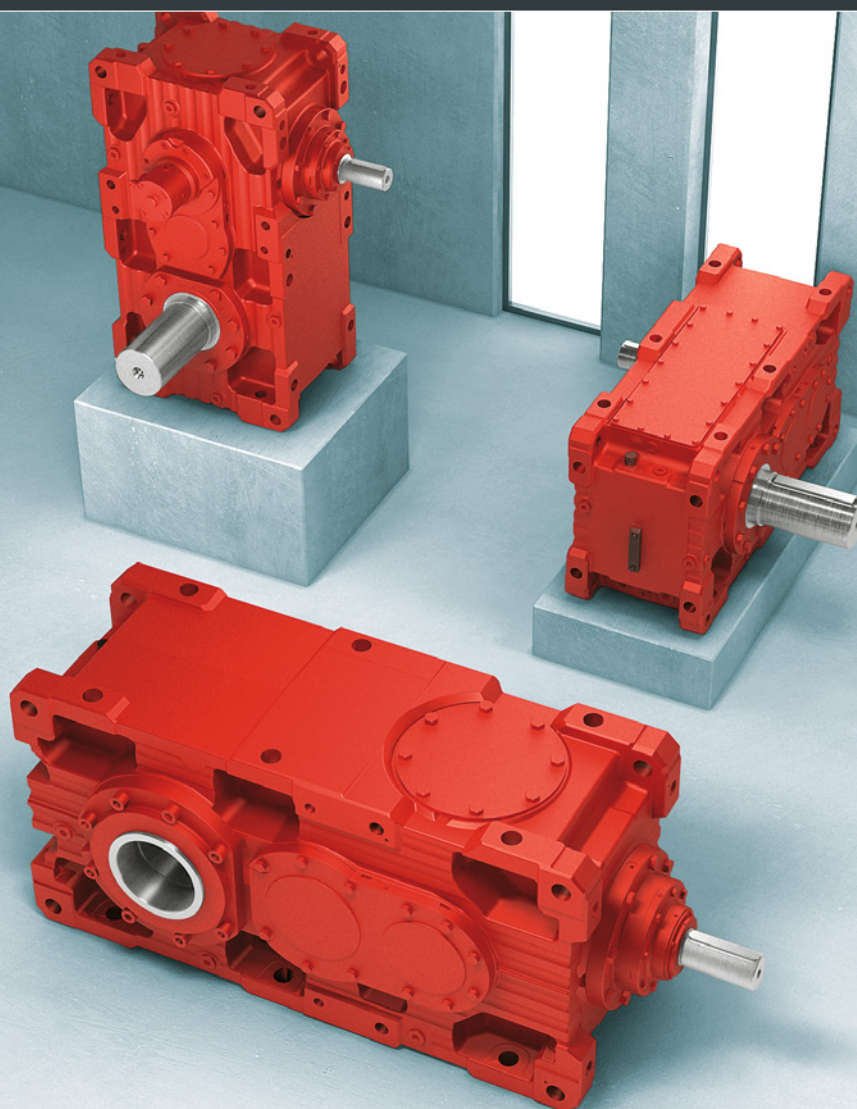


## Product overview

### Industrial gear units



## Versatile and powerful – Industrial gear units from SEW-EURODRIVE



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**

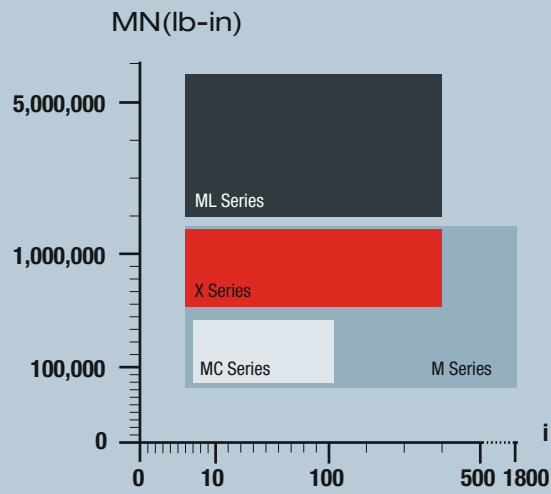
SEW-EURODRIVE offers the suitable industrial gear units when you need especially large torque ratings to carry out especially large movements. The modular concept will once again provide optimum adaptation of industrial gear units to meet a wide range of different applications.

