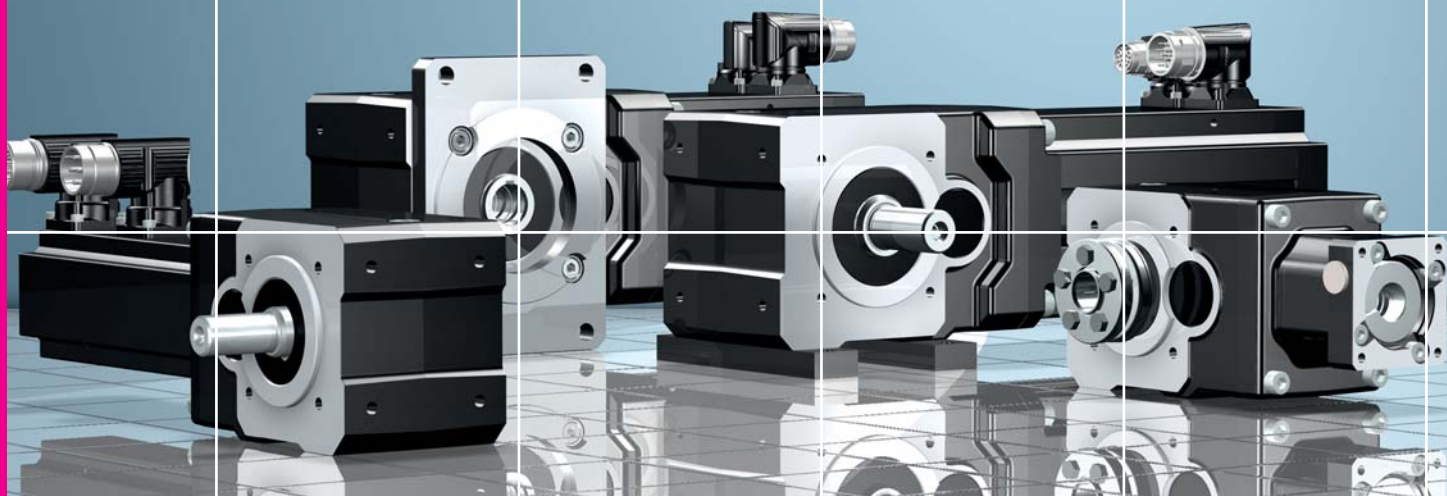


SMS KL helical bevel geared motors



The super compact drive
solution for small servo drives



If more would be unnecessary

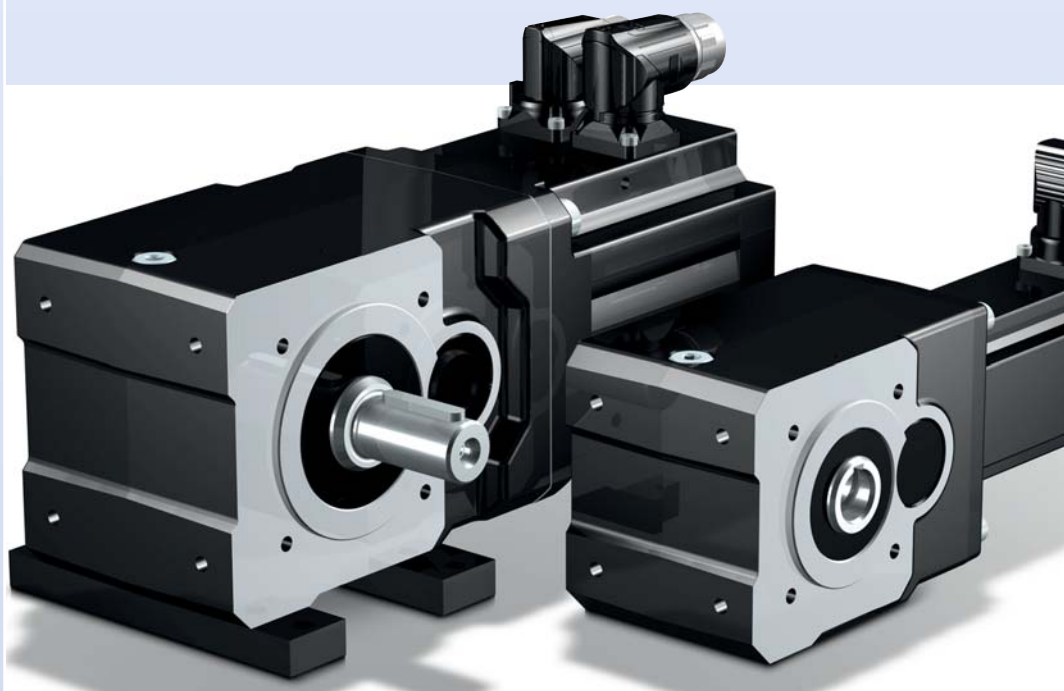
New series: SMS KL helical bevel geared motors – designed for special requirements

