

# 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 theoretical       | 100 µm                                                                           |
| Spindle diameter                     | 12 mm                                                                            |
| Spindle pitch                        | 5 mm/U                                                                           |
| Torsional backlash at piston rod +/- | 0.7 deg                                                                          |
| Mounting position                    | optional                                                                         |
| Piston-rod end                       | Female thread                                                                    |
| Type of motor                        | Servo motor                                                                      |
| Position detection                   | Without                                                                          |
| Design                               | Electric cylinder with ball screw                                                |
| Spindle type                         | Ball screw drive                                                                 |
| Protection against torque/guide      | With plain-bearing guide                                                         |
| Max. drive 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 to FN 942017-4 and EN 60068-2-6 |
| Shock resistance                     | Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27                |
| Corrosion resistance class CRC       | 4 - Very high corrosion stress                                                   |
| LABS (PWIS) conformity               | VDMA24364 zone III                                                               |
| Storage temperature                  | -20 °C...60 °C                                                                   |
| Relative air humidity                | 0 - 95%<br>Non-condensing                                                        |
| Degree of protection                 | IP69K                                                                            |
| Ambient temperature                  | -10 °C...60 °C                                                                   |
| Impact energy in end positions       | 24 mJ                                                                            |

| Feature                                          | Value                      |
|--------------------------------------------------|----------------------------|
| Max. drive torque                                | 0.97 Nm                    |
| Max. moment Mx                                   | 0 Nm                       |
| Max. moment My                                   | 7 Nm                       |
| Max. moment Mz                                   | 7 Nm                       |
| Max. radial force at drive shaft                 | 115 N                      |
| Max. feed force Fx                               | 1000 N                     |
| Frictional torque independent of load            | 0.128 Nm                   |
| Reference value effective load, horizontal       | 120 kg                     |
| Reference value effective load, vertical         | 60 kg                      |
| Mass moment of inertia JH per metre of stroke    | 0.1142 kgcm <sup>2</sup>   |
| Mass moment of inertia JL per kg of working load | 0.0063 kgcm <sup>2</sup>   |
| Mass moment of inertia JO                        | 0.0171 kgcm <sup>2</sup>   |
| Reference service life                           | 5000 km                    |
| Maintenance interval                             | Life-time lubrication      |
| Moving mass for 0 mm stroke                      | 230 g                      |
| Additional moving mass per 10 mm stroke          | 9.1 g                      |
| Basic weight for 0 mm stroke                     | 1309 g                     |
| Additional weight per 10 mm stroke               | 37.7 g                     |
| Type of mounting                                 | Via female thread          |
| Note on materials                                | RoHS-compliant             |
| Material cover cap                               | High-alloy stainless steel |
| Material cover                                   | High-alloy stainless steel |
| Material seals                                   | TPE-U(PU)                  |
| Material dynamic seals                           | TPE-U(PU)                  |
| Material housing                                 | High-alloy stainless steel |
| Material piston rod                              | High-alloy stainless steel |
| Material ball screw nut                          | Steel                      |
| Material spindle                                 | Rolled steel               |
| Material cylinder barrel                         | High-alloy stainless steel |