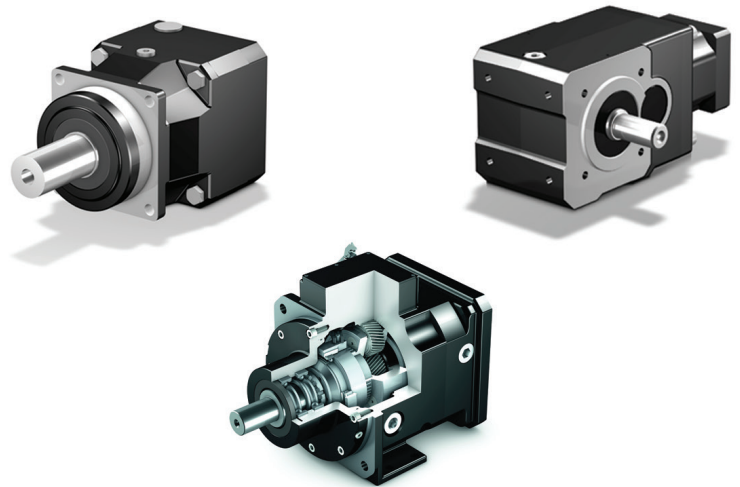


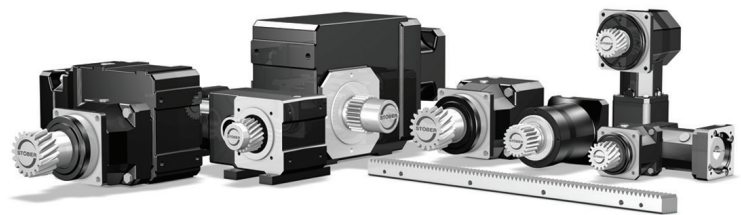


STÖBER
Geared to a higher standard™

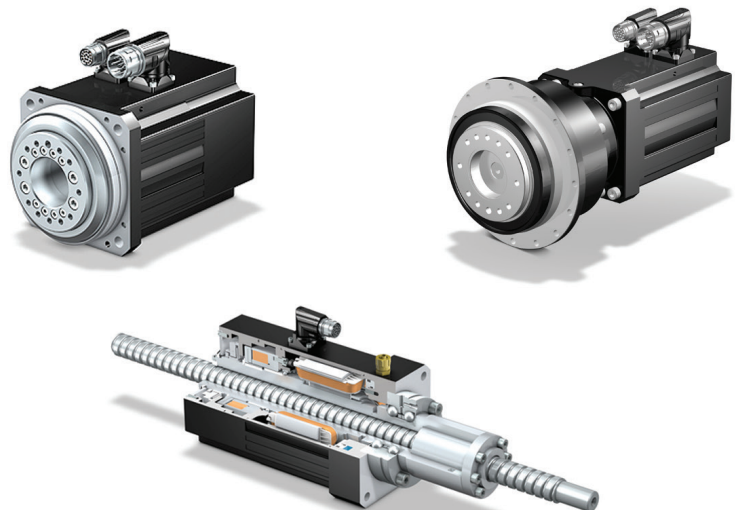
ServoFit™ / Motion Control Products



Gearhead Series



Rack and Pinion Systems



Hollow Bore and Geared Motors

STOBER Drives Inc., Maysville KY

Contact:

www.stober.com

1-800-711-3588

sales@stober.com



**Take a virtual
tour of STOBBER!**



Solutions for Your Industry

STOBER Drives has solutions for a variety of industries. From automation to food and beverage, our products can meet your requirements. Visit our website to learn more!

Packaging

- Case Packing
- Pouching
- Filling

Converting/Printing/Web

- Cutting and slitting
- Tension control
- Flexographic

Process Control

- Chokes
- Valve control
- ATEX rated

Automation

- Pick and Place
- Index tables
- Robotics



Gearboxes
and
Motors

Food and Beverage

- Mixing
- Conveying
- Processing

Aerospace

- Assembly
- Fiber placement
- Drilling and forming

Medical

- Imaging
- Radiation
- Centrifuge

Machine Tool

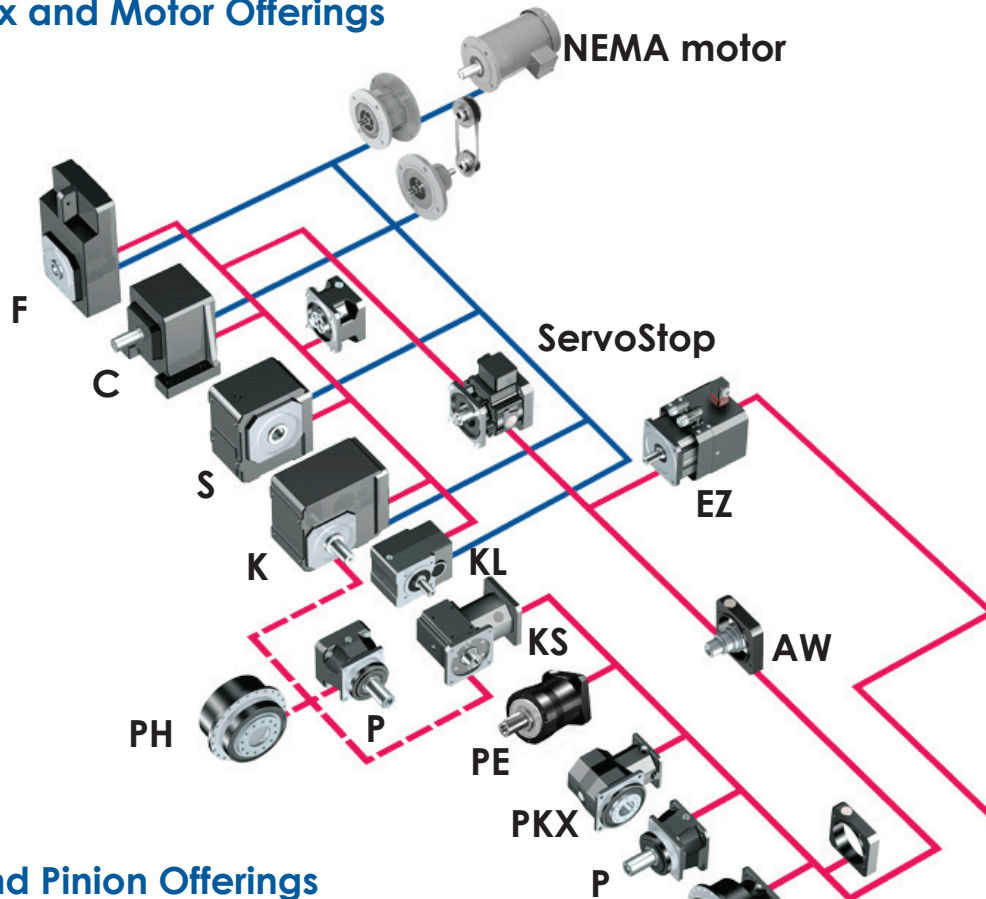
- Bending and forming
- Plasma cutting
- Gantry

And more!

