

# Lubricator LOE

**FESTO**



## Characteristics

### At a glance

Proportional lubricator with precision oil dosing

- Reduces wear on drive units subject to high loads
- High flow rate performance
- Quick and easy oil top-up even during operation (under pressure)
- Transparent oiler bowl with metal bowl guard
- Product complies with ISO 1179-1 and ISO 228-1
- Sizes Mini, Midi, Maxi

The following oils are recommended for Festo components (viscosity range to ISO 3448, ISO class VG 32, 32 mm<sup>2</sup>/s (= cSt) at 40 °C):

- Festo special oil OFSW-32 (see accessories)
- ARAL Vitam GF 32
- BP Energol HLP 32
- Esso Nuto H 32
- Mobil DTE 24
- Shell Tellus Oil DO 32

### Series

The proportional lubricator adds a precisely adjustable amount of oil to the compressed air. The pressure drop that occurs when air flows through a Venturi nozzle is used to feed oil from a reservoir to the drip cap. From there, the oil drips into the air duct directly behind the proportional valve, where it is atomised. The amount of oil mist is proportional to the compressed air flow rate.

### Pneumatic connection

Individual fittings can be connected via connecting plates with female threads.

### Version

[D] D series, metal

Sturdy in full metal design for the specific requirements of the process automation industry

## Type code

| 001 | Series     |
|-----|------------|
| LOE | Lubricator |

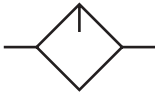
| 002        | Pneumatic connection |
|------------|----------------------|
|            | None                 |
| <b>1/8</b> | Female thread G1/8   |
| <b>1/4</b> | Female thread G1/4   |
| <b>3/8</b> | Female thread G3/8   |
| <b>1/2</b> | Female thread G1/2   |
| <b>3/4</b> | Female thread G3/4   |
| <b>1</b>   | Female thread G1     |

| 003      | Version         |
|----------|-----------------|
| <b>D</b> | D series, metal |

| 004         | Size   |
|-------------|--|
| <b>MINI</b> | Grid dimension 40 mm (without connecting plates) |
| <b>MIDI</b> | Grid dimension 55 mm (without connecting plates) |
| <b>MAXI</b> | Grid dimension 66 mm (without connecting plates) |

## Datasheet

## General technical data



| Size                                   | Maxi  |      |    | Midi                |      |      |      | Mini               |      |      |
|--|---|------|----|---------------------|------|------|------|--------------------|------|------|
| Pneumatic connection, port 1           | G1/2  | G3/4 | G1 | G1/4                | G3/8 | G1/2 | G3/4 | G1/8               | G1/4 | G3/8 |
| Pneumatic connection, port 2           | G1/2  | G3/4 | G1 | G1/4                | G3/8 | G1/2 | G3/4 | G1/8               | G1/4 | G3/8 |
| Design                                 | Proportional standard mist lubricator                   |      |    |                     |      |      |      |                    |      |      |
| Type of mounting                       | With accessories  |      |    |                     |      |      |      |                    |      |      |
| Mounting position                      | Vertical +/-5°  |      |    |                     |      |      |      |                    |      |      |
| Air purity class at output             | Compressed air to ISO 8573-1:2010 [7:4:]<br>Inert gases |      |    |                     |      |      |      |                    |      |      |
| Bowl type                              | Polymer with metal bowl guard                           |      |    |                     |      |      |      |                    |      |      |
| Min. flow rate for lubricator function | 10 l/min  |      |    | 8 l/min             |      |      |      | 3 l/min            |      |      |
| Max. oil capacity                      | 190 cm <sup>3</sup>                                     |      |    | 110 cm <sup>3</sup> |      |      |      | 45 cm <sup>3</sup> |      |      |

