

### Function:

Oventrop double regulating and commissioning valves are installed in the pipework of hot water central heating and cooling systems and serve to achieve a hydronic balance between the different circuits of the system.

The balance is achieved by a presetting with memory lock.

The required presetting values can be obtained from the flow charts. All intermediate values are infinitely adjustable.

The selected presetting can be read off two scales (basic and fine setting scale, see “Presetting” on page 8). The Oventrop double regulating and commissioning valves have two threaded ports which can be fitted with fill and drain ball valves or pressure test points for differential pressure measurement.

The double regulating and commissioning valves may be installed in either the supply or the return pipe.

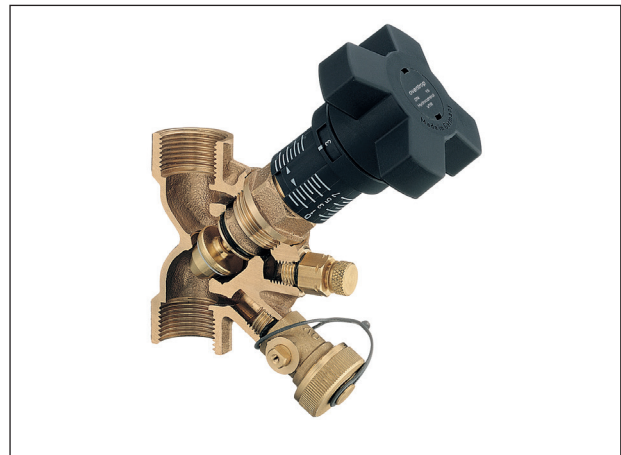
When installing the valve it must be ensured that the direction of flow conforms to the direction of the arrow on the valve body and that the valve is installed with a minimum of  $L = 3 \times \varnothing$  of straight pipe at the valve inlet and of  $L = 2 \times \varnothing$  of straight pipe at the pipe outlet.

The flow charts are valid for both, installation in the supply or the return pipe, provided the direction of flow conforms to the arrow on the valve body.

In cooling systems using mixtures of water and glycol, the correction factors related to the indicated chart values have to be taken into consideration (see page 10).

### Advantages:

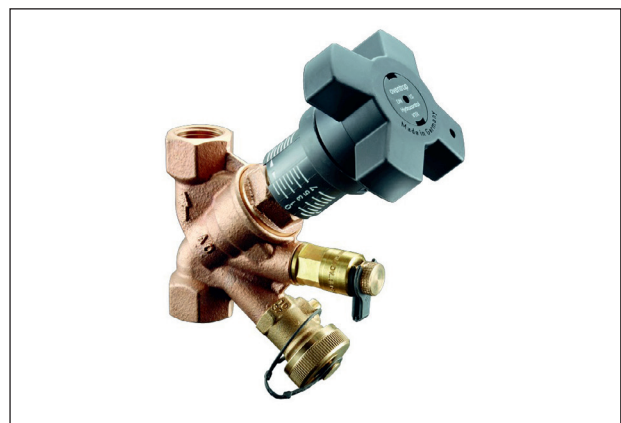
- the location of the functional components in one plane allows for a simple assembly and easy operation
- only one valve for 5 functions:
  - presetting
  - measuring
  - isolating
  - filling
  - draining
- the supply and return pipe can be marked by use of the colour rings supplied with each valve
- low pressure loss (oblique pattern)
- infinitely adjustable presetting, exact measurement of pressure loss and flow via the pressure test points
- threads according to EN 10226, suitable for Oventrop compression fittings (item no. 1027151-58) for copper pipes up to a max. diameter of 22 mm and Oventrop composition pipe “Copipe”
- fill and drain ball valve with internal stop and pressure test point with O-ring seal between valve body and test point (no additional seals required)
- patented measuring channel lead around the stem assembly to the test point ensures the best possible accuracy between the differential pressure measured at the pressure test points and the actual differential pressure of the valve (see chart indicating flow tolerances on page 9)



Double regulating and commissioning valve “Hydrocontrol VTR”



both ports male thread for  
weldable steel tailpipes DN 10 up to DN 50  
or:  
... solder tailpipes 15 mm  $\varnothing$  up to 54 mm  $\varnothing$   
or:  
... male threaded tailpipes DN 10 up to DN 50  
or:  
... female threaded tailpipes DN 15 up to DN 32



both ports female thread according up to EN 10226  
DN 10 to DN 65

**Double regulating and commissioning valve  
 “Hydrocontrol VTR” both ports female thread  
 according to EN 10226  
 “classic” measuring technique**

**Tender specification:**

Double regulating and commissioning valve PN 25 (water pH value 6.5-10) (DN 65: PN 16) both ports female thread according to EN 10226, not suitable for steam. Colour rings for marking of supply and return pipe (except for DN 65). Oblique pattern with secured, infinitely adjustable fine presetting controllable at any time. Optical display of the presetting depending on the position of the handwheel. Valve body and bonnet made of bronze (Rg 5), disc and stem made of brass resistant to dezincification (DZR), disc with PTFE seal, maintenance-free stem seal due to double O-ring. All functional components in one plane. Pressure test point and fill and drain ball valve interchangeable. Installation in the supply or return pipe.

Item no.10601: The sizes DN 40 and DN 50 are ACS (France) certified for installation in potable water systems.

