

# Ball screw axis ELGT-BS-120-800-20P

Part number: 8124506

FESTO



General operating condition

## Data sheet

| Feature   | Value  |
|---|--|
| Working stroke  | 800 mm   |
| Size  | 120  |
| Stroke reserve  | 0 mm   |
| Reversing backlash theoretical  | ≤150 μm  |
| Spindle diameter  | 15 mm  |
| Spindle pitch   | 20 mm/U  |
| Mounting position   | Any  |
| Guide   | Recirculating ball bearing guide   |
| Design  | Electromechanical linear axis<br>With ball screw   |
| Type of motor   | 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>  |
| Idle torque at v <sub>max</sub>   | 0.3 Nm   |
| Idle torque at v <sub>min</sub>   | 0.08 Nm  |
| Max. force F <sub>y</sub>   | 6800 N   |
| Max. force F <sub>z</sub>   | 8090 N   |
| F <sub>y</sub> at theoretical life value of 100 km (only guide consideration) | 25051 N  |
| F <sub>z</sub> at theoretical life value of 100 km (only guide consideration) | 29804 N  |

| Feature   | Value                                 |
|---|---------------------------------------|
| Max. moment Mx  | 300 Nm                                |
| Max. moment My  | 310 Nm                                |
| Max. moment Mz  | 310 Nm                                |
| Mx at theoretical life value of 100 km (only guide consideration) | 1105 Nm                               |
| My at theoretical life value of 100 km (only guide consideration) | 1142 Nm                               |
| Mz at theoretical life value of 100 km (only guide consideration) | 1142 Nm                               |
| Max. radial force at drive shaft                                  | 290 N                                 |
| Max. feed force Fx  | 805 N                                 |
| Torsional mass moment of inertia It                               | 506000 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   | 0.2654 kgcm <sup>2</sup>              |
| Feed constant   | 20 mm/U                               |
| Moving mass   | 2036 g                                |
| Product weight  | 14989 g                               |
| Basic weight for 0 mm stroke                                      | 5235 g                                |
| Additional weight per 10 mm stroke                                | 124 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                                 |