Product overview

Industrial gear units
Excellent performance needs a strong partner – SEW-EURODRIVE has been a supplier of drive technology for many decades and is now among the leading companies for drive technology worldwide.

**Performance made by SEW-EURODRIVE**
SEW-EURODRIVE offers the suitable industrial gear units when you need especially large torque ratings to carry out especially large movements. The modular concept will once again provide optimum adaptation of industrial gear units to meet a wide range of different applications.

SEW-EURODRIVE is your competent partner for all areas, from process planning, through project planning all the way to startup. These services are supported by our renowned, worldwide service network in order to guarantee the reliable completion of all process stages.
The gear units and gearmotors are manufactured and assembled in Germany, Brazil, Chile, China, Finland, Australia, South Africa, Singapore, and the United States. Our worldwide service network ensures high product availability.
The new X series of SEW-EURODRIVE is nearly unrivaled with its fine size graduation that covers the torque range from 58 to 475 kNm. The great number of predefined optional equipment offers a high level of flexibility for adjusting the industrial gear unit to the specific application with a minimum of components at maximum availability.

The wide range of gear ratios for helical and bevel-helical gear units from 6 – 400 demonstrates that the X series meets the requirements for a complete and comprehensive gear unit series. Nearly any mounting position or shaft arrangement can be implemented on the driven machine. The reversible gear unit housing allows for variable installation since two mounting positions can be implemented with a single version. This means a reduced number of variants for operators and original equipment manufacturers.

Influencing factors, such as operational reliability and ease of maintenance, have been particularly taken account of in the design of the robust housing, low-noise gearing, and cooling system. Efficient project planning tools, which include the generation of 2D and 3D dimension drawings, as well as predefined drive packages for conveyor drives and bucket elevator drives complete the product range.

If none of the predefined designs matches the specific customer application, it goes without saying that we will customize it for you.

The intelligent, comprehensive gear unit concept convinces by finely graduated sizes, variable installation and a great number of modular options, such as motor adapters, backstops, sealing systems, shaft end pumps, mounting flanges, etc.
## Design features
- Independent industrial gear unit platform
- Helical and bevel-helical gear units
- Housing in monoblock or split design
- Reversible gear unit housing
- Universal mounting positions
- Modular-system technology
- Great number of variants due to predefined accessory equipment and options
- Customer-specific adaptations

## Advantages
- Extremely robust gear unit housing
- Reduced costs and weight due to high power density and finely stepped sizes
- Effective cooling systems
- Right-hand and left-hand design implemented in a single gear unit version
- Flexible mounting capability
- Efficient project planning tools including the generation of 2D and 3D dimension drawings
- Short delivery times for standard versions and spare parts
- Worldwide service

## Preferred application areas
- In conveyor systems as used in the building material, extractive, chemical, food and feed industries
- In the environmental industry
- In agitators and mixers
- In the timber and paper industry
- In the steel industry
- For bucket elevators in bulk-handling technology
- For shredders / crushers
- As travel drive for cranes
- Calander drives in the plastics industry

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### X series

#### Gear ratios and torques

<table>
<thead>
<tr>
<th>Gear unit size</th>
<th>Torque class $M_{lu}$ [kNm]</th>
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Thousands of MC series gear units have been successfully used in many applications. The MC series in the industrial gear unit portfolio is designed for the small torque range up to 48 kNm and is characterized by little space requirements and high availability.

The gear units are suitable for horizontal, vertical and upright installation to the customer’s machine. The MC series is particularly suited for medium gear ratios. The modular concept includes a great number of optional accessory equipment, such as motor adapters, belt drives, and backstops. The gear ratio range can be easily expanded by combining the gear unit with a standard gearmotor. Standardized application solutions are available for bucket elevators, cooling towers, and agitators.

