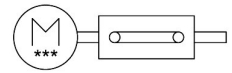


# Electric cylinder unit EPCE-TB-45-

Part number: 8103354

**FESTO**



[General operating condition](#)

## Data sheet

Overall data sheet – Individual values depend upon your configuration.

| Feature                                   | Value                                                                                                        |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Drive pinion effective diameter           | 10.18 mm                                                                                                     |
| Size                                      | 45                                                                                                           |
| Stroke                                    | 10 mm ... 50 mm                                                                                              |
| Stroke reserve                            | 0 mm                                                                                                         |
| Piston rod thread                         | M6                                                                                                           |
| Toothed belt elongation                   | 0.31 %                                                                                                       |
| Toothed belt pitch                        | 2 mm                                                                                                         |
| Mounting position                         | Any                                                                                                          |
| Piston rod end                            | External thread                                                                                              |
| Motor type                                | Stepper motor                                                                                                |
| Position sensing                          | Motor encoder                                                                                                |
| Structural design                         | with toothed belt<br>With integrated drive                                                                   |
| Symbol                                    | 00997342                                                                                                     |
| Protection against torsion/guide          | With plain-bearing guide                                                                                     |
| Homing                                    | Fixed stop block positive<br>Fixed stop block, negative                                                      |
| Rotor position sensor                     | Absolute encoder, single-turn                                                                                |
| Rotor position sensor measuring principle | Magnetic                                                                                                     |
| Temperature monitoring                    | Shutdown in the event of over temperature<br>Integrated precise CMOS temperature sensor with analogue output |
| Additional functions                      | User interface<br>Integrated end-position sensing                                                            |
| Display                                   | LED                                                                                                          |
| Ready status indication                   | LED                                                                                                          |
| Max. acceleration                         | 9 m/s <sup>2</sup>                                                                                           |
| Max. speed                                | 0.44 m/s                                                                                                     |
| Speed "Speed Press"                       | 0.02 m/s                                                                                                     |
| Repetition accuracy                       | ±0.05 mm                                                                                                     |
| Characteristics of digital logic outputs  | Configurable<br>Not galvanically isolated                                                                    |
| Duty cycle                                | 100%                                                                                                         |
| Insulation protection class               | B                                                                                                            |
| Max. current of digital logic outputs     | 100 mA                                                                                                       |
| Max. current consumption                  | 3000 mA                                                                                                      |
| Logic max. current consumption            | 0.3 A                                                                                                        |

| Feature                                      | Value                                                                                |
|----------------------------------------------|--------------------------------------------------------------------------------------|
| DC nominal voltage                           | 24 V                                                                                 |
| Nominal current                              | 3 A                                                                                  |
| Parameterization interface                   | IO-Link®<br>User interface                                                           |
| Rotor position sensor resolution             | 16 bit                                                                               |
| Permissible voltage fluctuations             | +/- 15 %                                                                             |
| Power supply, type of connection             | Plug                                                                                 |
| Power supply, connection technology          | M12x1, T-coded as per EN 61076-2-111                                                 |
| Power supply, number of pins/wires           | 4                                                                                    |
| Power supply, connection pattern             | 00995989                                                                             |
| Certification                                | RCM compliance mark                                                                  |
| KC characters                                | KC EMC                                                                               |
| CE marking (see declaration of conformity)   | As per EU EMC directive<br>As per EU RoHS directive                                  |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions                                |
| 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)             | 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                                                                                 |
| Protection class                             | III                                                                                  |
| Ambient temperature                          | 0 °C ... 50 °C                                                                       |
| Note on ambient temperature                  | Above an ambient temperature of 30°C, the power must be reduced by 2% per K.         |
| Impact energy in the end positions           | 0.003 J                                                                              |
| Max. torque Mx                               | 0 Nm                                                                                 |
| Max. torque My                               | 0.4 Nm                                                                               |
| Max. torque Mz                               | 0.4 Nm                                                                               |
| Max. feed force Fx                           | 85 N                                                                                 |
| Guide value for payload, horizontal          | 5 kg                                                                                 |
| Guide value for payload, vertical            | 2.5 kg                                                                               |
| Feed constant                                | 32 mm/U                                                                              |
| Reference service life                       | 50 km ... 500 km                                                                     |
| Maintenance interval                         | Life-time lubrication                                                                |
| Moving mass                                  | 95 g ... 282 g                                                                       |
| Moving mass at 0 mm stroke                   | 83 g ... 199 g                                                                       |
| Additional moving mass per 10 mm stroke      | 4.55 g ... 16.61 g                                                                   |
| Product weight                               | 802 g ... 1196 g                                                                     |
| Basic weight with 0 mm stroke                | 775 g ... 1001 g                                                                     |
| Additional weight per 10 mm stroke           | 29 g ... 42 g                                                                        |
| Number of digital logic outputs 24 V DC      | 2                                                                                    |
| Number of digital logic inputs               | 2                                                                                    |
| Logic input specification                    | Based on IEC 61131-2, type 1                                                         |
| Work range of logic input                    | 24 V                                                                                 |
| Characteristics 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 kBd)                                                                     |
| IO-Link®, port class                         | A                                                                                    |

| Feature                                | Value                                                                                                   |
|----------------------------------------|---------------------------------------------------------------------------------------------------------|
| IO-Link®, number of ports              | 1                                                                                                       |
| IO-Link®, process data width OUT       | 2 Byte                                                                                                  |
| 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 width IN        | 2 Byte                                                                                                  |
| 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 contents IN     | Speed 32 bit<br>Position 32 bit<br>Force 32 bit                                                         |
| IO-Link®, minimum cycle time           | 1 ms                                                                                                    |
| IO-Link®, data memory required         | 500 byte                                                                                                |
| Max. cable length                      | 15 m outputs<br>15 m inputs<br>20 m for IO-Link® operation                                              |
| Switching logic at outputs             | NPN (negative switching)<br>PNP (positive switching)                                                    |
| Input switching logic                  | NPN (negative switching)<br>PNP (positive switching)                                                    |
| IO-Link®, Connection technology        | Plug                                                                                                    |
| Logic interface, connection type       | Plug                                                                                                    |
| Logic interface, connection technology | M12x1, A-coded as per EN 61076-2-101                                                                    |
| Logic interface, number of poles/wires | 8                                                                                                       |
| Logic interface, connection pattern    | 00992264                                                                                                |
| Type of mounting                       | With through-hole<br>With internal thread<br>With centering sleeve<br>With accessories                  |
| Note on materials                      | RoHS-compliant                                                                                          |
| Cover material                         | Wrought aluminum alloy, anodized                                                                        |
| Housing material                       | Wrought aluminum alloy, anodized                                                                        |
| Piston rod material                    | High-alloy stainless steel                                                                              |
| Toothed belt material                  | Polychloroprene with glass fiber                                                                        |