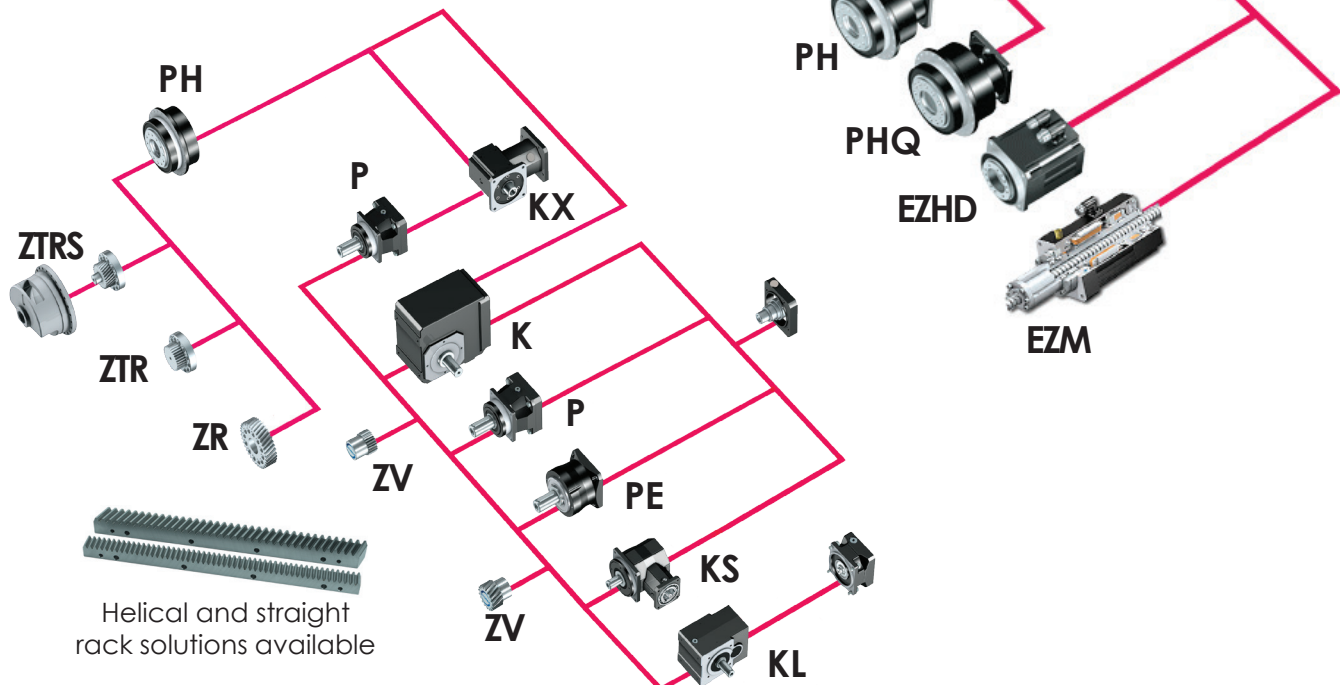
Versatility

The STÖBER offering of ServoFit™ gearheads will fit all your servo needs. The ServoFit™ Precision Planetary Gearheads are ideal for compact, highly dynamic applications. The ServoFit™ Modular System was designed for those applications where compact size of a planetary gearhead is not needed. With these two lines, **STÖBER Drives** offers the world's largest variety of servo gearheads. The versatility and interchangeability of our components allow most products to be assembled and shipped in 1 day from our Maysville, Kentucky plant.

Gearbox and Motor Offerings



Rack and Pinion Offerings



Unsurpassed Service Support and Product Offering

Our goal is to serve our clients with excellence and base every decision on our core values. Every STÖBER employee strives to deliver the gold standard of quality and service. STÖBER seeks the best in order to live up to being geared to a higher standard!

SHIPS in 1 DAY

Most sizes are available with
STANDARD 1 DAY SHIPPING.
(Does not apply to PA, PHA,
PHQA, and motors.)



SAME DAY EMERGENCY SHIPPING

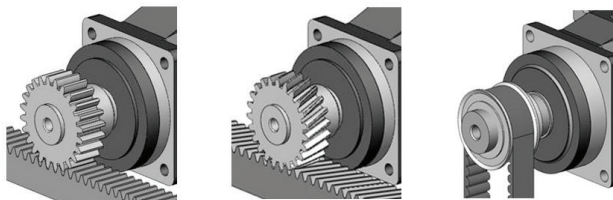
24 Hours – No expedite fee
Daytime Phone: 606 759-5090
On-Call Emergency: 606 563-6035



Colton Bentley, Sales Engineer
Employed at STÖBER since 2014



Timmy Saunders, MGS Team Leader
Employed at STÖBER since 1995

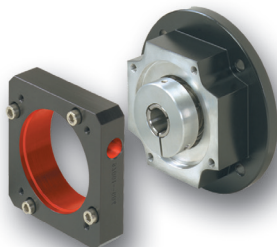


Bearing Options

- Three bearing options for your application
- Options for axial and radial loads
- Ball, double row angular, and cylindrical roller bearings available

Exceptional Performance

- Low noise level
- Cool running
- High speed capacity
- High torque capacity
- Low backlash

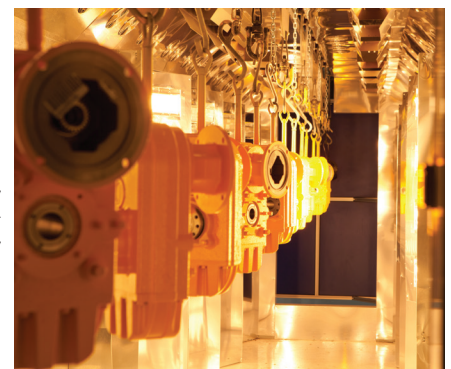


Fits Any Servo Motor

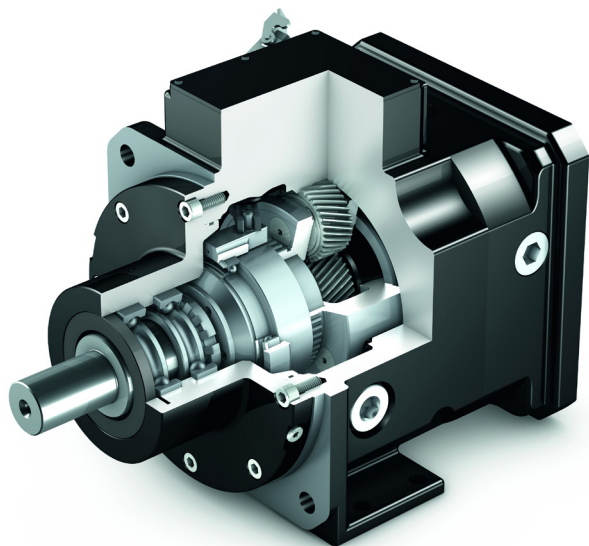
Motor plates will fit a variety of
NEMA, IEC, or custom servo motors.

Paint Curing Oven

Allows for one day
assembly and higher paint
durability

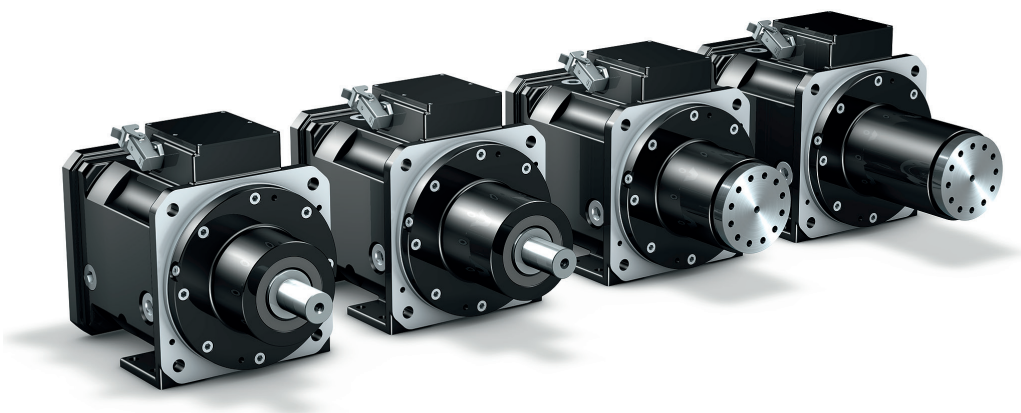


PS Two-Speed Gearbox

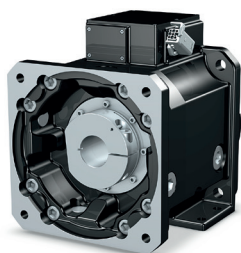


Features:

- Maximum running smoothness
- Splash lubrication, eliminating oil circulation expense
- Rapid change between high speed for cutting speed up to 6,000 RPM and high torque for high cutting forces
- Integral planet gear set,
- Optional liquid cooling to achieve speeds of 10,000 RPM
- Versatile mounting for lathes or machining centers
- Decreased installation time to just minutes
- Generate less heat with smaller seal diameter
- 1:1 ratio disengages planetary gearing instead of back driving it, so reduce inertia, create less heat, and avoid lost energy



Self-centering motor connection



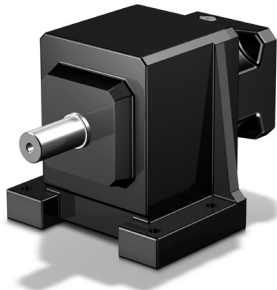
Mounting holes for easy installation



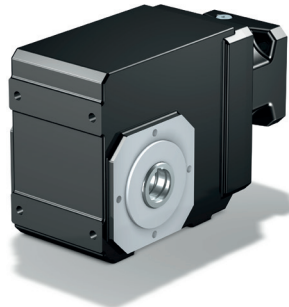
STÖBER Geared to a higher standard™

Servo Doesn't Have to Mean Planetary!

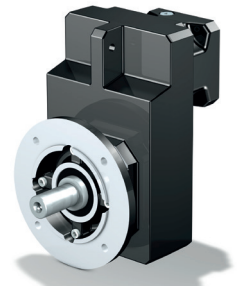
Servo motors don't necessarily need a planetary. In addition to the great planetary offering it has, STÖBER offers the ServoFit Modular System. These gear reducers use helical gearing and can handle your servo motor needs.



C – Inline



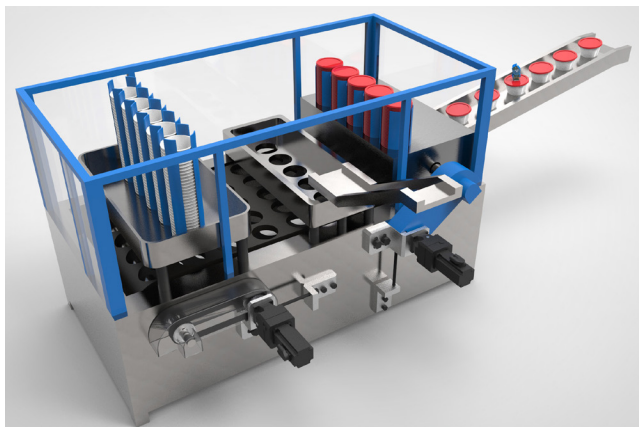
K – Right Angle



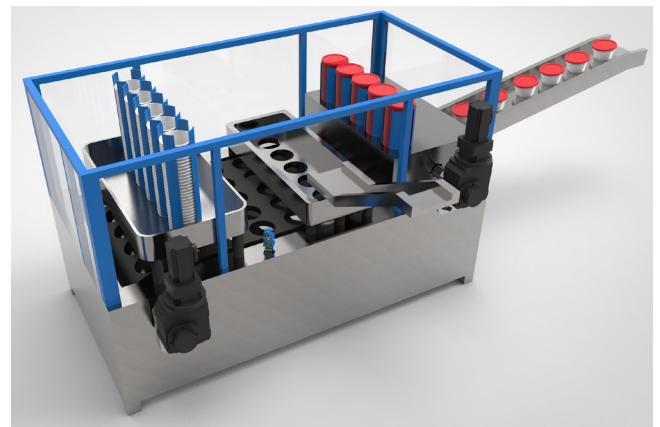
F – Offset

Features:

- **Mounting Flexibility** – a variety of output options and housing styles give you ultimate adaptability for your application needs.
- **Ratio Options** – more ratios to choose from compared to planetary offerings
- **Shorter Length** – most planetaries increase in length when you choose above a 10:1 ratio. The SMS does not get longer or cost more when you choose above 10:1 ratio.
- **Quiet** – as low as 51 db(A)



**Machine with
planetary**



**Machine with
K**

The planetary unit on the packaging machine shows the additional space it requires as well as components needed to attach the gearbox. The right angle K unit saves space and can be directly mounted to the machine. No belts and pulleys are needed, minimizing assembly and maintenance.

ServoFit® Gearheads

InLine Gearheads

C Series

- Backlash – $\leq 14 - 20$ arcmins
- Ratios – 2:1 to 276:1*
- Input RPM – up to 6,000
- Output Torque up to 6,300 Nm
- Available:
 - Inch or Metric Output
 - Washdown Food Duty



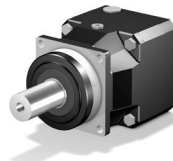
F Series

- Backlash:
 - Standard $\leq 10 - 11$ arcmins
 - Reduced $\leq 6 - 8$ arcmins
- Ratios – 4:1 to 540:1*
- Input RPM – up to 6,000
- Output Torque up to 1,100 Nm
- Available:
 - Inch or Metric Output
 - Solid, Hollow, Single and Double Bushing
 - Corrosion Resistant and Food Duty



P(A) Series

- **P** – Backlash – $\leq 3 - 8$ arcmins
- **PA** – Backlash – $\leq 1 - 3$ arcmins
- Ratios – 3:1 to 100:1
- Input RPM – up to 8,000
- **P** – Output Torque up to 2,000 Nm
- **PA** – Output Torque up to 1,000 Nm
- Available:
 - Washdown Food Duty



PH(A) Series

- **PH** – Backlash – ≤ 3 arcmins
- **PHA** – Backlash – $\leq 1 - 2$ arcmins
- Ratios – 4:1 to 121:1
- Input RPM – up to 8,000
- Output Torque up to 5,000 Nm



PHQ(A) Series

- **PHQ** – Backlash – ≤ 3 arcmins
- **PHQA** – Backlash – $\leq 1 - 1.5$ arcmins
- Ratios – 18:1 to 600:1
- Input RPM – up to 7,000
- **PHQ** – Output Torque up to 13,000 Nm
- **PHQA** – Output Torque up to 6,500 Nm



PE Series

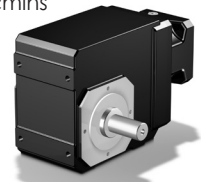
- Backlash – $\leq 10 - 13$ arcmins
- Ratios – 3:1 to 100:1
- Input RPM – up to 8,000
- Output Torque up to 160 Nm



Hollow and Right Angle Gearheads

K / KL Series

- **K** – Standard Backlash – $\leq 10 - 12$ arcmins
Reduced – $\leq 4 - 6$ arc/mins
- **KL** – Standard Backlash – $\leq 20 - 25$ arcmins
- **K** – Ratios – 4:1 to 381:1*
- **KL** – Ratios – 4:1 to 32:1
- Input RPM – up to 6,000
- **K** – Output Torque up to 12,000 Nm
- **KL** – Output Torque up to 50 Nm
- Available:
 - Inch or Metric Output
 - Solid, Hollow, Single, and Double Bushing
 - Corrosion Resistant and Food Duty



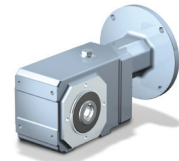
KS Series

- Backlash – $\leq 4 - 6$ arcmins
- Ratios – 6:1 to 200:1
- Input RPM – up to 6,000
- Output Torque up to 250 Nm