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.

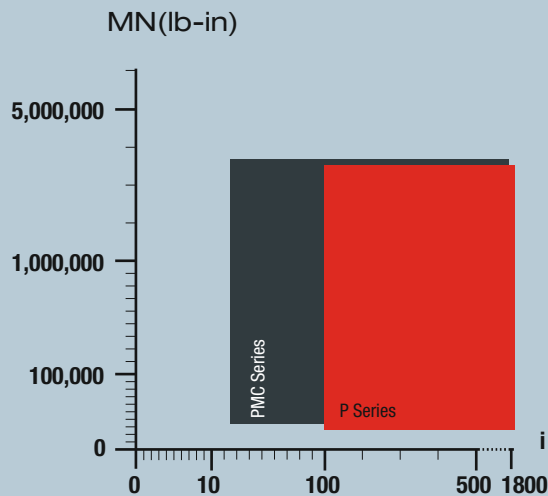


## Product range and torque ratings at a glance

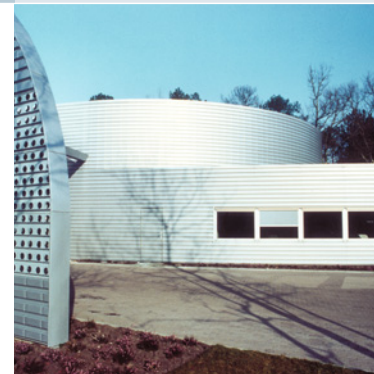
### X/MC/M/ML helical and bevel-helical gear units



### P/PMC planetary gear units



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.



## X series – the robust series

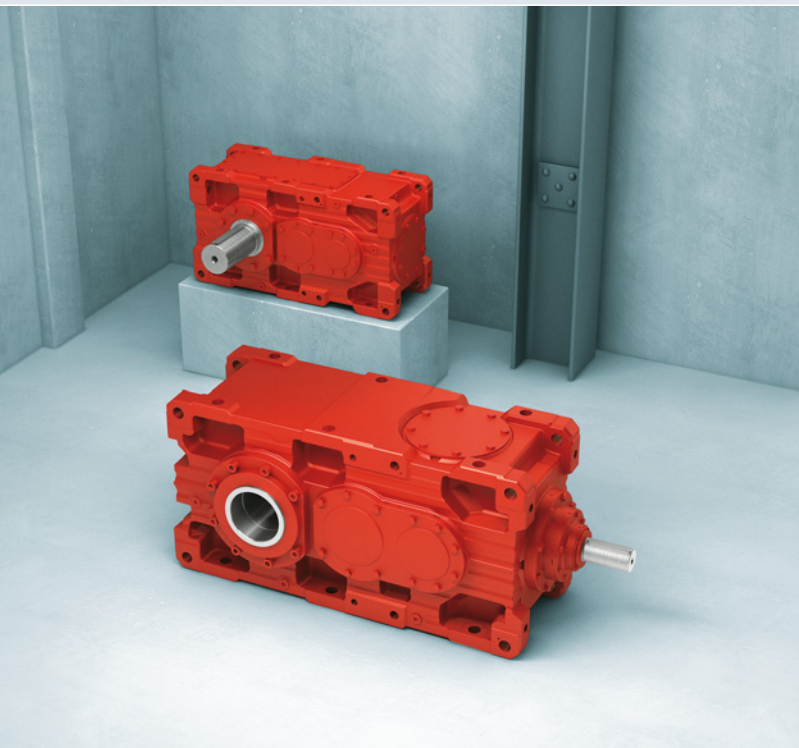
The new in-house development of SEW-EURODRIVE's X series is nearly unrivaled with its fine size graduation that covers the medium torque range from 0.5 to 1.5 million lb-in. The great number of predefined optional equipment offers a high level of flexibility for adjusting the industrial gear unit to 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 match the specific customer application, it goes without saying that we will customize it for you.

