

**Characteristics**

**Unloading Valves  
Series UR\*E / US\*E**

Unloading valves series UR\*E consist of a mechanical pilot stage and a slip-in cartridge main stage. These valves are used to unload a circuit at low pressure. The mechanically adjustable pressure signal to unload the main stage has to be applied to port X. The nominal pressure differential between opening and closing is 15 %.

In addition the series US\*E is vented by electrical operation. The UR\*E/US\*E model codes embrace the pilot valves, covers and cartridges that are also offered as separate items. See combination examples for details.

**Features**

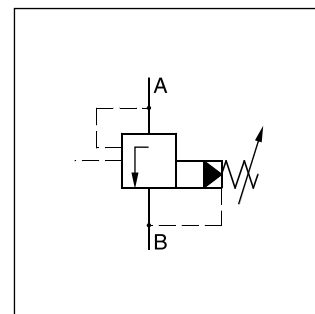
- Pilot operated unloading valve
- Cavity and mounting pattern according to ISO 7368
- 4 pressure stages
- 2 switching types (series US\*E)
- 3 adjustment modes
  - Hand knob
  - Acorn nut with lead seal
  - Cylinder lock
- 6 sizes NG16 to NG63

**Note**

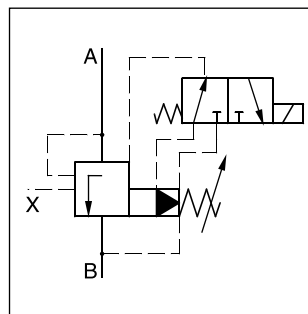
Port X only usable for remote vent function



