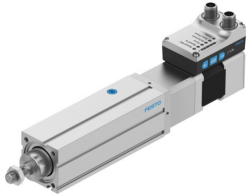


# Electric cylinder unit

## EPCS-BS-45-50-10P-A-ST-M-H1-PLK-AA

FESTO

Part number: 8118281



[PDF](#) General operating condition

## Data sheet

| Feature  | Value   |
|--|---|
| Size   | 45  |
| Stroke   | 50 mm   |
| Stroke reserve                                     | 0 mm  |
| Piston rod thread                                  | M10x1.25  |
| Reversing backlash theoretical                     | 100 µm  |
| Spindle diameter                                   | 10 mm   |
| Spindle pitch                                      | 10 mm/U   |
| Torsional backlash at piston rod +/-               | 1 deg   |
| Mounting position                                  | optional  |
| Piston-rod end                                     | Male thread   |
| Type of motor                                      | Stepper motor   |
| Design   | With ball screw drive<br>With integrated drive  |
| Spindle type                                       | Ball screw drive  |
| Symbol   | 00997294  |
| Protection against torque/guide                    | With plain-bearing guide  |
| Referencing  | Positive fixed stop block<br>Negative fixed stop block<br>Reference switch                              |
| Rotor position sensor                              | Absolute single-turn encoder  |
| Rotor position sensor, encoder measuring principle | Magnetic  |
| Temperature monitoring                             | Switch-off for excessive temperature<br>Integrated precise CMOS temperature sensor with analogue output |
| Additional functions                               | Integrated end-position sensing   |
| Display  | LED   |
| Ready status indication                            | LED   |
| Max. acceleration                                  | 5 m/s <sup>2</sup>  |
| Max. speed   | 0.23 m/s  |
| Speed "Speed press"                                | 0.01 m/s  |
| Repetition accuracy                                | ±0.02 mm  |
| Features of digital logic outputs                  | Configurable<br>Not galvanically isolated   |
| Duty cycle   | 100%  |
| Insulation protection class                        | B   |
| Max. current digital logic outputs                 | 100 mA  |
| Max. current consumption                           | 3000 mA   |
| Max. current consumption, logic                    | 0.3 A   |

| Feature   | Value  |
|---|--|
| Nominal voltage DC  | 24 V   |
| Nominal current   | 3 A  |
| Parameterisation interface                                | IO-Link<br>User interface  |
| Rotor position transducer resolution                      | 16 bit   |
| Permissible voltage fluctuations                          | +/- 15%  |
| Power supply, connection type                             | Plugs  |
| power supply, connection system                           | M12x1, T-coded according to EN 61076-2-111                                       |
| Power supply, number of pins/wires                        | 4  |
| Power supply, connection pattern                          | 00995989   |
| Approval  | RCM trademark  |
| KC mark   | KC-EMV   |
| CE mark (see declaration of conformity)                   | To EU EMC Directive<br>In accordance with EU RoHS Directive                      |
| UKCA marking (see declaration of conformity)              | To UK RoHS instructions  |
| 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                            | 0 - No corrosion stress  |
| LABS (PWIS) conformity                                    | VDMA24364 zone III   |
| Cleanroom suitability, measured according to ISO 14644-14 | Class 9 according to ISO 14644-1   |
| Storage temperature                                       | -20 °C ... 60 °C   |
| Relative air humidity                                     | Non-condensing   |
| Degree of protection                                      | IP40   |
| Protection class  | III  |
| Ambient temperature                                       | 0 °C ... 50 °C   |
| Note on ambient temperature                               | Power must be reduced by 2% per K at ambient temperatures above 30°C.            |
| Max. moment Mx  | 0 Nm   |
| Max. moment My  | 2.9 Nm   |
| Max. moment Mz  | 2.9 Nm   |
| Max. radial force at drive shaft                          | 180 N  |
| Max. feed force Fx  | 250 N  |
| Reference value effective load, horizontal                | 40 kg  |
| Reference value effective load, vertical                  | 13 kg  |
| Maintenance interval                                      | Life-time lubrication  |
| Moving mass for 0 mm stroke                               | 179 g  |
| Additional moving mass per 10 mm stroke                   | 4.9 g  |
| Product weight  | 1390 g   |
| Basic weight for 0 mm stroke                              | 1185 g   |
| Additional weight per 10 mm stroke                        | 41 g   |
| Number of digital logic outputs 24 V DC                   | 2  |
| Number of digital logic inputs                            | 2  |
| Specification logic input                                 | Based on IEC 61131-2, type 1   |
| Working range of logic input                              | 24 V   |
| Features of logic input                                   | Configurable<br>Not galvanically isolated  |
| IO-Link, SIO-Mode support                                 | Yes  |
| IO-Link, Protocol version                                 | Device V 1.1   |
| IO-Link, communication mode                               | COM3 (230.4 kBaud)   |
| IO-Link, Port class                                       | A  |
| IO-Link, Number of ports                                  | 1  |
| IO-Link, Process data length OUT                          | 2 bytes  |

| Feature                                | Value   |
|--|---|
| IO-Link, Process data content OUT      | Move in 1 bit<br>Move out 1 bit<br>Quit Error 1 bit<br>Move intermediate 1 bit                          |
| IO-Link, Process data length IN        | 2 bytes   |
| IO-Link, Process data content IN       | State Device 1 bit<br>State In 1 bit<br>State Intermediate 1 bit<br>State Move 1 bit<br>State Out 1 bit |
| IO-Link, Service data IN               | 32-bit force<br>32-bit position<br>32-bit speed   |
| IO-Link, Min. cycle time               | 1 ms  |
| IO-Link, Data storage required         | 500 Byte  |
| Max. cable length                      | 15 m outputs<br>15 m inputs<br>20 m with IO-Link® operation   |
| Switching logic for outputs            | NPN (negative switching)<br>PNP (positive switching)  |
| Switching logic for inputs             | NPN (negative switching)<br>PNP (positive switching)  |
| Logic interface, connection type       | Plug  |
| Logic interface, connection technology | M12x1, A-coded according to EN 61076-2-101  |
| Logic interface, number of pins/wires  | 8   |
| Logic interface, plug pattern          | 00992264  |
| Type of mounting                       | Via female thread<br>With accessories   |
| Note on materials                      | RoHS-compliant  |
| Material housing                       | Smooth-anodised wrought aluminium alloy   |
| Material piston rod                    | High-alloy stainless steel  |
| Material ball screw nut                | Steel   |
| Material spindle                       | Rolled steel  |