The manufacturers of machinery and plant in the packaging industry in particular are looking for solutions to increase the efficiency of drive technology.

To address requirements for higher dynamic performance, lower weight and smaller envelope, STÖBER is expanding its geared motors range with the new, compact SMS KL helical bevel geared motors.

Supplemented with the high-performance STÖBER POSIDYN® SDS 5000 servo inverters, STÖBER is offering a highly dynamic, digital servo axis for the most demanding applications.

By combining these components, the highest requirements on energy efficiency and TCO (Total Cost of Ownership) can be met.



SMS KL202 PNG EZ401 and KL102 AG ED203 helical bevel geared motors (from the left)

The new form factor

The extremely compact design of the gear housing has been made possible by a newly designed, 2-stage gear set geometry.

The increase in the power per unit volume obtained as a result is well in excess of 100%. The reduction in the weight is also a consequence of the super compact housing.

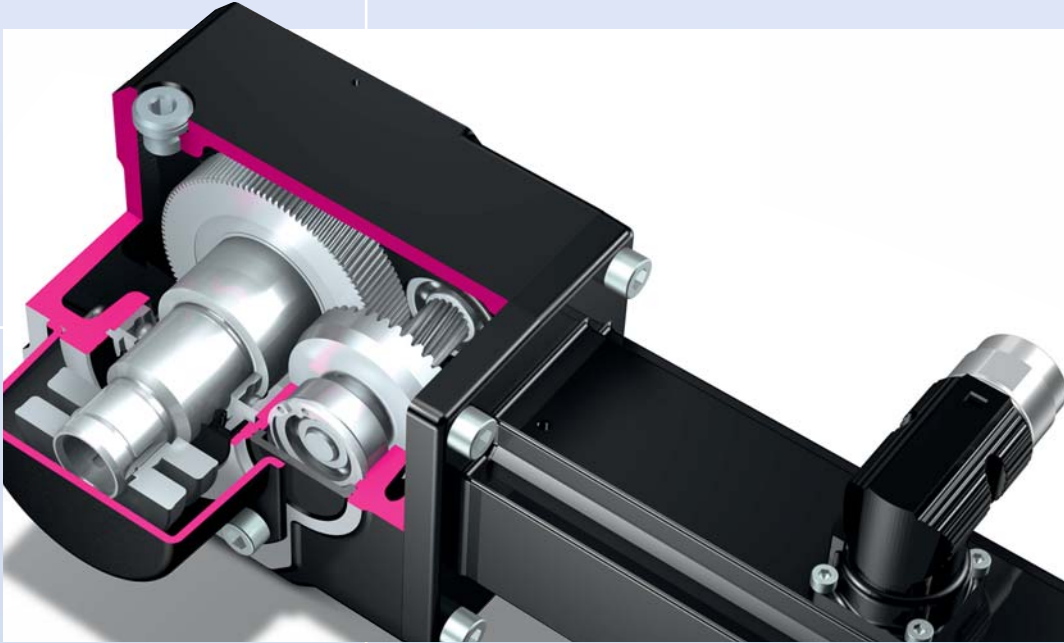
Gear housing dimensions:
KL1 (L/W/H) 124.5 x 73 x 90 mm
KL2 (L/W/H) 167.5 x 80 x 108 mm



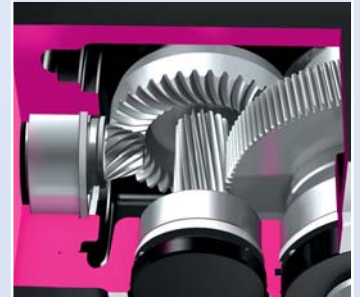
Size comparison:
ServoFit® KL1 helical bevel gear unit in the foreground.
The silhouette in the background represents the one stage ServoFit® K1 precision helical bevel gear unit

Downsizing – new objectives demand new solutions

In the version as compact synchronous servo geared motor



SMS KL102 SG ED203 helical bevel geared motor



A section of the mating side gives a view of the input pinion

Drive via hollow bore with shrink disc (and cover)

The section shows the two gear unit stages with bevel wheel set as input stage and spur gear stage in the output

Highly stiff design without axle offset

The torsion-resistant block design and the directly attached motor form a highly stiff drive unit.