US25E

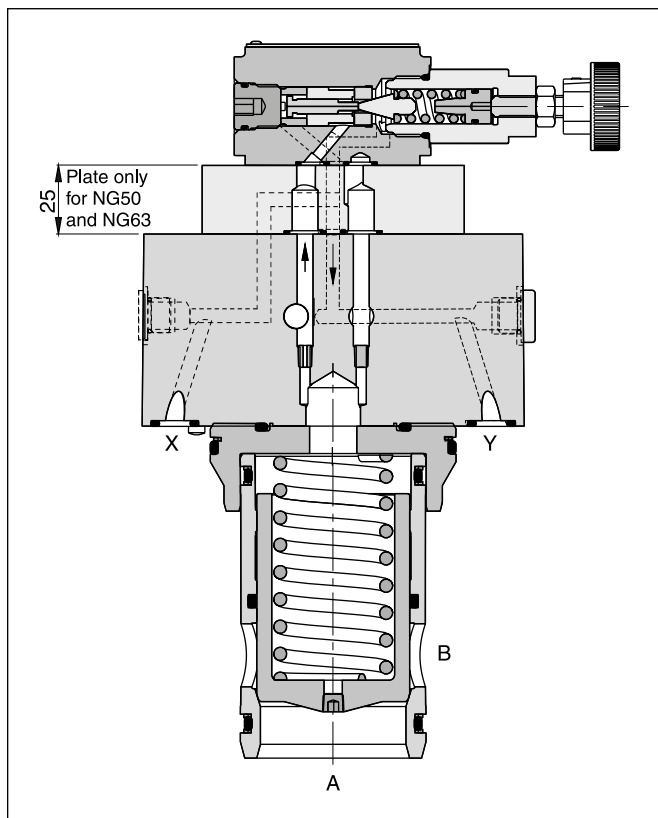


UR\*E

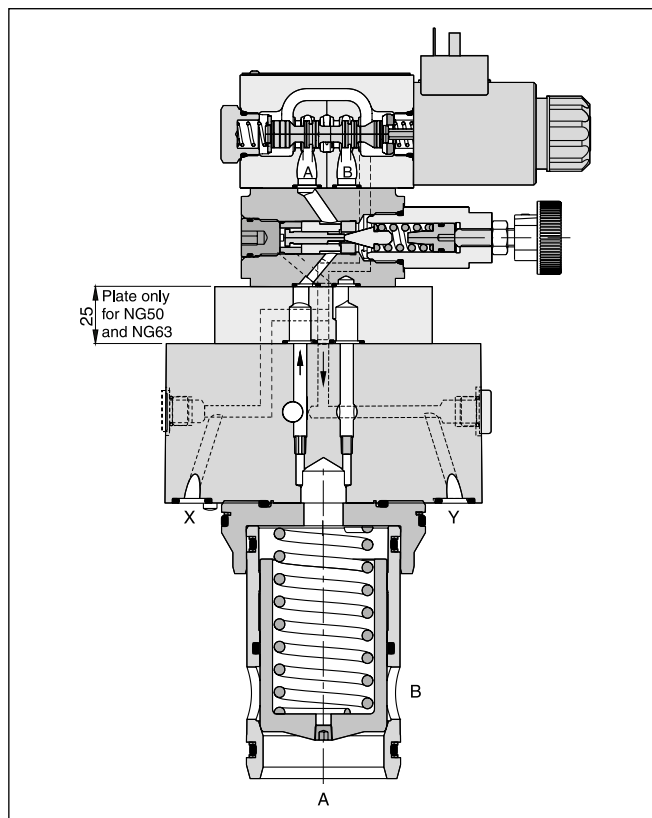


US\*E

**UR\*E**



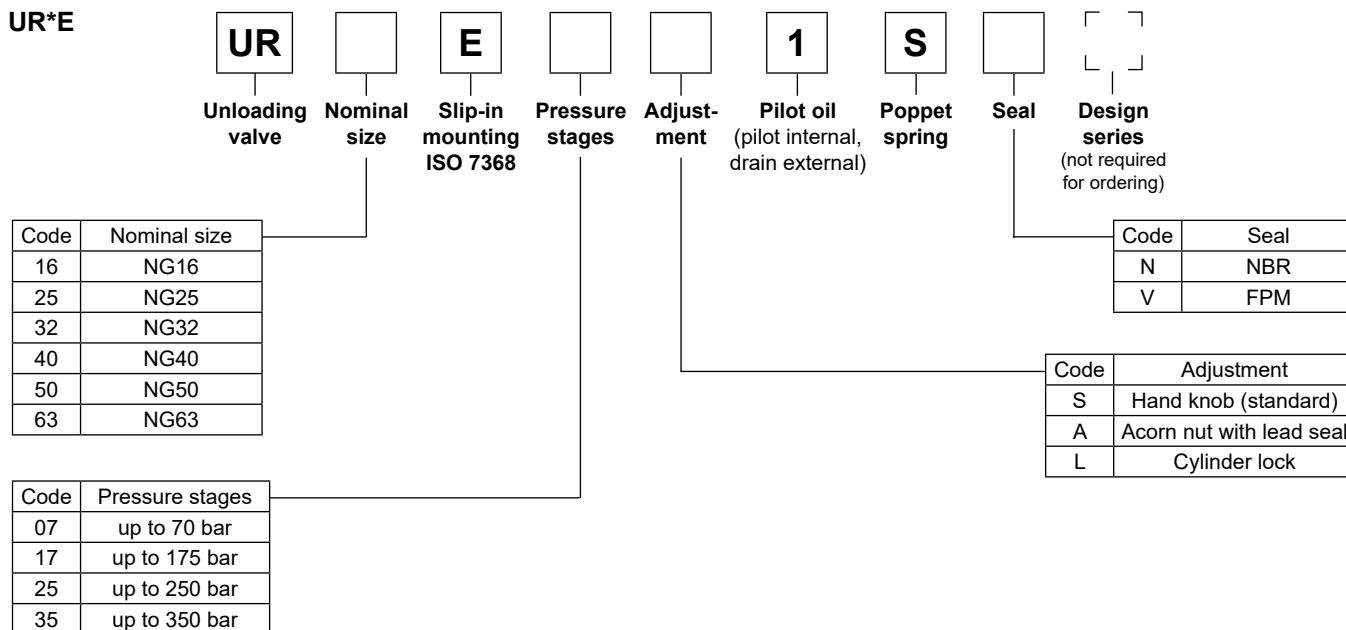
