

Design features

Carry screws are made using the highly economical cold-rolling process, offering – at a significant price advantage – precision that has so far only been achieved with ground screws.

Carry screws are combined with individual steel nuts which are produced in a unique, highly efficient process.

Carry ballscrews offer all the advantages that are characteristic of ballscrews, such as:

- high efficiency ($\eta > 0,9$), i.e. low drive power, low self-heating
- high load ratings
- low-friction, stick-slip-free operation
- minimum wear, i.e. with consistent positioning precision, very good repeat accuracy is achieved
- high reliability and long service life

Load ratings C_{dyn} and C_{stat}

The dynamic and static load ratings of Eichenberger ballscrews are determined on commonly used and recognised DIN calculation bases.

According to our experience, higher values are usually achieved during practical applications.

Materials / Lead accuracy / Reduced backlash / Wipers

Materials

- screw and balls: steel 1.3505 (100 Cr6) or 1.1213 (Cf53)
- nut: steel 1.2714 (55NiCrMoV7)
- on request: corrosion-resistant steel 1.4034 (X46Cr13) other materials
- on request: coating for corrosion protection

Lead accuracy

- standard:
 $G9 \leq 0,1 \text{ mm/300 mm}$ (in accordance with DIN 69051)
- on request:
 $G7 \leq 0,052 \text{ mm/300 mm}$
 $G5 \leq 0,023 \text{ mm/300 mm}$

Reduced backlash

Reduced backlash up to $\leq 0.01 \text{ mm}$ is possible, if required (only for paired screw and nut units or those that have been mounted).

Operational temperatures

During normal use: -20 to $+80 \text{ }^{\circ}\text{C}$.

Different operational temperatures after consultation.

Wipers

Depending on the type, technopolymer wipers (K) or brush wipers (B) can be mounted. Felt rings (F) on request (for lifetime lubrication).



type K



type B



type F

Production / Handling / Lubrication

Production lengths

In general, Eichenberger screws are produced as threaded rods with a length of 3 m.

Any kind of end machining

Ballscrew ends are without any machining cut by grinding (standard).

Upon request, a so-called standard screw end journal with three turned bearing seats is available. Dimensions are as per customer specifications. Also see the links to the CAD data at www.gewinde.ch

Screws may also be ordered with softened ends for subsequent finishing by the customer.

Our speciality is any application-specific end machining: Tell us your requirements, and we'll provide YOUR tailor-made screw!

In each instance, a detailed drawing would be necessary.

Radial loads and torque

Radial loads or torque brought to bear upon the nut result in overload of individual contact surfaces, thus seriously affecting the service life of the ballscrew assembly. Therefore it is important to properly mount the screw and to comply with all relevant form and positional tolerances.

Handling

Ballscrews are precision parts and must be protected from shock, dirt or moisture when transported or stored. Please do not unpack until ready for use.

Please check for cleanness when mounting the ballscrew. Dirt or foreign matter on the ball race – especially inside the nut – may cause increased wear and premature failure.

Lubrication

The usual specifications for lubricating ball bearings also apply to ballscrews. However, lubrication applied only once but intended to last a lifetime is not sufficient in most cases. Regular lubrication is required to extend the service life of the ballscrew.

When shipped, screws simply have a protective film. Before mounting or operating the ballscrew, units must be lubricated with the proper lubricant (through the lube hole for nuts with wipers; directly onto the screw for nuts without wipers).

Recommended all-purpose lubricant:

- Klüber Microlube GBU Y 131

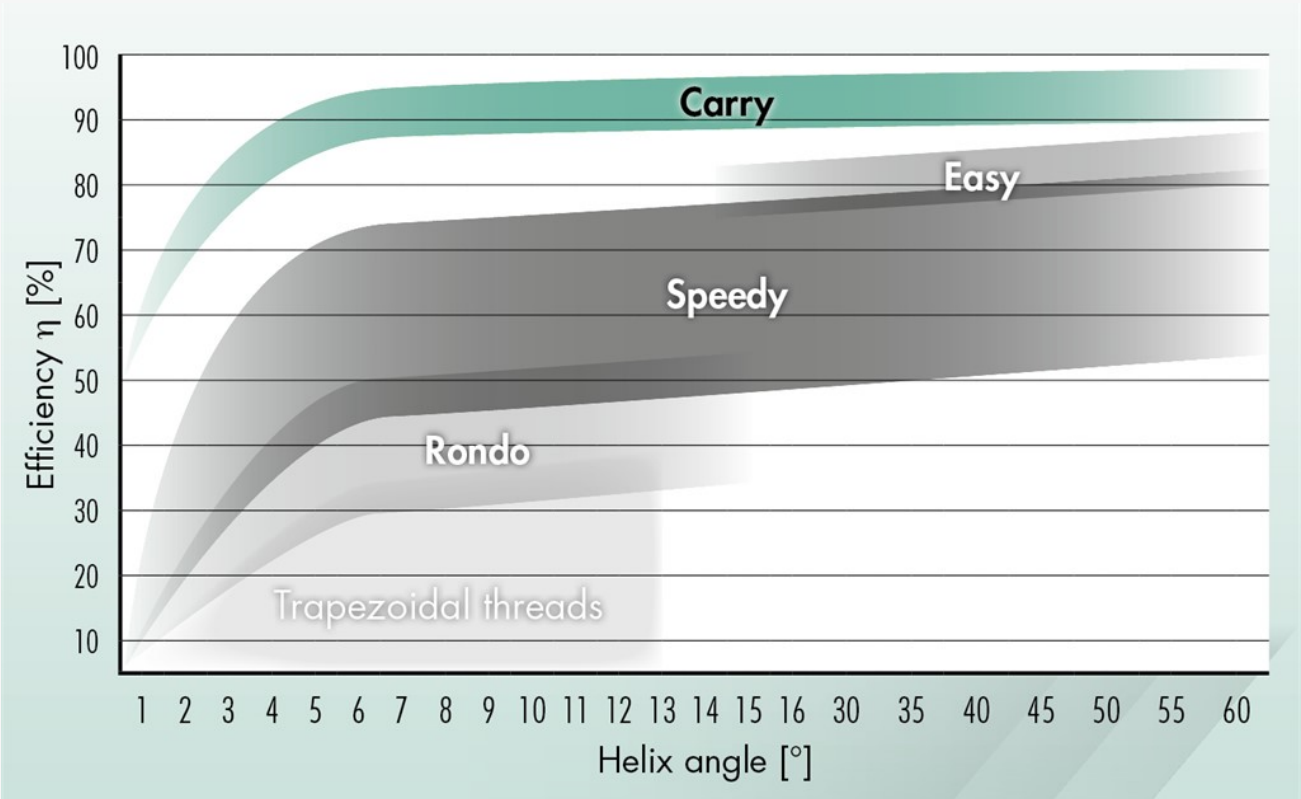
When using another lubricant, please verify compatibility with anticorrosion agent; otherwise rinse ballscrew unit Prior to lubrication.

Do not use grease containing graphite or MoS!

Surface coatings

... possible on request:

- generally to reduce sliding friction
- if lubrication is not possible (e.g. in the food industry)
- as corrosion protection



Efficiency

Efficiency η for Carry ballscrews is more than 0.9