realized without affecting the delivery time.

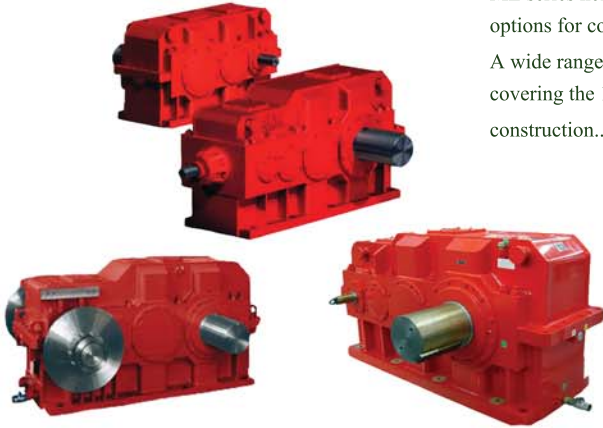


Technical data			
Gear unit version	Stages	Reduction ratios	Rated torque M_{n2} (kNm)
M.P...helical gear units;	2,3,4 stages	6.3 to 400	34.6 to 155
M.R...bevel-helical gear units;	3,4,5 stages	14 to 1800	31.2 to 165



ML-Series : Large Gear Unit Series

ML series helical and helical-bevel gear units are the ideal platform for customized applications with a variety of options for connecting a wide range of modules. The flexibility and variability of these gear units are hard to beat. A wide range of modules for the input and output sides are available. ML series gear units are available in 5 sizes, covering the 180 to 680 kNm torque range. ML gear units can be used in applications such as mining, crane construction...



- Modifications can be easily accommodated (advantages in price and delivery time)
- Good thermal properties due to separate housing (specifically 1, 2 and 3 stages)
- Delivery time approx. 10 to 12 weeks
- Easy maintenance due to a parting line
- Worldwide service

Technical data			
Gear unit version	Stages	Reduction ratios	Rated torque M_{n2} (kNm)
ML.P...helical gear unit;	2,3 and 4 stages	6 to 180	180 to 680
ML.R...bevel-helical gear unit;	3,4 and 5 stages	14 to 1800	180 to 680

P-Series : Helical / Bevel -Planetary Gear Series

Up to now, it was almost impossible to order planetary gear motors in this power class from a catalog. Our P series products are a significant step closer to achieving this ideal. The gear units are designed in such a way that the gear motor is directly mounted in front of the planetary gear unit. Couplings, intermediate flanges and adapter flanges that take up space and increase costs are a thing of the past. P series gear units are available in 9 sizes, covering the 24 to 359 kNm torque range. P gear units can be used in: all applications in which large weights have to be moved at low speeds.



- Perfectly matched units (gear unit and motor)
- Large range of options thanks to the SEW-EURODRIVE modular concept
- Short, compact design since there is no need for couplings and adapter flanges.

Standardized units, which means an excellent cost-performance relationship and increased availability.

Technical data			
Gear unit version	Stages	Reduction ratios	Rated torque M_{n2} (kNm)
helical planetary gear units (motors) P.RF...;	4 and 5 stages	100 to 4000	24 to 359
P.KF...helical-bevel planetary gear units (motors);	5 stages	140 to 4000	24 to 359

P.MC-Series : Helical / Helical - Bevel -Planetary Gear Series



This series is characterized by the maintenance - free and fully oil-covered anti - friction bearings, combined with the high power density of the planetary out put stages. They are mainly used for high reduction ratios and low output speeds. Individual optional features, such as special sealing systems and lubricants, torque arms and swing bases complete the range, which is mainly used for slat conveyors, bucket-wheel reclaimers and jibs.

- A "torque-strong" combination of planetary gear units and helical/helical-bevel gear units
- Compact: Increased power density thanks to planetary output stages
- Application-specific: Individual sealing systems and lubricants as well as options for torque arms, mounting flanges, motor seats, motor adapters, swing bases and output flange hubs
- Economical: Individual customer solutions using standard components
- Available: Short delivery times due to stocked components and the unique, international assembly network of SEW-EURODRIVE

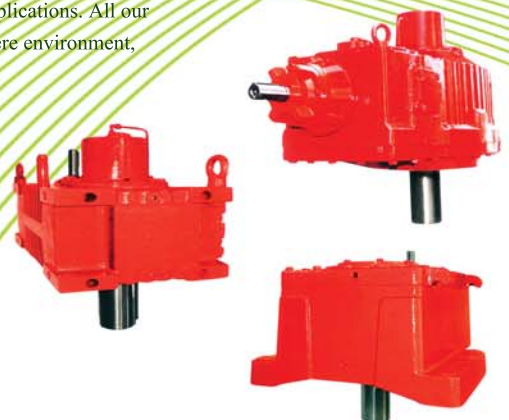
Technical data			
Gear unit version	Stages	Reduction ratios	Rated torque M_{n2} (kNm)
P1.MC...helical/helical-bevel planetary gear units;	3 and 4 stages	31.5 to 500	24 to 185
P2.MC...helical/helical-bevel planetary gear units;	4 and 5 stages	140 to 4000	69 to 359

M-Series : Industrail Gear Unit Series for Palm Oil Mill

SEW-Eurodrive has developed Industrial Gear Units optimised for POM applications. All our gear units are specially designed and constructed to operate in the most severe environment, with no compromise on reliability of the machine parts.