Standard nominal flow rate q<sub>N</sub>

| Size  | Maxi        |             |             | Midi        |             |             |             | Mini        |             |             |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Pneumatic connection, port 1  | G1/2        | G3/4        | G1          | G1/4        | G3/8        | G1/2        | G3/4        | G1/8        | G1/4        | G3/8        |
| Standard nominal flow rate (standardised to DIN 1343) <sup>1)</sup> | 8,300 l/min | 8,400 l/min | 9,000 l/min | 2,800 l/min | 5,500 l/min | 6,100 l/min | 6,300 l/min | 1,300 l/min | 2,300 l/min | 2,700 l/min |

1) in main flow direction 1-&gt;2

## Operating and environmental conditions

| Size   | Maxi   |  |  | Midi |                                   |  |  | Mini |  |  |
|--|--|--|--|------|-----------------------------------|--|--|------|--|--|
| Operating pressure                           | 0 ... 1.6 MPa  |  |  |      |                                   |  |  |      |  |  |
| Operating pressure <sup>1)</sup>             | 0 ... 16 bar   |  |  |      |                                   |  |  |      |  |  |
| Operating pressure                           | 0 ... 232 psi  |  |  |      |                                   |  |  |      |  |  |
| Operating medium                             | Compressed air to ISO 8573-1:2010 [7:4:4]<br>Inert gases                                   |  |  |      |                                   |  |  |      |  |  |
| Note on operating and pilot medium           | Lubricated operation possible (in which case lubricated operation will always be required) |  |  |      | Lubricated operation not possible |  |  |      |  |  |
| Ambient temperature                          | -10 ... 60°C   |  |  |      |                                   |  |  |      |  |  |
| Media temperature                            | -10 ... 60°C   |  |  |      |                                   |  |  |      |  |  |
| Storage temperature                          | -10 ... 60°C   |  |  |      |                                   |  |  |      |  |  |
| Corrosion resistance class CRC <sup>2)</sup> | 2 - Moderate corrosion stress  |  |  |      |                                   |  |  |      |  |  |

1) With certification UL: 1 ... 10 bar

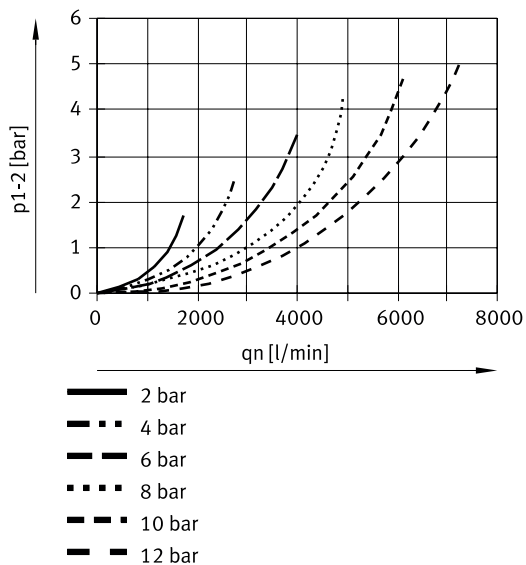
2) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Materials

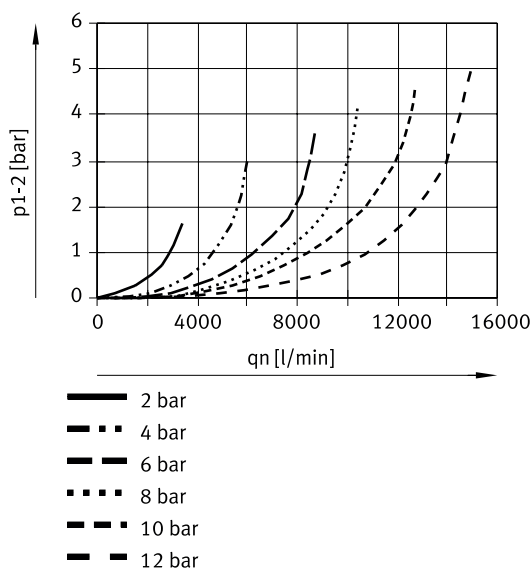
|                        |                   |
|------------------------|-------------------|
| Material bowl          | PC                |
| Note on materials      | RoHS-compliant    |
| LABS (PWIS) conformity | VDMA24364-B1/B2-L |

