

# Belt driven linear actuator ELGA-TB-KF-150- -

Part number: 8024917

**FESTO**



## Data sheet

| Feature                                                                                | Value                                              |
|----------------------------------------------------------------------------------------|----------------------------------------------------|
| Drive pinion effective diameter                                                        | 73.85 mm                                           |
| Working stroke                                                                         | 50 mm...7000 mm                                    |
| Size                                                                                   | 150                                                |
| Toothed belt pitch                                                                     | 8 mm                                               |
| Mounting position                                                                      | Any                                                |
| Guide                                                                                  | Recirculating ball bearing                         |
| Structural design                                                                      | Electromechanical linear axis<br>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>                                                              | 11000 N                                            |
| Max. force F <sub>z</sub>                                                              | 11000 N                                            |
| Max. force F <sub>y</sub> total axis                                                   | 11000 N                                            |
| Max. force F <sub>z</sub> total axis                                                   | 11000 N                                            |
| F <sub>y</sub> with theoretical service life of 100 km (from a guide perspective only) | 40480 N                                            |
| F <sub>z</sub> with theoretical service life of 100 km (from a guide perspective only) | 40480 N                                            |
| Max. torque M <sub>x</sub>                                                             | 167 Nm                                             |
| Max. torque M <sub>y</sub>                                                             | 1150 Nm                                            |
| Max. torque M <sub>z</sub>                                                             | 1150 Nm                                            |
| Max. moment M <sub>x</sub> total axis                                                  | 167 Nm                                             |
| Max. moment M <sub>y</sub> total axis                                                  | 1150 Nm                                            |
| Max. moment M <sub>z</sub> total axis                                                  | 1150 Nm                                            |
| M <sub>x</sub> with theoretical service life of 100 km (from a guide perspective only) | 615 Nm                                             |

| Feature                                                                    | Value                                                                                                                                                     |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| My with theoretical service life of 100 km (from a guide perspective only) | 4232 Nm                                                                                                                                                   |
| Mz with theoretical service life of 100 km (from a guide perspective only) | 4232 Nm                                                                                                                                                   |
| Distance between slide surface and guide center                            | 86 mm                                                                                                                                                     |
| Max. feed force Fx                                                         | 2000 N                                                                                                                                                    |
| Feed constant                                                              | 232 mm/U                                                                                                                                                  |
| Reference service life                                                     | 5000 km                                                                                                                                                   |
| Slide weight                                                               | 7.24 kg                                                                                                                                                   |
| Additional slide weight                                                    | 5.84 kg                                                                                                                                                   |
| 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 strip steel                                                                                                                                     |
| Drive cover material                                                       | Wrought aluminum alloy, anodized                                                                                                                          |
| Slide carriage material                                                    | Quenched and tempered steel                                                                                                                               |
| Guide rail material                                                        | Quenched and tempered steel<br>Corroprotect 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 |