(Pressure loss charts as well as  $k_v$  and Zeta values see following pages)

**Technical data:**

Max. operating temperature  $t_s$ : 150 °C (press connection: 120 °C)

Min. operating temperature  $t_s$ : -20 °C

Max. operating pressure  $p_s$ : 25 bar (PN 25)  
 (both ports female thread:  
 DN 10-DN 50)

Max. operating pressure  $p_s$ : 16 bar (PN 16)  
 (press connection: all sizes  
 both ports female thread: DN 65)

Double regulating and commissioning valves  
 both ports female thread according to EN 10226

**Size:**

**Item no.**

with mounted accessories set no. 3 =

1 pressure test point G 1/4 and 1 fill and drain ball valve G 1/4

|       |         |
|-------|---------|
| DN 10 | 1060303 |
| DN 15 | 1060304 |
| DN 20 | 1060306 |
| DN 25 | 1060308 |
| DN 32 | 1060310 |
| DN 40 | 1060312 |
| DN 50 | 1060316 |

with mounted accessories set no. 2 = 2 pressure test points G 1/4

|       |         |
|-------|---------|
| DN 10 | 1060203 |
| DN 15 | 1060204 |
| DN 20 | 1060206 |
| DN 25 | 1060208 |
| DN 32 | 1060210 |
| DN 40 | 1060212 |
| DN 50 | 1060216 |

with threaded ports for accessories sets  
 (closed with blind plugs)

|       |         |
|-------|---------|
| DN 10 | 1060103 |
| DN 15 | 1060104 |
| DN 20 | 1060106 |
| DN 25 | 1060108 |
| DN 32 | 1060110 |
| DN 40 | 1060112 |
| DN 50 | 1060116 |
| DN 65 | 1060120 |

with mounted accessories set no. 2 = 2 pressure test points G 1/4

|       |         |
|-------|---------|
| DN 10 | 1688703 |
| DN 15 | 1688704 |
| DN 20 | 1688706 |
| DN 25 | 1688708 |
| DN 32 | 1688710 |
| DN 40 | 1688712 |
| DN 50 | 1688716 |

16887..: Type approval for shipbuilding (DNV-GL).



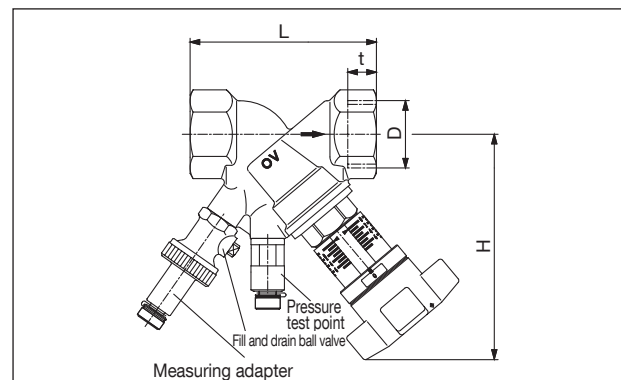
both ports female thread according to EN 10226, item no. 10603..



both ports female thread according to EN 10226, item no. 10602..



both ports female thread according to EN 10226, item no. 10601..



| DN | D<br>EN 10226 | t    | L    | H   |
|----|---------------|------|------|-----|
| 10 | Rp 3/8        | 10.1 | 73   | 114 |
| 15 | Rp 1/2        | 13.2 | 80   | 114 |
| 20 | Rp 3/4        | 14.5 | 84   | 116 |
| 25 | Rp 1          | 16.8 | 97.5 | 119 |
| 32 | Rp 1 1/4      | 19.1 | 110  | 136 |
| 40 | Rp 1 1/2      | 19.1 | 120  | 138 |
| 50 | Rp 2          | 25.7 | 150  | 148 |
| 65 | Rp 2 1/2      | 19.5 | 151  | 186 |

Dimensions

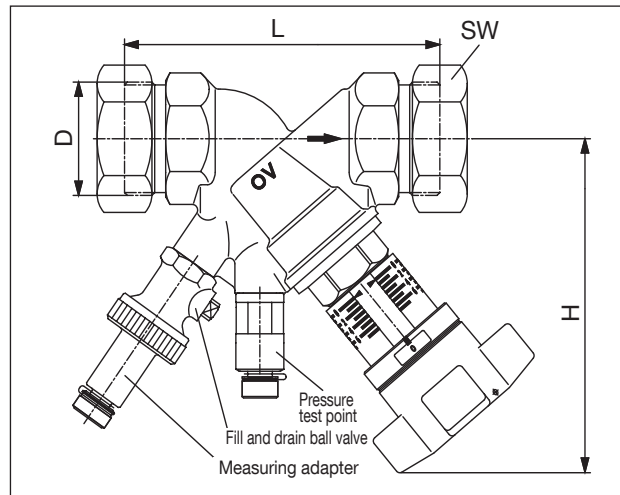
**Double regulating and commissioning valve**  
**“Hydrocontrol VTR” both ports male thread with collar nut**  
**“classic” measuring technique**

**Tender specification:**

Double regulating and commissioning valve PN 16 (PN 20 for cold water, pH value 6.5-10) both ports male thread for flat sealing weldable, solder and threaded tailpipes. -20 °C up to +150 °C. not suitable for steam. Colour rings for marking of supply and return pipe. Oblique pattern with secured, infinitely adjustable fine presetting controllable at any time. Optical display of the presetting depending on the position of the handwheel. Valve body and bonnet made of bronze (Rg 5), disc and stem made of brass resistant to dezincification (DZR), disc with PTFE seal, maintenance-free stem seal due to double O-ring. All functional components in one plane. Pressure test point and fill and drain ball valve interchangeable: Installation in the supply or return pipe. (Pressure loss charts as well as kv and Zeta values see following pages)

Double regulating and commissioning valve  
 both ports male thread and collar nut  
 with threaded ports for accessories sets (closed with blind plugs)

| <b>Size:</b> | <b>Item no.</b> |
|--------------|-----------------|
| DN 10        | 1060503         |
| DN 15        | 1060504         |
| DN 20        | 1060506         |
| DN 25        | 1060508         |
| DN 32        | 1060510         |
| DN 40        | 1060512         |
| DN 50        | 1060516         |



