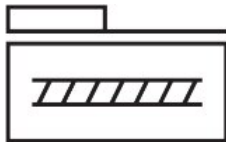


# Ball screw axis ELGT-BS-90-700-20P

Part number: 8124431

FESTO



## Data sheet

| Feature                                                   | Value                                                                                                                                                                                                                          |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working stroke                                            | 700 mm                                                                                                                                                                                                                         |
| Size                                                      | 90                                                                                                                                                                                                                             |
| Stroke reserve                                            | 0 mm                                                                                                                                                                                                                           |
| Reversing backlash theoretical                            | 150 µm                                                                                                                                                                                                                         |
| Spindle diameter                                          | 15 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        | Suitable for battery production with reduced Cu/Zn/Ni values (F1a)                                                                                                                                                             |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 6 according to ISO 14644-1                                                                                                                                                                                               |
| Degree of protection                                      | IP20                                                                                                                                                                                                                           |
| Ambient temperature                                       | 0 °C...50 °C                                                                                                                                                                                                                   |
| Continuous feed force                                     | 810 N                                                                                                                                                                                                                          |
| 2nd moment of area Iy                                     | 631000 mm <sup>4</sup>                                                                                                                                                                                                         |
| 2nd moment of area Iz                                     | 1948000 mm <sup>4</sup>                                                                                                                                                                                                        |
| Idle torque at vmax                                       | 0.2 Nm                                                                                                                                                                                                                         |
| Idle torque at vmin                                       | 0.04 Nm                                                                                                                                                                                                                        |
| Max. force Fy                                             | 4710 N                                                                                                                                                                                                                         |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| Max. force Fz                                                     | 5600 N                                |
| Fy at theoretical life value of 100 km (only guide consideration) | 17352 N                               |
| Fz at theoretical life value of 100 km (only guide consideration) | 20631 N                               |
| Max. moment Mx                                                    | 65 Nm                                 |
| Max. moment My                                                    | 51 Nm                                 |
| Max. moment Mz                                                    | 51 Nm                                 |
| Mx at theoretical life value of 100 km (only guide consideration) | 239 Nm                                |
| My at theoretical life value of 100 km (only guide consideration) | 188 Nm                                |
| Mz at theoretical life value of 100 km (only guide consideration) | 188 Nm                                |
| Max. radial force at drive shaft                                  | 290 N                                 |
| Max. feed force Fx                                                | 810 N                                 |
| Torsional mass moment of inertia It                               | 151000 mm <sup>4</sup>                |
| Mass moment of inertia JH per metre of stroke                     | 0.2522 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                                         | 0.2291 kgcm <sup>2</sup>              |
| Feed constant                                                     | 20 mm/U                               |
| Moving mass                                                       | 1645 g                                |
| Product weight                                                    | 11516 g                               |
| Basic weight for 0 mm stroke                                      | 4353 g                                |
| Additional weight per 10 mm stroke                                | 104 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 ball screw nut                                           | Steel                                 |
| Material spindle                                                  | Steel                                 |