X series –  
the new industrial gear  
unit platform with finely  
graduated sizes



The intelligent, comprehensive gear unit concept is distinguished 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.

## X series: the most important facts and figures

### 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 materials, mining, 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

### X series

#### Gear ratios and torques

X.F.. helical gear unit:	2, 3 and 4 stages, gear ratio 6:1 to 400:1
X.K.. bevel-helical gear unit:	2, 3 and 4 stages, gear ratio 6:1 to 400:1
X.T.. bevel-helical gear unit:	3 and 4 stages, gear ratio 12:1 to 400:1

Gear unit size	Torque class $M_{N2}$ [lb-in]
----------------	-------------------------------

180	500,000
190	575,000
200	700,000
210	800,000
220	990,000
230	1,200,000
240	1,400,000
250	1,500,000
260	1,800,000
270	2,100,000
280	2,300,000
290	2,700,000
300	3,000,000
310	3,700,000
320	4,200,000

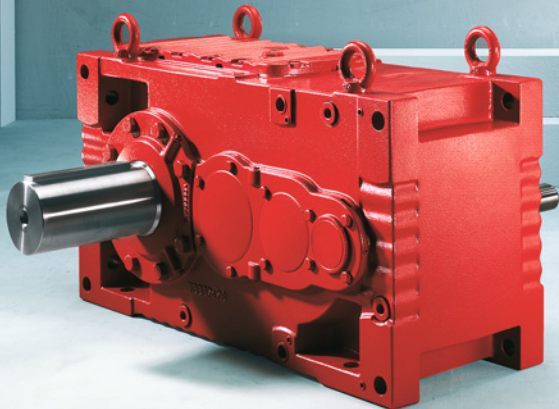
## MC series – the compact series

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 570,000 lb-in 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: 8 sizes of particularly compact parallel shaft gear units or right-angle gear units



The proven series for the small torque range with rigid monoblock housing for nearly any industry and application.

## 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 materials, mining, chemical, food and feed industries
- In the environmental industry
- In agitators and mixers
- In the timber and paper industry
- For shredders / crushers
- As travel drive for cranes
- For bucket elevators in bulk-handling technology

### MC series

#### Gear ratios and torques

MC.P.. helical gear unit:	2 and 3 stages, gear ratio 7.1:1 to 112:1
MC.R.. bevel-helical gear unit:	2 and 3 stages, gear ratio 7.1:1 to 112:1

Gear unit size	Torque class MN2 [lb-in]
----------------	--------------------------

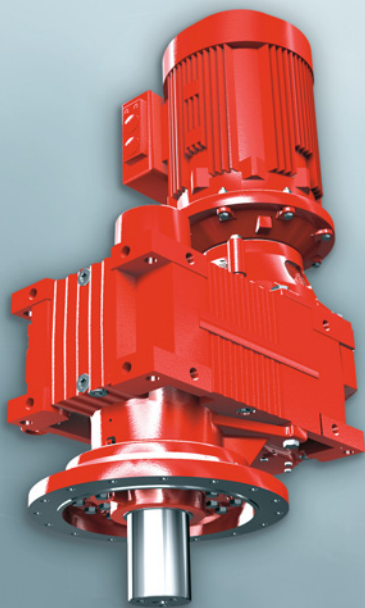
02	53,000
03	100,000
04	140,000
05	190,000
06	240,000
07	330,000
08	570,000

## 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 an 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, 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.