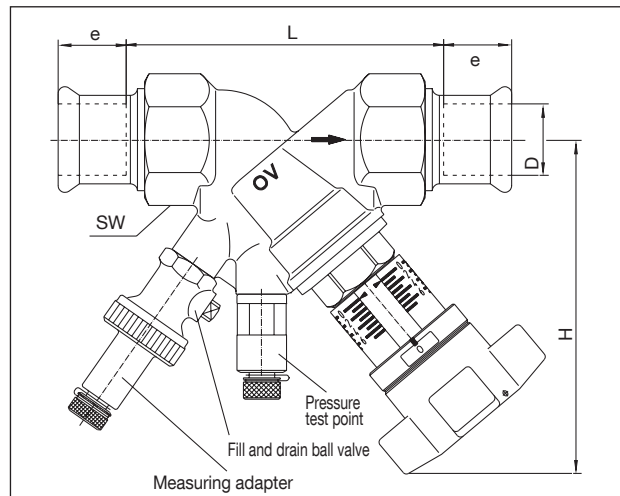
| DN | D<br>ISO 228 | L   | H   | SW* |
|----|--------------|-----|-----|-----|
| 10 | G 5/8        | 86  | 114 | 26  |
| 15 | G 3/4        | 88  | 114 | 30  |
| 20 | G 1          | 93  | 116 | 37  |
| 25 | G 1 1/4      | 110 | 119 | 46  |
| 32 | G 1 1/2      | 110 | 136 | 52  |
| 40 | G 1 3/4      | 120 | 138 | 58  |
| 50 | G 2 1/8      | 150 | 148 | 75  |

Dimensions “Hydrocontrol VTR”

**Double regulating and commissioning valve**  
**“Hydrocontrol VPR” both ports with press connection**  
**“classic” measuring technique**

| <b>Size:</b> | $k_{vs}$ value | <b>Item no.</b> |
|--------------|----------------|-----------------|
| DN 15        | 3.88    15 mm  | 1060151         |
| DN 15        | 3.88    18 mm  | 1060152         |
| DN 20        | 5.71    22 mm  | 1060154         |
| DN 25        | 8.89    25 mm  | 1060156         |
| DN 32        | 19.45   35 mm  | 1060158         |
| DN 40        | 27.51   42 mm  | 1060160         |
| DN 50        | 38.78   54 mm  | 1060162         |

For the direct connection of copper pipes according to DIN EN 1057/DVGW GW 392, stainless steel pipes according to DIN EN 10088/DVGW 541 and thin-walled C-steel pipe (material no. E 195/1.0034) according to DIN EN 10305-3. Pressing must be carried out to tighten the connection. Only use press jaws with the original contours SANHA (SA), Geberit-Mapress (MM) or Viega (Profipress) in corresponding size. Processing must be carried out according to the installation instructions.



| DN | D  | e    | L     | H   | SW* |
|----|----|------|-------|-----|-----|
| 15 | 15 | 18   | 85    | 114 | 27  |
| 15 | 18 | 20   | 85    | 114 | 27  |
| 20 | 22 | 24   | 91    | 116 | 32  |
| 25 | 28 | 27   | 104.5 | 119 | 41  |
| 32 | 35 | 32   | 119   | 136 | 50  |
| 40 | 42 | 37.5 | 129   | 138 | 55  |
| 50 | 54 | 42.5 | 159   | 148 | 70  |

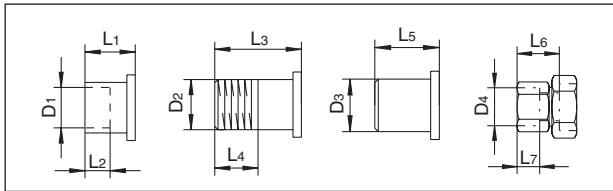
Dimensions “Hydrocontrol VPR”

**Accessories sets for “Hydrocontrol VTR/VPR”:**

| <b>Accessories sets for “Hydrocontrol VTR/VPR”:</b> | <b>Item no.</b> |
|---|-----------------|
| 1 Fill and drain ball valve                         | 1060191         |
| 2 pressure test points                              | 1060281         |
| 1 pressure test point and                           |                 |
| 1 fill and drain ball valve                         | 1060381         |
| 1 extension for accessories sets (80 mm)            | 1060295         |
| 1 extension for accessories sets (40 mm)            | 1688295         |
| 1 measuring adapter                                 | 1060298         |
| 1 stem extension (DN 10 up to DN 50, 35 mm)         | 1688296         |
| Lead sealing set (10-fold)                          | 1089091         |
| Locking set (1-fold)                                | 1060180         |

\*SW = Spanner size

**“Hydrocontrol VTR/VPR”  
Bronze double regulating and commissioning valves PN 16/PN 25**



| DN | D1 | L1 | L2 | D2<br>EN 10226 | L3 | L4   | D3   | L5 | D4<br>EN 10226 | L6 | L7   |
|----|----|----|----|----------------|----|------|------|----|----------------|----|------|
| 10 | -  | -  | -  | R 3/8          | 25 | 10.1 | 16   | 50 | -              | -  | -    |
| 15 | 15 | 18 | 12 | R 1/2          | 31 | 13.2 | 20.5 | 50 | Rp 1/2         | 37 | 13.2 |
| 20 | 18 | 23 | 15 | R 3/4          | 34 | 14.5 | 26   | 50 | Rp 3/4         | 38 | 14.5 |
| 20 | 22 | 24 | 17 | -              | -  | -    | -    | -  | -              | -  | -    |
| 25 | 28 | 27 | 20 | R 1            | 40 | 16.8 | 33   | 60 | Rp 1           | 53 | 16.8 |
| 32 | 35 | 32 | 25 | R 1 1/4        | 46 | 19.1 | 41   | 60 | Rp 1 1/4       | 55 | 19.1 |
| 40 | 42 | 37 | 29 | R 1 1/2        | 49 | 19.1 | 47.5 | 65 | -              | -  | -    |
| 50 | 54 | 50 | 40 | R 2            | 55 | 23.4 | 60   | 65 | -              | -  | -    |

Dimensions

**Tailpipe sets:**

|                      |          |
|----------------------|----------|
| 2 weldable tailpipes | Item no. |
| for valve DN 10      | 1060591  |
| for valve DN 15      | 1060592  |
| for valve DN 20      | 1060593  |
| for valve DN 25      | 1060594  |
| for valve DN 32      | 1060595  |
| for valve DN 40      | 1060596  |
| for valve DN 50      | 1060597  |

