

# Ball screw axis ELGT-BS-160-900-20P

Part number: 8124537

FESTO



 General operating condition

## Data sheet

| Feature                                            | Value                                                                                                                                                                                                                          |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working stroke                                     | 900 mm                                                                                                                                                                                                                         |
| Size                                               | 160                                                                                                                                                                                                                            |
| Stroke reserve                                     | 0 mm                                                                                                                                                                                                                           |
| Reversing backlash theoretical                     | $\leq 150 \mu\text{m}$                                                                                                                                                                                                         |
| 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                                                                                                                                                                                                                     |
| 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 according to the Festo internal definition of the degree of severity F1A with restrictions regarding the use of Cu/Zn/Ni                                                                       |
| 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                              | 1.5257E7 mm <sup>4</sup>                                                                                                                                                                                                       |
| Idle torque at vmax                                | 0.4 Nm                                                                                                                                                                                                                         |
| Idle torque at vmin                                | 0.14 Nm                                                                                                                                                                                                                        |
| Max. force Fy                                      | 9550 N                                                                                                                                                                                                                         |
| Max. force Fz                                      | 11370 N                                                                                                                                                                                                                        |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| Fy at theoretical life value of 100 km (only guide consideration) | 35183 N                               |
| Fz at theoretical life value of 100 km (only guide consideration) | 41887 N                               |
| Max. moment Mx                                                    | 600 Nm                                |
| Max. moment My                                                    | 560 Nm                                |
| Max. moment Mz                                                    | 560 Nm                                |
| Mx at theoretical life value of 100 km (only guide consideration) | 2210 Nm                               |
| My at theoretical life value of 100 km (only guide consideration) | 2063 Nm                               |
| Mz at theoretical life value of 100 km (only guide consideration) | 2063 Nm                               |
| Max. radial force at drive shaft                                  | 290 N                                 |
| Max. feed force Fx                                                | 1045 N                                |
| Torsional mass moment of inertia It                               | 726000 mm <sup>4</sup>                |
| Mass moment of inertia JH per metre 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>              |
| Feed constant                                                     | 20 mm/U                               |
| Moving mass                                                       | 3842 g                                |
| Product weight                                                    | 26851 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                                 |