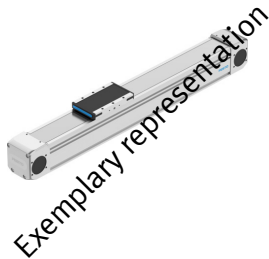



# Toothed belt axis ELGD-TB-KF-80- -

Part number: 8176885

FESTO



 General operating condition

## Data sheet

Overall data sheet – Individual values depend upon your configuration.

Feature	Value
Effective diameter of drive pinion	42.97 mm
Working stroke	50 mm ... 5000 mm
Size	80
Stroke reserve	0 mm
Toothed-belt pitch	5 mm
Mounting position	optional
Guide	Recirculating ball bearing guide
Design	Electromechanical linear axis With toothed belt
Type of motor	Stepper motor Servo motor
Symbol	00991212
Functional principle of measuring system	Incremental
Position detection	Via inductive sensors
Max. acceleration	50 m/s <sup>2</sup>
Max. speed	3 m/s
Repetition accuracy	±0.04 mm
Duty cycle	100%
LABS (PWIS) conformity	VDMA24364-C1-L
Suitability for the production of Li-ion batteries	Suitable for battery production according to the Festo internal definition of the degree of severity F1A with restrictions regarding the use of Cu/Zn/Ni
Storage temperature	-20 °C ... 60 °C
Degree of protection	IP40
Ambient temperature	0 °C ... 60 °C
Impact energy in end positions	2.5E-4 J
Note on the impact energy in the end positions	At maximum homing speed of 0.01 m/s
2nd moment of area I <sub>y</sub>	1213000 mm <sup>4</sup>
2nd moment of area I <sub>z</sub>	2052000 mm <sup>4</sup>
Max. drive torque	17.2 Nm
Max. force F <sub>y</sub>	4200 N ... 8433 N
Max. force F <sub>z</sub>	4200 N ... 8400 N
Max. force F <sub>y</sub> total axis	2800 N ... 5500 N
Max. force F <sub>z</sub> total axis	3500 N ... 5600 N
F <sub>y</sub> at theoretical life value of 100 km (only guide consideration)	17576 N ... 35153 N

Feature	Value
Fz at theoretical life value of 100 km (only guide consideration)	17576 N ... 35153 N
Max. idle running transfer resistance	55.8 N
Max. moment Mx	106 Nm ... 200 Nm
Max. moment My	42 Nm ... 390 Nm
Max. moment Mz	42 Nm ... 390 Nm
Max. moment Mx total axis	136 Nm ... 190 Nm
Max. moment My total axis	95 Nm ... 356 Nm
Max. moment Mz total axis	79 Nm ... 383 Nm
Mx at theoretical life value of 100 km (only guide consideration)	422 Nm ... 844 Nm
My at theoretical life value of 100 km (only guide consideration)	162 Nm ... 1356 Nm
Mz at theoretical life value of 100 km (only guide consideration)	162 Nm ... 1356 Nm
Distance between slide surface and guide centre	62 mm
Max. feed force Fx	800 N
Frictional torque independent of load	1.2 Nm
Torsional mass moment of inertia It	405000 mm <sup>4</sup>
Mass moment of inertia JH per metre of stroke	1.12563 kgcm <sup>2</sup>
Mass moment of inertia JL per kg of working load	4.6161 kgcm <sup>2</sup>
Mass moment of inertia JO	7.5216 kgcm <sup>2</sup> ... 10.5647 kgcm <sup>2</sup>
Feed constant	135 mm/U
Reference service life	5000 km
Maintenance interval	Life-time lubrication
Moving mass	1110 g ... 1810 g
Product weight	4715 g ... 6030 g
Basic weight for 0 mm stroke	4715 g ... 6030 g
Additional weight per 10 mm stroke	79 g
Dynamic deflection (moving load)	0.05% of the axis length, max. 0.5 mm
Static deflection (load in standstill)	0.1% of the axis length
Interface code, actuator	L48
Material end cap	Aluminium gravity die-cast, painted
Material profile	Anodised wrought aluminium alloy
Note on materials	RoHS-compliant
Material cover tape	High-alloy stainless steel
Material drive cover	Aluminium gravity die-cast, painted
Material guide slide	Steel
Material guide rail	Steel
Material pulleys	High-alloy stainless steel
Material slide	Wrought aluminium alloy
Material toothed belt	Polyurethane with steel cord