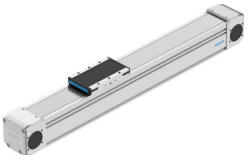
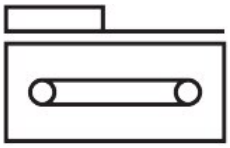
# Toothed belt axis
# ELGD-TB-KF-80-500-0H-PU2

Part number: 8192356





## Data sheet

| Feature | Value |
|---|---|
| Effective diameter of drive pinion | 42.97 mm |
| Working stroke | 500 mm |
| Size | 80 |
| Stroke reserve | 0 mm |
| Toothed-belt pitch | 5 mm |
| Mounting position | Any |
| Guide | Recirculating ball bearing guide |
| Design | Electromechanical linear axis<br>With toothed belt |
| Type of motor | Stepper motor<br>Servo motor |
| Functional principle of measuring system | Incremental |
| Position detection | For inductive sensors |
| Max. acceleration | 100 m/s² |
| Max. speed | 3 m/s |
| Repetition accuracy | ±0.04 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 6 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 | 0.00025 J |
| Note on the impact energy in the end positions | At maximum homing speed of 0.01 m/s |
| 2nd moment of area Iy | 1213000 mm⁴ |
| 2nd moment of area Iz | 2052000 mm⁴ |
| Max. drive torque | 17.2 Nm |
| Max. force Fy | 4200 N |
| Max. force Fz | 4200 N |
| Max. force Fy total axis | 2800 N |

| Feature | Value |
|---|---|
| Max. force Fz total axis | 3500 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. idle running transfer resistance | 55.8 N |
| Max. moment Mx | 106 Nm |
| Max. moment My | 42 Nm |
| Max. moment Mz | 42 Nm |
| Max. moment Mx total axis | 106 Nm |
| Max. moment My total axis | 80 Nm |
| Max. moment Mz total axis | 79 Nm |
| Mx at theoretical life value of 100 km (only guide consideration) | 422 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 | 62 mm |
| Max. feed force Fx | 800 N |
| Frictional torque independent of load | 1.2 Nm |
| Torsional mass moment of inertia It | 405000 mm⁴ |
| Mass moment of inertia JH per metre of stroke | 1.12563 kgcm² |
| Mass moment of inertia JL per kg of working load | 4.6161 kgcm² |
| Mass moment of inertia JO | 7.5216 kgcm² |
| Feed constant | 135 mm/U |
| Reference service life | 5000 km |
| Maintenance interval | Lifetime lubrication |
| Moving mass | 1117 g |
| Product weight | 8665 g |
| Basic weight for 0 mm stroke | 4715 g |
| Additional weight per 10 mm stroke | 79 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 | L48 |
| 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 pulleys | High-alloy stainless steel |
| Material slide | Wrought aluminium alloy |
| Material toothed belt | Polyurethane with steel cord |