# Datasheet

## Standard flow rate $q_n$ as a function of differential pressure $p_{1-2}$ (LOE-1/4-D-MINI)

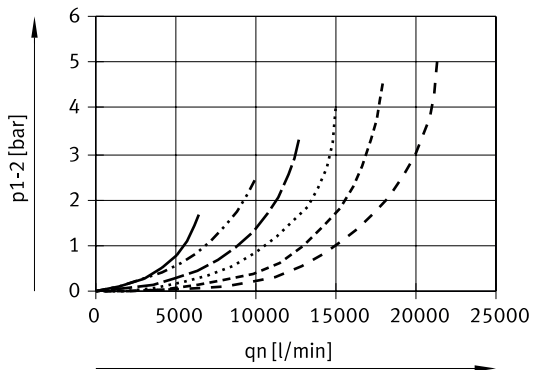


## Standard flow rate $q_n$ as a function of differential pressure $p_{1-2}$ (LOE-1/2-D-MIDI)



Datasheet

Standard flow rate  $q_n$  as a function of differential pressure  $p_{1-2}$  (LOE-1-D-MAX)

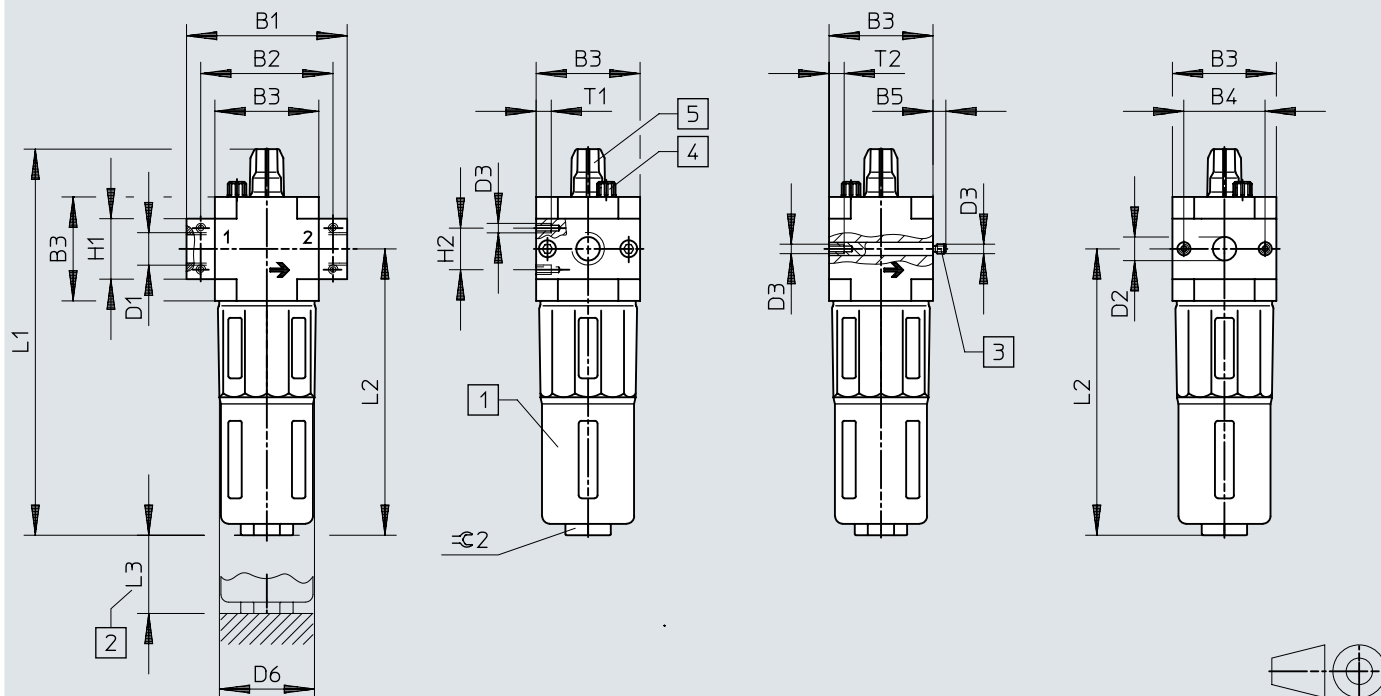


- 2 bar
- 4 bar
- — — 6 bar
- · · · 8 bar
- · - · 10 bar
- · - · - 12 bar

# Dimensions

## Dimensions – Basic type

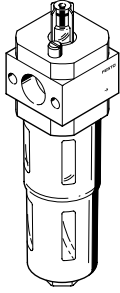
Download CAD data → [www.festo.com](http://www.festo.com)

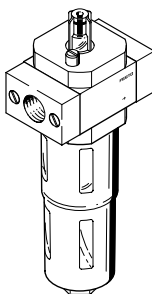


- [1] Metal bowl guard
- [2] Installation dimension
- [3] Threaded bolt (exchangeable)
- [4] Vent screw for oil reservoir
- [5] Oil adjusting screw

|                | B1  | B2 | B3 | B4 | B5  | D1   | D2<br>∅ | D3 | D6<br>∅ | H1 | H2 | L1  | L2  | L3  | T1 | T2 | $\approx \varnothing 2$ |  |
|----------------|-----|----|----|----|-----|------|---------|----|---------|----|----|-----|-----|-----|----|----|-------------------------|--|
| LOE-1/8-D-MINI | 64  | 52 | 40 | 30 | -   | G1/8 | -       | M4 | 38      | 20 | 11 | 169 | 124 | 100 | 7  | -  | 22                      |  |
| LOE-1/4-D-MINI |     |    |    |    |     | G1/4 |         |    |         |    |    |     |     |     |    |    |                         |  |
| LOE-3/8-D-MINI | 70  |    |    |    |     | G3/8 |         |    |         |    |    |     |     |     |    |    |                         |  |
