

Trapezoidal thread or ball screw

Discover the appropriate spindle for your application

The parameters and requirements of your actuator application are crucial when choosing either a trapezoidal thread or ball screw, especially concerning the following:

- Duty cycle
- Repetition accuracy and positioning accuracy
- Stroke speed
- stat. / dyn. loading (Hold load in position or move)
- Service life and maintenance



Features of TR (Tr)

The trapezoidal thread is robust and moderately priced. It is the right choice for most adjustment tasks.

Spindle and nut are exposed to friction and must be well lubricated. Usually it is suitable for applications up to max. 20% of duty cycle. Most single-start trapezoidal threads are self-locking (that means the load is held at engine stop, which is particularly useful in suspended loads or applications where loads are being lifted). Trapezoidal threaded spindles are also available in stainless material on request.

Another aspect is the safety nut systems (SIFA) which are only available in trapezoidal thread design. There is no calculation for the life span of the trapezoidal thread drives as there is for the ball screw drives.



Features of ball screw (KGT)

The ball screw is used primarily when higher positioning and repetition movements are the priority.

The efficient ball screw principle of the threaded nut allows higher operation cycles, higher duty cycle and speeds. This is due to the higher efficiency compared to the trapezoidal thread, i.e. a lower energy consumption as well as lower heat generation due to the smoother movements. The operation cycle can be up to 4x higher than with the trapezoidal thread.

The ball screws are offered in different pitch, which result in different lifting speeds. Important note: Ball screws are not self-locking, therefore a holding brake is necessary.