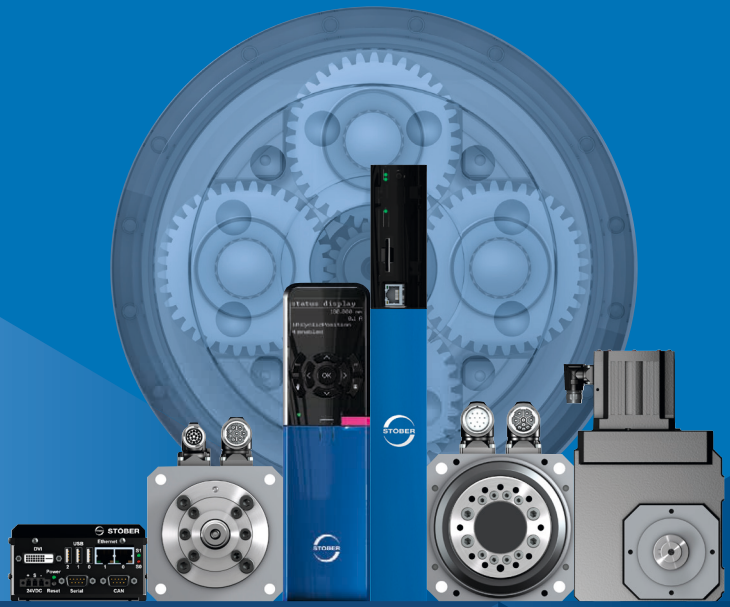


# System Technology for Drive and Automation

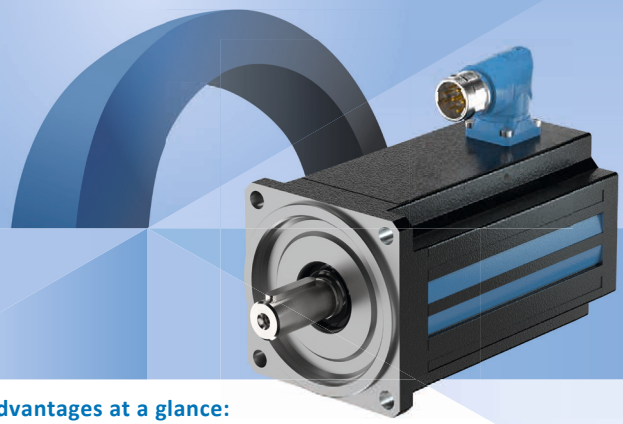
**The most important components and their possible combinations**

STÖBER

## BRIDGE THE GAP
## LeanMotor: The New Motor Class

### The Bridge to Greater Efficiency

Is an asynchronous motor too big and not efficient enough for you? Or are you looking for an inexpensive and rugged alternative to a synchronous servo motor? Based on the “bridge the gap” principle, STÖBER has brought a new motor class to market. The consistently encoderless LeanMotors are strong and rugged like asynchronous drives and precise and compact like synchronous servo motors. The motors can be used in tasks such as for automation in harsh production environments.



### Your advantages at a glance:

- Up to 96 % efficiency: IE5
- Small space requirement for compact machines
- Dynamic and efficient control
- Long service life
- Low energy consumption
- Up to 30 % more cost-efficient than a comparable synchronous servo motor
- Significantly more rugged
- Withstands high vibrations and oscillations
- Sensorless (no electronics in the motor)
- Requires only a standard power cable

### Position determination without an encoder

The compact stand-alone SC6 drive controller allows for sensorless control of the motor. It determines the position and the speed – regardless of the speed.