Compact efficiency for  
mixing and agitating  
applications



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

## 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

### MC series with extended bearing distance (EBD)

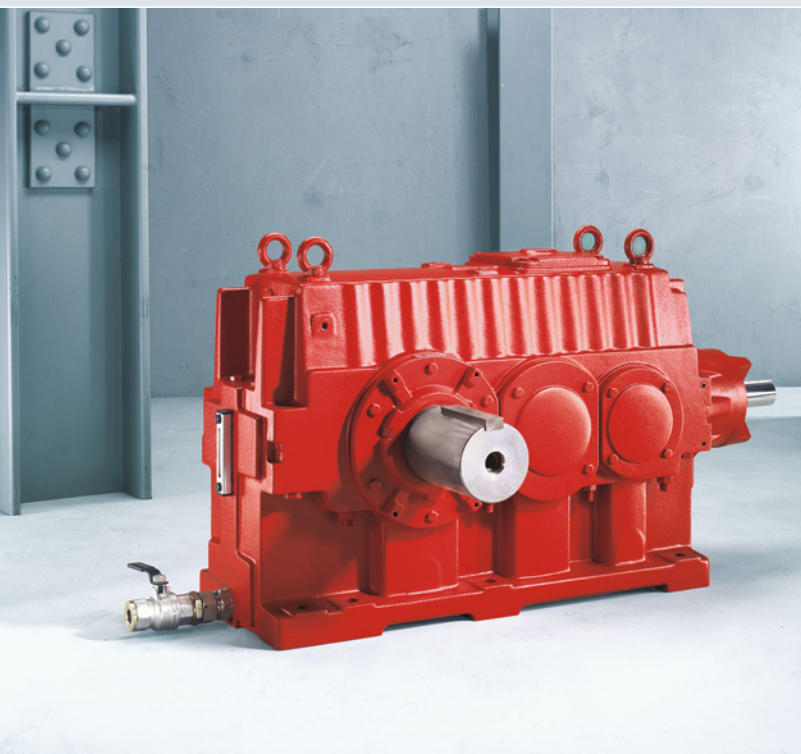
#### Gear ratios and torques

MC.P.. helical gear unit:	2 and 3 stages, gear ratio 7.1:1 to 112:1
MC.R.. bevel-helical gear unit:	2 and 3 stages, gear ratio 7.1:1 to 112:1

Gear unit size	Torque class $M_{N2}$ [lb-in]	Standard output shaft mm	Output shaft EBD2 mm for high radial loads, high axial loads	Output shaft EBD1 mm for moderate radial loads, higher axial loads
02	53,000	80	95	80
03	100,000	100	115	95
04	140,000	105	125	105
05	190,000	120	135	120
06	240,000	130	150	125
07	330,000	140	160	–
08	570,000	160	170	–

## M series – Even more powerful

The M series gear units are often referred to as the “big brothers” of the MC series because their basic technical concepts are almost identical. The M series is a very compact unit in parallel shaft design that supplies a whole lot of force considering the little amount of space it requires.



The M series gear units are available in up to nine sizes, depending on the mounting position. Modifications can be easily realized with little effort and in a very economical manner.



These gear units can be easily adapted to special requirements. This means we can offer a customized product at a great price with short delivery times.

## M series: Important data and facts

### Constructional features

- Stand-alone series of gear units
- Helical and helical-bevel gear units
- Modular concept
- Special solutions can be easily accomplished
- Parallel shaft gear units
- All gear units have a split-line
- Separate housing series for horizontal and vertical mounting positions
- Components can be mounted on the input and output side

### Advantages

- The compact drive ensures a high torque transfer capacity (especially four and five stage units)
- Modifications can be easily accommodated (advantages in price and delivery time)
- Good thermal properties due to separate housing (specifically two and three stages)
- Easy maintenance due to split-line
- Global service

### Preferred application

- Conveyor systems as they are used in the building materials, chemical, food and feed industries
- In the timber and paper industry
- In the environmental industry
- Crane construction / hoists (boom hoist / main hoist)
- Production of raw materials

### M series

#### Gear ratios and torques

Helical gear units 2, 3 and 4 stages  
Helical-bevel gear units: 3, 4 and 5 stages