**US\*E**



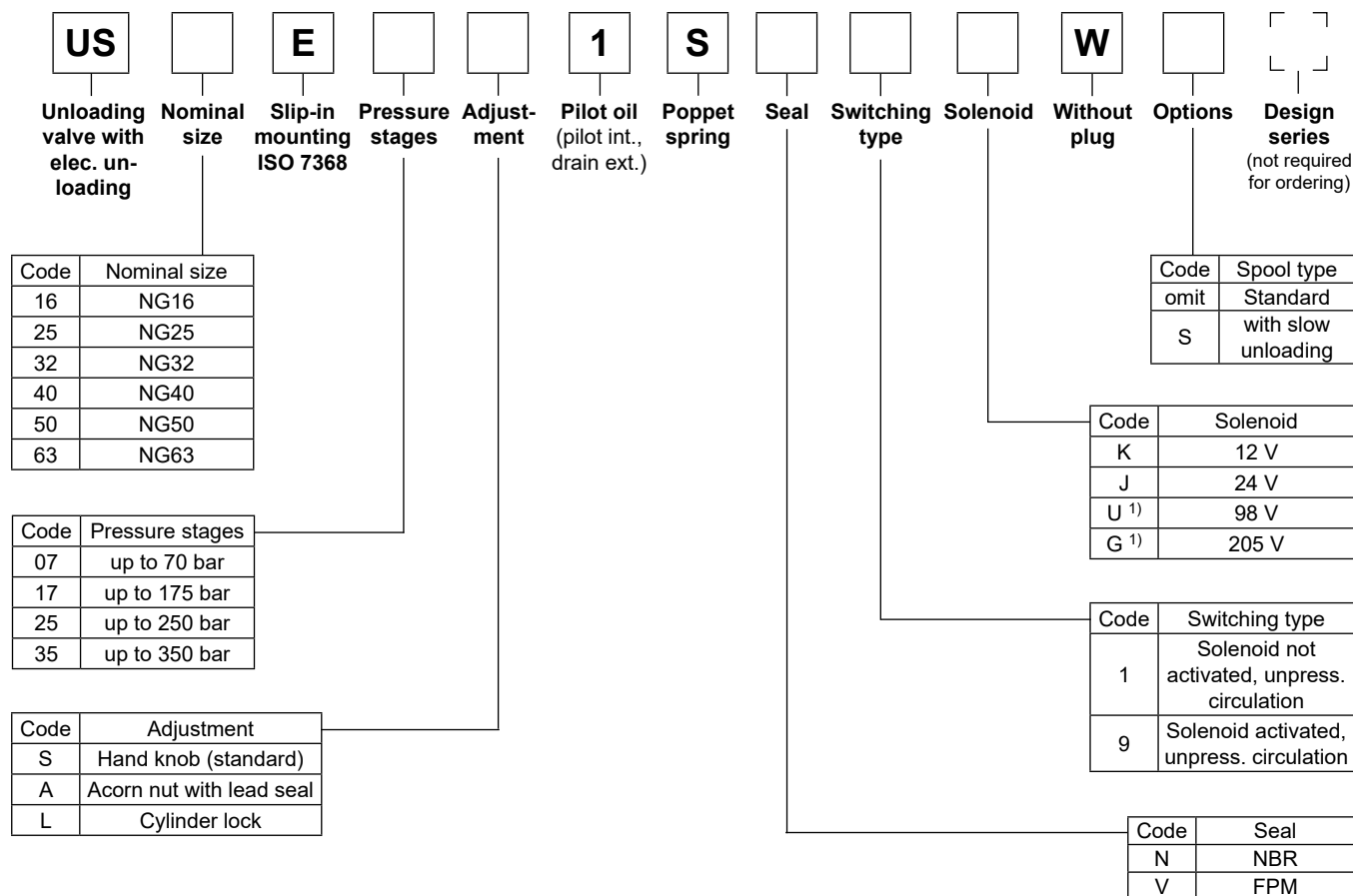
# Unloading Valves Series UR\*E / US\*E

## Ordering Code

### UR\*E



### US\*E



8

<sup>1)</sup> To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.

