

# Spindle axis

## ELGA-BS-KF-80-100-0H-10P-ML

Part number: 8041822

FESTO

With recirculating ball bearing guide



## Data sheet

| Feature  | Value  |
|--|--|
| Working stroke   | 100 mm   |
| Size   | 80   |
| Stroke reserve   | 0 mm   |
| Spindle diameter   | 15 mm  |
| Spindle pitch  | 10 mm/U  |
| Assembly position  | Any  |
| Guide  | Recirculating ball bearing guide   |
| Design structure   | Electromechanical linear axis<br>with recirculating ball bearing spindle |
| Motor type   | Stepper motor<br>Servomotor  |
| Spindle type   | Ball screw actuator  |
| Measuring method: displacement encoder                                     | Incremental  |
| Max. acceleration  | 15 m/s <sup>2</sup>  |
| Max. speed   | 3,000 1/min<br>0.5 m/s   |
| Repetition accuracy  | ±0,02 mm   |
| PWIS conformity  | VDMA24364 zone III   |
| Protection class   | IP40   |
| Ambient temperature  | -10 ... 60 °C  |
| Area moment of inertia 2nd degree Iy                                       | 310E+03 mm <sup>4</sup>  |
| Area moment of inertia 2nd degree Iz                                       | 977E+03 mm <sup>4</sup>  |
| No-load torque at maximum travel speed                                     | 0.55 Nm  |
| No-load torque at minimum travel speed                                     | 0.3 Nm   |
| Max. force Fy  | 2,500 N  |
| Max. force Fz  | 3,050 N  |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 9,200 N  |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 11,224 N   |
| Max. torque Mx   | 36 Nm  |
| Max. torque My   | 228 Nm   |
| Max. torque Mz   | 228 Nm   |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 132 Nm   |
| My with theoretical service life of 100 km (from a guide perspective only) | 839 Nm   |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 839 Nm   |
| Max. radial force at drive shaft   | 250 N  |
| Max. feed force Fx   | 1,600 N  |
| Torsional mass moment of inertia It  | 67.3E+03 mm <sup>4</sup>   |
| Mass moment of inertia JH per meter 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  |
| Moving mass  | 1,370 g  |
| Additional slide weight  | 1,110 g  |
| Additional weight per 10 mm stroke   | 46.5 g   |

| Feature                                | Value                                 |
|--|---------------------------------------|
| Dynamic deflection (load moved)        | 0.05% of the axis length, max. 0.5 mm |
| Static deflection (load at standstill) | 0.1% of the axis length               |
| Material of end caps                   | Wrought Aluminum alloy<br>Anodized    |
| Material of profile                    | Wrought Aluminum alloy<br>Anodized    |
| Materials note                         | Conforms to RoHS                      |
| Material drive cover                   | Wrought Aluminum alloy<br>Anodized    |
| Material guide slide                   | Steel                                 |
| Material guide rail                    | Steel                                 |
| Material slide                         | Wrought Aluminum alloy<br>Anodized    |
| Material spindle nut                   | Steel                                 |
| Material spindle                       | Steel                                 |