Gear reductions from 6:1 to 400:1

Gear reductions from 14:1 to 1,800:1

Gear unit size  
Vertical mounting position

Gear unit design  
Horizontal mounting position

Gear unit size	Torque Class MN2 [lb-in]	Gear unit size	Torque Class MN2 [lb-in]
M..P..10	53,000	–	–
M..P..20	70,000	–	–
M..P/R..30	135,000	–	–
M..P/R..40	220,000	–	–
M..P/R..50	350,000	M..P/R..50	350,000
M..P/R..60	620,000	M..P/R..60	620,000
M..P/R..70	800,000	M..P/R..70	800,000
M..P/R..80	1,150,000	M..P/R..80	1,150,000
M..P/R..90	1,600,000	M..P/R..90	1,600,000



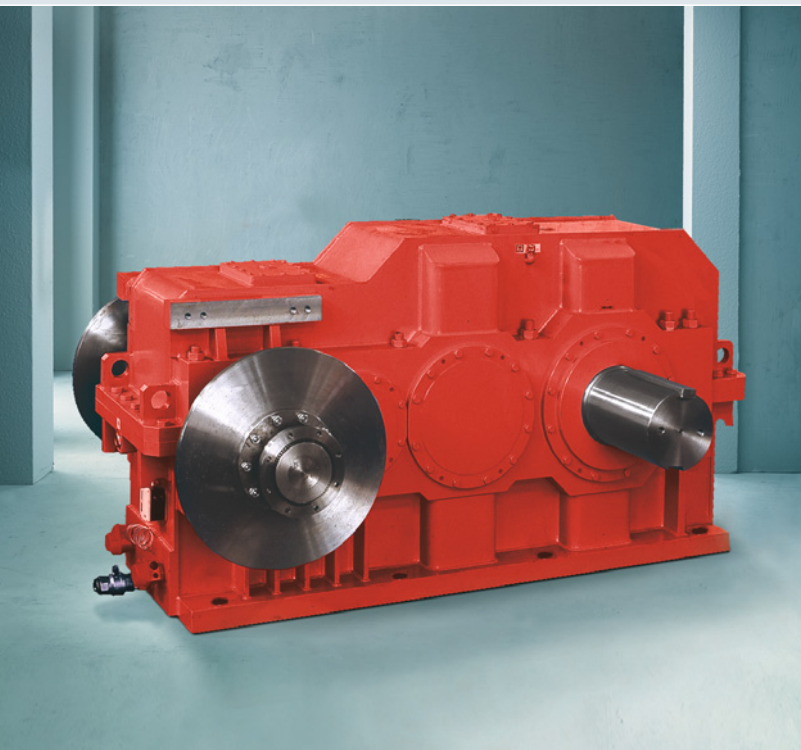
The parallel shaft gear unit, the tooth gearing classic, has always been reserved for greater power and torques. Its compact design makes it ideally suited for applications on large individual machines.

## ML series – the versatile series

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 1.2 – 6.6 million lb-in 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.



Gear units of the ML series are available in fifteen sizes. This wide variety allows for numerous application options.



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 split-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 split-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

#### Gear ratios and torques

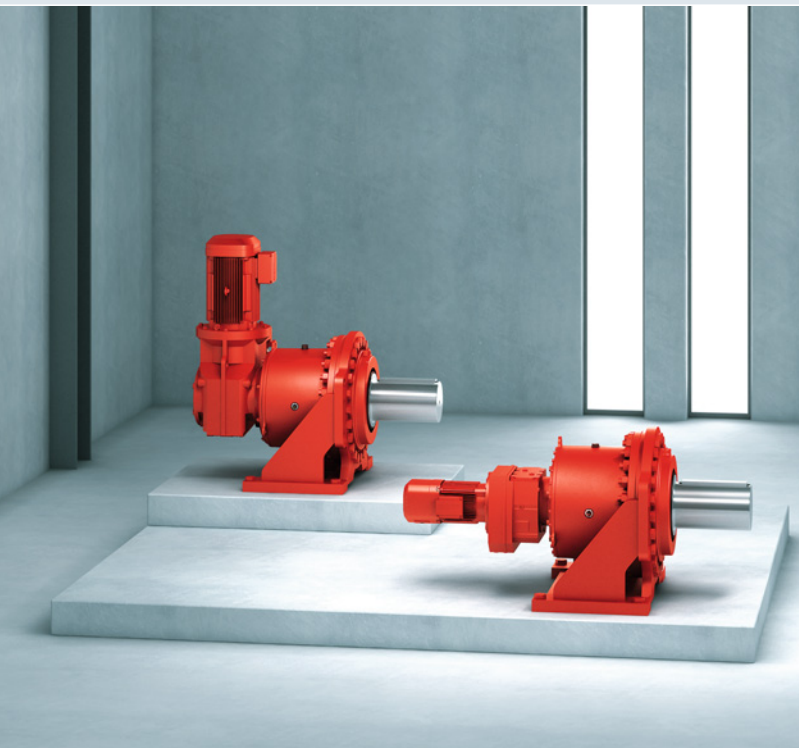
ML.P.. helical gear unit:	2, 3 and 4 stages, gear ratio 6:1 to 315:1
ML.R.. bevel-helical gear unit:	3, 4 and 5 stages, gear ratio 14:1 to 1250:1
Gear unit size	Torque class MN2 [lb-in]
100	1,200,000
110	2,200,000
120	3,100,000
130	4,100,000
140	6,600,000