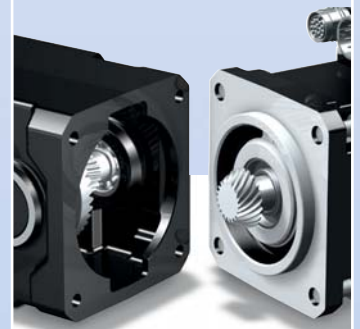
Motor shaft and gear output are on common centre-line. This feature significantly simplifies machine and plant design.

You will find the motor data in the catalogs *SMS synchronous servo geared motor EZ, 2012 issue* or *ED/EK, 2011 issue*.

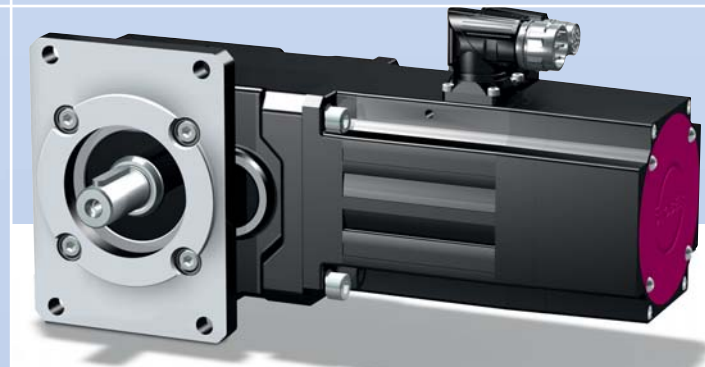
Optimized dynamic performance due to integrated

The coupling-free connection of gear unit and motor reduces the space required, the rotating masses and the weight. This aspect increases the dynamic performance and also reduces procurement costs.

For the direct attachment of STÖBER synchronous servo motors to a ServoFit® KL helical bevel gear unit, the end of the shaft on the A-side of the motor is designed as a hollow bore to fit the gear unit pinion directly.



Left: ServoFit® KL2 helical bevel gear unit
Right: EZ4 synchronous servo motor with directly attached gear unit pinion



SMS KL202 PF EZ401 helical bevel geared motor (with brake) for flange mounting

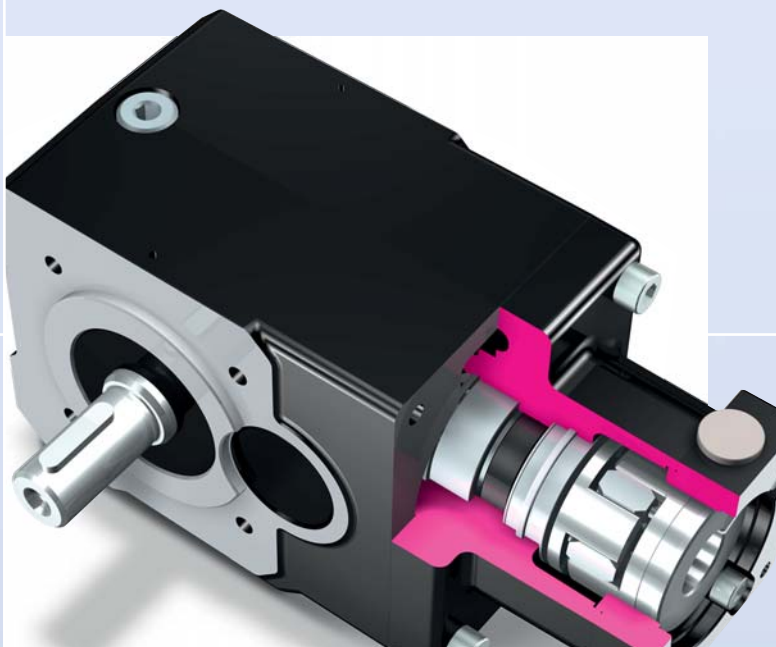
Efficiency 97%!
This optimum is achieved in particular by the high quality gear technology used in the manufacture of the helical gearing

