Proportional pressure reducing valve, pilot operated

Type DRE(M) and DRE(M)E

Sizes 10 and 25 ¹)
Component series 6X
Maximum operating pressure 315 bar
Maximum flow 300 l/min

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Features

- Valve for reducing an operating pressure
- Operation by means of proportional solenoids
- Proportional solenoid with rotatable and detachable coil
- For subplate mounting:
  Porting pattern according to ISO 5781,
  Subplates according to data sheet RE 45062
  (separate order), see page 11
- Third path A to Y (Ø 7.5 mm)
- Minimum setting pressure 2 bar with command value zero
- Linearized command value-pressure characteristic curve
- Good transient response
- Optional check valve between A and B
- Maximum pressure limitation optional
- Type DRE(M)E with integrated electronics (OBE):
  • Little manufacturing tolerance of the command value-pressure characteristic curve
## Ordering code

<table>
<thead>
<tr>
<th>DRE</th>
<th>-6X/</th>
<th>Y</th>
<th>G24</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>without maximum pressure limitation</td>
<td>= no code</td>
<td>= M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>with maximum pressure limitation</td>
<td>= M</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For external control electronics with integrated electronics (OBE) = E

Size 10 = 10
Size 25 = 20

Component series 60 to 69 = 6X
(60 to 69: Unchanged installation and connection dimensions)

### Pressure rating

<table>
<thead>
<tr>
<th>Pressure rating</th>
<th>= 50</th>
<th>= 100</th>
<th>= 200</th>
<th>= 315</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 bar</td>
<td>100 bar</td>
<td>200 bar</td>
<td>315 bar</td>
<td></td>
</tr>
</tbody>
</table>

Pilot oil return always external separately and at zero pressure to the tank = Y

with check valve between A and B = no code
without check valve = M

## Accessories (not included in scope of delivery)

- External control for type DRE (only standard version G24 (1.6 A solenoid)):
  - Analog amplifier VT-MSPA1-11-1X/
    - in modular design according to data sheet RE 30223
  - Digital amplifier VT-VSPD-2
    - in Eurocard format according to data sheet RE 30523
  - Analog amplifier VT-VSPA1-11-1X/
    - in Eurocard format according to data sheet RE 30100
  - Proportional plug-in amplifier VT-SSPA1-1-1X
    - plug-in amplifier according to data sheet RE 30116
    - connection M12 - 4-pole
- Mating connectors (details, see page 8)
  - For DRE(M): According to DIN EN 175301-803,
    - Material no. R901017011
  - For DRE(M)E: According to DIN EN 175201-804,
    - Material no. R900021267 or R900223890

### Seal material

M = NBR seals
V = FKM seals

### Interface electronics

A1 = Command value 0 to 10 V
F1 = Command value 4 to 20 mA

no code = with DRE

### Electrical connection

**for DRE(M):**

K4 = without mating connector,
    with connector according to DIN EN 175301-803
Mating connector - separate order
see page 8

**for DRE(M)E:**

K31 = without mating connector,
    with connector according to DIN EN 175201-804
Mating connector - separate order
see page 8

no code = 1600 mA design
- 8 = 800 mA design

### Supply voltage of the control electronics

G24 = Direct voltage 24 V

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1) In case of an error (e.g. in case of contamination or overcurrent), the maximum pressure limitation prevents an inadmissibly high overpressure at the valve.

2) Replacement series 5X (Attention! External amplifiers only suitable for G24 = 1.6 A solenoid), see accessories.
Symbols

- DRE-6X/...YM...
- DREM-6X/...YM...
- DRE-6X/...Y...
- DREM-6X/...Y...
- DREE-6X/...YM...
- DREME-6X/...YM...
- DREE-6X/...Y...
- DREME-6X/...Y...
O-ring and plastic nut SW32 for coil fixation. The nut can be loosened by rotating it counterclockwise (1 turn). Afterwards, the solenoid coil can be rotated in any desired position. Subsequent fixation applying 5 ± 1 Nm.