**2 solder tailpipes**

|       |                 |         |
|-------|-----------------|---------|
| 15 mm | for valve DN 15 | 1061092 |
| 18 mm | for valve DN 20 | 1061093 |
| 22 mm | for valve DN 20 | 1061094 |
| 28 mm | for valve DN 25 | 1061095 |
| 35 mm | for valve DN 32 | 1061096 |
| 42 mm | for valve DN 40 | 1061097 |
| 54 mm | for valve DN 50 | 1061098 |

**2 male threaded tailpipes**

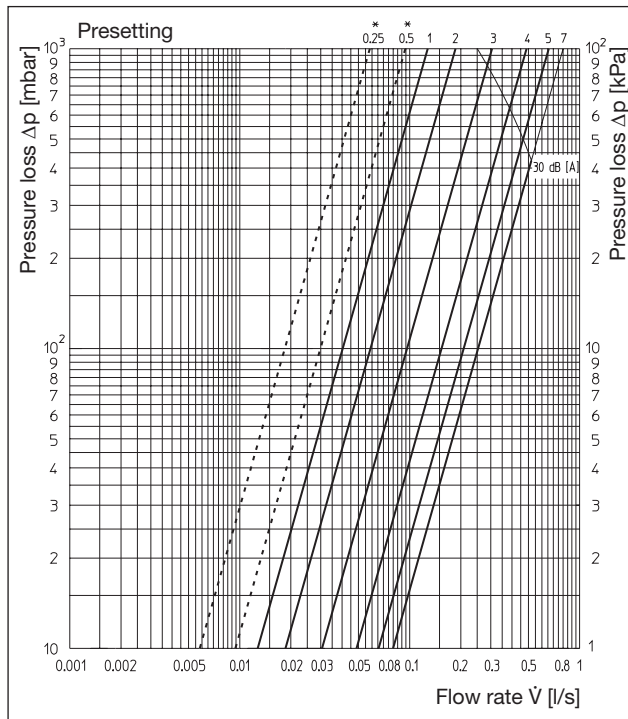
|         |                 |         |
|---------|-----------------|---------|
| R 3/8   | for valve DN 10 | 1061491 |
| R 1/2   | for valve DN 15 | 1061492 |
| R 3/4   | for valve DN 20 | 1061493 |
| R 1     | for valve DN 25 | 1061494 |
| R 1 1/4 | for valve DN 32 | 1061495 |
| R 1 1/2 | for valve DN 40 | 1061496 |
| R 2     | for valve DN 50 | 1061497 |

**2 female threaded tailpipes**

|          |                 |         |
|----------|-----------------|---------|
| R 1/2    | for valve DN 15 | 1019364 |
| Rp 3/4   | for valve DN 20 | 1019366 |
| Rp 1     | for valve DN 25 | 1061394 |
| Rp 1 1/4 | for valve DN 32 | 1061395 |

**Flow charts for double regulating and commissioning valves**

**DN 10**

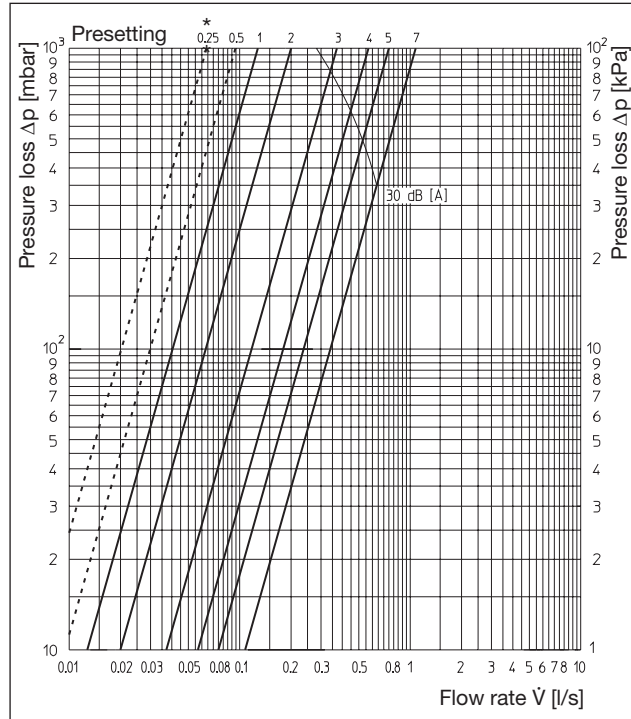


\* Avoid presettings < 1, see tolerance curve on page 9.

| Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 0.25  | 0.21        | 885        |       |             |            |       |             |            |
| 0.5   | 0.34        | 335        |       |             |            |       |             |            |
| 0.75  | 0.40        | 244        |       |             |            |       |             |            |
| 1.    | 0.46        | 184        | 5.    | 2.37        | 6.9        |       |             |            |
| 1.1   | 0.48        | 169        | 5.1   | 2.42        | 6.7        |       |             |            |
| 1.2   | 0.50        | 156        | 5.2   | 2.47        | 6.4        |       |             |            |
| 1.3   | 0.52        | 144        | 5.3   | 2.52        | 6.1        |       |             |            |
| 1.4   | 0.54        | 134        | 5.4   | 2.56        | 6.0        |       |             |            |
| 1.5   | 0.56        | 124        | 5.5   | 2.60        | 5.8        |       |             |            |
| 1.6   | 0.58        | 116        | 5.6   | 2.63        | 5.6        |       |             |            |
| 1.7   | 0.60        | 108        | 5.7   | 2.66        | 5.5        |       |             |            |
| 1.8   | 0.63        | 98         | 5.8   | 2.69        | 5.4        |       |             |            |
| 1.9   | 0.65        | 92         | 5.9   | 2.72        | 5.3        |       |             |            |
| 2.    | 0.67        | 87         | 6.    | 2.75        | 5.2        |       |             |            |
| 2.1   | 0.70        | 80         | 6.1   | 2.77        | 5.1        |       |             |            |
| 2.2   | 0.73        | 73         | 6.2   | 2.79        | 5.0        |       |             |            |
| 2.3   | 0.76        | 68         | 6.3   | 2.81        | 4.9        |       |             |            |
| 2.4   | 0.79        | 63         | 6.4   | 2.83        | 4.9        |       |             |            |
| 2.5   | 0.83        | 57         | 6.5   | 2.84        | 4.8        |       |             |            |
| 2.6   | 0.87        | 52         | 6.6   | 2.85        | 4.8        |       |             |            |
| 2.7   | 0.91        | 47         | 6.7   | 2.86        | 4.8        |       |             |            |
| 2.8   | 0.96        | 42         | 6.8   | 2.87        | 4.7        |       |             |            |
| 2.9   | 1.03        | 37         | 6.9   | 2.87        | 4.7        |       |             |            |
| 3.    | 1.10        | 32         | 7.    | 2.88        | 4.7        |       |             |            |
| 3.1   | 1.16        | 29         |       |             |            |       |             |            |
| 3.2   | 1.23        | 26         |       |             |            |       |             |            |
| 3.3   | 1.29        | 23         |       |             |            |       |             |            |
| 3.4   | 1.36        | 21         |       |             |            |       |             |            |
| 3.5   | 1.42        | 19         |       |             |            |       |             |            |
| 3.6   | 1.49        | 18         |       |             |            |       |             |            |
| 3.7   | 1.56        | 16         |       |             |            |       |             |            |
| 3.8   | 1.62        | 15         |       |             |            |       |             |            |
| 3.9   | 1.69        | 14         |       |             |            |       |             |            |
| 4.    | 1.76        | 13         |       |             |            |       |             |            |
| 4.1   | 1.82        | 12         |       |             |            |       |             |            |
| 4.2   | 1.88        | 11         |       |             |            |       |             |            |
| 4.3   | 1.94        | 10         |       |             |            |       |             |            |
| 4.4   | 2.00        | 9.8        |       |             |            |       |             |            |
| 4.5   | 2.06        | 9.2        |       |             |            |       |             |            |
| 4.6   | 2.12        | 8.7        |       |             |            |       |             |            |
| 4.7   | 2.19        | 8.1        |       |             |            |       |             |            |
| 4.8   | 2.25        | 7.7        |       |             |            |       |             |            |
| 4.9   | 2.31        | 7.3        |       |             |            |       |             |            |

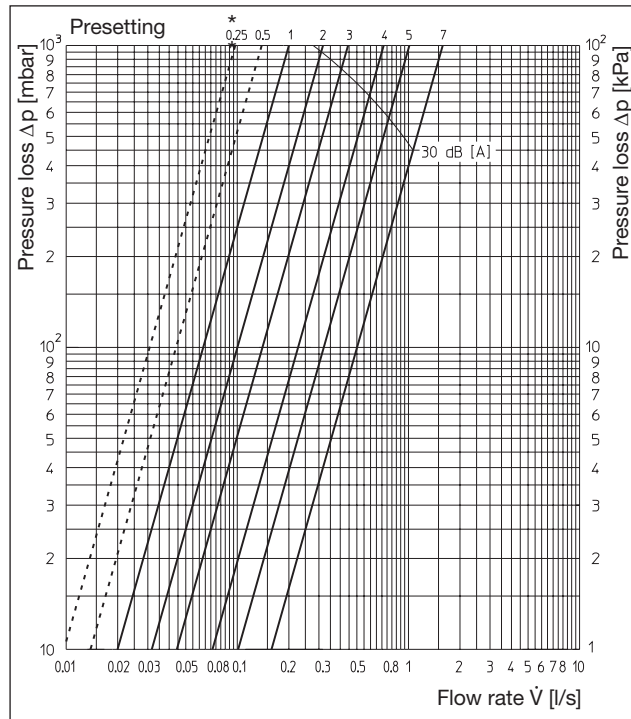
**Flow charts for double regulating and commissioning valves**

**DN 15**



| Turns | $k_y$ value | Zeta value | Turns | $k_y$ value | Zeta value | Turns | $k_y$ value | Zeta |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------|
| 0.25  | 0.23        | 1981       |       |             |            |       |             |      |
| 0.5   | 0.34        | 906        |       |             |            |       |             |      |
| 0.75  | 0.40        | 655        |       |             |            |       |             |      |
| 1.    | 0.46        | 495        | 5.    | 2.70        | 14         |       |             |      |
| 1.1   | 0.48        | 455        | 5.1   | 2.77        | 14         |       |             |      |
| 1.2   | 0.50        | 419        | 5.2   | 2.84        | 13         |       |             |      |
| 1.3   | 0.52        | 388        | 5.3   | 2.92        | 12         |       |             |      |
| 1.4   | 0.55        | 346        | 5.4   | 2.99        | 12         |       |             |      |
| 1.5   | 0.57        | 323        | 5.5   | 3.06        | 11         |       |             |      |
| 1.6   | 0.60        | 291        | 5.6   | 3.13        | 11         |       |             |      |
| 1.7   | 0.63        | 264        | 5.7   | 3.20        | 10         |       |             |      |
| 1.8   | 0.66        | 241        | 5.8   | 3.27        | 9.8        |       |             |      |
| 1.9   | 0.69        | 220        | 5.9   | 3.34        | 9.4        |       |             |      |
| 2.    | 0.72        | 202        | 6.    | 3.40        | 9.1        |       |             |      |
| 2.1   | 0.76        | 181        | 6.1   | 3.47        | 8.7        |       |             |      |
| 2.2   | 0.80        | 164        | 6.2   | 3.54        | 8.4        |       |             |      |
| 2.3   | 0.85        | 145        | 6.3   | 3.61        | 8.0        |       |             |      |
| 2.4   | 0.91        | 127        | 6.4   | 3.67        | 7.8        |       |             |      |
| 2.5   | 0.98        | 109        | 6.5   | 3.72        | 7.6        |       |             |      |
| 2.6   | 1.05        | 95         | 6.6   | 3.76        | 7.4        |       |             |      |
| 2.7   | 1.12        | 84         | 6.7   | 3.79        | 7.3        |       |             |      |
| 2.8   | 1.20        | 73         | 6.8   | 3.82        | 7.2        |       |             |      |
| 2.9   | 1.27        | 65         | 6.9   | 3.85        | 7.1        |       |             |      |
| 3.    | 1.34        | 58         | 7.    | 3.88        | 7          |       |             |      |
| 3.1   | 1.41        | 53         |       |             |            |       |             |      |
| 3.2   | 1.48        | 48         |       |             |            |       |             |      |
| 3.3   | 1.55        | 44         |       |             |            |       |             |      |
| 3.4   | 1.62        | 40         |       |             |            |       |             |      |
| 3.5   | 1.70        | 36         |       |             |            |       |             |      |
| 3.6   | 1.77        | 33         |       |             |            |       |             |      |
| 3.7   | 1.84        | 31         |       |             |            |       |             |      |
| 3.8   | 1.91        | 29         |       |             |            |       |             |      |
| 3.9   | 1.98        | 27         |       |             |            |       |             |      |
| 4.    | 2.05        | 25         |       |             |            |       |             |      |
| 4.1   | 2.12        | 23         |       |             |            |       |             |      |
| 4.2   | 2.18        | 22         |       |             |            |       |             |      |
| 4.3   | 2.24        | 21         |       |             |            |       |             |      |
| 4.4   | 2.31        | 20         |       |             |            |       |             |      |
| 4.5   | 2.38        | 18         |       |             |            |       |             |      |
| 4.6   | 2.44        | 18         |       |             |            |       |             |      |
| 4.7   | 2.51        | 17         |       |             |            |       |             |      |
| 4.8   | 2.57        | 16         |       |             |            |       |             |      |
| 4.9   | 2.63        | 15         |       |             |            |       |             |      |

