

# Ball screw axis ELGT-BS-120-750-20P

Part number: 8124505

FESTO



## Data sheet

| Feature                                                   | Value                                                                                                                                                                                                                          |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working stroke                                            | 750 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                                                                                                                                                                                                     |
| Structural design                                         | Electromechanical linear axis<br>With ball screw                                                                                                                                                                               |
| Motor type                                                | 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        | 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                                                                                                                                                                                                                         |

| Feature                                                                    | Value                                |
|----------------------------------------------------------------------------|--------------------------------------|
| 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                              |
| 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                                                             | 14379 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                                |