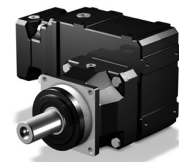
KSS Series

- Backlash – $\leq 10 - 12$ arcmins
- Ratios – 4:1 to 272:1
- Input RPM – up to 6,000
- Output Torque up to 350 Nm
- Available:
 - Inch or Metric Output
 - Solid, Hollow, Single and Double Bushing



PK Series

- Backlash – $\leq 3.5 - 5$ arcmins
- Ratios – 12:1 to 561:1
- Input RPM – up to 6,000
- Output Torque up to 2,000 Nm
- Available:
 - Washdown Food Duty



PHK Series

- Backlash – $\leq 3.5 - 4.5$ arcmins
- Ratios – 16:1 to 561:1
- Input RPM – up to 6,000
- Output Torque up to 5,000 Nm



PHQK Series

- Backlash: $\leq 3.5 - 4$ arcmins
- Ratios – 22:1 to 591:1*
- Input RPM – up to 6,000
- Output Torque up to 13,000 Nm



PKX Series

- Backlash – $\leq 4 - 8.5$ arcmins
- Ratios – 3:1 to 300:1
- Input RPM – up to 6,000
- Output Torque up to 2,000 Nm
- Available:
 - Washdown Food Duty



PHKX Series

- Backlash – $\leq 3.5 - 6$ arcmins
- Ratios – 4:1 to 300:1
- Input RPM – up to 6,000
- Output Torque up to 5,000 Nm



* Ratios standard in one housing. Higher ratios available in compound units.



STÖBER Geared to a higher standard™

Corrosion Resistant and Food Duty

- Lubricated for Life – Double Output Seals (where possible)
- Maintenance Free – No Breather
- Stainless Output Bushing, Shaft, or Bore
- **5 Year Warranty**
- Multilayer Industrial 316 Stainless Steel Epoxy Coating
- Heat cured



"KSS" Series Stainless Steel Helical Bevel



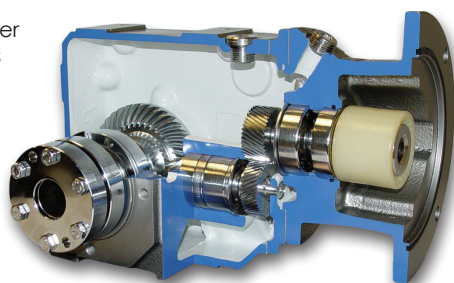
"F" Series Offset Helical

"C" Series Concentric Helical

"P," "PK," and "PKX" Series Planetary

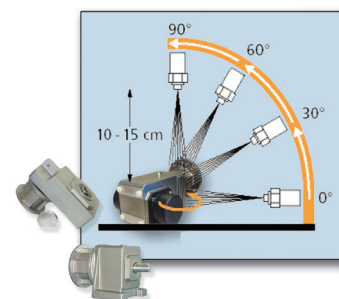
"K" Series Right Angle Helical/Bevel

Outside Closed Cover Cap – protects seals from high pressure washing
Inside Split Cover Cap – enables easy assembly onto the shaft



O-ring on input – create tight seal between motor and gearbox

IP69K



Sprayed at 100 bars or 1,450 PSI

Silver Bullet AM™ is a registered trademark of Burke Industrial Coatings.

Explosion Proof

ATEX certified motors are often used to replace hydraulic actuators when speed, accuracy, and maintenance are considerations.

ATEX is a directive consisting of two European directives describing equipment or work allowed in an environment with an explosive atmosphere. ATEX derives its name from the **AT**mospheres **EX**plosible.

The following STÖBER gearboxes are ATEX rated:



C-Series



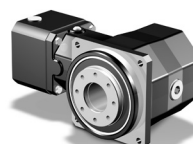
F-Series



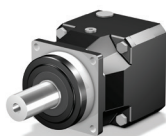
K-Series



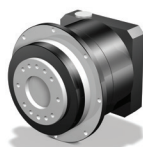
KS-Series



P(A)-Series



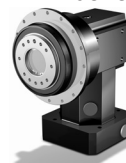
PH(A)-Series



PKX-Series



PHKX-Series



PHQ(A)(V)-Series

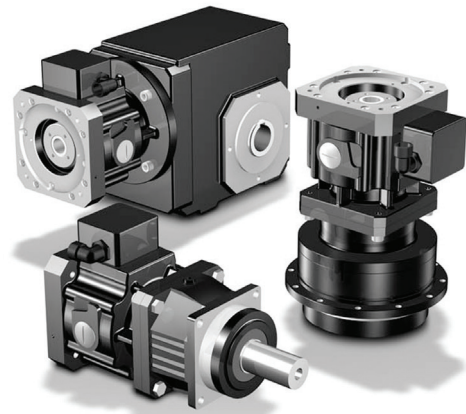
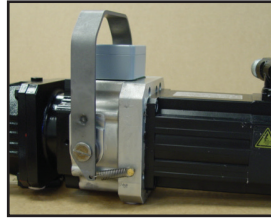


Please consult our product support team for assistance selecting an ATEX gearbox.

ServoStop – Motor Adapter with Integrated Brake

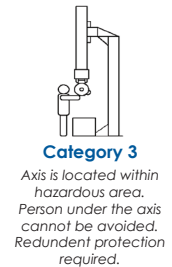
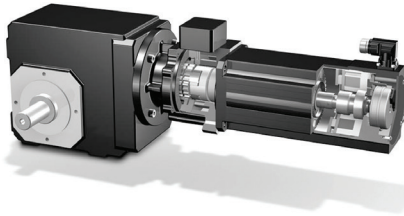
Features:

- Meets EN ISO 13849 safety standard
- Allows for redundant braking on the servo motor and gearbox
- Prevents accidental sliding or falling of vertical axis with gravity load absolutely reliable
- Plug-in coupling allows easy dismounting of servo motor in every position even with brake engaged
- Available with electrical or manual wear control for added safety
- Fits all standard servo motors
- Manual hand release available



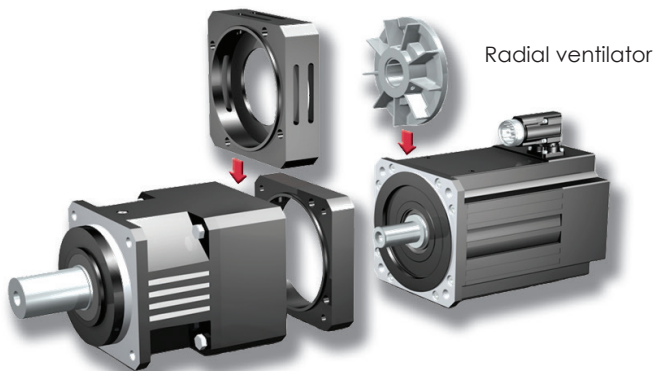
Available with P, PA, PH, PHA, PK, PHK, and C, F, and K

Motor adapter integrated brake module provides redundant braking during power failures or emergency stops in hazardous situations.

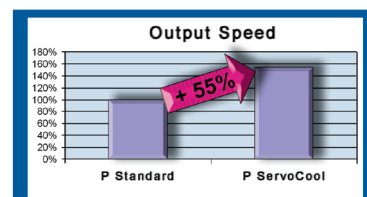
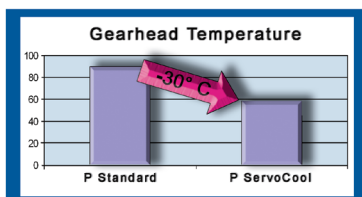


ServoCool® Gearheads

The compact design of planetary gearhead allows very little area for heat dissipation. The ServoCool planetary gearhead is made possible by adding a ventilation module to the existing ServoFit Precision Planetary Gearhead. These units are currently available in P and PH Series.

