

# Toothed belt axis ELGD-TB-KF-80-600-0H-PU2

Part number: 8192357

FESTO



[PDF](#) General operating condition

## Data sheet

| Feature                                                                       | Value                                                                                                                                                    |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effective diameter of drive pinion                                            | 42.97 mm                                                                                                                                                 |
| Working stroke                                                                | 600 mm                                                                                                                                                   |
| Size                                                                          | 80                                                                                                                                                       |
| Stroke reserve                                                                | 0 mm                                                                                                                                                     |
| Toothed-belt pitch                                                            | 5 mm                                                                                                                                                     |
| Mounting position                                                             | optional                                                                                                                                                 |
| Guide                                                                         | Recirculating ball bearing guide                                                                                                                         |
| Design                                                                        | Electromechanical linear axis<br>With toothed belt                                                                                                       |
| Type of motor                                                                 | Stepper motor<br>Servo motor                                                                                                                             |
| Symbol                                                                        | 00991212                                                                                                                                                 |
| Functional principle of measuring system                                      | Incremental                                                                                                                                              |
| Position detection                                                            | Via inductive sensors                                                                                                                                    |
| Max. acceleration                                                             | 50 m/s <sup>2</sup>                                                                                                                                      |
| 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 according to the Festo internal definition of the degree of severity F1A with restrictions regarding the use of Cu/Zn/Ni |
| Storage temperature                                                           | -20 °C ... 60 °C                                                                                                                                         |
| Degree of protection                                                          | IP40                                                                                                                                                     |
| Ambient temperature                                                           | 0 °C ... 60 °C                                                                                                                                           |
| Impact energy in end positions                                                | 2.5E-4 J                                                                                                                                                 |
| Note on the impact energy in the end positions                                | At maximum homing speed of 0.01 m/s                                                                                                                      |
| 2nd moment of area I <sub>y</sub>                                             | 1213000 mm <sup>4</sup>                                                                                                                                  |
| 2nd moment of area I <sub>z</sub>                                             | 2052000 mm <sup>4</sup>                                                                                                                                  |
| Max. drive torque                                                             | 17.2 Nm                                                                                                                                                  |
| Max. force F <sub>y</sub>                                                     | 4200 N                                                                                                                                                   |
| Max. force F <sub>z</sub>                                                     | 4200 N                                                                                                                                                   |
| Max. force F <sub>y</sub> total axis                                          | 2800 N                                                                                                                                                   |
| Max. force F <sub>z</sub> total axis                                          | 3500 N                                                                                                                                                   |
| F <sub>y</sub> at theoretical life value of 100 km (only guide consideration) | 17576 N                                                                                                                                                  |
| F <sub>z</sub> at theoretical life value of 100 km (only guide consideration) | 17576 N                                                                                                                                                  |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| 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                                         | 136 Nm                                |
| Max. moment My total axis                                         | 95 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 mm <sup>4</sup>                |
| Mass moment of inertia JH per metre of stroke                     | 1.12563 kgcm <sup>2</sup>             |
| Mass moment of inertia JL per kg of working load                  | 4.6161 kgcm <sup>2</sup>              |
| Mass moment of inertia JO                                         | 7.5216 kgcm <sup>2</sup>              |
| Feed constant                                                     | 135 mm/U                              |
| Reference service life                                            | 5000 km                               |
| Maintenance interval                                              | Life-time lubrication                 |
| Moving mass                                                       | 1110 g                                |
| Product weight                                                    | 4715 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          |