**DN 20**

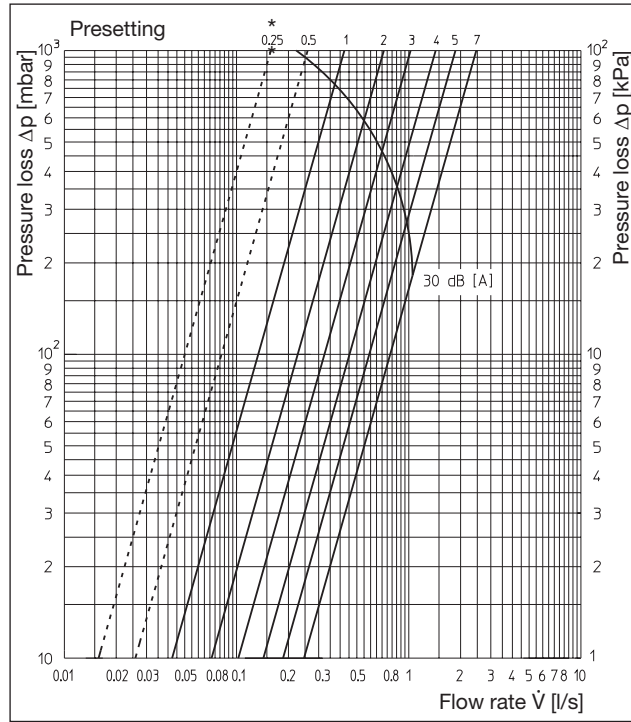


| Turns | $k_y$ value | Zeta value | Turns | $k_y$ value | Zeta value | Turns | $k_y$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 0.25  | 0.35        | 2841       |       |             |            |       |             |            |
| 0.5   | 0.50        | 1392       |       |             |            |       |             |            |
| 0.75  | 0.63        | 877        |       |             |            |       |             |            |
| 1.    | 0.72        | 671        | 5.    | 3.65        | 26         |       |             |            |
| 1.1   | 0.76        | 603        | 5.1   | 3.78        | 24         |       |             |            |
| 1.2   | 0.81        | 530        | 5.2   | 3.90        | 23         |       |             |            |
| 1.3   | 0.85        | 482        | 5.3   | 4.02        | 22         |       |             |            |
| 1.4   | 0.89        | 439        | 5.4   | 4.15        | 20         |       |             |            |
| 1.5   | 0.93        | 402        | 5.5   | 4.27        | 19         |       |             |            |
| 1.6   | 0.97        | 370        | 5.6   | 4.40        | 17         |       |             |            |
| 1.7   | 1.01        | 341        | 5.7   | 4.52        | 17         |       |             |            |
| 1.8   | 1.05        | 316        | 5.8   | 4.65        | 16         |       |             |            |
| 1.9   | 1.10        | 288        | 5.9   | 4.77        | 15         |       |             |            |
| 2.    | 1.14        | 268        | 6.    | 4.89        | 15         |       |             |            |
| 2.1   | 1.18        | 250        | 6.1   | 5.02        | 14         |       |             |            |
| 2.2   | 1.22        | 234        | 6.2   | 5.15        | 13         |       |             |            |
| 2.3   | 1.26        | 219        | 6.3   | 5.28        | 12         |       |             |            |
| 2.4   | 1.30        | 206        | 6.4   | 5.36        | 12         |       |             |            |
| 2.5   | 1.35        | 191        | 6.5   | 5.44        | 12         |       |             |            |
| 2.6   | 1.40        | 178        | 6.6   | 5.50        | 12         |       |             |            |
| 2.7   | 1.45        | 166        | 6.7   | 5.56        | 11         |       |             |            |
| 2.8   | 1.50        | 155        | 6.8   | 5.61        | 11         |       |             |            |
| 2.9   | 1.55        | 145        | 6.9   | 5.66        | 11         |       |             |            |
| 3.    | 1.60        | 136        | 7.    | 5.71        | 11         |       |             |            |
| 3.1   | 1.66        | 126        |       |             |            |       |             |            |
| 3.2   | 1.74        | 115        |       |             |            |       |             |            |
| 3.3   | 1.82        | 105        |       |             |            |       |             |            |
| 3.4   | 1.93        | 93         |       |             |            |       |             |            |
| 3.5   | 2.04        | 84         |       |             |            |       |             |            |
| 3.6   | 2.15        | 75         |       |             |            |       |             |            |
| 3.7   | 2.25        | 69         |       |             |            |       |             |            |
| 3.8   | 2.36        | 62         |       |             |            |       |             |            |
| 3.9   | 2.47        | 57         |       |             |            |       |             |            |
| 4.    | 2.58        | 52         |       |             |            |       |             |            |
| 4.1   | 2.69        | 48         |       |             |            |       |             |            |
| 4.2   | 2.80        | 44         |       |             |            |       |             |            |
| 4.3   | 2.91        | 41         |       |             |            |       |             |            |
| 4.4   | 3.01        | 38         |       |             |            |       |             |            |
| 4.5   | 3.12        | 36         |       |             |            |       |             |            |
| 4.6   | 3.23        | 33         |       |             |            |       |             |            |
| 4.7   | 3.34        | 31         |       |             |            |       |             |            |
| 4.8   | 3.44        | 29         |       |             |            |       |             |            |
| 4.9   | 3.55        | 28         |       |             |            |       |             |            |