... or with motor adapter

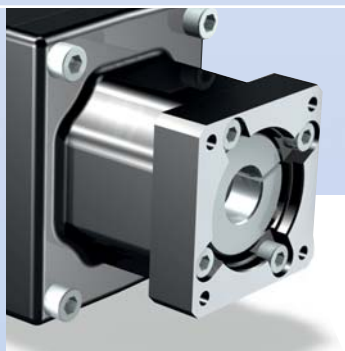
Fast motor adaptation

The MQ motor adapter with the integrated, backlash-free push-fit coupling provides the highest possible ease of assembly. A motor is adapted in scarcely a minute. The precise centering of the synchronous servo motor prevents assembly errors. Locking is provided by a single clamping screw. Thermal length compensation is integrated.

The section through the MQ motor adapter shows the backlash-free push-fit coupling



ServoFit® KL102 PG helical bevel gear unit with MQ motor adapter

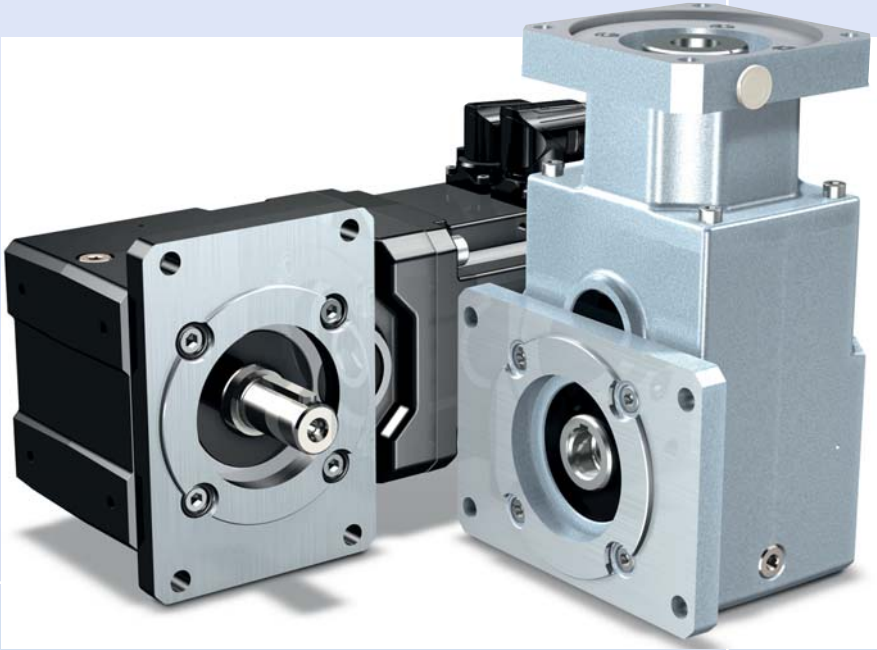


MQ motor adapter with backlash-free push-fit coupling for motor shafts without feather key

SMS KL helical bevel geared motor

Type		KL102-ED2/3	KL202-ED3/4/EZ4
Ratios i (2-stage)	[-]	4 / 8 / 16 / 32	4 / 8 / 16 / 32
Gear unit output speed	[min ⁻¹]	94 – 750	94 – 750
Nominal torque	[Nm]	3.8 – 19	6.8 – 42
Acceleration torque	[Nm] max.	15 – 32	30 – 65
Emergency-off torque	[Nm] max.	20 – 64	38 – 130
Backlash	[arcmin]	20 – 25	16 – 20
Torsional stiffness	[Nm/arcmin]	1.3 – 1.8	2.4 – 4.0
Gear unit input speed			
– Continuous operation	[min ⁻¹]	3,500 – 4,000	3,500 – 4,000
– Cyclic operation	[min ⁻¹]	5,000 – 6,000	5,000 – 6,000
Weight geared motor	[kg]	6.8 – 7.9	9.9 – 13

For packing and filling



ServoFit® KL helical bevel gear unit with output flange

Gear unit on left with solid shaft and feather key

Gear unit on right in FoodTech version for foodstuff and pharmaceutical industry. Output with hollow bore

Block design for protection against leaks

The block design of the cast housing and the usage of quality radial shaft sealing rings signify a high degree of long-term protection against leaks.

