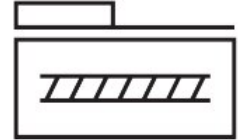


# Ball screw axis ELGD-BS-KF-120-500-0H-30P

Part number: 8192308

FESTO



[PDF](#) General operating condition

## Data sheet

| Feature                                                   | Value                                                                                         |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Working stroke                                            | 500 mm                                                                                        |
| Size                                                      | 120                                                                                           |
| Stroke reserve                                            | 0 mm                                                                                          |
| Ball screw reversing backlash                             | ±0.02 mm                                                                                      |
| Spindle diameter                                          | 25 mm                                                                                         |
| Spindle pitch                                             | 30 mm/U                                                                                       |
| Mounting position                                         | Any                                                                                           |
| 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                                                                                    |
| Symbol                                                    | 00991211                                                                                      |
| Functional principle of measuring system                  | Incremental                                                                                   |
| Position detection                                        | For inductive sensors                                                                         |
| Max. acceleration                                         | 15 m/s <sup>2</sup>                                                                           |
| Max. rotational speed                                     | 3200 rpm                                                                                      |
| Max. speed                                                | 1.6 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 extraction)<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 end positions                            | 0.001 J                                                                                       |
| 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                                       | 0.735 Nm                                                                                      |
| Idle torque at vmin                                       | 0.22 Nm                                                                                       |
| Max. force Fy                                             | 4300 N                                                                                        |
| Max. force Fz                                             | 4300 N                                                                                        |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| 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                                         | 202 Nm                                |
| Max. moment My total axis                                         | 80 Nm                                 |
| Max. moment Mz total axis                                         | 95 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                     | 2.719 kgcm <sup>2</sup>               |
| Mass moment of inertia JL per kg of working load                  | 0.2282 kgcm <sup>2</sup>              |
| Mass moment of inertia JO                                         | 0.76188 kgcm <sup>2</sup>             |
| Feed constant                                                     | 30 mm/U                               |
| Reference service life                                            | 5000 km                               |
| Maintenance interval                                              | Lifetime lubrication                  |
| Moving mass                                                       | 1725 g                                |
| Product weight                                                    | 13437 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 ball screw nut                                           | Steel                                 |
| Material spindle                                                  | Steel                                 |