- Kernel Expeller Drives
- Screw Press Drives
- Digester Drives
- Bunch Crusher Drives
- Empty Fruit Bunch Shredder Drives
- Heavy Duty Empty Fruit Branch



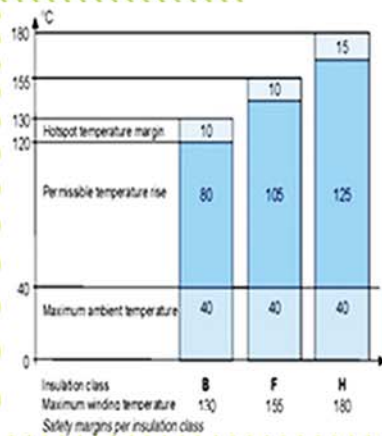
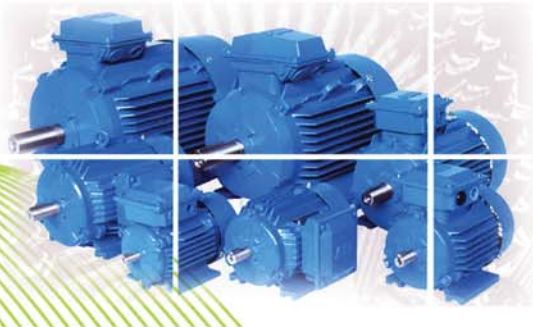
The Leader In Motors

ABB has been manufacturing motors for over 100 years. The products are designed to be reliable, efficient and cost effective, and we can supply motors for practically any application.

M2000 motors

Our M2000 range offers quality motors in eff2 class, providing you with ideal efficiency level for your needs.

M2QA series of three phase motors are a member of M2000 family. Power range from 0.25 to 315 KW. Voltage up to 690V for 50Hz,60Hz With deep-groove ball bearing ,IP 55, Class F with Class B temperature rise.

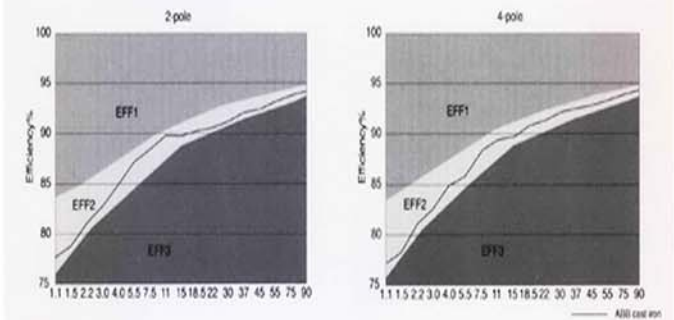


Temperature limits are according to standards. The extra thermal margin when using class F insulation with class B temperature rise makes the motors more reliable

High Efficiency

The output power 1.1 to 90kw ,2P and 4P in S1 duty, M2QA motors are among class 2 of CEMEP-EU standard, saving energy and operating cost.

Standard three phase induction motors, 400V 50Hz-ABB motor efficiency levels



EU efficiency classes

Output KW	2-pole		4-pole	
	Boardline EFF2/EFF3	EFF1/IFF2	Boardline EFF2/EFF3	EFF1/IFF2
1.1	76.2	82.8	76.2	83.8
1.5	78.5	84.1	78.5	85.0
2.2	81.0	85.6	81.0	86.4
3	82.6	86.7	82.6	87.4
4	84.2	87.6	84.2	88.3
5.5	85.7	88.6	85.7	89.2
7.5	87.0	89.5	87.0	90.1
11	88.4	90.5	88.4	91.0
15	89.4	91.3	89.4	91.8
18.5	90.0	91.8	90.0	92.2
22	90.5	92.2	90.5	92.6
30	91.4	92.9	91.4	93.2
37	92.0	93.3	92.0	93.6
45	92.5	93.7	92.5	93.9
55	93.0	94.0	93.0	94.2
75	93.6	94.6	93.6	94.7
90	93.9	95.0	93.9	95.0

Motor for Hazardous Areas

Low&High Voltage Increased Safety



Exe-Protection
Output power 0.25 to 1100kw
Zone 1 or 2, Temp T1 - T3

Low Voltage Flameproof



Exd/Ex de - Protection
Output power 0.55 to 630 kw
Zone 1 or Zone 2, Temp T1 - T4

High Voltage Flameproof



E.Exd - Protection
Output upto 4500 kw
Zone 1, Zone 2, Temp T3-T6



DC-Motor

DMR is smallest DC Motor in the ABB range(Frame 112-180)



DMI 180-400

ABB's new generation of DC motors
High output and small dimensions
Smooth running at low speed and moment of inertia ,minimum of maintainance



LAN-710

Designed for high powers at low speed, installed in the most demanding in rolling mills, mine hoist and cement industry.

ISO-9001:2000인증



제품신뢰성 인증



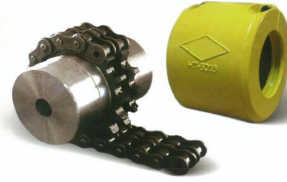
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EAGLE INDUSTRY
NIIGATA Co.,LTD.
NIIGATA PLANT

ISO9001



Taper Bush



RCH/Revol Chain Coupling



RBF/Revol Bush Flex



RGC/Revol Gear Coupling
(SSM & SSMH Type)



RJF/Revol Jaw Flex



RGC/Revol Gear Coupling
(CCM & CCMH Type)



RRF/Revol Rubber Flex



RSG/Revol Steel Grid
Coupling (Horizontal Type)



RTF/Revol Tire Flex



RSG/Revol Steel Grid
Coupling (Vertical Type)



RCP/Revol crown Pin
Coupling



RDC/Revol Disc Coupling



THC/Transfluid
Hydraulic Coupling



EKK/Eagle
Diaphragm Coupling

Triveni
TURBINES



Knowledge

Triveni
GEARS

REVOLcouplings®



Understanding

SEW
EURODRIVE

KNOWLEDGE IS VITAL.BUT KNOWLEDGE IS NOTHING WITHOUT UNDERSTANDING.



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Revolution PTC Co.,Ltd.

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