

# electric cylinder

## ESBF-BS-50-100-10P

Part number: 8022593

★ Core product range

FESTO

With ball screw, electrically actuated spindle that converts the rotary motion of the motor into linear motion of the piston rod.



## Data sheet

| Feature  | Value   |
|--|---|
| Size   | 50  |
| Stroke   | 100 mm  |
| Piston rod thread  | M16x1,5   |
| Reversing backlash   | 30 µm   |
| Spindle diameter   | 20 mm   |
| Spindle pitch  | 10 mm/U   |
| Max. angular deflection of piston rod +/-                    | 0.15 deg  |
| Based on the standard  | ISO 15552                                       |
| Assembly position  | Any   |
| Piston-rod end   | Male thread                                     |
| Motor type   | Stepper motor<br>Servomotor                     |
| Position detection   | For proximity sensor                            |
| Design structure   | Electro-cylinder with ball screw                |
| Spindle type   | Ball screw spindle                              |
| Protection against torque/guide                              | with plain-bearing guide                        |
| Max. acceleration  | 15 m/s <sup>2</sup>                             |
| Max. speed   | 0.67 m/s  |
| Repetition accuracy  | ±0,01 mm  |
| Duty cycle   | 100 %   |
| Corrosion resistance classification CRC                      | 2 - Moderate corrosion stress                   |
| PWIS conformity  | VDMA24364 zone III                              |
| Storage temperature  | -20 ... 60 °C                                   |
| Food-safe  | See Supplementary material information          |
| Relative air humidity  | 0 - 95 %  |
| Protection class   | IP40  |
| Ambient temperature  | 0 ... 60 °C                                     |
| Max. drive torque  | 9.2 Nm  |
| Max. radial force at drive shaft                             | 300 N   |
| Max. feed force F <sub>x</sub>                               | 5,000 N   |
| No-load driving torque                                       | 0.3 Nm  |
| Reference value for working load, horizontal                 | 500 kg  |
| Reference value for working load, vertical                   | 500 kg  |
| Mass moment of inertia J <sub>H</sub> per metre of stroke    | 1.042 kgcm <sup>2</sup>                         |
| Mass moment of inertia J <sub>L</sub> per kg of working load | 0.0246 kgcm <sup>2</sup>                        |
| Mass moment of inertia, J <sub>O</sub>                       | 0.1867 kgcm <sup>2</sup>                        |
| Moving mass with 0 mm stroke                                 | 793 g   |
| Additional mass factor per 10 mm of stroke                   | 35 g  |
| Basic weight for 0 mm stroke                                 | 1,982 g   |
| Additional weight per 10 mm stroke                           | 65 g  |
| Mounting type  | with internal (female) thread<br>or accessories |
| Interface code, actuator                                     | D50   |

| Feature                  | Value                                   |
|--------------------------|---|
| Materials note           | Conforms to RoHS                        |
| Material cover           | Smooth anodised wrought aluminium alloy |
| Material piston rod      | High alloy steel, non-corrosive         |
| Material screws          | Galvanised steel                        |
| Material spindle nut     | Roller bearing steel                    |
| Material spindle         | Roller bearing steel                    |
| Material cylinder barrel | Smooth-anodised wrought aluminium alloy |