± 1% speed accuracy

± 1 ° positioning accuracy

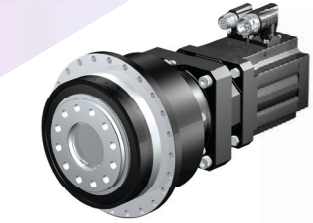
# Excellent Drive Technology for Automation, Systems and Machines

**STOBER offers a wide range of product variants with a focus on the details to allow a perfect configuration for any actuator system. And that means no compromises! Excellent technical solutions without unnecessary costs.**

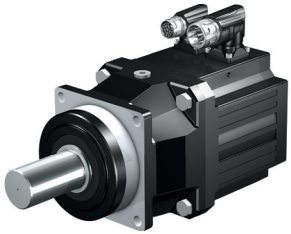

## STOBER Controller

**MC6 Motion Controller**
Scalable computing power in the system.
It is possible to execute everything from simple synchronous applications to a multi-axis CNC machine.
With CODESYS SoftMotion or CODESYS SoftMotion CNC.

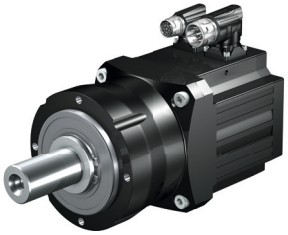
## Synchronous Servo Geared Motors



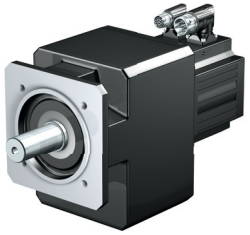
**PH/PHQ(A) Planetary Geared Motor**
PH/PHQ acceleration torque: 24 – 26000 Nm
PHA/PHQA acceleration torque: 24 – 10000 Nm
PH/PHQ backlash: 3 – 4 arcmin
PHA/PHQA backlash: 1 – 2 arcmin
**The ultimate – quattro - servodrive**



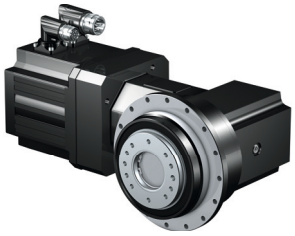
**P/PA Planetary Geared Motor**
P acceleration torque: 11 – 3000 Nm
PA acceleration torque: 15 – 1600 Nm
P backlash: ≤ 3 – 8 arcmin
PA backlash: ≤ 1 – 3 arcmin
**Precision for positioning and constant speed**



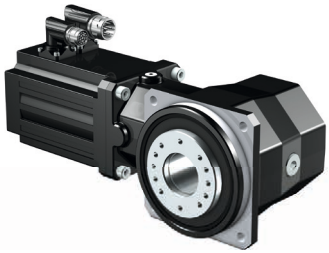
**PE Planetary Geared Motor**
Acceleration torque: 11 – 310 Nm
Backlash: ≤ 8 – 10 arcmin
**Standard helical geared motor**



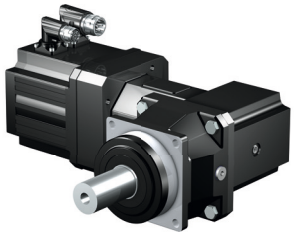
**C Helical Geared Motor**
Acceleration torque: 8.3 – 6500 Nm
Backlash: ≤ 10 – 20 arcmin
**Compact helical geared motor**



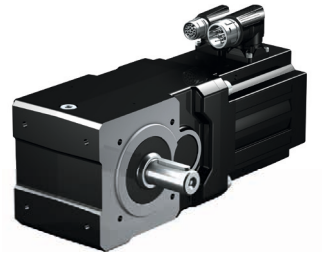
**PH(Q)K/PHKX**
**Right-Angle Planetary Geared Motor**
PHK acceleration torque: 89 – 7500 Nm
PHQK acceleration torque: 123 – 43000 Nm
PHKX acceleration torque: 26 – 7500 Nm
PHK backlash: ≤ 3.5 – 4.5 arcmin
PHQK backlash: ≤ 3.5 – 4 arcmin
PHKX backlash: ≤ 3 – 6 arcmin
**Huge potential with low backlash**



**KS Right-Angle Servo Geared Motor**
Acceleration torque: 27 – 400 Nm
Backlash: ≤ 4 – 6 arcmin
**The drive typefor high demands**



