

# Ball screw axis ELGA-BS-KF-80-500-0H-10P-ML

Part number: 8041826

FESTO



General operating condition

## Data sheet

| Feature   | Value  |
|---|--|
| Working stroke  | 500 mm   |
| Size  | 80   |
| Stroke reserve  | 0 mm   |
| Spindle diameter  | 15 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                                       |
| Symbol  | 00991211   |
| Functional principle of measuring system                                      | Incremental                                      |
| Max. acceleration   | 15 m/s <sup>2</sup>                              |
| Max. rotational speed   | 3000 rpm   |
| Max. speed  | 0.5 m/s  |
| Repetition accuracy   | ±0.02 mm   |
| Duty cycle  | 100%   |
| LABS (PWIS) conformity  | VDMA24364 zone III                               |
| Degree of protection  | IP40   |
| Ambient temperature   | -10 °C ... 60 °C                                 |
| 2nd moment of area ly   | 310000 mm <sup>4</sup>                           |
| 2nd moment of area lz   | 977000 mm <sup>4</sup>                           |
| Idle torque at v <sub>max</sub>   | 0.55 Nm  |
| Idle torque at v <sub>min</sub>   | 0.3 Nm   |
| Max. force F <sub>y</sub>   | 2500 N   |
| Max. force F <sub>z</sub>   | 3050 N   |
| Max. force F <sub>y</sub> total axis  | 2500 N   |
| Max. force F <sub>z</sub> total axis  | 3050 N   |
| F <sub>y</sub> at theoretical life value of 100 km (only guide consideration) | 9200 N   |
| F <sub>z</sub> at theoretical life value of 100 km (only guide consideration) | 11224 N  |
| Max. moment M <sub>x</sub>  | 36 Nm  |
| Max. moment M <sub>y</sub>  | 228 Nm   |
| Max. moment M <sub>z</sub>  | 228 Nm   |
| Max. moment M <sub>x</sub> total axis   | 36 Nm  |

| Feature   | Value                                 |
|---|---------------------------------------|
| Max. moment My total axis   | 228 Nm                                |
| Max. moment Mz total axis   | 228 Nm                                |
| Mx at theoretical life value of 100 km (only guide consideration) | 132 Nm                                |
| My at theoretical life value of 100 km (only guide consideration) | 839 Nm                                |
| Mz at theoretical life value of 100 km (only guide consideration) | 839 Nm                                |
| Distance between slide surface and guide centre                   | 60 mm                                 |
| Max. radial force at drive shaft                                  | 250 N                                 |
| Max. feed force Fx  | 1600 N                                |
| Torsional mass moment of inertia It                               | 67300 mm <sup>4</sup>                 |
| Mass moment of inertia JH per metre of stroke                     | 0.346 kgcm <sup>2</sup>               |
| Mass moment of inertia JL per kg of working load                  | 0.0253 kgcm <sup>2</sup>              |
| Mass moment of inertia JO   | 0.097 kgcm <sup>2</sup>               |
| Feed constant   | 10 mm/U                               |
| Reference service life  | 5000 km                               |
| Moving mass   | 1370 g                                |
| Additional weight per 10 mm stroke                                | 46.5 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               |
| Material end cap  | Wrought aluminium alloy<br>Anodised   |
| Material profile  | Wrought aluminium alloy<br>Anodised   |
| Note on materials   | RoHS-compliant                        |
| Material cover tape   | Stainless steel strip                 |
| Material drive cover  | Wrought aluminium alloy<br>Anodised   |
| Material guide slide  | Steel                                 |
| Material guide rail   | Steel                                 |
| Material slide  | Wrought aluminium alloy<br>Anodised   |
| Material ball screw nut   | Steel                                 |
| Material spindle  | Steel                                 |