

# Ball screw linear actuator ELGA-BS-KF-120-400-0H-10P-ML

FESTO

Part number: 8041839



## Data sheet

| Feature  | Value   |
|--|---|
| Working stroke   | 400 mm  |
| Size   | 120   |
| Stroke reserve   | 0 mm  |
| Screw diameter   | 25 mm   |
| Spindle pitch  | 10 mm/U                                       |
| Mounting position  | Any   |
| Guide  | Recirculating ball bearing guide              |
| Structural design  | Electromechanical linear axis 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  | 3600 1/min                                    |
| Max. speed   | 0.6 m/s                                       |
| Repetition accuracy  | ±0.02 mm                                      |
| 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>                       |
| No-load torque at maximum travel speed                                     | 1.33 Nm                                       |
| No-load torque at minimum travel speed                                     | 1 Nm  |
| Max. force Fy  | 5500 N  |
| Max. force Fz  | 6890 N  |
| Fy with theoretical service life of 100 km (from a guide perspective only) | 20240 N                                       |
| Fz with theoretical service life of 100 km (from a guide perspective only) | 25355 N                                       |
| Max. torque Mx   | 104 Nm  |
| Max. torque My   | 680 Nm  |
| Max. torque Mz   | 680 Nm  |
| Mx with theoretical service life of 100 km (from a guide perspective only) | 383 Nm  |
| My with theoretical service life of 100 km (from a guide perspective only) | 2502 Nm                                       |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 2502 Nm                                       |
| Max. radial force on actuator shaft  | 500 N   |

| <b>Feature</b>                                | <b>Value</b>   |
|---|--|
| Max. feed force Fx                            | 3400 N   |
| Torsion moment of inertia It                  | 247000 mm <sup>4</sup>   |
| Mass moment of inertia JH per meter of stroke | 2.756 kgcm <sup>2</sup>  |
| Mass moment of inertia JL per kg of payload   | 0.0253 kgcm <sup>2</sup>                                       |
| Mass moment of inertia JO                     | 1.038 kgcm <sup>2</sup>  |
| Feed constant                                 | 10 mm/U  |
| Moving mass                                   | 4459 g   |
| Additional slide weight                       | 3600 g   |
| Additional weight per 10 mm stroke            | 101 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                             | Contains paint-wetting impairment substances<br>RoHS-compliant |
| Drive cover material                          | Wrought aluminum alloy<br>Anodized                             |
| Slide carriage material                       | Steel  |
| Guide rail material                           | Steel  |
| Slide material                                | Wrought aluminum alloy<br>Anodized                             |
| Spindle nut material                          | Steel  |
| Spindle material                              | Steel  |