**PK/PKX Right-Angle Planetary Geared Motor**
PK acceleration torque: 68 – 2700 Nm
PKX acceleration torque: 11 – 3000 Nm
PK backlash: ≤ 3.5 – 5 arcmin
PKX backlash: ≤ 4 – 8.5 arcmin



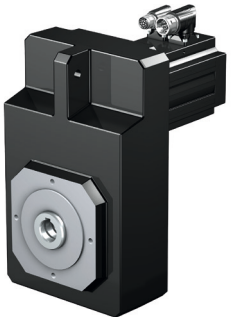
**KL Helical Bevel Geared Motor**
Acceleration torque: 11 – 65 Nm
Backlash: ≤ 16 – 25 arcmin
**Super compact drive solution for small servo drives**

# STOBER
# Power Electronics

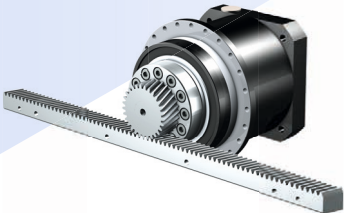
**SD6 Drive Controller**
Powerful stand-alone drive controller that can be custom configured. Optimized for drive-based applications in synchronous operation with up to 8 axes. Available as a single-axis controller in four sizes with a nominal output current up to 85 A.

**SI6 Drive Controller (Multi-Axis Drive System)**
Compact drive controller for drive control in a multi-axis drive system. Optimized for controller-based multi-axis applications > 4 axes. Available in four sizes (as single or double-axis controller) with a nominal output current up to 50 A.

## Rack and Pinion Drives

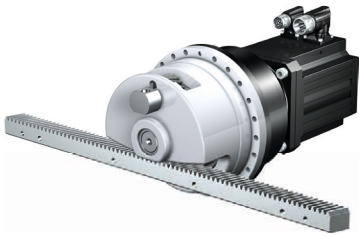


**F Offset Helical Geared Motor**
Acceleration torque: 19 – 1,100 Nm
Backlash: ≤ 5 – 11 arcmin
**Servo axis with parallel offset**



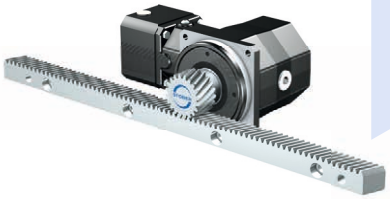
**ZTR-PH(A), PHV(A) Rack and Pinion Drive**
Module: 2 – 8
Feed force: 3.8 – 67 kN
Feed velocity: up to 4.7 m/s
**Straight and helical gearing**

**K Helical Bevel Geared Motor**
Acceleration torque: 23 – 13200 Nm
Backlash: ≤ 1.5 – 12 arcmin
**Versatile with flange, solid or hollow shaft, etc.**

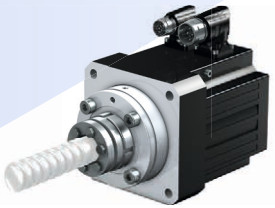


**ZTRS-PH(A) PHV(A), PHQ(A), Rack and Pinion Drive**
Module: 2 – 10, Feed force: 16 – 126 kN,
Feed velocity: up to 4.7 m/s
**Highest power density thanks to a supporting bearing holder**

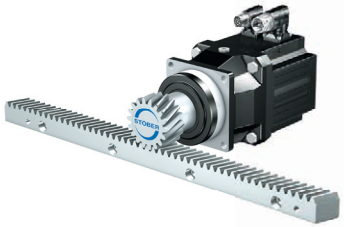
## Motors



**ZV-KS Rack and Pinion Drive**
Module: 2 – 4
Feed force: 3.2 – 12 kN
Feed velocity: 0.07 – 3 m/s
**Compact, no offset**



**EZS Synchronous Servo Motor for Screw Drives**
Direct drive of the threaded spindle motor shaft as a blind hole hollow shaft
Axial forces (convection cooling): 760 – 31271 N
**Designed for high axial forces**



**ZV-P(A) Rack and Pinion Drive**
Module: 2 - 4
Feed force: 1.7 – 16 kN,
Feed velocity: 0.14 – 4.9 m/s
**Precision for typical servo applications**

**EZM Synchronous Servo Motor for Screw Drives**
Direct drive of the threaded nut
Axial forces (convection cooling): 751 – 21375 N
**For spindle rods of any length**

**SC6 Drive Controller**
Compact stand-alone drive controller for sensorless control of STOBER LeanMotors of the LM series. Optimized for drive-based applications with 2 to 4 axes. Available in three sizes (as single or double-axis controller) with a nominal output current up to 19 A.