**UR\*E**

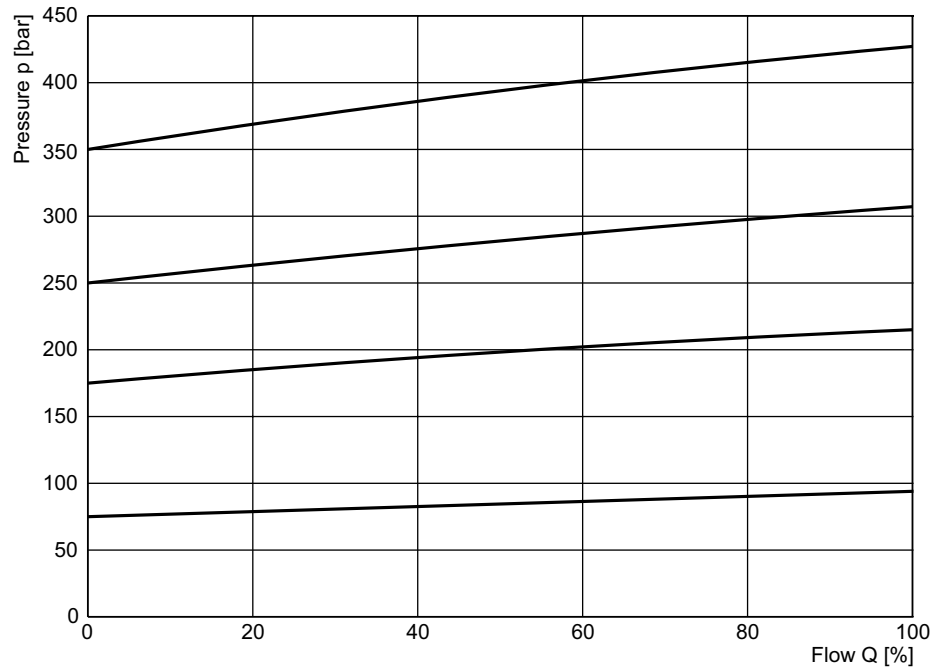
| General                        |   |   |             |             |             |             |             |
|--------------------------------|---|---|-------------|-------------|-------------|-------------|-------------|
| Nominal size                   |   | <b>NG16</b>                               | <b>NG25</b> | <b>NG32</b> | <b>NG40</b> | <b>NG50</b> | <b>NG63</b> |
| Interface                      | Slip-in mounting acc. ISO 7368            |   |             |             |             |             |             |
| Mounting position              | as desired, horizontal mounting preferred |   |             |             |             |             |             |
| Ambient temperature            | [°C]                                      | -20...+60                                 |             |             |             |             |             |
| MTTF <sub>D</sub> value        | [years]                                   | 75  |             |             |             |             |             |
| Weight                         | [kg]                                      | 2.2                                       | 3.5         | 4.9         | 8.0         | 13.7        | 22.8        |
| Hydraulic                      |   |   |             |             |             |             |             |
| Max. operating pressure        | [bar]                                     | Ports A and X up to 350, Ports B and Y 30 |             |             |             |             |             |
| Pressure stages                | [bar]                                     | 75, 175, 250, 350                         |             |             |             |             |             |
| Pressure differential, nominal | [%]                                       | 15  |             |             |             |             |             |
| Nominal flow                   | [l/min]                                   | 220                                       | 500         | 950         | 1400        | 2300        | 4000        |
| Fluid                          | Hydraulic oil according to DIN 51524      |   |             |             |             |             |             |
| Fluid temperature              | [°C]                                      | -20...+70 (NBR: -25...+70)                |             |             |             |             |             |
| Viscosity, permitted           | [cSt] / [mm <sup>2</sup> /s]              | 20...400                                  |             |             |             |             |             |
| Viscosity, recommended         | [cSt] / [mm <sup>2</sup> /s]              | 30...80                                   |             |             |             |             |             |
| Filtration                     | ISO 4406 (1999); 18/16/13                 |   |             |             |             |             |             |