As usual with STÖBER, the gear housing is manufactured from cast iron.

Maintenance and lubricants

The SMS KL helical bevel geared motor and KL helical bevel gear unit can be operated without maintenance (lubricated for life).

They are supplied ready to operate, with the synthetic lubricant CLP HC ISO VG 150.

Option:
HCE ISO VG 68/150/220 is used as a food grade lubricant for applications in the temperature range from -40 to +50 °C.

FoodTech special version

For applications in the pharmaceutical and foodstuff industry, the ServoFit® KL helical bevel gear units can be supplied in a version with a special paint finish and stainless steel output shafts and screws.

Equipped with appropriate lubricant, the drives can be used in the refrigeration area as well as in the damp conditions in a proofing chamber without problems.

The consistent solution

As a system supplier, STÖBER has a complete product range for the digital drive technology. By fusing control and drive engineering systems, STÖBER can offer great potential for optimization.

① MC6 motion controller

The MC6 motion controller uses the CODESYS programming software to keep up with the trend towards open systems in the world of automation.

② SD6 drive controller

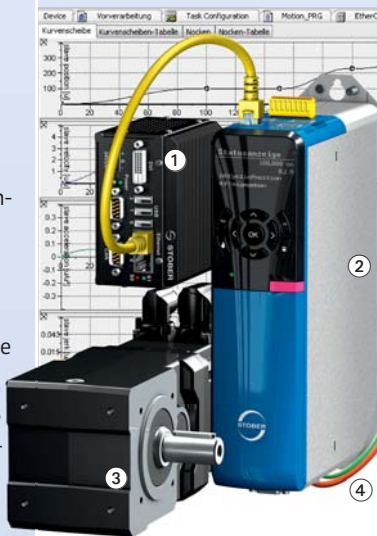
With its 32-bit Dual-Core processor, the SD6 drive controller is equipped for every requirement. For motion control solutions in combination with the MC6 motion controller, the SD6 drive controller is operated in Controller Based Mode (CBM).

③ SMS KL helical bevel geared motor

This super compact, weight-saving new design fits ideally in the digital servo axis concept for the highest efficiency in continuous industrial operation.

④ Connection cable

STÖBER provides a specially pre-assembled power and encoder cable for quick, correct assembly.



Service

The STÖBER service system comprises 38 expert partners in Germany and more than 80 companies in the STÖBER SERVICE NETWORK worldwide.

This service concept guarantees local expertise and availability when needed.

The concept is supplemented by the remote maintenance concept for the servo inverters in the POSIDYN® SDS 5000 series.

In general, the service specialists in the Pforzheim factory can be reached at any time via a 24/7 service hotline.

When necessary, a problem can be addressed immediately.

24/7 service hotline

+49 180 5 786323

STÖBER ANTRIEBSTECHNIK GmbH + Co. KG

Kieselbronner Str. 12
75177 PFORZHEIM
GERMANY
Phone +49 7231 582-0
Fax +49 7231 582-1000
mail@stoeber.de
www.stoeber.de

STOBER DRIVES LTD.
CANNOCK WS12 2HA
UNITED KINGDOM
mail@stober.co.uk

STOBER DRIVES, INC.
MAYSVILLE, KY 41056
USA
sales@stober.com

STÖBER ANTRIEBSTECHNIK GmbH
4663 LAAKIRCHEN
AUSTRIA
office@stoeber.at

STOBER CHINA
BEIJING 100004
CHINA
info@stoeber.cn

STOBER S.a.r.l.
69300 CALUIRE ET CUIRE
FRANCE
mail@stober.fr

STÖBER TRASMISSIONI S.r.l.
20017 RHO (MI)
ITALY
info@stoeber.it

STOBER Japan K. K.
TOKYO
JAPAN
mail@stober.co.jp

STOBER Singapore Pte. Ltd.
SINGAPORE 787494
SINGAPORE
info@stober.sg

STÖBER Schweiz AG
5453 REMETSCHWIL
SWITZERLAND
info@stoeber.ch



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