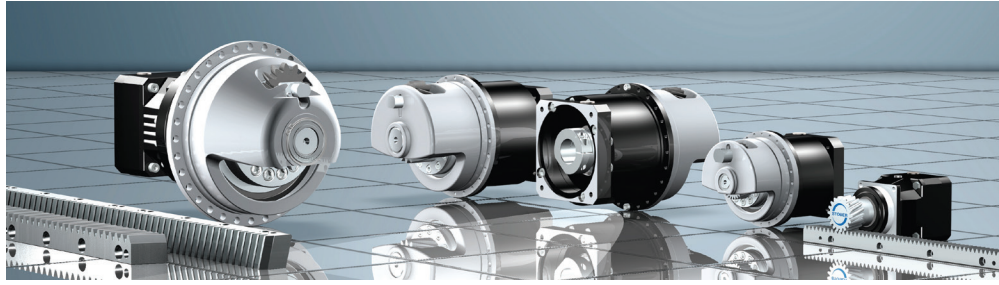


- Forced air ventilation improves performance
- Modular design "fits" existing units
- Lower temperature means longer life
- Increased motor performance
- No additional wiring
- More compact than external motor fan



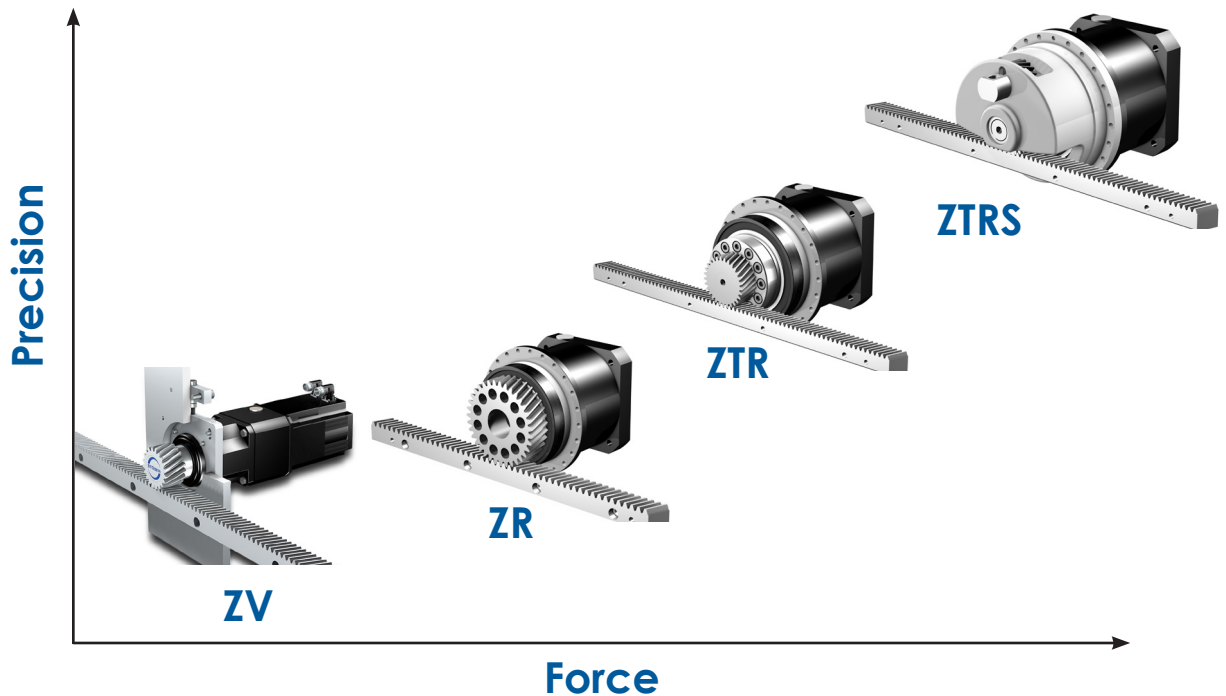
STÖBER Geared to a higher standard™

In Partnership with **ATLANTA**

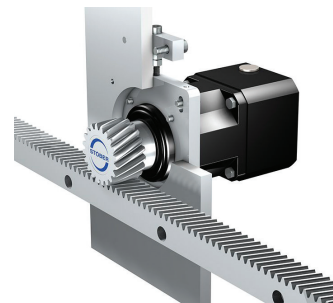


Features:

- Gear unit and rack optimally mated together as a system
- Ready to install drive solutions
- Easy selection and calculations done by STÖBER for a total engineered solution
- Optimize inertia mismatch by changing the gear ratio or pinion tooth count
- Forces up to 122 kN or 27,400 lbs.
- Precision linear backlash as low as 7 μm
- Gearing size ranges from Mod. 2 – 10



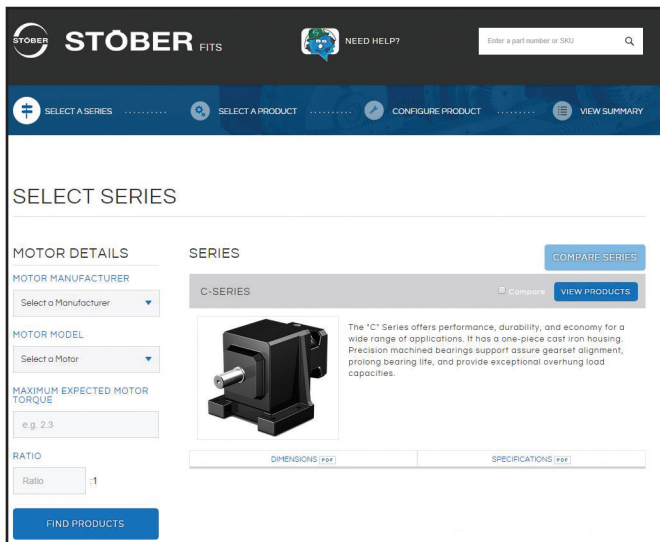
The lubrication system is ready for immediate use. No tool is required to activate it and no external power supply is required. It is IP68 Certified.



The adjustment plate allows for easy installation and tooth engagement of the rack.

Application Support

Application support is available in a variety of ways. Try our online configurator, STÖBER FITS, to learn about STÖBER products and find a solution that will fit your requirements. Need to talk to someone? Our consultative product support team is available to find a product to fit your application. After you know your STÖBER solution, download drawings from our CAD site.



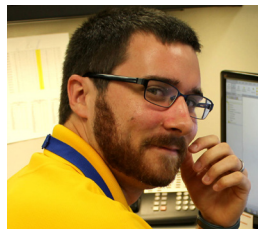
STÖBER FITS

- Choose your servo motor and find a gearbox to match your needs
- Browse and filter to learn about STÖBER products
- Build your complete solution, including mounting position, output option, and more
- Request a quote
- Get started today at fits.stober.com
- ServoSoft Application Sizing Software is available for more precise sizings
- STÖBER is also featured in Rockwell's Motion Analyzer.

