

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

Part number: 8022593

**FESTO**



## Data sheet

| Feature                                      | Value                                  |
|----------------------------------------------|----------------------------------------|
| Working stroke                               | 100 mm                                 |
| Size                                         | 50                                     |
| Stroke                                       | 100 mm                                 |
| Piston rod thread                            | M16x1.5                                |
| Reversing backlash                           | 30 µm                                  |
| Screw diameter                               | 20 mm                                  |
| Spindle pitch                                | 10 mm/U                                |
| Max. angle of rotation of the piston rod +/- | 0.15 deg                               |
| Based on norm                                | ISO 15552                              |
| Mounting position                            | Any                                    |
| Piston rod end                               | External thread                        |
| Motor type                                   | Stepper motor<br>Servo motor           |
| Position sensing                             | Via proximity switch                   |
| Structural design                            | Electric cylinder with ball screw      |
| Spindle type                                 | Ball screw                             |
| Protection against torsion/guide             | With plain bearing-guide               |
| Max. acceleration                            | 15 m/s <sup>2</sup>                    |
| Max. rotational speed                        | 3600 rpm                               |
| Max. speed                                   | 0.67 m/s                               |
| Repetition accuracy                          | ±0.01 mm                               |
| Duty cycle                                   | 100%                                   |
| Corrosion resistance class (CRC)             | 2 - Moderate corrosion stress          |
| LABS (PWIS) conformity                       | VDMA24364 Zone III                     |
| Storage temperature                          | -20 °C...60 °C                         |
| For use in the food industry                 | See supplementary material information |
| Relative air humidity                        | 0 - 95%                                |
| Degree of protection                         | IP40                                   |
| Ambient temperature                          | 0 °C...60 °C                           |
| Max. driving torque                          | 9.2 Nm                                 |
| Max. radial force on actuator shaft          | 300 N                                  |
| Max. feed force Fx                           | 5000 N                                 |

| Feature                                       | Value                                   |
|-----------------------------------------------|-----------------------------------------|
| No-load driving torque                        | 0.3 Nm                                  |
| Guide value for payload, horizontal           | 500 kg                                  |
| Guide value for payload, vertical             | 500 kg                                  |
| Mass moment of inertia JH per meter of stroke | 1.0427 kgcm <sup>2</sup>                |
| Mass moment of inertia JL per kg of payload   | 0.0253 kgcm <sup>2</sup>                |
| Mass moment of inertia JO                     | 0.1603 kgcm <sup>2</sup>                |
| Maintenance interval                          | Lifetime lubrication                    |
| Moving mass at 0 mm stroke                    | 793 g                                   |
| Additional moving mass per 10 mm stroke       | 35 g                                    |
| Basic weight with 0 mm stroke                 | 1982 g                                  |
| Additional weight per 10 mm stroke            | 65 g                                    |
| Type of mounting                              | With internal thread<br>or accessories  |
| Interface code, actuator                      | D50                                     |
| Note on materials                             | RoHS compliant                          |
| Cover material                                | Wrought aluminum alloy, smooth-anodized |
| Piston rod material                           | high-alloy stainless steel              |
| Material of screws                            | Galvanized steel                        |
| Ball screw nut material                       | Bearing steel                           |
| Spindle material                              | Bearing steel                           |
| Material of cylinder barrel                   | Wrought aluminum alloy, smooth-anodized |