**US\*E**

| General                        |   |                                     |             |             |             |             |             |
|--------------------------------|---|-------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Nominal size                   |   | <b>NG16</b>                         | <b>NG25</b> | <b>NG32</b> | <b>NG40</b> | <b>NG50</b> | <b>NG63</b> |
| Interface                      | Slip-in mounting acc. ISO 7368  |                                     |             |             |             |             |             |
| Mounting position              | as desired, horizontal mounting preferred                                   |                                     |             |             |             |             |             |
| Ambient temperature            | [°C]  | -20...+60                           |             |             |             |             |             |
| MTTF <sub>D</sub> value        | [years]   | 75                                  |             |             |             |             |             |
| Weight                         | [kg]  | 2.7                                 | 5.2         | 6.4         | 9.5         | 15.2        | 24.3        |
| Hydraulic                      |   |                                     |             |             |             |             |             |
| Max. operating pressure        | [bar]   | Ports A and X 350, ports B and Y 30 |             |             |             |             |             |
| Pressure stages                | [bar]   | 75, 175, 250, 350                   |             |             |             |             |             |
| Pressure differential, nominal | [%]   | 15                                  |             |             |             |             |             |
| Nominal flow                   | [l/min]   | 220                                 | 500         | 950         | 1400        | 2300        | 4000        |
| Fluid                          | Hydraulic oil according to DIN 51524  |                                     |             |             |             |             |             |
| Fluid temperature              | [°C]  | -20...+70 (NBR: -25...+70)          |             |             |             |             |             |
| Viscosity, permitted           | [cSt] / [mm <sup>2</sup> /s]  | 20...400                            |             |             |             |             |             |
| Viscosity, recommended         | [cSt] / [mm <sup>2</sup> /s]  | 30...80                             |             |             |             |             |             |
| Filtration                     | ISO 4406 (1999); 18/16/13   |                                     |             |             |             |             |             |
| Electrical (solenoid)          |   |                                     |             |             |             |             |             |
| Duty ratio                     | 100 % ED; CAUTION: coil temperature up to 150 °C possible                   |                                     |             |             |             |             |             |
| Protection class               | IP65 in accordance with EN 60529 (with correctly mounted plug-in connector) |                                     |             |             |             |             |             |
|                                | Code  | K                                   |             | J           |             | U           |             |
| Supply voltage                 | [V]   | 12 V =                              |             | 24 V =      |             | 98 V =      |             |
| Tolerance supply voltage       | [%]   | ±10                                 |             | ±10         |             | ±10         |             |
| Current consumption            | [A]   | 2.72                                |             | 1.29        |             | 0.33        |             |
| Power consumption              | [W]   | ±10                                 |             | ±10         |             | ±10         |             |
| Solenoid connection            | Connector as per EN175301-803, solenoid identification as per ISO 9461      |                                     |             |             |             |             |             |
| Wiring min.                    | [mm <sup>2</sup> ]  | 3 x 1.5 recommended                 |             |             |             |             |             |
| Wiring length max.             | [m]   | 50 recommended                      |             |             |             |             |             |



**p/Q performance curve <sup>1)</sup>**

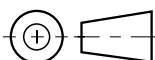
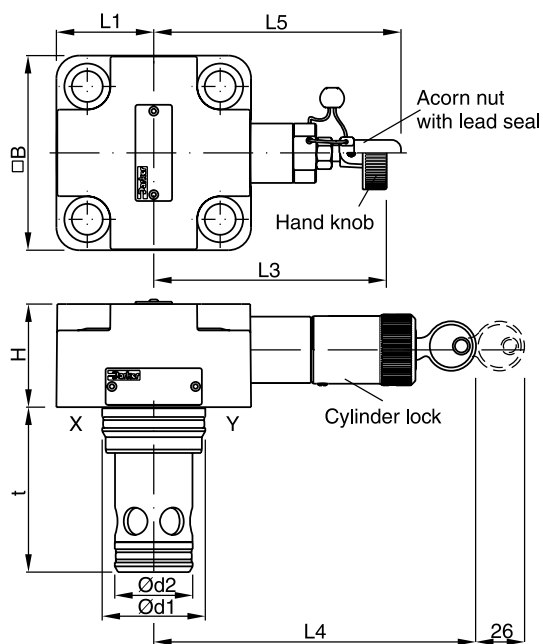


All characteristic curves measured with HLP46 at 50 °C.

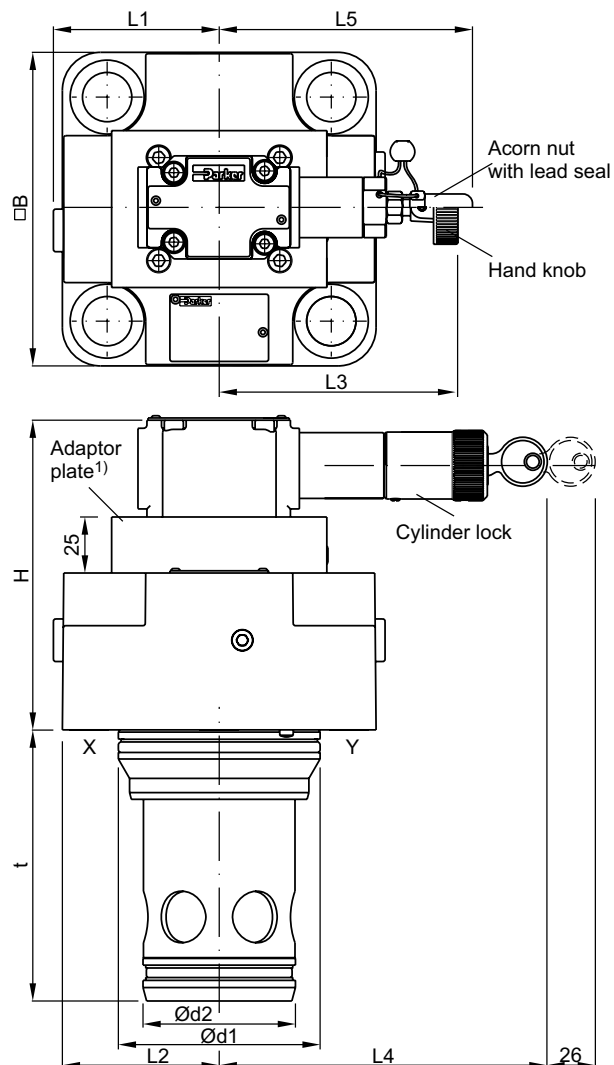
<sup>1)</sup> The performance curves are measured with external drain.  
For internal drain the tank pressure has to be added to curve.