Brian Sharp, Product Management
Employed at STÖBER since 2003



Trevi Jefferson, Product Support Technician
Employed at STÖBER since 2013

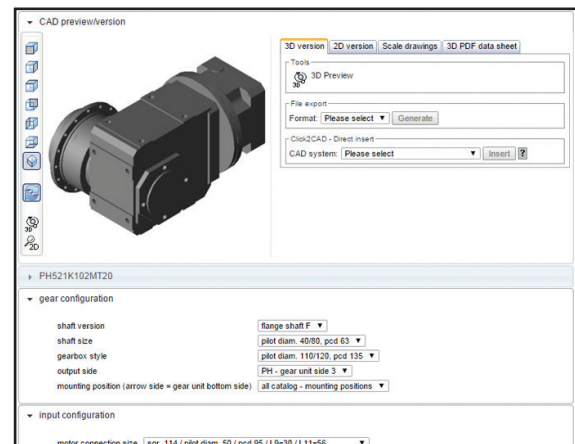


Consultative Product Support

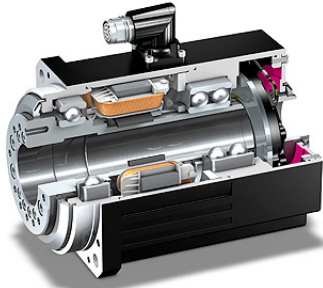
- 24 Hour Service Hotline: 606 563-6035
- Over 80 years gearing experience
- 30 years motor and electronic experience

Application Drawings

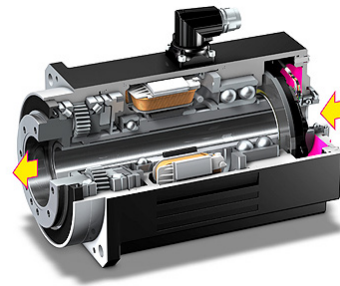
- Drawings available in variety of formats
- eDrawings, 2D, 3D, and more
- Visit cad.stober.com



STOBER Hollow Bore Servo Motors



EZHD – Direct Drive

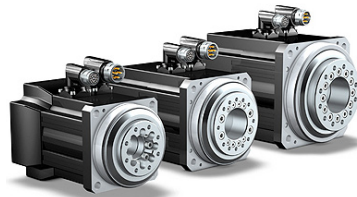


EZHP – Integrated Planetary Gear

Features:

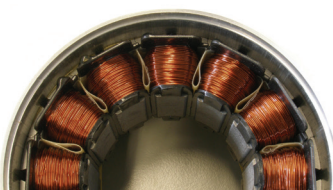
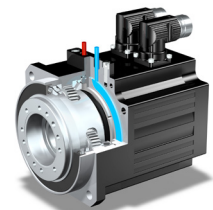
- **Compact** – motor mounts directly to the gearbox, eliminating a motor coupling, coupling housing, adapter, or additional input seals and bearings.
- **Dynamic** – direct mounting reduces inertia up to 75%
- **Hollow Bore** – allow for media (power cables, pipes, hoses, etc.) to pass through the motor
- **Flange Output** – easy mounting and stable output bearing
- **Powerful Torque and High Stiffness** – handle applications where the motor is also moving

| Model | Bore (mm) |
|----------|-----------|
| EZHD0411 | 28.4 |
| EZHD0412 | 28.4 |
| EZHD0414 | 28.4 |
| EZHD0511 | 40.5 |
| EZHD0512 | 40.5 |
| EZHD0513 | 40.5 |
| EZHD0515 | 40.5 |
| EZHD0711 | 45.5 |
| EZHD0712 | 45.5 |
| EZHD0713 | 45.5 |
| EZHD0715 | 45.5 |



Options:

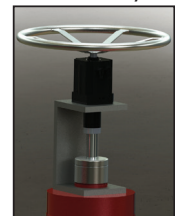
- **Magnetic Brake**
- **Water or Forced Air Cooling:** for higher rated power (approximately 35% torque increase) or at high ambient temperature.
- **Manual handwheel** – allows for manual low power adjustments and improve safety.



Orthocyclically Wound Motor Coil

Using orthocyclic linear winding technology makes it possible to manufacture the stator windings with the highest possible copper fill factor.

This increases the motor power output by approximately 80%. This allows the motor length to be shortened without reducing the power output.



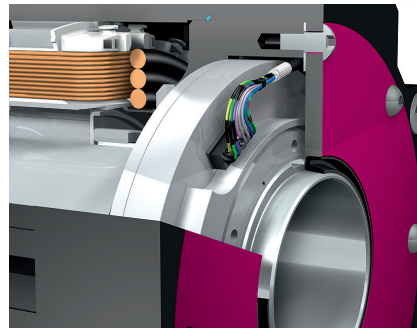
Third Party Compatibility and Coupling Options



3rd Party Drives Compatibility

STÖBER motors come with rotating plug connectors with quick lock. They work with a variety of 3rd party drives, including:

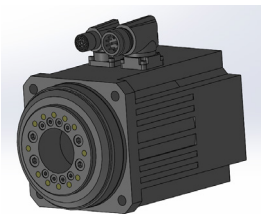
- B&R
- Bosch
- Control Techniques
- Kollmorgen
- Rockwell Automation
- Siemens
- Many more



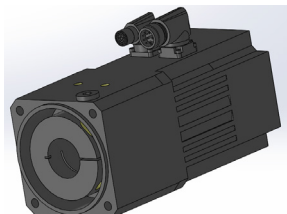
View of the EZHD flange mount hollow bore motor with EnDat® absolute encoder digital feedback system

Coupling Options

A variety of coupling options are available with the EZ motor family. The flange coupling is the standard option.

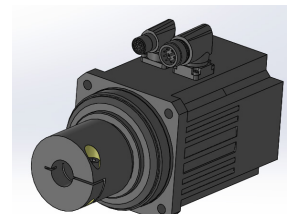


Flange coupling
standard option.



Clamp ring coupling
with housing to protect coupling.

Option: water cooling for additional torque at higher ambient temperatures .

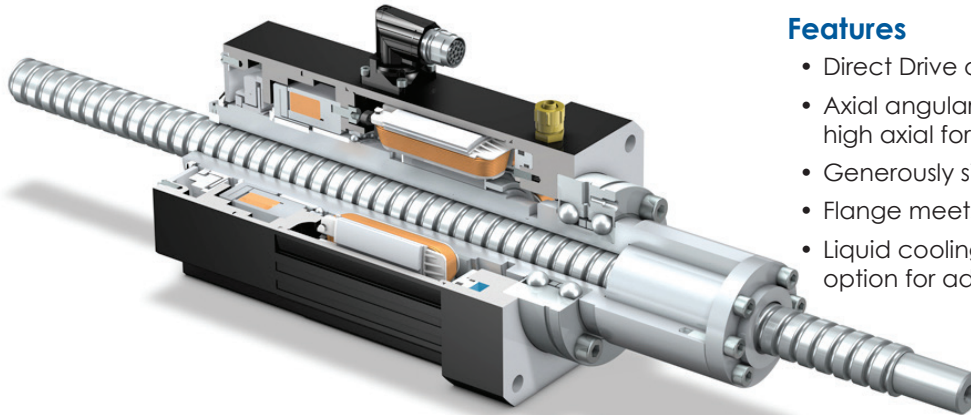
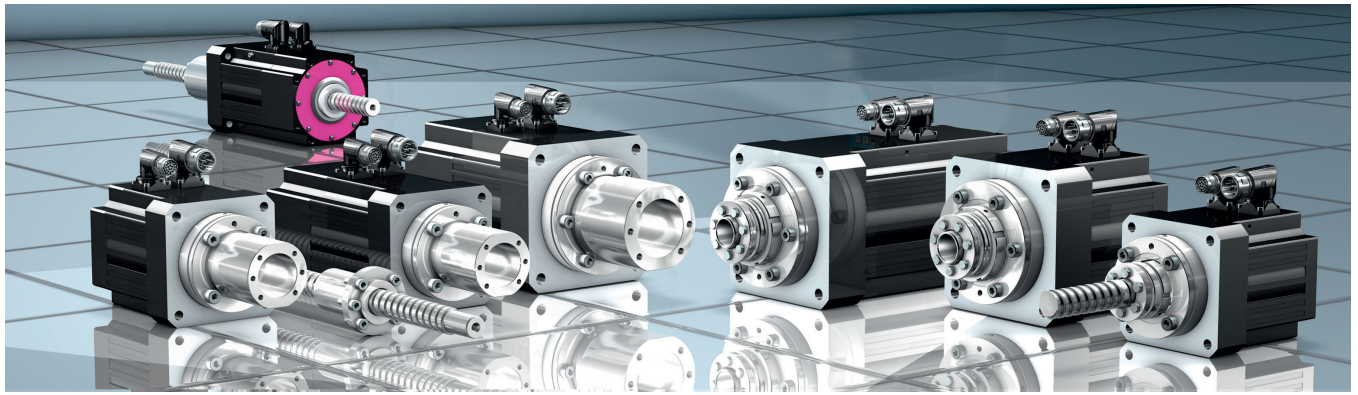


Clamp ring coupling without housing
for more play in angular alignment and easier mounting.



