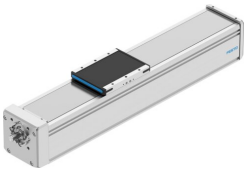
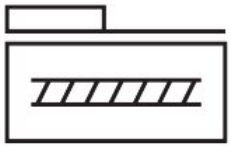
# Ball screw axis
# ELGD-BS-KF-120-1000-0H-5P

Part number: 8192297





## Data sheet

| Feature | Value |
|---|---|
| Working stroke | 1000 mm |
| Size | 120 |
| Stroke reserve | 0 mm |
| Ball screw reversing backlash | ±0.02 mm |
| Spindle diameter | 25 mm |
| Spindle pitch | 5 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 |
| Functional principle of measuring system | Incremental |
| Position detection | For inductive sensors |
| Max. acceleration | 15 m/s² |
| Max. rotational speed | 2342 rpm |
| Max. speed | 0.2 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 mm⁴ |
| 2nd moment of area Iz | 8985000 mm⁴ |
| Idle torque at vmax | 0.344 Nm |

| Feature | Value |
|---|---|
| Idle torque at vmin | 0.167 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 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 $mm^4$ |
| Mass moment of inertia JH per metre of stroke | 2.633 $kgcm^2$ |
| Mass moment of inertia JL per kg of working load | 0.00633 $kgcm^2$ |
| Mass moment of inertia JO | 0.76031 $kgcm^2$ |
| Feed constant | 5 mm/U |
| Reference service life | 5000 km |
| Maintenance interval | Lifetime lubrication |
| Moving mass | 1725 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 ball screw nut | Steel |
| Material spindle | Steel |