

# Electric cylinder EPRF-BS-45-100-5P-F-M1

Part number: 8211884

**FESTO**



## Data sheet

| Feature                                      | Value                                                                                |
|----------------------------------------------|--------------------------------------------------------------------------------------|
| Size                                         | 45                                                                                   |
| Stroke                                       | 100 mm                                                                               |
| Stroke reserve                               | 0 mm                                                                                 |
| Piston rod thread                            | M6                                                                                   |
| Reversing backlash                           | 100 µm                                                                               |
| Screw diameter                               | 12 mm                                                                                |
| Spindle pitch                                | 5 mm/U                                                                               |
| Max. angle of rotation of the piston rod +/- | 0.7 deg                                                                              |
| Mounting position                            | Any                                                                                  |
| Piston rod end                               | Internal thread                                                                      |
| Motor type                                   | Servo motor                                                                          |
| Position sensing                             | None                                                                                 |
| Structural design                            | Electric cylinder with ball screw                                                    |
| Spindle type                                 | Ball screw                                                                           |
| Protection against torsion/guide             | With plain bearing-guide                                                             |
| Max. actuator speed                          | 6000 rpm                                                                             |
| Max. acceleration                            | 5 m/s <sup>2</sup>                                                                   |
| Max. speed                                   | 500 m/s                                                                              |
| Max. homing speed                            | 0.01 m/s                                                                             |
| Repetition accuracy                          | ±0.02 mm                                                                             |
| Duty cycle                                   | 100%                                                                                 |
| Vibration resistance                         | Transport application test with severity level 1 as per FN 942017-4 and EN 60068-2-6 |
| Shock resistance                             | Shock test with severity level 1 as per FN 942017-5 and EN 60068-2-27                |
| Corrosion resistance class (CRC)             | 4 - Particularly high corrosion stress                                               |
| LABS (PWIS) conformity                       | VDMA24364 Zone III                                                                   |
| Storage temperature                          | -20 °C...60 °C                                                                       |
| For use in the food industry                 | See declaration of conformity                                                        |
| Relative air humidity                        | 0 - 95%<br>Non-condensating                                                          |
| Degree of protection                         | IP69K                                                                                |
| Ambient temperature                          | -10 °C...60 °C                                                                       |

| Feature                                       | Value                      |
|-----------------------------------------------|----------------------------|
| Impact energy in the end positions            | 24 mJ                      |
| Max. driving torque                           | 0.97 Nm                    |
| Max. torque Mx                                | 0 Nm                       |
| Max. torque My                                | 7 Nm                       |
| Max. torque Mz                                | 7 Nm                       |
| Max. radial force on actuator shaft           | 115 N                      |
| Max. feed force Fx                            | 1000 N                     |
| No-load driving torque                        | 0.128 Nm                   |
| Guide value for payload, horizontal           | 120 kg                     |
| Guide value for payload, vertical             | 60 kg                      |
| Mass moment of inertia JH per meter of stroke | 0.1142 kgcm <sup>2</sup>   |
| Mass moment of inertia JL per kg of payload   | 0.0063 kgcm <sup>2</sup>   |
| Mass moment of inertia JO                     | 0.0171 kgcm <sup>2</sup>   |
| Reference service life                        | 5000 km                    |
| Maintenance interval                          | Lifetime lubrication       |
| Moving mass at 0 mm stroke                    | 230 g                      |
| Additional moving mass per 10 mm stroke       | 9.1 g                      |
| Basic weight with 0 mm stroke                 | 1309 g                     |
| Additional weight per 10 mm stroke            | 37.7 g                     |
| Type of mounting                              | With internal thread       |
| Note on materials                             | RoHS compliant             |
| Cover cap material                            | high-alloy stainless steel |
| Cover material                                | high-alloy stainless steel |
| Seals material                                | TPE-U(PU)                  |
| Material of dynamic seals                     | TPE-U(PU)                  |
| Housing material                              | high-alloy stainless steel |
| Piston rod material                           | high-alloy stainless steel |
| Ball screw nut material                       | Steel                      |
| Spindle material                              | Bearing steel              |
| Material of cylinder barrel                   | high-alloy stainless steel |