

# Ball screw axis ELGD-BS-KF-120-1000-0H-5P Part number: 8192297

FESTO



## Data sheet

| Feature                                            | Value                                                              |
|----------------------------------------------------|--------------------------------------------------------------------|
| Working stroke                                     | 1000 mm                                                            |
| Size                                               | 120                                                                |
| Stroke reserve                                     | 0 mm                                                               |
| Reversing backlash theoretical                     | 0.15 mm                                                            |
| Spindle diameter                                   | 25 mm                                                              |
| Spindle pitch                                      | 5 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 drive                                                   |
| Functional principle of measuring system           | Incremental                                                        |
| Position detection                                 | Via inductive sensors                                              |
| Max. acceleration                                  | 15 m/s <sup>2</sup>                                                |
| Max. rotational speed                              | 3200 rpm                                                           |
| Max. speed                                         | 0.27 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) |
| Storage temperature                                | -20 °C...60 °C                                                     |
| Degree of protection                               | IP40                                                               |
| Ambient temperature                                | 0 °C...60 °C                                                       |
| Impact energy in end positions                     | 1 mJ                                                               |
| Note on the impact energy in the end positions     | At maximum homing speed 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>                                            |
| Idle torque at vmax                                | 0.344 Nm                                                           |
| Idle torque at vmin                                | 0.167 Nm                                                           |
| Max. force Fy                                      | 4300 N                                                             |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| Max. force Fz                                                     | 4300 N                                |
| Max. force Fy total axis                                          | 2957 N                                |
| Max. force Fz total axis                                          | 5608 N                                |
| Fy at theoretical life value of 100 km (only guide consideration) | 17576 N                               |
| Fz at theoretical life value of 100 km (only guide consideration) | 17576 N                               |
| Max. moment Mx                                                    | 170 Nm                                |
| Max. moment My                                                    | 50 Nm                                 |
| Max. moment Mz                                                    | 60 Nm                                 |
| Max. moment Mx total axis                                         | 207 Nm                                |
| Max. moment My total axis                                         | 63 Nm                                 |
| Max. moment Mz total axis                                         | 76 Nm                                 |
| Mx at theoretical life value of 100 km (only guide consideration) | 730 Nm                                |
| My at theoretical life value of 100 km (only guide consideration) | 162 Nm                                |
| Mz at theoretical life value of 100 km (only guide consideration) | 162 Nm                                |
| Distance between slide surface and guide centre                   | 80 mm                                 |
| Max. radial force at drive shaft                                  | 750 N                                 |
| Max. feed force Fx                                                | 3520 N                                |
| Torsional mass moment of inertia It                               | 1433600 mm <sup>4</sup>               |
| Mass moment of inertia JH per metre of stroke                     | 2.633 kgcm <sup>2</sup>               |
| Mass moment of inertia JL per kg of working load                  | 0.00633 kgcm <sup>2</sup>             |
| Mass moment of inertia JO                                         | 0.76031 kgcm <sup>2</sup>             |
| Feed constant                                                     | 5 mm/U                                |
| Reference service life                                            | 5000 km                               |
| Maintenance interval                                              | Life-time lubrication                 |
| Moving mass                                                       | 1814 g                                |
| Product weight                                                    | 20787 g                               |
| Basic weight for 0 mm stroke                                      | 6087 g                                |
| Additional weight per 10 mm stroke                                | 147 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                                          | S60                                   |
| Material end cap                                                  | Aluminium gravity die-cast, painted   |
| Material profile                                                  | Anodised wrought aluminium alloy      |
| Note on materials                                                 | RoHS-compliant                        |
| Material cover tape                                               | High-alloy stainless steel            |
| Material drive cover                                              | Aluminium gravity die-cast, painted   |
| Material guide slide                                              | Steel                                 |
| Material guide rail                                               | Steel                                 |
| Material slide                                                    | Wrought aluminium alloy               |
| Material spindle nut                                              | Steel                                 |
| Material spindle                                                  | Steel                                 |