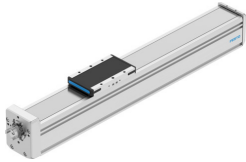


# Ball screw axis ELGD-BS-KF-80-400-0H-10P

Part number: 8192278

FESTO



[PDF](#) General operating condition

## Data sheet

| Feature                                            | Value                                                                                                                                                                                                                 |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Working stroke                                     | 400 mm                                                                                                                                                                                                                |
| Size                                               | 80                                                                                                                                                                                                                    |
| Stroke reserve                                     | 0 mm                                                                                                                                                                                                                  |
| Reversing backlash theoretical                     | 150 µm                                                                                                                                                                                                                |
| Spindle diameter                                   | 16 mm                                                                                                                                                                                                                 |
| Spindle pitch                                      | 10 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                                                                                                                                                                                                      |
| Symbol                                             | 00991211                                                                                                                                                                                                              |
| Position detection                                 | Via inductive sensors                                                                                                                                                                                                 |
| Max. acceleration                                  | 15 m/s <sup>2</sup>                                                                                                                                                                                                   |
| Max. rotational speed                              | 5000 rpm                                                                                                                                                                                                              |
| Max. speed                                         | 0.83 m/s                                                                                                                                                                                                              |
| Repetition accuracy                                | ±0.01 mm                                                                                                                                                                                                              |
| Duty cycle                                         | 100%                                                                                                                                                                                                                  |
| LABS (PWIS) conformity                             | VDMA24364 zone III                                                                                                                                                                                                    |
| Suitability for the production of Li-ion batteries | Metals with more than 1% by mass of copper, zinc or nickel are excluded from use. The exceptions are nickel in steel, chemically nickel-plated surfaces, circuit boards, cables, electrical plug connectors and coils |
| Degree of protection                               | IP30                                                                                                                                                                                                                  |
| Ambient temperature                                | 0 °C ... 60 °C                                                                                                                                                                                                        |
| Impact energy in end positions                     | 0.002 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>                                                                                                                                                                                               |
| Idle torque at v <sub>max</sub>                    | 0.179 Nm                                                                                                                                                                                                              |
| Idle torque at v <sub>min</sub>                    | 0.065 Nm                                                                                                                                                                                                              |
| Max. force F <sub>y</sub>                          | 3906 N                                                                                                                                                                                                                |
| Max. force F <sub>z</sub>                          | 3913 N                                                                                                                                                                                                                |
| Max. force F <sub>y</sub> total axis               | 2291 N                                                                                                                                                                                                                |
| Max. force F <sub>z</sub> total axis               | 2500 N                                                                                                                                                                                                                |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| 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                                                    | 95 Nm                                 |
| Max. moment My                                                    | 42 Nm                                 |
| Max. moment Mz                                                    | 42 Nm                                 |
| Max. moment Mx total axis                                         | 95 Nm                                 |
| Max. moment My total axis                                         | 42 Nm                                 |
| Max. moment Mz total axis                                         | 42 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. radial force at drive shaft                                  | 500 N                                 |
| Max. feed force Fx                                                | 2650 N                                |
| Torsional mass moment of inertia It                               | 405000 mm <sup>4</sup>                |
| Mass moment of inertia JH per metre of stroke                     | 0.39016 kgcm <sup>2</sup>             |
| Mass moment of inertia JL per kg of working load                  | 0.02533 kgcm <sup>2</sup>             |
| Mass moment of inertia JO                                         | 0.10619 kgcm <sup>2</sup>             |
| Feed constant                                                     | 10 mm/U                               |
| Reference service life                                            | 5000 km                               |
| Maintenance interval                                              | Life-time lubrication                 |
| Moving mass                                                       | 990 g                                 |
| Basic weight for 0 mm stroke                                      | 3147 g                                |
| Additional weight per 10 mm stroke                                | 90 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                                          | T46                                   |
| 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                                 |