MC series: 7 sizes of particularly compact parallel shaft gear units or right-angle gear units
MC series: the most important facts and figures

Design features
- Independent gear unit series
- Helical and bevel-helical gear units
- Modular concept
- Special solutions can be implemented
- Housing is designed as monoblock housing
- Universal mounting positions
- All popular connection elements are possible at the input and output end

Advantages
- The compact drive ensures high torque transmission capability
- Finely graduated torques
- Modular product concept
- Parts for standard versions are in stock, which ensures short delivery times
- Heavy-duty unit due to monoblock housing
- Worldwide service

Preferred application areas
- In conveyor systems as used in the building material, extractive, chemical, food and feed industries
- In the environmental industry
- In agitators and mixers
- In the timber and paper industry
- For bucket elevators in bulk-handling technology
- For shredders / crushers
- As travel drive for cranes

### Gear ratios and torques

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<thead>
<tr>
<th>Gear unit size</th>
<th>Torque class $M_{\text{in}}$ [kNm]</th>
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<tbody>
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</table>
MC series
with extended bearing distance (EBD)

In process engineering plants, large axial and radial forces occur at the agitator shaft during agitating processes. Traditional designs solve this problem with separate, external bearings that take on the function of the agitator shaft bearings. However, in many cases this solution has proved very cost-intensive.

SEW-EURODRIVE’s new “EBD” (Extended Bearing Distance) concept offers stronger bearing within the gear unit itself which means that in many cases separate bearings are no longer required in the agitator or a oversizing of the gear unit can be avoided. The high-torque industrial gear units of the MC series can be used for the reliable operation of mixers, agitators and surface aerators. Likewise, the powerful and stiff bearings are suitable for absorbing forces that occur in drives for wet, dry and hybrid cooling towers. The concept is supplemented by an optional drywell seal, which prevents oil leakage at the output shaft and allows a standard mounting flange to be used.

High availability due to stocked components and the unique, international assembly network of SEW-EURODRIVE

Compact efficiency for mixing and agitating applications
MC series with extended bearing distance (EBD): the most important facts and figures

**Design features**
- Based on the MC series with extended bearing distance and reinforced output shaft and output shaft bearing
- For foot or flange mounted gear units
- Version for variable flange geometry available
- Real "Drywell" version as standardized option for solid shaft gear units
- Various predefined bearing types depending on the requirement profile and application

**Advantages**
- High load bearing capacity of the output shaft
- Flexible due to various mounting options
- Leakage free due to optional "Drywell" version
- High availability due to the modular concept of "EBD" versions

**Preferred application areas**
- In the environmental industry
- In the chemical industry and process engineering
- In power engineering
- In surface aerators (in sewage treatment plants)
- In agitators and mixers
- In wet, dry and hybrid cooling towers

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### Gear ratios and torques

<table>
<thead>
<tr>
<th>Gear unit size</th>
<th>Torque class $T_{M2}$ [kNm]</th>
<th>Standard output shaft Ø</th>
<th>Output shaft EBD2 Ø for high radial loads, high axial loads</th>
<th>Output shaft EBD1 Ø for moderate radial loads, higher axial loads</th>
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<tbody>
<tr>
<td>02</td>
<td>6</td>
<td>80</td>
<td>95</td>
<td>80</td>
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<td>170</td>
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</table>
Customer-specific applications and tailor-made solutions also have to be implemented in large machines and systems. The ML series meets the specific requirements in the upper torque range from 200 – 700 kNm and ensures the highest degree of flexibility and variability.

A variety of modules can be mounted to both the input and output end of ML gear units. More elements can even be connected to the left and right of the gear unit as required without any problems and therefore cost-effectively. Of course, gear units of the ML series meet all the quality-relevant criteria that have made the gear units of SEW-EURODRIVE successful in the global market.

The ML series is particularly suited for the reliable operation of large machines.
ML series: the most important facts and figures

Design features
- Independent gear unit series
- Helical and bevel-helical gear units
- Housing in welded construction
- Special solutions can be easily implemented
- All gear units have a parting line
- All popular connection elements are possible at input and output
- For horizontal mounting positions
- Available with increased center distance for hoist applications

Advantages
- Modifications can be easily implemented
- Good thermal properties due to separate housing
- Easy to service due to parting line
- Worldwide service

Preferred application areas
- In mining
- In crane construction/hoists (boom hoist, main hoist)
- In large conveyor drives in bulk material handling
- In mill drives in the processing of raw materials
- In large special and single machines in a variety of industrial applications

ML series

<table>
<thead>
<tr>
<th>Gear ratios and torques</th>
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<tbody>
<tr>
<td>ML.P., helical gear unit:</td>
</tr>
<tr>
<td>ML.R., bevel-helical gear unit:</td>
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</table>

<table>
<thead>
<tr>
<th>Gear unit size</th>
<th>Torque class M\text{\textsubscript{N2}} [kNm]</th>
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<tbody>
<tr>
<td>100</td>
<td>180</td>
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</table>
P series – the standardized series

Not long ago, huge transmissions and gear wheels were required to achieve low output speeds and high torque. Today, such drives are implemented using planetary gear units with the powerful support of primary gearmotors. The product advantages of this completely new type of planetary gearmotor are impressive.