**POSIDYN® SDS 5000 Servo Inverter**
Servo inverter with high dynamics for fully digital servo axes. Offers an isochronic system bus (IGB) for communication between up to 32 servo inverters. Available in four sizes with a nominal output current up to 85 A and a power range up to 45 kW.

**POSIDRIVE® FDS 5000 Frequency Inverter**
The asynchronous servo axis designed for function. Optimized for asynchronous geared motors with practice-oriented functionality. Available in two sizes with a nominal output current up to 16 A and a power range up to 7.5 kW.

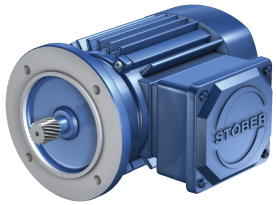

**LM LeanMotor**
Electric drive without encoder with just one standard power cable. Fanless.
Speed accuracy ± 1 %, η up to 96 %,
Positioning accuracy ± 1 °,
Stall torque: 2.48 – 29.9 Nm
**Precise and compact, robust and strong**

**EZ Synchronous Servo Motor**
Highest volume output. High torque. High dynamics.
Stall torque: 1.0 – 66.1 Nm
**Extremely compact**

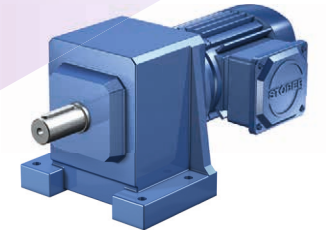
**HIPERFACE DSL One Cable Solution (OCS)**
High system accuracy with up to 20 bit resolution (single-turn encoder). Electronic nameplate for fast and reliable commissioning.
**Multi-turn encoder with 12 bit resolution**

**EZHD Synchronous Servo Motor with Hollow Shaft**
Super compact with extremely high power density.
Stall torque: 2.6 – 31.1 Nm
**Designed for high axial forces**

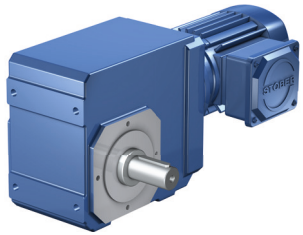
## Asynchronous Geared Motors




**IE2/IE3 Asynchronous Motor**
14 selection parameters (standard).
Motor rating: 0.75 – 45 kW
**Optional: brake, forced ventilation unit, incremental encoder or multi-turn absolute encoder**

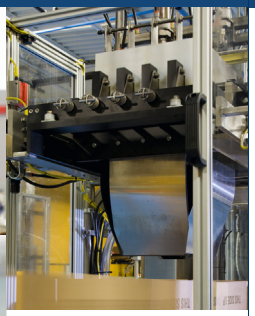



**C Helical Geared Motor**
Motor rating: 0.12 – 45 kW
Backlash: ≤ 10 – 20 arcmin
**Versatile thanks to housing variants**




**K Helical Bevel Geared Motor**
Motor rating: 0.12 – 45 kW
Backlash: ≤ 10 – 12 arcmin
**Highly rigid geared motor**

# Applications and Solutions




## Every drive solution has its own unique character.

During the design phase, it is helpful to talk to a drive professional with experience implementing similar projects. Ask for a STOBER expert that is well-versed in your industry or who already has experience with your specific situation.

