

# Ball screw axis ELGT-BS-160-500-20P

Part number: 8124530

FESTO



## Data sheet

| Feature  | Value  |
|--|--|
| Working stroke                                     | 500 mm   |
| Size   | 160  |
| Stroke reserve                                     | 0 mm   |
| Reversing backlash theoretical                     | 150 µm   |
| Spindle diameter                                   | 20 mm  |
| Spindle pitch                                      | 20 mm/U  |
| Mounting position                                  | optional   |
| 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   |
| 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 | Product corresponds to the internal product definition from Festo for use in battery production:Metals with more than 1% by mass of copper, zinc or nickel are excluded from use.The exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils |
| Cleanroom class                                    | Class 8 according to ISO 14644-1   |
| Degree of protection                               | IP20   |
| Ambient temperature                                | 0 °C...50 °C   |
| Continuous feed force                              | 1045 N   |
| 2nd moment of area Iy                              | 1411000 mm <sup>4</sup>  |
| 2nd moment of area Iz                              | 15257000 mm <sup>4</sup>   |

| Feature   | Value                                 |
|---|---------------------------------------|
| Idle torque at v <sub>max</sub>   | 0.4 Nm                                |
| Idle torque at v <sub>min</sub>   | 0.14 Nm                               |
| Max. force F <sub>y</sub>   | 9550 N                                |
| Max. force F <sub>z</sub>   | 11370 N                               |
| F <sub>y</sub> at theoretical life value of 100 km (only guide consideration) | 35183 N                               |
| F <sub>z</sub> at theoretical life value of 100 km (only guide consideration) | 41887 N                               |
| Max. moment M <sub>x</sub>  | 600 Nm                                |
| Max. moment M <sub>y</sub>  | 560 Nm                                |
| Max. moment M <sub>z</sub>  | 560 Nm                                |
| M <sub>x</sub> at theoretical life value of 100 km (only guide consideration) | 2210 Nm                               |
| M <sub>y</sub> at theoretical life value of 100 km (only guide consideration) | 2063 Nm                               |
| M <sub>z</sub> at theoretical life value of 100 km (only guide consideration) | 2063 Nm                               |
| Max. radial force at drive shaft  | 290 N                                 |
| Max. feed force F <sub>x</sub>  | 1045 N                                |
| Torsional mass moment of inertia I <sub>t</sub>                               | 726000 mm <sup>4</sup>                |
| Mass moment of inertia J <sub>H</sub> per metre of stroke                     | 0.9027 kgcm <sup>2</sup>              |
| Mass moment of inertia J <sub>L</sub> per kg of working load                  | 0.1013 kgcm <sup>2</sup>              |
| Mass moment of inertia J <sub>O</sub>   | 0.6342 kgcm <sup>2</sup>              |
| Feed constant   | 20 mm/U                               |
| Moving mass   | 3842 g                                |
| Product weight  | 19034 g                               |
| Basic weight for 0 mm stroke  | 9601 g                                |
| Additional weight per 10 mm stroke  | 188 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 spindle nut  | Steel                                 |
| Material spindle  | Steel                                 |