

# Ball screw axis ELGT-BS-90-650-10P

Part number: 8124413

FESTO



[PDF](#) General operating condition

## Data sheet

| Feature                                                                    | Value                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working stroke                                                             | 650 mm                                                                                                                                                                                                                         |
| Size                                                                       | 90                                                                                                                                                                                                                             |
| Stroke reserve                                                             | 0 mm                                                                                                                                                                                                                           |
| Reversing backlash                                                         | ≤150 µm                                                                                                                                                                                                                        |
| Screw diameter                                                             | 16 mm                                                                                                                                                                                                                          |
| Spindle pitch                                                              | 10 mm/U                                                                                                                                                                                                                        |
| Mounting position                                                          | Any                                                                                                                                                                                                                            |
| Guide                                                                      | Recirculating ball bearing guide                                                                                                                                                                                               |
| Structural design                                                          | with ball screw                                                                                                                                                                                                                |
| Motor type                                                                 | 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                                                                 | 0.5 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 class                                                            | Class 6 according to ISO 14644-1                                                                                                                                                                                               |
| Degree of protection                                                       | IP20                                                                                                                                                                                                                           |
| Ambient temperature                                                        | 0 °C ... 50 °C                                                                                                                                                                                                                 |
| Continuous feed force                                                      | 1054 N                                                                                                                                                                                                                         |
| 2nd moment of area Iy                                                      | 631000 mm <sup>4</sup>                                                                                                                                                                                                         |
| 2nd moment of area Iz                                                      | 1948000 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                                                              | 4710 N                                                                                                                                                                                                                         |
| Max. force Fz                                                              | 5600 N                                                                                                                                                                                                                         |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 17352 N                                                                                                                                                                                                                        |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 20631 N                                                                                                                                                                                                                        |

| Feature                                                                    | Value                                |
|----------------------------------------------------------------------------|--------------------------------------|
| Max. torque Mx                                                             | 65 Nm                                |
| Max. torque My                                                             | 51 Nm                                |
| Max. torque Mz                                                             | 51 Nm                                |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 239 Nm                               |
| My with theoretical service life of 100 km (from a guide perspective only) | 188 Nm                               |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 188 Nm                               |
| Max. radial force on actuator shaft                                        | 290 N                                |
| Max. feed force Fx                                                         | 1054 N                               |
| Torsion moment of inertia It                                               | 151000 mm <sup>4</sup>               |
| Mass moment of inertia JH per meter of stroke                              | 0.3453 kgcm <sup>2</sup>             |
| Mass moment of inertia JL per kg of payload                                | 0.0253 kgcm <sup>2</sup>             |
| Mass moment of inertia JO                                                  | 0.1252 kgcm <sup>2</sup>             |
| Feed constant                                                              | 10 mm/U                              |
| Moving mass                                                                | 1628 g                               |
| Product weight                                                             | 11544 g                              |
| Basic weight with 0 mm stroke                                              | 4380 g                               |
| Additional weight per 10 mm stroke                                         | 104 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     |
| Spindle nut material                                                       | Steel                                |
| Spindle material                                                           | Steel                                |