- **Electronic cam disk**
- **Winding**
- **Positioning**
- **Synchronous run**
- **Conveying and moving**
- **CNC**
- **Coordinate transformation**
- **Flying shear**
- **Flying saws**
- **Rotating shear**
- **Pick and place**

## The STOBER System

STOBER has its roots in the development and construction of geared motors. For more than 30 years, we have been developing and producing suitable drive controllers for these applications. Connected through plug and play, these STOBER components form reliable drive systems.

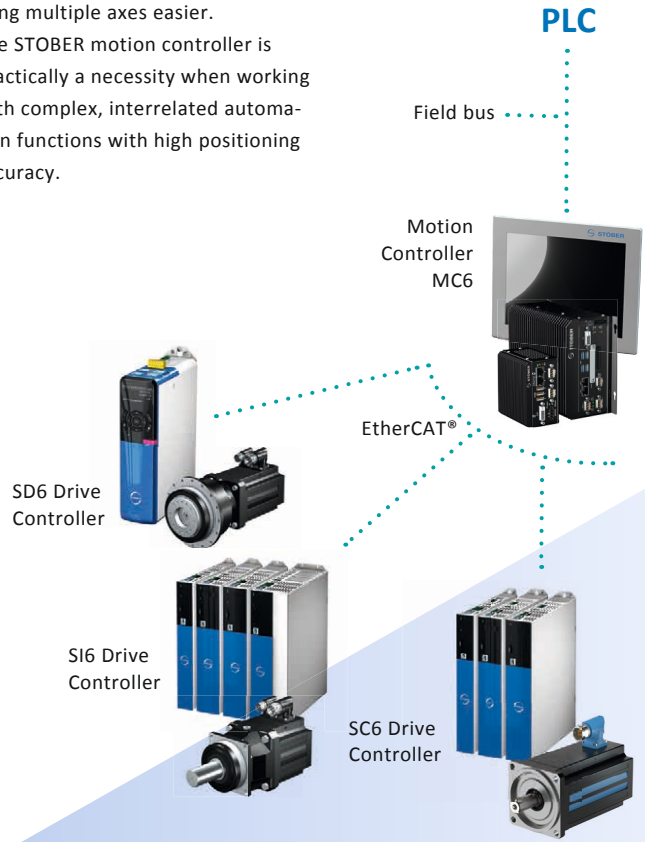
# STOBER Industrial Automation as a Complete Motion-Control Solution

## Melding drive control and drive technology

The STOBER MC6 Motion Controller enables convenient, efficient engineering in the design of drive technology. It results in lean, economical complete solutions.

## Motion Control makes some things easier and makes many things possible

All control-related drive functions are gathered into a central program sequence (embedded systems).
In many cases, this makes programming multiple axes easier.
The STOBER motion controller is practically a necessity when working with complex, interrelated automation functions with high positioning accuracy.



# You Can Trust in STOBER


Productive teamwork

Grounded

innovative power

Dynamics

Reliability

Dedication

Technical qualification

Friendly, clear communication

## STOBER in motion

STOBER has been building excellent drive technology for over 80 years. As a medium-sized, owner-operated company, STOBER understands the needs of its customers. Our customers can find certified experts in every area, whether in research and development, production, technical consultation or design support. We revel in innovation while bearing radition in mind. We continue to push ourselves forward and to refine our products further. We do this by implementing suggestions from real-world use, giving due consideration to customer requests and constantly seeking out even better solutions. This is all made possible by the competitive spirit with which we face every exciting challenge.

# www.stober.com

**STOBER Service**
The STOBER service network includes 38 trusted partners in Germany. They guide you through commissioning, available on-site in case of faults and offer expert technical advice.

**Service Hotline**
**+49 7231 582-3000**

The STOBER service specialists can be reached around the clock and if needed, they can be on-site quickly. Thanks to their experience, they are often able to guide your employees through suitable immediate measures over the phone. What's more, STOBER drive controllers allow for maintenance via remote access.

**STOBER Service Network**
The STOBER INTERNATIONAL SERVICE NETWORK offers worldwide support and service.
It includes over 80 top-performing service partners in 39 countries.

STOBER STOBER

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