## 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 no longer required. 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 planning and calculation purposes. The modular concept of SEW-EURODRIVE allows for considerable synergies to also be achieved in production processes. The result is an excellent price/performance ratio and short delivery times.



Planetary gearmotors  
as standardized series.



SEW-EURODRIVE also offers standardized planetary gearmotors for the upper torque range.

## 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

### P series

#### Gear ratios and torques

P.RF... helical planetary gear unit: 4 and 5 stages, gear ratio 100:1 to 4200:1  
 P.KF.. bevel-helical planetary gear unit: 5 stages, gear ratio 140:1 to 4200:1

Gear unit size	Torque class MN2 [lb-in]
001	210,000
011	320,000
021	450,000
031	610,000
041	890,000
051	1,100,000
061	1,600,000
071	2,200,000
081	3,200,000

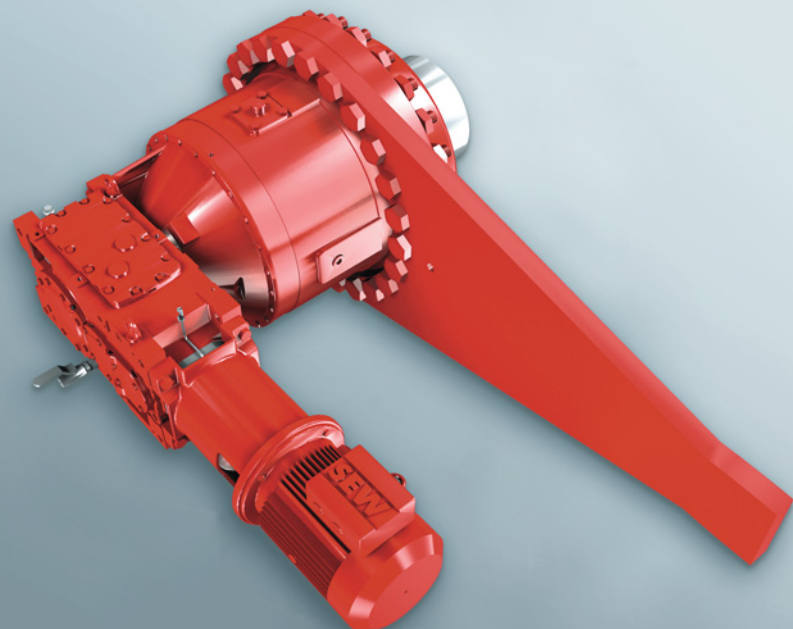
## PMC series – high power density series

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 is 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



The primary gear units of the MC series in helical and bevel-helical version can be combined with planetary gear units of 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

### PMC series

#### Gear ratios and torques

P1.MC.. helical/bevel-helical planetary gear unit: Gear unit size 001... 061, gear ratio 31.5:1 to 500:1  
 P2.MC.. helical/bevel-helical planetary gear unit: Gear unit size 031... 081, gear ratio 140:1 to 4000:1

