

# Ball screw axis ELGA-BS-KF-70-500-0H-10P-ML Part number: 8041820

FESTO



## Data sheet

| Feature                                                           | Value                                            |
|-------------------------------------------------------------------|--------------------------------------------------|
| Working stroke                                                    | 500 mm                                           |
| Size                                                              | 70                                               |
| Stroke reserve                                                    | 0 mm                                             |
| Spindle diameter                                                  | 12 mm                                            |
| Spindle pitch                                                     | 10 mm/U                                          |
| Mounting position                                                 | optional                                         |
| Guide                                                             | Recirculating ball bearing guide                 |
| Design                                                            | Electromechanical linear axis<br>With ball screw |
| Type of motor                                                     | Stepper motor<br>Servo motor                     |
| Spindle type                                                      | Ball screw                                       |
| Functional principle of measuring system                          | Incremental                                      |
| Max. acceleration                                                 | 15 m/s <sup>2</sup>                              |
| Max. rotational speed                                             | 3000 rpm                                         |
| Max. speed                                                        | 0.5 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 Iy                                             | 165000 mm <sup>4</sup>                           |
| 2nd moment of area Iz                                             | 472000 mm <sup>4</sup>                           |
| Idle torque at vmax                                               | 0.24 Nm                                          |
| Idle torque at vmin                                               | 0.17 Nm                                          |
| Max. force Fy                                                     | 1500 N                                           |
| Max. force Fz                                                     | 1850 N                                           |
| Max. force Fy total axis                                          | 1500 N                                           |
| Max. force Fz total axis                                          | 1850 N                                           |
| Fy at theoretical life value of 100 km (only guide consideration) | 5520 N                                           |
| Fz at theoretical life value of 100 km (only guide consideration) | 6808 N                                           |
| Max. moment Mx                                                    | 16 Nm                                            |

| Feature                                                           | Value                                 |
|-------------------------------------------------------------------|---------------------------------------|
| Max. moment My                                                    | 132 Nm                                |
| Max. moment Mz                                                    | 132 Nm                                |
| Max. moment Mx total axis                                         | 16 Nm                                 |
| Max. moment My total axis                                         | 132 Nm                                |
| Max. moment Mz total axis                                         | 132 Nm                                |
| Mx at theoretical life value of 100 km (only guide consideration) | 59 Nm                                 |
| My at theoretical life value of 100 km (only guide consideration) | 486 Nm                                |
| Mz at theoretical life value of 100 km (only guide consideration) | 486 Nm                                |
| Distance between slide surface and guide centre                   | 51 mm                                 |
| Max. radial force at drive shaft                                  | 220 N                                 |
| Max. feed force Fx                                                | 650 N                                 |
| Torsional mass moment of inertia It                               | 28300 mm <sup>4</sup>                 |
| Mass moment of inertia JH per metre of stroke                     | 0.142 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                                         | 0.038 kgcm <sup>2</sup>               |
| Feed constant                                                     | 10 mm/U                               |
| Reference service life                                            | 5000 km                               |
| Moving mass                                                       | 804 g                                 |
| Additional weight per 10 mm stroke                                | 33 g                                  |
| Dynamic deflection (moving load)                                  | 0.05% of the axis length, max. 0.5 mm |
| Static deflection (load in standstill)                            | 0.1% of the axis length               |
| Material end cap                                                  | Wrought aluminium alloy<br>Anodised   |
| Material profile                                                  | Wrought aluminium alloy<br>Anodised   |
| Note on materials                                                 | RoHS-compliant                        |
| Material cover tape                                               | Stainless steel strip                 |
| Material drive cover                                              | Wrought aluminium alloy<br>Anodised   |
| Material guide slide                                              | Steel                                 |
| Material guide rail                                               | Steel                                 |
| Material slide                                                    | Wrought aluminium alloy<br>Anodised   |
| Material spindle nut                                              | Steel                                 |
| Material spindle                                                  | Steel                                 |