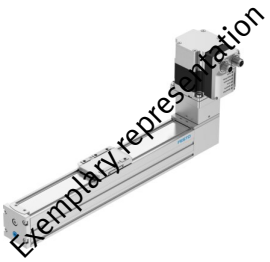
Toothed belt axis unit
ELGS-TB-KF-45-

Part number: 8083664



General operating condition

Data sheet

Overall data sheet – Individual values depend upon your configuration.

Feature	Value
Effective diameter of drive pinion	19.1 mm
Working stroke	50 mm ... 1500 mm
Size	45
Stroke reserve	0 mm
Toothed-belt stretch	0.187 %
Toothed-belt pitch	2 mm
Mounting position	Horizontal
Guide	Recirculating ball bearing guide
Design	Electromechanical linear axis With toothed belt With integrated drive
Type of motor	Stepper motor
Symbol	00997293
Position detection	Motor encoder Via proximity switch
Referencing	Positive fixed stop block Negative fixed stop block
Rotor position sensor	Absolute encoder, single turn
Rotor position sensor, encoder measuring principle	magnetic
Temperature monitoring	Switch-off for excessive temperature Integrated precise CMOS temperature sensor with analogue output
Additional functions	User interface Built-in end-position sensing
Display	LED
Ready status indication	LED
Max. acceleration	6 m/s²
Max. speed	0.96 m/s ... 1.2 m/s
Speed "Speed press"	0.024 m/s
Repetition accuracy	±0.1 mm
Features of digital logic outputs	Configurable Not galvanically isolated
Duty cycle	100%
Insulation protection class	B
Max. current digital logic outputs	100 mA
Max. current consumption	5300 mA
Max. current consumption, logic	0.3 A
Nominal voltage DC	24 V

Feature	Value
Nominal current	5.3 A
Parameterisation interface	IO-Link® User interface
Rotor position transducer resolution	16 bit
Permissible voltage fluctuations	+/- 15 %
Power supply, connection type	Plug
power supply, connection system	M12x1, T-coded according to EN 61076-2-111
Power supply, number of pins/wires	4
Power supply, connection pattern	00995989
Approval	RCM
KC mark	KC-EMV
CE mark (see declaration of conformity)	To EU EMC Directive In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)	To UK instructions for EMC To UK RoHS instructions
Vibration resistance	Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27
LABS (PWIS) conformity	VDMA24364 zone III
Cleanroom suitability, measured according to ISO 14644-14	Class 7 according to ISO 14644-1
Storage temperature	-20 °C ... 60 °C
Relative air humidity	0 - 90%
Degree of protection	IP40
Protection class	III
Ambient temperature	0 °C ... 50 °C
Note on ambient temperature	Power must be reduced by 2% per K at ambient temperatures above 30°C.
2nd moment of area Iy	140000 mm⁴
2nd moment of area Iz	170000 mm⁴
Max. force Fy	880 N
Max. force Fz	880 N
Max. force Fy total axis	300 N
Max. force Fz total axis	600 N
Fy at theoretical life value of 100 km (only guide consideration)	3240 N
Fz at theoretical life value of 100 km (only guide consideration)	3240 N
Max. moment Mx	5.5 Nm
Max. moment My	4.7 Nm
Max. moment Mz	4.7 Nm
Max. moment Mx total axis	5.5 Nm
Max. moment My total axis	4.7 Nm
Max. moment Mz total axis	4.7 Nm
Mx at theoretical life value of 100 km (only guide consideration)	20 Nm
My at theoretical life value of 100 km (only guide consideration)	17 Nm
Mz at theoretical life value of 100 km (only guide consideration)	17 Nm
Max. feed force Fx	75 N
Reference value effective load, horizontal	2.5 kg
Torsional mass moment of inertia It	8500 mm⁴
Feed constant	60 mm/U
Reference service life	5000 km
Maintenance interval	Lifetime lubrication
Moving mass	169 g
Moving mass for 0 mm stroke	169 g
Weight of slide	55 g
Product weight	2250 g ... 5240 g

Feature	Value
Basic weight for 0 mm stroke	1790 g
Additional weight per 10 mm stroke	23 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
Number of digital logic outputs 24 V DC	2
Number of digital logic inputs	2
Specification logic input	Based on IEC 61131-2, type 1
Working range of logic input	24 V
IO-Link, SIO-Mode support	Yes
Features of logic input	Configurable Not galvanically isolated
IO-Link, Protocol version	Device V 1.1
IO-Link, communication mode	COM3 (230.4 kBaud)
IO-Link, Port class	A
IO-Link, Number of ports	1
IO-Link, Process data length OUT	2 bytes
IO-Link, Process data content OUT	Move in 1 bit Move out 1 bit Quit Error 1 bit Move intermediate 1 bit
IO-Link, Process data length IN	2 bytes
IO-Link, Process data content IN	State Device 1 bit State In 1 bit State Intermediate 1 bit State Move 1 bit State Out 1 bit
IO-Link, Service data IN	32 bit Force 32 bit position 32 bit speed
IO-Link, Min. cycle time	1 ms
IO-Link, Data storage required	500 Byte
Max. cable length	15 m outputs 15 m inputs 20 m with IO-Link® operation
Switching logic for outputs	NPN (negative switching) PNP (positive switching)
Switching logic for inputs	NPN (negative switching) PNP (positive switching)
IO-Link, connection technology	Plug
Logic interface, connection type	Plug
Logic interface, connection technology	M12x1, A-coded according to EN 61076-2-101
Logic interface, number of pins/wires	8
Logic interface, plug pattern	00992264
Type of mounting	With female thread With centring sleeve and pin With accessories
Material end cap	Painted die cast aluminium
Material profile	Anodised wrought aluminium alloy
Note on materials	RoHS compliant
Material cover tape	Stainless steel strip
Material drive cover	Painted die cast aluminium
Material guide slide	Tempered steel
Material guide rail	Tempered steel
Material pulleys	High-alloy stainless steel
Material slide	Die-cast aluminium
Material toothed belt	Polychloroprene with glass fibre