**Dimensions UR\*E**

**NG16 to NG32**



**NG40 to NG63 <sup>1)</sup>**



| NG | H   | B                | L1   | L2   | L3  | L4  | L5   | d1  | d2 | t   |
|----|-----|------------------|------|------|-----|-----|------|-----|----|-----|
| 16 | 40  | 65 <sup>2)</sup> | 32.5 | —    | 114 | 152 | 117  | 32  | 25 | 56  |
| 25 | 47  | 85               | 42.5 | —    | 102 | 139 | 106  | 45  | 34 | 71  |
| 32 | 50  | 102              | 51   | —    | 95  | 131 | 97.5 | 60  | 45 | 85  |
| 40 | 106 | 125              | 62.5 | 66.5 | 106 | 144 | 108  | 75  | 55 | 105 |
| 50 | 141 | 140              | 70   | 74   | 106 | 144 | 108  | 90  | 68 | 121 |
| 63 | 155 | 180              | 90   | 94   | 106 | 144 | 108  | 120 | 90 | 155 |

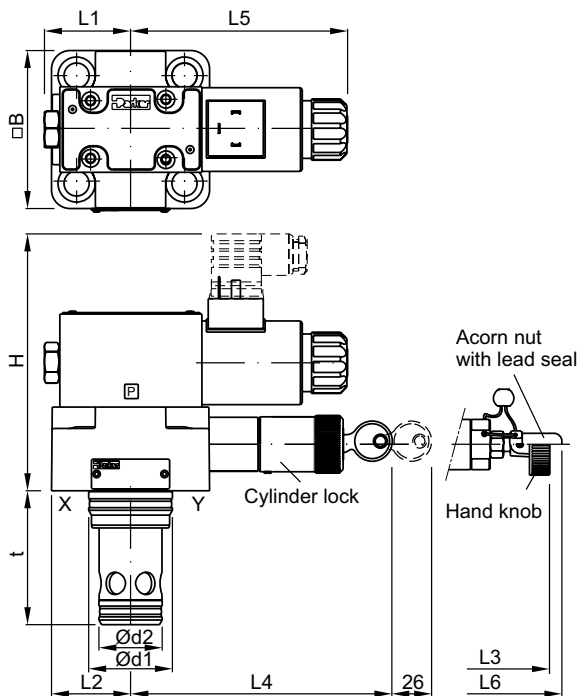
| NG | Kit   | ISO 4762-12.9 | [Nm] | Kit      |          |
|----|-------|---------------|------|----------|----------|
|    |       |               |      | NBR      | FPM      |
| 16 | BK414 | 4 x M8x40     | 31.8 | SK-R16EN | SK-R16EV |
| 25 | BK391 | 4 x M12x50    | 108  | SK-R25EN | SK-R25EV |
| 32 | BK415 | 4 x M16x55    | 264  | SK-R32EN | SK-R32EV |
| 40 | BK416 | 4 x M20x70    | 517  | SK-R40EN | SK-R40EV |
| 50 | BK417 | 4 x M20x75    | 517  | SK-R50EN | SK-R50EV |
| 63 | BK418 | 4x M30x100    | 1775 | SK-R63EN | SK-R63EV |

<sup>1)</sup> NG40 without adaptor plate.  
<sup>2)</sup> Width 79 mm.

