

# Electric cylinder EPRF-BS-45- -

Part number: 8211887

FESTO



## Data sheet

| Feature                              | Value  |
|--------------------------------------|--|
| Size                                 | 45   |
| Stroke                               | 24 mm...800 mm   |
| Stroke reserve                       | 0 mm   |
| Piston rod thread                    | M6<br>M10x1.25   |
| Reversing backlash theoretical       | 100 µm   |
| Spindle diameter                     | 12 mm  |
| Spindle pitch                        | 5 mm/U...10 mm/U   |
| Torsional backlash at piston rod +/- | 0.7 deg  |
| Mounting position                    | optional   |
| Piston-rod end                       | Male thread<br>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> ...15 m/s <sup>2</sup>  |
| Max. speed                           | 500 m/s...1000 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  |

| Feature  | Value  |
|--|--|
| Ambient temperature                              | -10 °C...60 °C   |
| Impact energy in end positions                   | 24 mJ  |
| Max. drive torque                                | 0.97 Nm...1.9 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...0.185 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> ...0.1217 kgcm <sup>2</sup>   |
| Mass moment of inertia JL per kg of working load | 0.0063 kgcm <sup>2</sup> ...0.0253 kgcm <sup>2</sup>   |
| Mass moment of inertia JO                        | 0.0171 kgcm <sup>2</sup> ...0.0175 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                     | 1091 g...1559 g  |
| Additional weight per 10 mm stroke               | 37.7 g   |
| Type of mounting                                 | With through-hole and rear mounting bracket<br>With through-hole<br>Via mounting bracket<br>With female thread and rear mounting bracket<br>Via female thread<br>With trunnion mounting on end cap |
| 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   |