

# Ball screw axis ELGA-BS-KF-80-100-0H-20P-ML

Part number: 8041829

FESTO



General operating condition

## Data sheet

| Feature  | Value  |
|--|--|
| Working stroke   | 100 mm   |
| Size   | 80   |
| Stroke reserve   | 0 mm   |
| Screw diameter   | 15 mm  |
| Spindle pitch  | 20 mm/U  |
| Mounting position  | Any  |
| Guide  | Recirculating ball bearing                       |
| Structural design  | Electromechanical linear axis<br>With ball screw |
| Motor type   | Stepper motor<br>Servo motor                     |
| Spindle type   | Ball screw                                       |
| Symbol   | 00991211   |
| Measuring principle of linear potentiometer                                | Incremental                                      |
| Max. acceleration  | 15 m/s <sup>2</sup>                              |
| Max. rotational speed  | 3000 rpm   |
| Max. speed   | 1 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>                           |
| No-load torque at maximum travel speed                                     | 0.6 Nm   |
| No-load torque at minimum travel speed                                     | 0.35 Nm  |
| Max. force Fy  | 2500 N   |
| Max. force Fz  | 3050 N   |
| Max. force Fy total axis   | 2500 N   |
| Max. force Fz total axis   | 3050 N   |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 9200 N   |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 11224 N  |
| Max. torque Mx   | 36 Nm  |
| Max. torque My   | 228 Nm   |
| Max. torque Mz   | 228 Nm   |
| Max. moment Mx total axis  | 36 Nm  |

| Feature  | Value                                |
|--|--------------------------------------|
| Max. moment My total axis  | 228 Nm                               |
| Max. moment Mz total axis  | 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                               |
| Distance between slide surface and guide center                            | 60 mm                                |
| Max. radial force on actuator shaft  | 250 N                                |
| Max. feed force Fx   | 1600 N                               |
| Torsion moment of inertia It   | 67300 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 payload                                | 0.1013 kgcm <sup>2</sup>             |
| Mass moment of inertia JO  | 0.097 kgcm <sup>2</sup>              |
| Feed constant  | 20 mm/U                              |
| Reference service life   | 5000 km                              |
| Moving mass  | 1370 g                               |
| Additional weight per 10 mm stroke   | 46.5 g                               |
| Dynamic deflection (load moved)  | 0.05% of axis length, maximum 0.5 mm |
| Static deflection (load at standstill)                                     | 0.1 % of axis length                 |
| Material of end caps   | Wrought aluminum alloy<br>Anodized   |
| Profile material   | Wrought aluminum alloy<br>Anodized   |
| Note on materials  | RoHS compliant                       |
| Cover strip material   | Stainless strip steel                |
| Drive cover material   | Wrought aluminum alloy<br>Anodized   |
| Slide carriage material  | Steel                                |
| Guide rail material  | Steel                                |
| Slide material   | Wrought aluminum alloy<br>Anodized   |
| Ball screw nut material  | Steel                                |
| Spindle material   | Steel                                |