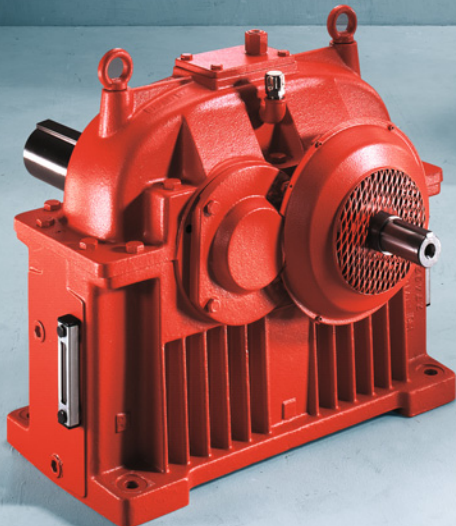
Gear unit size	Torque class MN2 [lb-in]
001	210,000
011	320,000
021	450,000
031	610,000
041	890,000
051	1,100,000
061	1,600,000
071	2,200,000
081	3,200,000

## CN series – A gear unit for all applications

For special customer-specific applications and highly customized machines or systems, where a standard gear unit may not do the job, there is our CN series. When it comes to the versatility and flexibility required to custom configure your drive solution, these gear units can't be beat.

A large variety of auxiliary modules are available which can easily be mounted on the input and output side of the unit. Additional elements can easily be mounted on the left and right without any major effort. Of course, the uncompromising

quality standards that have made our gear units such a global success, and have been an SEW-EURODRIVE trademark for decades, are rigorously applied in the manufacture of the CN series.



CN Series gear units are available in 15 sizes from 26,000 to 5,310,000 lb-in. The wide range of sizes opens up a diversity of specific applications



## CN series: Important data and facts

### Constructional features

- Comprehensive series of gear units
- Stand-alone series of gear units
- Helical and helical-bevel gearing
- Housing available as cast or welded design
- Special solutions can be easily accomplished
- Parallel and right angle shaft design
- All gear units have a split line
- Separate gearcases series for horizontal and vertical mounting positions
- All available auxiliary components can be mounted on the input and output side

### Advantages

- Modifications can be made easily (advantages in price and delivery time)
- Separate gearcases provide good thermal properties (specifically single, two and three stages)
- Split line allows for easy maintenance
- Global service

### Preferred application

- Pumps (single-stage helical gear units)
- Systems for the chemical industry, such as large agitators
- In the mining industry
- Crane drives/hoists
- Large special and single machines in a variety of industrial applications

### CN series

#### Gear ratio reductions and torques

Helical gear units:	1, 2, 3 and 4 stages Gear reductions from 1:1 to 400:1
Helical-bevel gear units:	2, 3, 4 and 5 stages Gear reductions from 4:1 to 1,800:1

Gear unit sizes	Rated torques [lb-in]	Gear unit sizes	Rated torques [lb-in]
C/KC 140	26,000	C/KC 355	663,000
C/KC 160	44,000	C/KC 400	885,000
C/KC 180	71,000	C/KC 500	1,239,000
C/KC 200	88,000	C/KC 560	2,213,000
C/KC 225	150,000	C/KC 630	3,098,000
C/KC 250	221,000	C/KC 710	3,983,000
C/KC 280	310,000	C/KC 800	5,310,000
C/KC 315	443,000		



When engineers have a difficult drive challenge to solve, when operating conditions are especially demanding, when the connection of several modules and components is required – the CN series is up to the job.

## How we're driving the world

With uncompromising quality that reduces the cost and complexity of daily operations.

With drives and controls that automatically improve your productivity.

With comprehensive knowledge in virtually every branch of industry today.

With industry-leading training and 24-hour technical support, nationwide.



**SEW-EURODRIVE**  
Driving the world

With a global presence that offers responsive and reliable solutions. Anywhere.

With a worldwide service network that is always close at hand.

With innovative technology that solves tomorrow's problems today.

With online information and software updates, via the Internet, available around the clock.

## SEW-EURODRIVE – Wherever you are, we are

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