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EZM – For Direct Drive of a Spindle Nut



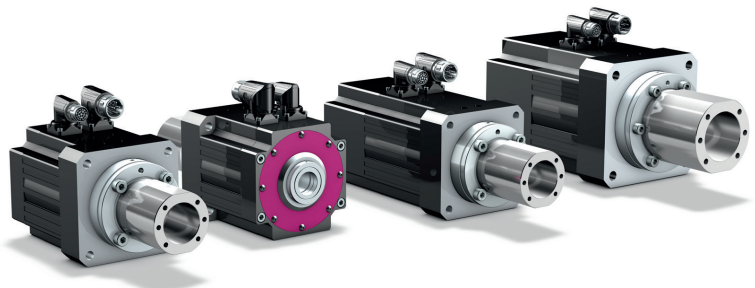
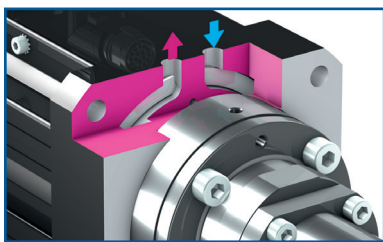
Features

- Direct Drive of a spindle nut
- Axial angular contact ball bearing absorbs high axial forces from the ball screw
- Generously sized flanged hollow shaft
- Flange meets DIN 69051-5 requirements
- Liquid cooling channel available as an option for added performance

STOBER EZM ball screw motor with liquid cooling,
Brake and EnDat® single turn absolute encoder feedback system

Flanged hollow shafts for different nut designs on request.

Cross-section: Liquid cooling channel



From left:
STOBER ball screw motors EZM5 front view, EZM5 rear view, EZM5 with brake, EZM7 with brake.

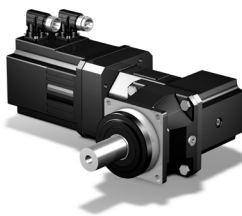
EZM Ball Screw Motors

| Model | Spindle Pitch | | EZM511 | EZM512 | EZM513 | EZM711 | EZM712 | EZM713 |
|--|----------------|--------------------------|--------|--------|--------|--------|--------|--------|
| | Pitch (mm/rev) | Feed Rate (v (m/s) max.) | | | | | | |
| Mountable Ball Screw Drive | | | 25 | | | 32 | | |
| Center Hole Dia./Bolt Circle | | | 40/51 | | | 56/71 | | |
| Standstill Feed Force F _{v0} (N) Max. Feed Force F _{vmax} = 2 * F _{v0} | 10 | 0.5 | 2,432 | 4,269 | 6,051 | 4,326 | 7,634 | 11,140 |
| | 20 | 1.0 | 1,216 | 2,135 | 3,025 | 2,163 | 3,817 | 5,570 |
| | 25 | 1.25 | 973 | 1,708 | 2,420 | 1,730 | 3,054 | 4,456 |
| | 32 | 1.6 | 760 | 1,334 | 1,891 | 1,352 | 2,386 | 3,481 |

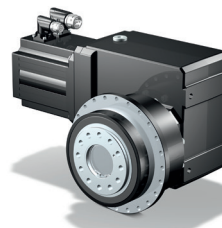
Right Angle – EZ Geared Motor



PK

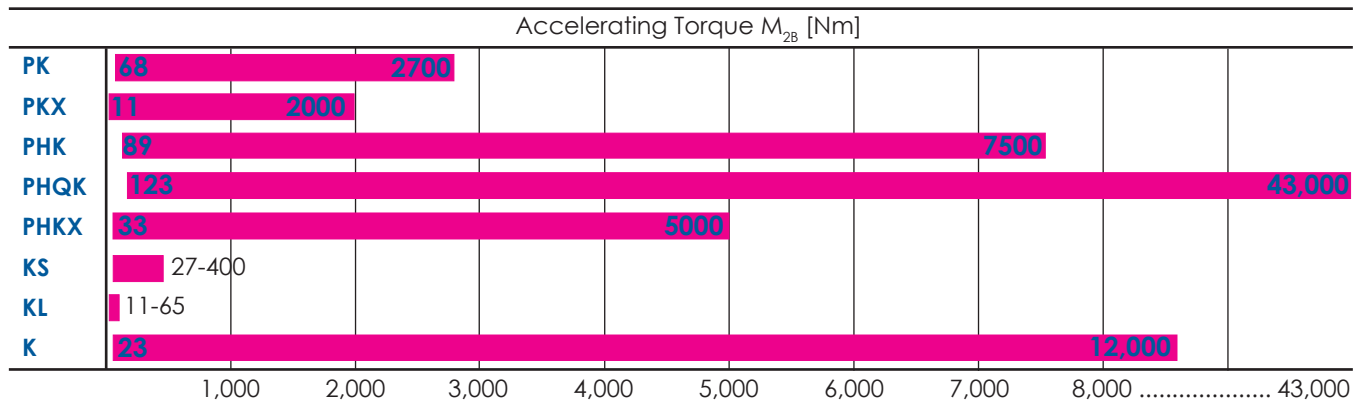
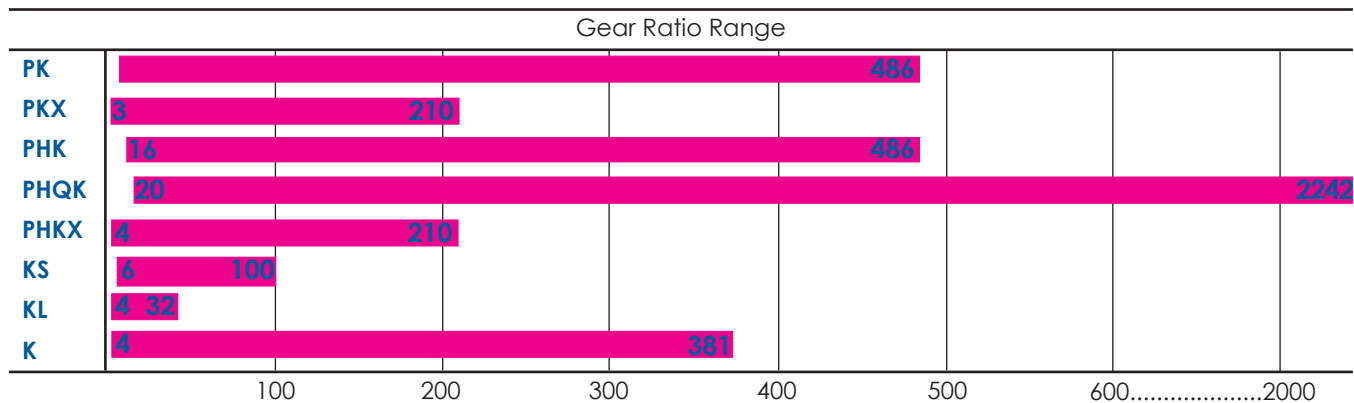


