

# Ball screw axis ELGT-BS-90-450-20P

Part number: 8124426

FESTO



 General operating condition

## Data sheet

Feature	Value
Working stroke	450 mm
Size	90
Stroke reserve	0 mm
Reversing backlash theoretical	$\leq 150 \mu\text{m}$
Spindle diameter	15 mm
Spindle pitch	20 mm/U
Mounting position	Any
Guide	Recirculating ball bearing guide
Design	Electromechanical linear axis With ball screw
Type of motor	Stepper motor Servo motor
Spindle type	Ball screw
Symbol	00991211
Variants	Metals with copper, zinc or nickel by mass as main constituent are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.
Max. acceleration	15 m/s <sup>2</sup>
Max. rotational speed	3000 rpm
Max. speed	1 m/s
Repetition accuracy	$\pm 0.02 \text{ mm}$
Duty cycle	100%
LABS (PWIS) conformity	VDMA24364 zone III
Suitability for the production of Li-ion batteries	Suitable for battery production with reduced Cu/Zn/Ni values (F1a)
Cleanroom suitability, measured according to ISO 14644-14	Class 6 according to ISO 14644-1
Degree of protection	IP20
Ambient temperature	0 °C ... 50 °C
Continuous feed force	810 N
2nd moment of area Iy	631000 mm <sup>4</sup>
2nd moment of area Iz	1948000 mm <sup>4</sup>
Idle torque at v <sub>max</sub>	0.2 Nm
Idle torque at v <sub>min</sub>	0.04 Nm
Max. force F <sub>y</sub>	4710 N
Max. force F <sub>z</sub>	5600 N
F <sub>y</sub> at theoretical life value of 100 km (only guide consideration)	17352 N
F <sub>z</sub> at theoretical life value of 100 km (only guide consideration)	20631 N

Feature	Value
Max. moment Mx	65 Nm
Max. moment My	51 Nm
Max. moment Mz	51 Nm
Mx at theoretical life value of 100 km (only guide consideration)	239 Nm
My at theoretical life value of 100 km (only guide consideration)	188 Nm
Mz at theoretical life value of 100 km (only guide consideration)	188 Nm
Max. radial force at drive shaft	290 N
Max. feed force Fx	810 N
Torsional mass moment of inertia It	151000 mm <sup>4</sup>
Mass moment of inertia JH per metre of stroke	0.2522 kgcm <sup>2</sup>
Mass moment of inertia JL per kg of working load	0.1013 kgcm <sup>2</sup>
Mass moment of inertia JO	0.2291 kgcm <sup>2</sup>
Feed constant	20 mm/U
Moving mass	1645 g
Product weight	8958 g
Basic weight for 0 mm stroke	4353 g
Additional weight per 10 mm stroke	104 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	T46
Material end cap	Painted die cast aluminium
Material profile	Anodised wrought aluminium alloy
Note on materials	RoHS compliant
Material drive cover	Painted die cast aluminium
Material guide slide	Steel
Material guide rail	Steel
Material slide	Anodised wrought aluminium alloy
Material ball screw nut	Steel
Material spindle	Steel