

# Ball screw axis ELGD-BS-KF-120-1000-0H-10P

Part number: 8192304

**FESTO**



## Data sheet

| Feature                                                   | Value                                                                                     |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Working stroke                                            | 1000 mm                                                                                   |
| Size                                                      | 120                                                                                       |
| Stroke reserve                                            | 0 mm                                                                                      |
| Ball screw reversing backlash                             | ±0.02 mm                                                                                  |
| Screw diameter                                            | 25 mm                                                                                     |
| Spindle pitch                                             | 10 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                                                                                |
| Measuring principle of linear potentiometer               | Incremental                                                                               |
| Position sensing                                          | For inductive sensors                                                                     |
| Max. acceleration                                         | 15 m/s <sup>2</sup>                                                                       |
| Max. rotational speed                                     | 2375 rpm                                                                                  |
| Max. speed                                                | 0.4 m/s                                                                                   |
| Repetition accuracy                                       | ±0.01 mm                                                                                  |
| Duty cycle                                                | 100%                                                                                      |
| LABS (PWIS) conformity                                    | VDMA24364-C1-L                                                                            |
| 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 4 according to ISO 14644-1 (with vacuum insert)<br>Class 7 according to ISO 14644-1 |
| Storage temperature                                       | -20 °C...60 °C                                                                            |
| Degree of protection                                      | IP40                                                                                      |
| Ambient temperature                                       | 0 °C...60 °C                                                                              |
| Impact energy in the end positions                        | 0.001 J                                                                                   |
| Note on the impact energy in the end positions            | At maximum speed of the reference run of 0.01 m/s                                         |
| 2nd moment of area Iy                                     | 3550000 mm <sup>4</sup>                                                                   |
| 2nd moment of area Iz                                     | 8985000 mm <sup>4</sup>                                                                   |
| No-load torque at maximum travel speed                    | 0.957 Nm                                                                                  |

| Feature                                                                    | Value                                |
|----------------------------------------------------------------------------|--------------------------------------|
| No-load torque at minimum travel speed                                     | 0.254 Nm                             |
| Max. force Fy                                                              | 4300 N                               |
| Max. force Fz                                                              | 4300 N                               |
| Max. force Fy total axis                                                   | 2957 N                               |
| Max. force Fz total axis                                                   | 5608 N                               |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 17576 N                              |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 17576 N                              |
| Max. torque Mx                                                             | 170 Nm                               |
| Max. torque My                                                             | 50 Nm                                |
| Max. torque Mz                                                             | 60 Nm                                |
| Max. moment Mx total axis                                                  | 202 Nm                               |
| Max. moment My total axis                                                  | 80 Nm                                |
| Max. moment Mz total axis                                                  | 95 Nm                                |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 730 Nm                               |
| My with theoretical service life of 100 km (from a guide perspective only) | 162 Nm                               |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 162 Nm                               |
| Distance between slide surface and guide center                            | 80 mm                                |
| Max. radial force on actuator shaft                                        | 750 N                                |
| Max. feed force Fx                                                         | 3520 N                               |
| Torsion moment of inertia It                                               | 1433600 mm <sup>4</sup>              |
| Mass moment of inertia JH per meter of stroke                              | 2.633 kgcm <sup>2</sup>              |
| Mass moment of inertia JL per kg of payload                                | 0.00633 kgcm <sup>2</sup>            |
| Mass moment of inertia JO                                                  | 0.76031 kgcm <sup>2</sup>            |
| Feed constant                                                              | 10 mm/U                              |
| Reference service life                                                     | 5000 km                              |
| Maintenance interval                                                       | Lifetime lubrication                 |
| Moving mass                                                                | 1725 g                               |
| Product weight                                                             | 20787 g                              |
| Basic weight with 0 mm stroke                                              | 6087 g                               |
| Additional weight per 10 mm stroke                                         | 147 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                                                   | S60                                  |
| Material of end caps                                                       | Aluminum gravity die-cast, painted   |
| Profile material                                                           | Wrought aluminum alloy, anodized     |
| Note on materials                                                          | RoHS compliant                       |
| Cover strip material                                                       | high-alloy stainless steel           |
| Drive cover material                                                       | Aluminum gravity die-cast, painted   |
| Slide carriage material                                                    | Steel                                |
| Guide rail material                                                        | Steel                                |
| Slide material                                                             | Wrought aluminum alloy               |
| Ball screw nut material                                                    | Steel                                |
| Spindle material                                                           | Steel                                |