Required surface quality of the valve mounting face

<table>
<thead>
<tr>
<th>Size</th>
<th>B1</th>
<th>B2</th>
<th>B3</th>
<th>B4</th>
<th>ØD1</th>
<th>ØD2⁽¹⁾</th>
<th>H1</th>
<th>H2</th>
<th>H3</th>
<th>H4</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>85</td>
<td>66.7</td>
<td>58.8</td>
<td>7.9</td>
<td>15</td>
<td>21.8</td>
<td>171</td>
<td>123</td>
<td>58</td>
<td>36</td>
</tr>
<tr>
<td>25</td>
<td>102</td>
<td>79.4</td>
<td>73</td>
<td>6.4</td>
<td>25</td>
<td>34.8</td>
<td>185</td>
<td>137</td>
<td>64</td>
<td>44</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size</th>
<th>L1</th>
<th>L2</th>
<th>L3</th>
<th>L4</th>
<th>L5</th>
<th>L6</th>
<th>L7</th>
<th>L8</th>
<th>L9</th>
<th>L10</th>
<th>T1</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>42.9</td>
<td>35.8</td>
<td>31.8</td>
<td>21.5</td>
<td>7.2</td>
<td>21.5</td>
<td>5</td>
<td>116</td>
<td>44.5</td>
<td>59.5</td>
<td>2.0</td>
</tr>
<tr>
<td>25</td>
<td>60.3</td>
<td>49.2</td>
<td>44.5</td>
<td>20.6</td>
<td>11.1</td>
<td>39.7</td>
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<th>B5</th>
<th>B6</th>
<th>L11</th>
<th>L12</th>
</tr>
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<tbody>
<tr>
<td>10</td>
<td>84</td>
<td>8.65</td>
<td>61</td>
<td>9.05</td>
</tr>
<tr>
<td>25</td>
<td>97</td>
<td>8.8</td>
<td>78</td>
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Coil freely rotatable!
O-ring and plastic nut SW32 for coil fixation. The nut can be loosened by rotating it counterclockwise (1 turn). Afterwards, the solenoid coil can be rotated in any desired position. Subsequent fixation applying 5 ± 1 Nm.

**Unit dimensions type DRE(M)E (dimensions in mm)**

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<th>B1</th>
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<th>B3</th>
<th>B4</th>
<th>ØD1</th>
<th>ØD2H11</th>
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Required surface quality of the valve mounting face: $0.01/100$, $R_{z\text{max}} = 4$. 

(Mating connector plastic) (Mating connector metal)
1 Upon delivery, this port (G1/4) is closed. After removal of the blanking plug, an external and separate pilot oil return at zero pressure to the tank is, however, also possible here.

2 Space required for removing the mating connector

3 Name plate

4 Blind counterbore

5 Check valve, optional

6 Locating pin

7 Identical seal rings for ports A and B
   Identical seal rings for port Y and blind counterbore (item 4)

8 Pilot oil return always external and separately at zero pressure to the tank, or optionally at item 1

9 Mating connector according to DIN EN 175301-803

10 Integrated electronics (OBE), type DRE(M)E with connector "K31"

11 Mating connector according to DIN EN 175201-804

12 Processed installation surface, porting pattern according to
   ISO 5781-06-07-0-00 (size 10)
   ISO 5781-08-10-0-00 (size 25)

13 Cable fastening

14 Maximum pressure limitation with version DREM and DREME

Subplates according to data sheet RE 45062 and valve mounting screws must be ordered separately.

**Subplates:**

**Size 10:**
- G 460/01 (G 3/8)
- G 461/01 (G 1/2)

**Size 25:**
- G 412/01 (G 3/4)
- G 413/01 (G 1)

**Valve mounting screws:**

- 4 hexagon socket head cap screws
- ISO 4762-M10x45-10.9-flZn-240h-L
  (friction coefficient $\mu_{\text{total}} = 0.09$ to 0.14,
  Tightening torque $M_A = 59 \text{ Nm} \pm 10 \%$
  or
- 4 hexagon socket head cap screws ISO 4762-M10x45-10.9
  (friction coefficient $\mu_{\text{total}} = 0.12$ to 0.17)
  Tightening torque $M_A = 75 \text{ Nm} \pm 10 \%$