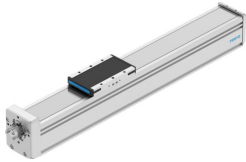


# Ball screw axis ELGD-BS-KF-80-500-0H-20P

Part number: 8192287

FESTO



General operating condition

## Data sheet

| Feature   | Value   |
|---|---|
| Working stroke  | 500 mm  |
| Size  | 80  |
| Stroke reserve  | 0 mm  |
| Reversing backlash theoretical                            | 150 µm  |
| Spindle diameter  | 16 mm   |
| Spindle pitch   | 20 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  |
| Functional principle of measuring system                  | Incremental   |
| Position detection  | Via inductive sensors   |
| Max. acceleration   | 15 m/s <sup>2</sup>   |
| Max. rotational speed                                     | 5000 rpm  |
| Max. speed  | 1.67 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                            | 0.002 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 mm <sup>4</sup>   |
| 2nd moment of area Iz                                     | 2052000 mm <sup>4</sup>   |
| Idle torque at v <sub>max</sub>                           | 0.218 Nm  |
| Idle torque at v <sub>min</sub>                           | 0.075 Nm  |
| Max. force F <sub>y</sub>                                 | 3906 N  |
| Max. force F <sub>z</sub>                                 | 3913 N  |

| Feature   | Value                                 |
|---|---------------------------------------|
| Max. force Fy total axis  | 2500 N                                |
| Max. force Fz total axis  | 2500 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  | 95 Nm                                 |
| Max. moment My  | 42 Nm                                 |
| Max. moment Mz  | 42 Nm                                 |
| Max. moment Mx total axis   | 100 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                  | 0.101 kgcm <sup>2</sup>               |
| Mass moment of inertia JO   | 0.10619 kgcm <sup>2</sup>             |
| Feed constant   | 20 mm/U                               |
| Reference service life  | 5000 km                               |
| Maintenance interval  | Life-time lubrication                 |
| Moving mass   | 990 g                                 |
| Product weight  | 7647 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 ball screw nut   | Steel                                 |
| Material spindle  | Steel                                 |