

# Spindle axis ELGT-BS-160-550-20P

Part number: 8124531

FESTO



## Data sheet

| Feature  | Value  |
|--|--|
| Working stroke   | 550 mm   |
| Size   | 160  |
| Stroke reserve   | 0 mm   |
| Reversing backlash   | $\leq 0.15 \mu\text{m}$  |
| Spindle diameter   | 20 mm  |
| Spindle pitch  | 20 mm/U  |
| Assembly position  | Any  |
| Guide  | Recirculating ball bearing guide   |
| Design structure   | Electromechanical linear axis<br>with recirculating ball bearing spindle           |
| Motor type   | Stepper motor<br>Servomotor  |
| Spindle type   | Ball screw actuator  |
| Variants   | Recommended for production facilities for the manufacture of lithium-ion batteries |
| Max. acceleration  | 15 m/s <sup>2</sup>  |
| Max. speed   | 3,000 1/min<br>1 m/s   |
| Repetition accuracy  | $\pm 0.02 \text{ mm}$  |
| Duty cycle   | 100 %  |
| PWIS conformity  | VDMA24364 zone III   |
| RSBP classification to CD-0033   | F1a  |
| Cleanroom class  | ISO class 8  |
| Protection class   | IP20   |
| Ambient temperature  | 0 ... 50 °C  |
| Permanent feed force   | 1,045 N  |
| Area moment of inertia 2nd degree Iy                                       | 1,411E+03 mm <sup>4</sup>  |
| Area moment of inertia 2nd degree Iz                                       | 15,257E+03 mm <sup>4</sup>   |
| No-load torque at maximum travel speed                                     | 0.4 Nm   |
| No-load torque at minimum travel speed                                     | 0.14 Nm  |
| Max. force Fy  | 9,550 N  |
| Max. force Fz  | 11,370 N   |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 35,183 N   |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 41,887 N   |
| Max. torque Mx   | 600 Nm   |
| Max. torque My   | 560 Nm   |
| Max. torque Mz   | 560 Nm   |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 2,210 Nm   |
| My with theoretical service life of 100 km (from a guide perspective only) | 2,063 Nm   |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 2,063 Nm   |
| Max. radial force at drive shaft   | 290 N  |
| Max. feed force Fx   | 1,045 N  |
| Torsional mass moment of inertia It  | 726E+03 mm <sup>4</sup>  |
| Mass moment of inertia JH per meter of stroke                              | 0.9027 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   | 0.6342 kgcm <sup>2</sup>   |

| Feature                                | Value                                 |
|--|---------------------------------------|
| Feed constant                          | 20 mm/U                               |
| Moving mass                            | 3,842 g                               |
| Product weight                         | 19,978 g                              |
| Basic weight for 0 mm stroke           | 9,601 g                               |
| Additional weight per 10 mm stroke     | 188 g                                 |
| Dynamic deflection (load moved)        | 0.05% of the axis length, max. 0.5 mm |
| Static deflection (load at standstill) | 0.1% of the axis length               |
| Interface code, actuator               | T46                                   |
| Material of end caps                   | Die-cast aluminium, painted           |
| Material of profile                    | Anodised wrought aluminium alloy      |
| Materials note                         | Conforms to RoHS                      |
| Material drive cover                   | Die-cast aluminium, painted           |
| Material guide slide                   | Steel                                 |
| Material guide rail                    | Steel                                 |
| Material slide                         | Anodised wrought aluminium alloy      |
| Material spindle nut                   | Steel                                 |
| Material spindle                       | Steel                                 |