| LOE-D-MINI     | -   | -  |    |    | 5,8 | -    | 11      |    |         | -  | -  |     |     |     | -  | 10 |                         |  |
| LOE-1/4-D-MIDI | 85  | 70 | 55 | 43 | -   | G1/4 | -       | M5 | 52      | 32 | 22 | 204 | 151 | 120 | 8  | -  | 24                      |  |
| LOE-3/8-D-MIDI |     |    |    |    |     | G3/8 |         |    |         |    |    |     |     |     |    |    |                         |  |
| LOE-1/2-D-MIDI |     |    |    |    |     | G1/2 |         |    |         |    |    |     |     |     |    |    |                         |  |
| LOE-3/4-D-MIDI |     |    |    |    |     | G3/4 |         |    |         |    |    |     |     |     |    |    |                         |  |
| LOE-D-MIDI     | -   | -  |    |    | 6,8 | -    | 24      |    |         | -  | -  |     |     |     | -  | 11 |                         |  |
| LOE-1/2-D-MAXI | 96  | 80 | 66 | 46 | -   | G1/2 | -       | M5 | 65      | 32 | 22 | 228 | 170 | 150 | 8  | -  | 24                      |  |
| LOE-3/4-D-MAXI |     |    |    |    |     | G3/4 |         |    |         |    |    |     |     |     |    |    |                         |  |
| LOE-1-D-MAXI   | 116 | 91 |    |    |     | G1   |         |    |         | 40 |    |     |     |     |    |    |                         |  |
| LOE-D-MAXI     | -   | -  |    |    | 6,8 | -    | 30      |    |         | -  | -  |     |     |     | -  | 11 |                         |  |

