

# Ball screw axis ELGA-BS-KF-120-500-0H-25P-ML

Part number: 8041847

FESTO



General operating condition

## Data sheet

| Feature   | Value                            |
|---|----------------------------------|
| Working stroke  | 500 mm                           |
| Size  | 120                              |
| Stroke reserve  | 0 mm                             |
| Spindle diameter  | 25 mm                            |
| Spindle pitch   | 25 mm/U                          |
| Mounting position   | optional                         |
| Guide   | Recirculating ball bearing guide |
| Design  | 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   | 3600 rpm                         |
| Max. speed  | 1.5 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 Iy   | 1240000 mm <sup>4</sup>          |
| 2nd moment of area Iz   | 3800000 mm <sup>4</sup>          |
| Idle torque at v <sub>max</sub>   | 1.64 Nm                          |
| Idle torque at v <sub>min</sub>   | 1 Nm                             |
| Max. force F <sub>y</sub>   | 5500 N                           |
| Max. force F <sub>z</sub>   | 6890 N                           |
| Max. force F <sub>y</sub> total axis  | 5500 N                           |
| Max. force F <sub>z</sub> total axis  | 6890 N                           |
| F <sub>y</sub> at theoretical life value of 100 km (only guide consideration) | 20240 N                          |
| F <sub>z</sub> at theoretical life value of 100 km (only guide consideration) | 25355 N                          |
| Max. moment M <sub>x</sub>  | 104 Nm                           |
| Max. moment M <sub>y</sub>  | 680 Nm                           |
| Max. moment M <sub>z</sub>  | 680 Nm                           |
| Max. moment M <sub>x</sub> total axis   | 104 Nm                           |

| Feature   | Value                                 |
|---|---------------------------------------|
| Max. moment My total axis   | 680 Nm                                |
| Max. moment Mz total axis   | 680 Nm                                |
| Mx at theoretical life value of 100 km (only guide consideration) | 383 Nm                                |
| My at theoretical life value of 100 km (only guide consideration) | 2502 Nm                               |
| Mz at theoretical life value of 100 km (only guide consideration) | 2502 Nm                               |
| Distance between slide surface and guide centre                   | 87 mm                                 |
| Max. radial force at drive shaft                                  | 500 N                                 |
| Max. feed force Fx  | 3400 N                                |
| Torsional mass moment of inertia It                               | 247000 mm <sup>4</sup>                |
| Mass moment of inertia JH per metre of stroke                     | 2.756 kgcm <sup>2</sup>               |
| Mass moment of inertia JL per kg of working load                  | 0.1583 kgcm <sup>2</sup>              |
| Mass moment of inertia JO   | 1.038 kgcm <sup>2</sup>               |
| Feed constant   | 25 mm/U                               |
| Reference service life  | 5000 km                               |
| Moving mass   | 4459 g                                |
| Additional weight per 10 mm stroke                                | 101 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                                 |