

# Belt driven linear actuator ELGA-TB-KF-120- -

Part number: 8024916

FESTO



 General operating condition

## Data sheet

Overall data sheet – Individual values depend upon your configuration.

| Feature                                                                                | Value                            |
|----------------------------------------------------------------------------------------|----------------------------------|
| Drive pinion effective diameter                                                        | 52.52 mm                         |
| Working stroke                                                                         | 50 mm ... 8500 mm                |
| Size                                                                                   | 120                              |
| Toothed belt pitch                                                                     | 5 mm                             |
| Mounting position                                                                      | Any                              |
| Guide                                                                                  | Recirculating ball bearing guide |
| Structural design                                                                      | with toothed belt                |
| Motor type                                                                             | Stepper motor<br>Servo motor     |
| Measuring principle of linear potentiometer                                            | Incremental                      |
| Max. acceleration                                                                      | 50 m/s <sup>2</sup>              |
| Max. speed                                                                             | 5 m/s                            |
| Repetition accuracy                                                                    | ±0.08 mm                         |
| Duty cycle                                                                             | 100%                             |
| LABS (PWIS) conformity                                                                 | VDMA24364 zone III               |
| Degree of protection                                                                   | IP40                             |
| Ambient temperature                                                                    | -10 °C ... 60 °C                 |
| 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                           |
| Max. moment M <sub>x</sub> total axis                                                  | 104 Nm                           |
| Max. moment M <sub>y</sub> total axis                                                  | 680 Nm                           |
| Max. moment M <sub>z</sub> total axis                                                  | 680 Nm                           |
| M <sub>x</sub> with theoretical service life of 100 km (from a guide perspective only) | 383 Nm                           |
| M <sub>y</sub> with theoretical service life of 100 km (from a guide perspective only) | 2502 Nm                          |
| M <sub>z</sub> with theoretical service life of 100 km (from a guide perspective only) | 2502 Nm                          |
| Distance between slide surface and guide center                                        | 70 mm                            |

| Feature                                  | Value                                                                                                                                                     |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Max. feed force F <sub>x</sub>           | 1000 N ... 1300 N                                                                                                                                         |
| Feed constant                            | 165 mm/U                                                                                                                                                  |
| Reference service life                   | 5000 km                                                                                                                                                   |
| Slide weight                             | 4190 g                                                                                                                                                    |
| Additional slide weight                  | 3240 g                                                                                                                                                    |
| Dynamic deflection (load moved)          | 0.05% of axis length, maximum 0.5 mm                                                                                                                      |
| Static deflection (load at standstill)   | 0.1 % of axis length                                                                                                                                      |
| Profile material                         | Wrought aluminum alloy, anodized                                                                                                                          |
| Note on materials                        | RoHS-compliant                                                                                                                                            |
| Cover strip material                     | Stainless steel strip                                                                                                                                     |
| Drive cover material                     | Wrought aluminum alloy, anodized                                                                                                                          |
| Slide carriage material                  | Tempered steel                                                                                                                                            |
| Guide rail material                      | Tempered steel<br>Corrotect coated                                                                                                                        |
| Belt pulley material                     | High-alloy stainless steel                                                                                                                                |
| Slide material                           | Wrought aluminum alloy, anodized                                                                                                                          |
| Toothed belt clamping component material | Cast stainless steel                                                                                                                                      |
| Toothed belt material                    | Polyurethane with steel cord and nylon cover<br>Polyurethane with steel cord<br>Polychloroprene or nitrile rubber (NBR) with glass cord and nylon coating |