PKX

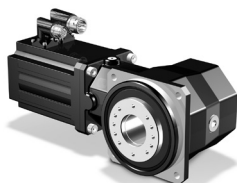


PHK/PHQK

Performance Data



PHKX



KS



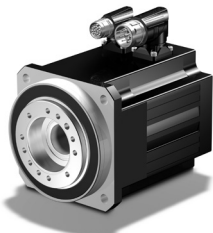
KL



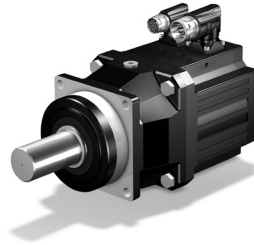
K



Inline – EZ Geared Motor



EZHP/EZHD

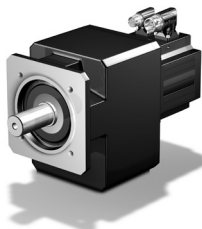
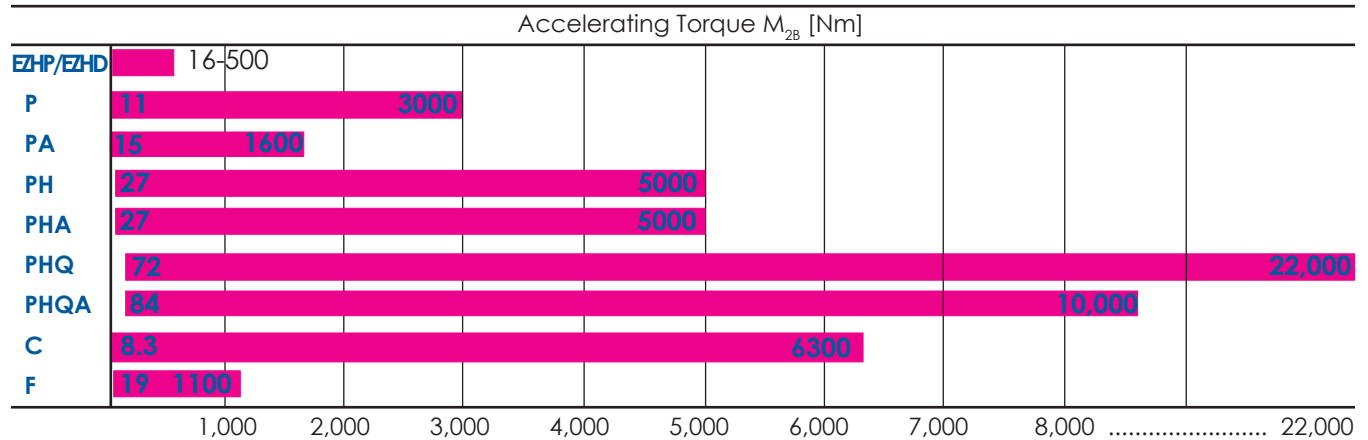
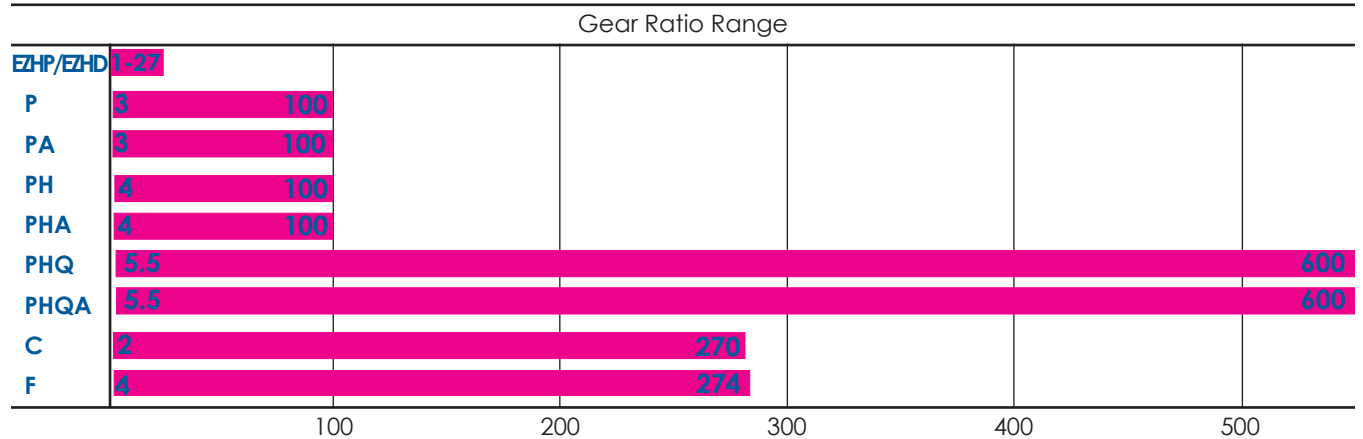


P/PA



**PH/PHA
PHQ/PHQA**

Performance Data



C



F

*Not direct mounted.

NEMA Compatible Products

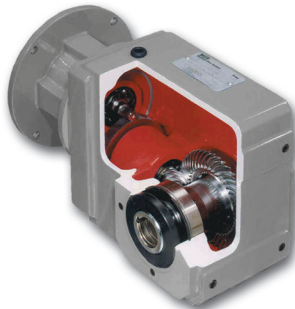
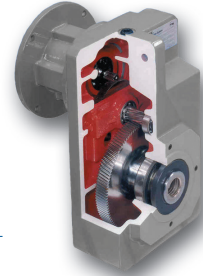


Series "C" Concentric/Helical Speed Reducers

- 1/6 to 165 HP
- Output torques to 62,000 in. lbs.
- Output speeds from 875 to 6.3 RPM
- Ratios from 2:1 to 276:1
- Foot or flange mounting

Series "F" Offset/Helical Speed Reducers

- 1/6 to 33 HP
- Output torques to 9,743 in. lbs.
- Output speeds from 406 to 3 RPM
- Ratios from 4.3:1 to 552:1
- Output flange
- Solid, hollow, and wobble free bushing output

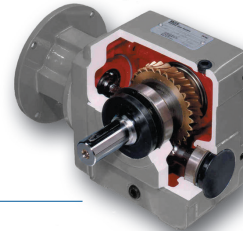


Series "K" – Right Angle Helical/Bevel Speed Reducers

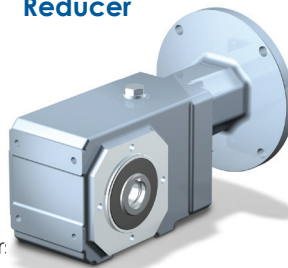
- 1/6 to 165 HP
- Output torques to 106,296 in. lbs.
- Output speeds from 437 to 4.5 RPM
- Ratios from 4:1 to 381:1
- Foot mount and output flange
- Solid (single or double), hollow, and wobble free bushing (single or double side) output

Series "S" – Right Angle Helical/Worm Speed Reducers

- 1/6 to 8 HP
- Output torques to 7,086 in. lbs.
- Output speeds from 318 to 2.5 RPM
- Ratios from 9.2:1 to 683:1
- Foot mount and output flange
- Solid (single or double) and hollow output



"KSS" Stainless Steel Reducer



Additional Product Offering

- ComTrac® Adjustable Speed Drives
- Food and Corrosion Resistant Duty Speed Reducers
- Stainless Steel Right Angle Helical Bevel Reducers

5 YEAR WARRANTY



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A graphic of several interlocking gears of different sizes, rendered in white outlines on a blue background with a fine grid pattern.

Geared to
a higher standard™



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