## Ordering data

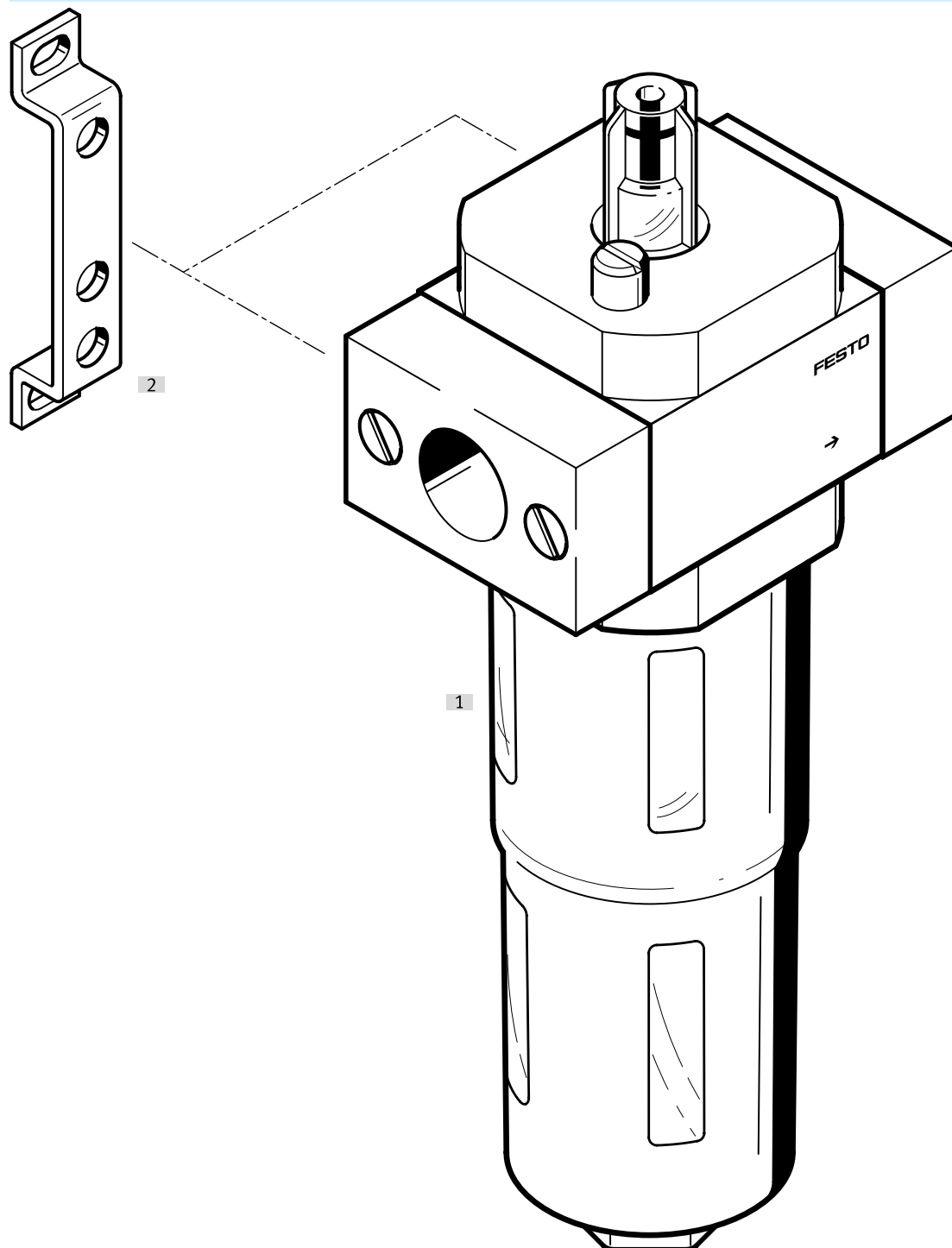
| Individual unit without connecting plates, for service unit component combination |      |                |               |                   |
|---|------|----------------|---------------|-------------------|
|   | Size | Product weight | Part no.      | Type              |
|   | Maxi | 1,100 g        | <b>192577</b> | <b>LOE-D-MAXI</b> |
|   | Midi | 630 g          | <b>192576</b> | <b>LOE-D-MIDI</b> |
|   | Mini | 270 g          | <b>192575</b> | <b>LOE-D-MINI</b> |