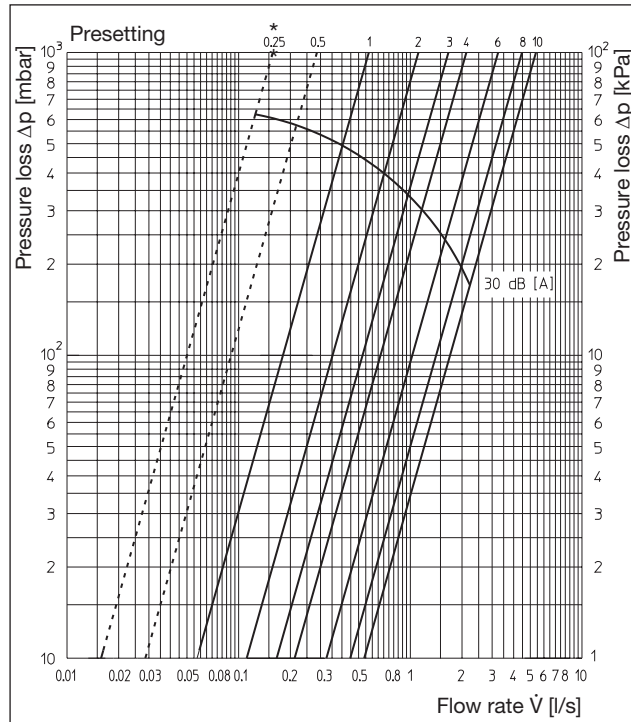
**Flow charts for double regulating and commissioning valves**

**DN 25**



| Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 0.25  | 0.57        | 2774       |       |             |            |       |             |            |
| 0.5   | 0.93        | 1042       |       |             |            |       |             |            |
| 0.75  | 1.22        | 605        |       |             |            |       |             |            |
| 1.    | 1.52        | 390        | 5.    | 6.72        | 20         |       |             |            |
| 1.1   | 1.64        | 335        | 5.1   | 6.84        | 19         |       |             |            |
| 1.2   | 1.76        | 291        | 5.2   | 6.96        | 19         |       |             |            |
| 1.3   | 1.87        | 258        | 5.3   | 7.08        | 18         |       |             |            |
| 1.4   | 1.98        | 230        | 5.4   | 7.20        | 17         |       |             |            |
| 1.5   | 2.08        | 208        | 5.5   | 7.32        | 17         |       |             |            |
| 1.6   | 2.18        | 190        | 5.6   | 7.44        | 16         |       |             |            |
| 1.7   | 2.28        | 173        | 5.7   | 7.56        | 16         |       |             |            |
| 1.8   | 2.38        | 159        | 5.8   | 7.68        | 15         |       |             |            |
| 1.9   | 2.48        | 147        | 5.9   | 7.80        | 15         |       |             |            |
| 2.    | 2.58        | 135        | 6.    | 7.91        | 14         |       |             |            |
| 2.1   | 2.67        | 126        | 6.1   | 8.02        | 14         |       |             |            |
| 2.2   | 2.77        | 117        | 6.2   | 8.12        | 14         |       |             |            |
| 2.3   | 2.87        | 109        | 6.3   | 8.22        | 13         |       |             |            |
| 2.4   | 2.98        | 101        | 6.4   | 8.31        | 13         |       |             |            |
| 2.5   | 3.09        | 94         | 6.5   | 8.41        | 13         |       |             |            |
| 2.6   | 3.20        | 88         | 6.6   | 8.51        | 12         |       |             |            |
| 2.7   | 3.31        | 82         | 6.7   | 8.61        | 12         |       |             |            |
| 2.8   | 3.43        | 77         | 6.8   | 8.71        | 12         |       |             |            |
| 2.9   | 3.56        | 71         | 6.9   | 8.80        | 12         |       |             |            |
| 3.    | 3.69        | 66         | 7.    | 8.89        | 11         |       |             |            |
| 3.1   | 3.82        | 62         |       |             |            |       |             |            |
| 3.2   | 3.96        | 57         |       |             |            |       |             |            |
| 3.3   | 4.11        | 53         |       |             |            |       |             |            |
| 3.4   | 4.26        | 50         |       |             |            |       |             |            |
| 3.5   | 4.42        | 46         |       |             |            |       |             |            |
| 3.6   | 4.57        | 43         |       |             |            |       |             |            |
| 3.7   | 4.72        | 40         |       |             |            |       |             |            |
| 3.8   | 4.87        | 38         |       |             |            |       |             |            |
| 3.9   | 5.02        | 36         |       |             |            |       |             |            |
| 4.    | 5.16        | 34         |       |             |            |       |             |            |
| 4.1   | 5.32        | 32         |       |             |            |       |             |            |
| 4.2   | 5.47        | 30         |       |             |            |       |             |            |
| 4.3   | 5.63        | 28         |       |             |            |       |             |            |
| 4.4   | 5.79        | 27         |       |             |            |       |             |            |
| 4.5   | 5.95        | 25         |       |             |            |       |             |            |
| 4.6   | 6.10        | 24         |       |             |            |       |             |            |
| 4.7   | 6.26        | 23         |       |             |            |       |             |            |
| 4.8   | 6.42        | 22         |       |             |            |       |             |            |
| 4.9   | 6.57        | 21         |       |             |            |       |             |            |

