

# Ball screw axis ELGT-BS-120-500-20P

Part number: 8124500

FESTO



 [General operating condition](#)

## Data sheet

| Feature  | Value  |
|--|--|
| Working stroke   | 500 mm   |
| Size   | 120  |
| Stroke reserve   | 0 mm   |
| Reversing backlash   | ≤150 μm  |
| Screw diameter   | 15 mm  |
| Spindle pitch  | 20 mm/U  |
| Mounting position  | Any  |
| Guide  | Recirculating ball bearing guide   |
| Structural design  | Electromechanical linear axis with ball screw  |
| Motor type   | Stepper motor<br>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  | ±0.02 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 8 according to ISO 14644-1   |
| Degree of protection   | IP20   |
| Ambient temperature  | 0 °C ... 50 °C   |
| Continuous feed force  | 805 N  |
| 2nd moment of area Iy  | 966000 mm <sup>4</sup>   |
| 2nd moment of area Iz  | 6011000 mm <sup>4</sup>  |
| No-load torque at maximum travel speed                                     | 0.3 Nm   |
| No-load torque at minimum travel speed                                     | 0.08 Nm  |
| Max. force Fy  | 6800 N   |
| Max. force Fz  | 8090 N   |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 25051 N  |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 29804 N  |

| Feature  | Value                                |
|--|--------------------------------------|
| Max. torque Mx   | 300 Nm                               |
| Max. torque My   | 310 Nm                               |
| Max. torque Mz   | 310 Nm                               |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 1105 Nm                              |
| My with theoretical service life of 100 km (from a guide perspective only) | 1142 Nm                              |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 1142 Nm                              |
| Max. radial force on actuator shaft  | 290 N                                |
| Max. feed force Fx   | 805 N                                |
| Torsion moment of inertia It   | 506000 mm <sup>4</sup>               |
| Mass moment of inertia JH per meter of stroke                              | 0.2522 kgcm <sup>2</sup>             |
| Mass moment of inertia JL per kg of payload                                | 0.1013 kgcm <sup>2</sup>             |
| Mass moment of inertia JO  | 0.2654 kgcm <sup>2</sup>             |
| Feed constant  | 20 mm/U                              |
| Moving mass  | 2036 g                               |
| Product weight   | 11331 g                              |
| Basic weight with 0 mm stroke  | 5235 g                               |
| Additional weight per 10 mm stroke   | 124 g                                |
| Dynamic deflection (load moved)  | 0.05% of axis length, maximum 0.5 mm |
| Static deflection (load at standstill)                                     | 0.1 % of axis length                 |
| Interface code, actuator   | T46                                  |
| Material of end caps   | Die cast aluminum, painted           |
| Profile material   | Wrought aluminum alloy, anodized     |
| Note on materials  | RoHS-compliant                       |
| Drive cover material   | Die cast aluminum, painted           |
| Slide carriage material  | Steel                                |
| Guide rail material  | Steel                                |
| Slide material   | Wrought aluminum alloy, anodized     |
| Ball screw nut material  | Steel                                |
| Spindle material   | Steel                                |