| Single unit with connecting plates  |      |                              |                |                       |                       |
|---|------|------------------------------|----------------|-----------------------|-----------------------|
|   | Size | Pneumatic connection, port 1 | Product weight | Part no.              | Type                  |
|  | Maxi | G1/2                         | 1,100 g        | <b>186480</b>         | <b>LOE-1/2-D-MAXI</b> |
|   |      | G3/4                         |                | <b>159622</b>         | <b>LOE-3/4-D-MAXI</b> |
|   |      | G1                           | 1,200 g        | <b>159623</b>         | <b>LOE-1-D-MAXI</b>   |
|   | Midi | G1/4                         | 630 g          | <b>186479</b>         | <b>LOE-1/4-D-MIDI</b> |
|   |      | G3/8                         |                | <b>159586</b>         | <b>LOE-3/8-D-MIDI</b> |
|   |      | G1/2                         |                | <b>159587</b>         | <b>LOE-1/2-D-MIDI</b> |
|   |      | G3/4                         |                | <b>162681</b>         | <b>LOE-3/4-D-MIDI</b> |
|   | Mini | G1/8                         | 270 g          | <b>159620</b>         | <b>LOE-1/8-D-MINI</b> |
|   |      | G1/4                         |                | <b>159621</b>         | <b>LOE-1/4-D-MINI</b> |
| G3/8  |      | <b>162680</b>                |                | <b>LOE-3/8-D-MINI</b> |                       |



