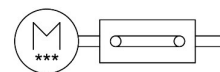


# Electric cylinder unit EPCE-TB-45-20-FL-MF-ST-M-H1-PLK-AA

Part number: 8101544

**FESTO**



## Data sheet

| Feature                                            | Value                                                                                                   |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Effective diameter of drive pinion                 | 10.18 mm                                                                                                |
| Size                                               | 45                                                                                                      |
| Stroke                                             | 20 mm                                                                                                   |
| Stroke reserve                                     | 0 mm                                                                                                    |
| Piston rod thread                                  | M6                                                                                                      |
| Toothed-belt stretch                               | 0.31 %                                                                                                  |
| Toothed-belt pitch                                 | 2 mm                                                                                                    |
| Mounting position                                  | optional                                                                                                |
| Position detection                                 | Motor encoder                                                                                           |
| Design                                             | Electric cylinder<br>With toothed belt<br>With integrated drive                                         |
| Protection against torque/guide                    | With plain-bearing guide                                                                                |
| 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                               | User interface<br>Integrated end-position sensing                                                       |
| Display                                            | LED                                                                                                     |
| Max. acceleration                                  | 9 m/s <sup>2</sup>                                                                                      |
| Max. speed                                         | 0.44 m/s                                                                                                |
| Repetition accuracy                                | ±0.05 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                           | 3 A                                                                                                     |
| Max. current consumption, logic                    | 300 mA                                                                                                  |
| Nominal voltage DC                                 | 24 V                                                                                                    |
| Nominal current                                    | 3 A                                                                                                     |

| Feature                                    | Value                                                                                                   |
|--------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Parameterisation interface                 | IO-Link<br>User interface                                                                               |
| 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                                                                                                       |
| Approval                                   | RCM trademark                                                                                           |
| CE mark (see declaration of conformity)    | To EU EMC Directive<br>In accordance with EU RoHS Directive                                             |
| 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                                                                                      |
| Storage temperature                        | -20 °C...60 °C                                                                                          |
| Relative air humidity                      | 0 - 90%                                                                                                 |
| Degree of protection                       | IP40                                                                                                    |
| Ambient temperature                        | 0 °C...50 °C                                                                                            |
| Note on ambient temperature                | Power must be reduced by 2% per K at ambient temperatures above 30°C.                                   |
| Impact energy in end positions             | 0.003 J                                                                                                 |
| Max. moment Mx                             | 0 Nm                                                                                                    |
| Max. moment My                             | 0.4 Nm                                                                                                  |
| Max. moment Mz                             | 0.4 Nm                                                                                                  |
| Max. feed force Fx                         | 85 N                                                                                                    |
| Reference value effective load, horizontal | 5 kg                                                                                                    |
| Reference value effective load, vertical   | 2.5 kg                                                                                                  |
| Feed constant                              | 32 mm/U                                                                                                 |
| Reference service life                     | 200 km                                                                                                  |
| Moving mass                                | 96 g                                                                                                    |
| Moving mass for 0 mm stroke                | 87 g                                                                                                    |
| Additional moving mass per 10 mm stroke    | 4.55 g                                                                                                  |
| Product weight                             | 872 g                                                                                                   |
| Basic weight for 0 mm stroke               | 813 g                                                                                                   |
| Additional weight per 10 mm stroke         | 29 g                                                                                                    |
| Number of digital logic outputs 24 V DC    | 2                                                                                                       |
| Number of digital logic inputs             | 2                                                                                                       |
| Working range of logic input               | 24 V                                                                                                    |
| Features of logic input                    | Configurable<br>Not galvanically isolated                                                               |
| IO-Link, Protocol version                  | Device V 1.1                                                                                            |
| IO-Link, communication mode                | COM3 (230.4 kBaud)                                                                                      |
| IO-Link, Port class                        | A                                                                                                       |
| 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 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                   | Speed 32 bit<br>Position 32 bit<br>Force 32 bit                                                         |
| IO-Link, Data storage required             | 0.5 KB                                                                                                  |
| Switching logic for inputs                 | PNP (positive switching)                                                                                |

| Feature                                | Value                                                                             |
|----------------------------------------|-----------------------------------------------------------------------------------|
| IO-Link, connection technology         | Plugs                                                                             |
| 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                                                                                 |
| Type of mounting                       | With through-hole<br>Via female thread<br>Via centring sleeve<br>With accessories |
| Note on materials                      | RoHS-compliant                                                                    |
| Material toothed belt                  | Polychloroprene with glass fibre                                                  |