One advantage is the very compact design. The gear units are designed in such a way that the gearmotor is directly connected before the planetary gear unit. Large and expensive couplings, intermediate flanges and adapter flanges are not required any longer. You have the entire range of SEW-EURODRIVE gearmotors at your disposal. The series is a standardized product. This means you can access the current dimension sheets and dxf files at any time, for example for planning and calculation purposes. Thanks to the modular concept of SEW-EURODRIVE, considerable synergies can also be achieved in production processes. The result is an excellent price/performance ratio and short delivery times.

Planetary gearmotors as standardized series.
P series: the most important facts and figures

**Design features**
- Planetary gear units...
  - can transmit high torque
  - are very compact
  - provide high torsional rigidity
- Gearmotors...
  - offer a wide variety at the input
  - are variable in their reduction gear ratio
  - can be combined with the planetary gear unit in helical or bevel-helical gear version

**Advantages**
- Perfectly matching units (gear unit and motor)
- Large range of options due to the SEW-EURODRIVE modular concept
- Short, compact design because there is no need for couplings and adapter flanges
- Standardized units, which means excellent price/performance ratio and short delivery times

**Preferred application areas**
- In all applications where low output speeds and high torques are required.
- For example:
  - For drying processes in the construction materials industry
  - For filling processes in the cement industry
  - For slowly running processing systems, such as mixers, rotary filters
  - For all branches of industry with similar requirements
  - In the food industry

### Gear ratios and torques

<table>
<thead>
<tr>
<th>Gear unit size</th>
<th>Torque class $M_{hu}$ [kNm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>P.RF... helical planetary gear unit:</td>
<td>4 and 5 stages, gear ratio $i = 100 \ldots 4,000$</td>
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<tr>
<td>002</td>
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<td>082</td>
<td>359</td>
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</table>

**P series**
Many applications, including those used in bulk-handling technology or in the environmental and recycling industry, require drives with high torque. SEW-EURODRIVE has the solution: a perfectly coordinated unit comprising a planetary gear unit and a standard, primary helical or bevel-helical gear unit.

The PMC gear unit consists of a combination of planetary gear unit with primary gear unit from the proven compact MC series. All mounting and optional features of the MC series are available. The oil lubricated bearings (including backstop) are supplied through a common oil chamber.

For application with high torques: The PMC series
PMC series: the most important facts and figures

Design features
Planetary gear units …
– can transmit high torque
– are very compact
– offer high torsional rigidity
Primary gear units of the MC series …
– offer application-specific sealing systems and lubricants as well as options for torque arms, mounting flanges, motor brackets, motor adapters, swing bases and drive flange hubs
– are variable in their reduction gear ratio

Advantages
– Increased power density due to planetary output stage
– Individual customer solutions using standard components
– Oil lubricated and maintenance-free roller bearings and backstops

Preferred application areas
– Drying processes in the construction materials industry
– Filling processes in the cement industry
– Slowly running processing systems, such as mixers and rotary filters
– Industrial areas with comparable requirements
– Food industry
– Extension arm drives for cranes

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PMC series

<table>
<thead>
<tr>
<th>Gear ratios and torques</th>
</tr>
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<tbody>
<tr>
<td>P1.MC.. helical/bevel-helical planetary gear unit: Gear unit size 001 ... 061, gear ratio i = 31.5 ... 500</td>
</tr>
<tr>
<td>P2.MC.. helical/bevel-helical planetary gear unit: Gear unit size 031 ... 081, gear ratio i = 140 ... 4,000</td>
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<tr>
<th>Gear unit size</th>
<th>Torque class $M_{\text{to}}$ [kNm]</th>
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<td>001</td>
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