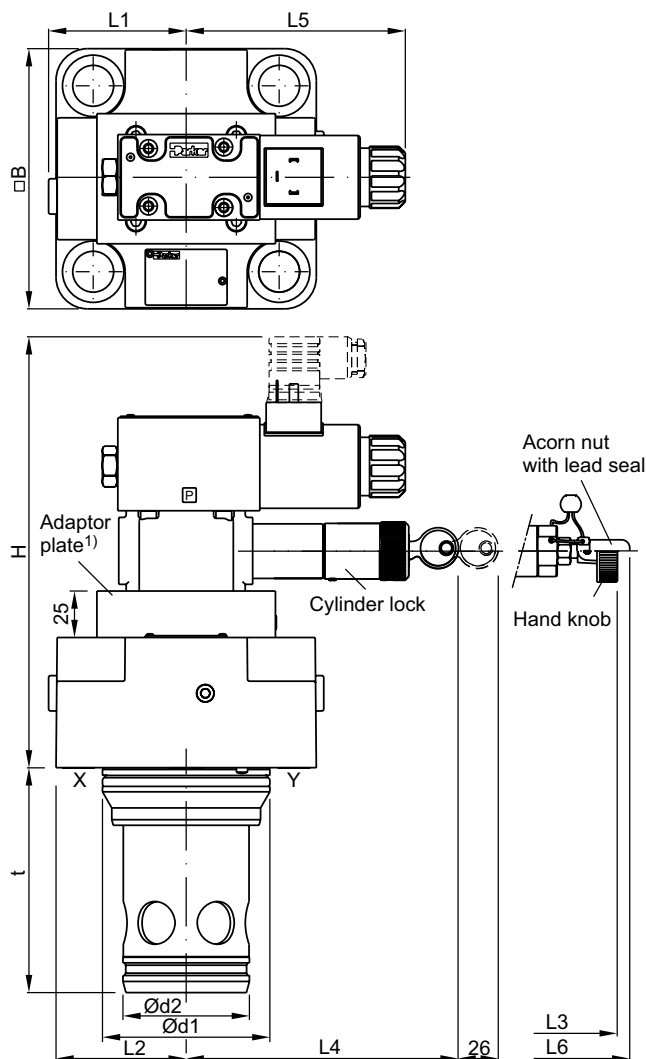
**Dimensions**

**Dimensions US\*E**

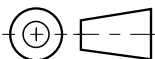
**NG16 to NG32**



**NG40 to NG63 <sup>1)</sup>**



8



| NG | H   | B                | L1 | L2   | L3  | L4  | L5    | L6   | d1  | d2 | t   |
|----|-----|------------------|----|------|-----|-----|-------|------|-----|----|-----|
| 16 | 40  | 65 <sup>2)</sup> | 32 | 32.5 | 114 | 152 | 127.5 | 117  | 32  | 25 | 56  |
| 25 | 47  | 85               | 46 | 42.5 | 102 | 139 | 117   | 106  | 45  | 34 | 71  |
| 32 | 50  | 102              | 51 | 51   | 95  | 131 | 112.5 | 97.5 | 60  | 45 | 85  |
| 40 | 106 | 125              | 66 | 62.5 | 106 | 144 | 114   | 108  | 75  | 55 | 105 |
| 50 | 141 | 140              | 74 | 70   | 106 | 144 | 114   | 108  | 90  | 68 | 121 |
| 63 | 155 | 180              | 94 | 90   | 106 | 144 | 114   | 108  | 120 | 90 | 155 |

| NG | Kit   | ISO 4762-12.9 | [Nm] | Kit       |           |
|----|-------|---------------|------|-----------|-----------|
|    |       |               |      | NBR       | FPM       |
| 16 | BK414 | 4 x M8x40     | 31.8 | SK-RS16EN | SK-RS16EV |
| 25 | BK391 | 4 x M12x50    | 108  | SK-RS25EN | SK-RS25EV |
| 32 | BK415 | 4 x M16x55    | 264  | SK-RS32EN | SK-RS32EV |
| 40 | BK416 | 4 x M20x70    | 517  | SK-RS40EN | SK-RS40EV |
| 50 | BK417 | 4 x M20x75    | 517  | SK-RS50EN | SK-RS50EV |
| 63 | BK418 | 4 x M30x100   | 1775 | SK-RS63EN | SK-RS63EV |

<sup>1)</sup> NG40 without adaptor plate.

<sup>2)</sup> Width 79 mm.