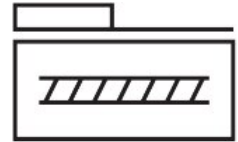


# Ball screw axis

## ELGA-BS-KF-120-100-0H-10P-ML

Part number: 8041836

FESTO



## Data sheet

| Feature                                                                    | Value                                            |
|----------------------------------------------------------------------------|--------------------------------------------------|
| Working stroke                                                             | 100 mm                                           |
| Size                                                                       | 120                                              |
| Stroke reserve                                                             | 0 mm                                             |
| Screw diameter                                                             | 25 mm                                            |
| Spindle pitch                                                              | 10 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                                       |
| Measuring principle of linear potentiometer                                | Incremental                                      |
| Max. acceleration                                                          | 15 m/s <sup>2</sup>                              |
| Max. rotational speed                                                      | 3600 rpm                                         |
| Max. speed                                                                 | 0.6 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>                          |
| 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                                           |
| Max. force Fy total axis                                                   | 5500 N                                           |
| Max. force Fz total axis                                                   | 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                                           |

| Feature                                                                    | Value                                |
|----------------------------------------------------------------------------|--------------------------------------|
| Max. torque My                                                             | 680 Nm                               |
| Max. torque Mz                                                             | 680 Nm                               |
| Max. moment Mx total axis                                                  | 104 Nm                               |
| Max. moment My total axis                                                  | 680 Nm                               |
| Max. moment Mz total axis                                                  | 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                              |
| Distance between slide surface and guide center                            | 87 mm                                |
| Max. radial force on actuator shaft                                        | 500 N                                |
| 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                              |
| Reference service life                                                     | 5000 km                              |
| Moving mass                                                                | 4459 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                                                          | 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                                |