

# Ball screw axis ELGA-BS-KF-120- -

Part number: 8024920

**FESTO**



## Data sheet

| Feature                                                                                | Value                                            |
|----------------------------------------------------------------------------------------|--------------------------------------------------|
| Working stroke                                                                         | 50 mm...2460 mm                                  |
| Size                                                                                   | 120                                              |
| Screw diameter                                                                         | 25 mm                                            |
| 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...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 I <sub>y</sub>                                                      | 1240000 mm <sup>4</sup>                          |
| 2nd moment of area I <sub>z</sub>                                                      | 3800000 mm <sup>4</sup>                          |
| No-load torque at maximum travel speed                                                 | 1.33 Nm...1.64 Nm                                |
| No-load torque at minimum travel speed                                                 | 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> with theoretical service life of 100 km (from a guide perspective only) | 20240 N                                          |
| F <sub>z</sub> with theoretical service life of 100 km (from a guide perspective only) | 25355 N                                          |
| Max. torque M <sub>x</sub>                                                             | 104 Nm                                           |
| Max. torque M <sub>y</sub>                                                             | 680 Nm                                           |
| Max. torque M <sub>z</sub>                                                             | 680 Nm                                           |

| Feature                                                                    | Value                                |
|----------------------------------------------------------------------------|--------------------------------------|
| 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>              |
| Feed constant                                                              | 10 mm/U...25 mm/U                    |
| Reference service life                                                     | 5000 km                              |
| Moving mass                                                                | 4459 g                               |
| Additional slide weight                                                    | 3600 g                               |
| Basic weight with 0 mm stroke                                              | 10500 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                                |