## Peripherals

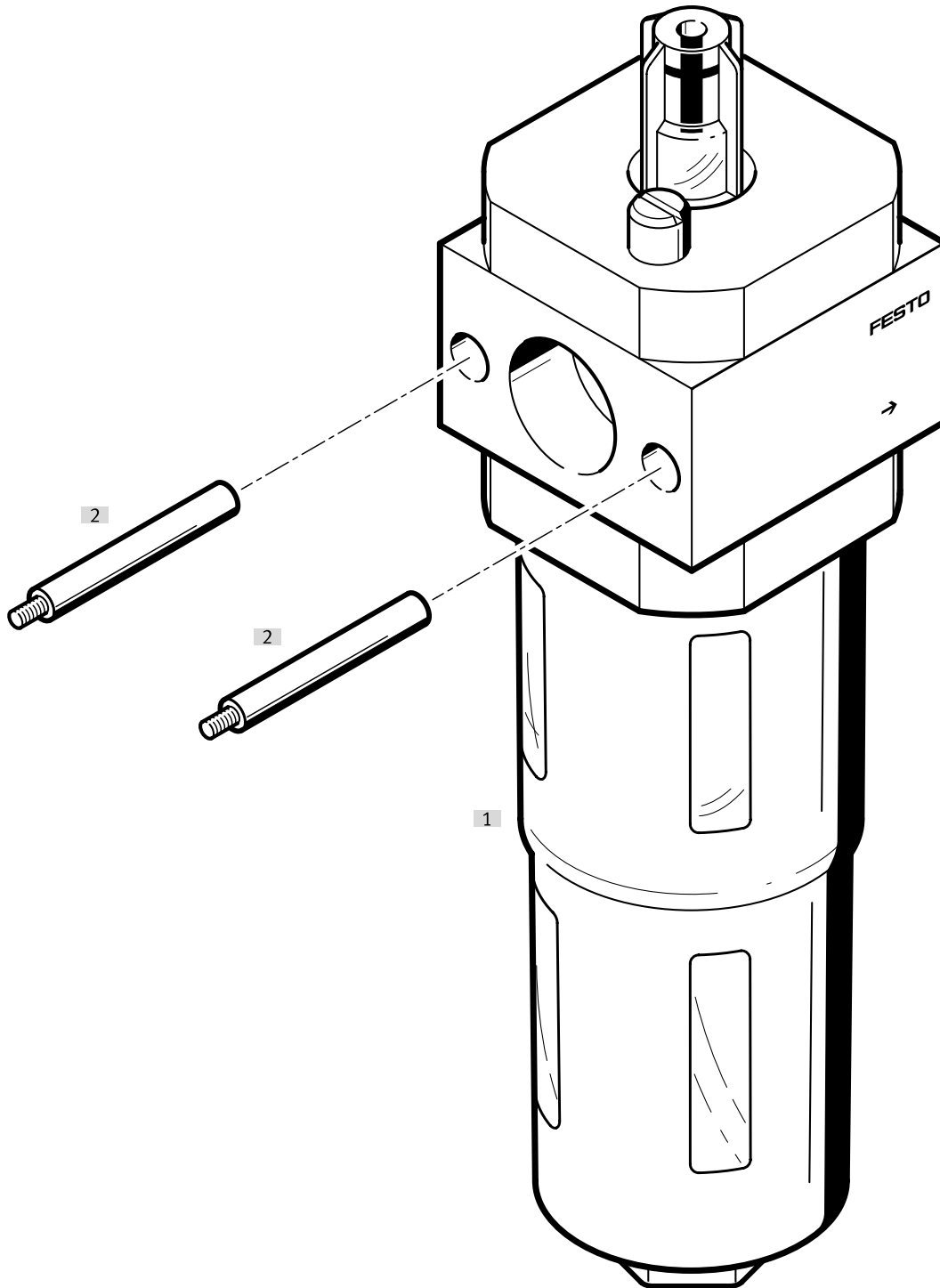
## Peripherals overview – single unit with connecting plates



| Accessories                 |             | → Link |
|-----------------------------|-------------|--------|
| Type/order code             | Description |        |
| [1] Lubricator LOE-D        |             | loe-d  |
| [2] Mounting bracket HFOE-D |             | 11     |

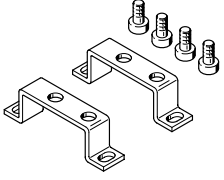
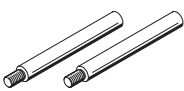
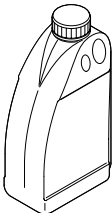
## Peripherals

Peripherals overview – individual unit without connecting plates, for service unit component combination



| Accessories             |                                   | → Link |
|-------------------------|-----------------------------------|--------|
| Type/order code         | Description                       |        |
| [1] Lubricator LOE-D    |                                   | loe-d  |
| [2] Threaded bolt FRB-D | Included in the scope of delivery | 11     |

## Accessories

| Mounting bracket MS4-WP...   |                 |                                |          |                  |
|--|-----------------|--------------------------------|----------|------------------|
|  | Short type code | Corrosion resistance class CRC | Part no. | Type             |
|   | HFOE            | 2 - Moderate corrosion stress  | 159638   | HFOE-D-MINI      |
|  |                 |                                | 159593   | HFOE-D-MIDI/MAXI |
| Mounting bracket MS4-WB  |                 |                                |          |                  |
|  | Short type code | Corrosion resistance class CRC | Part no. | Type             |
|   | FRB             | 2 - Moderate corrosion stress  | 159595   | FRB-D-MIDI       |
|  |                 |                                | 159643   | FRB-D-MAXI       |
|  |                 |                                | 159642   | FRB-D-MINI       |
| Special oil OFSW (1 litre)   |                 |                                |          |                  |
|  | Short type code |                                | Part no. | Type             |
|  | OFSW            |                                | 152811   | OFSW-32          |