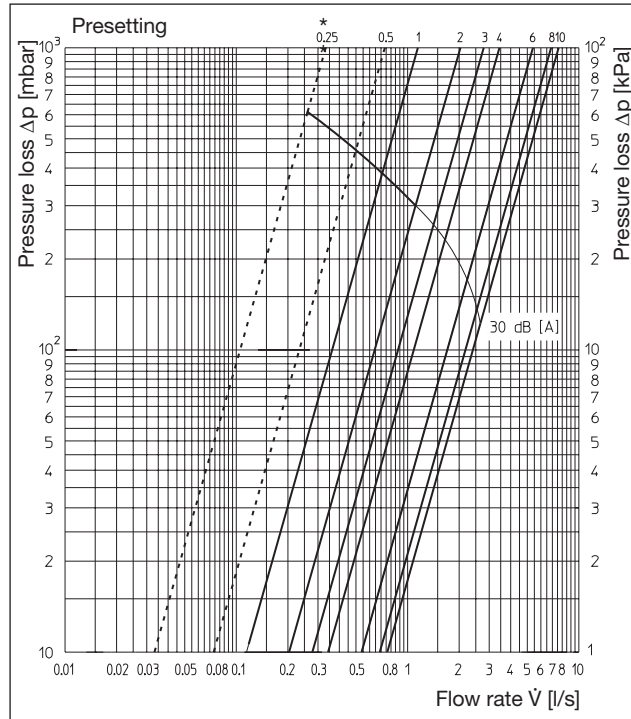
**DN 32**



| Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 0.25  | 0.57        | 8174       |       |             |            |       |             |            |
| 0.5   | 1.03        | 2503       |       |             |            |       |             |            |
| 0.75  | 1.53        | 1135       |       |             |            |       |             |            |
| 1.    | 2.06        | 626        | 5.    | 9.69        | 28         | 9.    | 18.18       | 8.0        |
| 1.1   | 2.20        | 549        | 5.1   | 9.90        | 27         | 9.1   | 18.35       | 7.9        |
| 1.2   | 2.35        | 481        | 5.2   | 10.10       | 26         | 9.2   | 18.50       | 7.8        |
| 1.3   | 2.52        | 418        | 5.3   | 10.30       | 25         | 9.3   | 18.65       | 7.6        |
| 1.4   | 2.70        | 364        | 5.4   | 10.50       | 24         | 9.4   | 18.80       | 7.5        |
| 1.5   | 2.90        | 316        | 5.5   | 10.70       | 23         | 9.5   | 18.93       | 7.4        |
| 1.6   | 3.10        | 276        | 5.6   | 10.90       | 22         | 9.6   | 19.05       | 7.3        |
| 1.7   | 3.32        | 241        | 5.7   | 11.10       | 22         | 9.7   | 19.15       | 7.2        |
| 1.8   | 3.55        | 211        | 5.8   | 11.30       | 21         | 9.8   | 19.25       | 7.2        |
| 1.9   | 3.78        | 186        | 5.9   | 11.50       | 20         | 9.9   | 19.35       | 7.1        |
| 2.    | 4.02        | 164        | 6.    | 11.70       | 19         | 10.   | 19.45       | 7.0        |
| 2.1   | 4.25        | 147        | 6.1   | 11.90       | 19         |       |             |            |
| 2.2   | 4.48        | 132        | 6.2   | 12.12       | 18         |       |             |            |
| 2.3   | 4.68        | 121        | 6.3   | 12.35       | 17         |       |             |            |
| 2.4   | 4.88        | 112        | 6.4   | 12.57       | 17         |       |             |            |
| 2.5   | 5.08        | 103        | 6.5   | 12.80       | 16         |       |             |            |
| 2.6   | 5.25        | 96         | 6.6   | 13.00       | 16         |       |             |            |
| 2.7   | 5.45        | 89         | 6.7   | 13.22       | 15         |       |             |            |
| 2.8   | 5.65        | 83         | 6.8   | 13.45       | 15         |       |             |            |
| 2.9   | 5.83        | 78         | 6.9   | 13.68       | 14         |       |             |            |
| 3.    | 600         | 74         | 7.    | 13.91       | 14         |       |             |            |
| 3.1   | 6.17        | 70         | 7.1   | 14.13       | 13         |       |             |            |
| 3.2   | 6.35        | 66         | 7.2   | 14.35       | 13         |       |             |            |
| 3.3   | 6.52        | 62         | 7.3   | 14.57       | 13         |       |             |            |
| 3.4   | 6.70        | 59         | 7.4   | 14.80       | 12         |       |             |            |
| 3.5   | 6.85        | 57         | 7.5   | 15.02       | 12         |       |             |            |
| 3.6   | 7.00        | 54         | 7.6   | 15.24       | 11         |       |             |            |
| 3.7   | 7.16        | 52         | 7.7   | 15.46       | 11         |       |             |            |
| 3.8   | 7.33        | 49         | 7.8   | 15.68       | 11         |       |             |            |
| 3.9   | 7.49        | 47         | 7.9   | 15.90       | 11         |       |             |            |
| 4.    | 7.64        | 45         | 8.    | 16.11       | 10         |       |             |            |
| 4.1   | 7.85        | 43         | 8.1   | 16.33       | 10         |       |             |            |
| 4.2   | 8.05        | 41         | 8.2   | 16.55       | 9.7        |       |             |            |
| 4.3   | 8.25        | 39         | 8.3   | 16.77       | 9.4        |       |             |            |
| 4.4   | 8.45        | 37         | 8.4   | 16.98       | 9.2        |       |             |            |
| 4.5   | 8.65        | 35         | 8.5   | 17.17       | 9.0        |       |             |            |
| 4.6   | 8.85        | 34         | 8.6   | 17.36       | 8.8        |       |             |            |
| 4.7   | 9.05        | 32         | 8.7   | 17.57       | 8.6        |       |             |            |
| 4.8   | 9.25        | 31         | 8.8   | 17.78       | 8.4        |       |             |            |
| 4.9   | 9.47        | 30         | 8.9   | 17.98       | 8.2        |       |             |            |

**Flow charts for double regulating and commissioning valves**

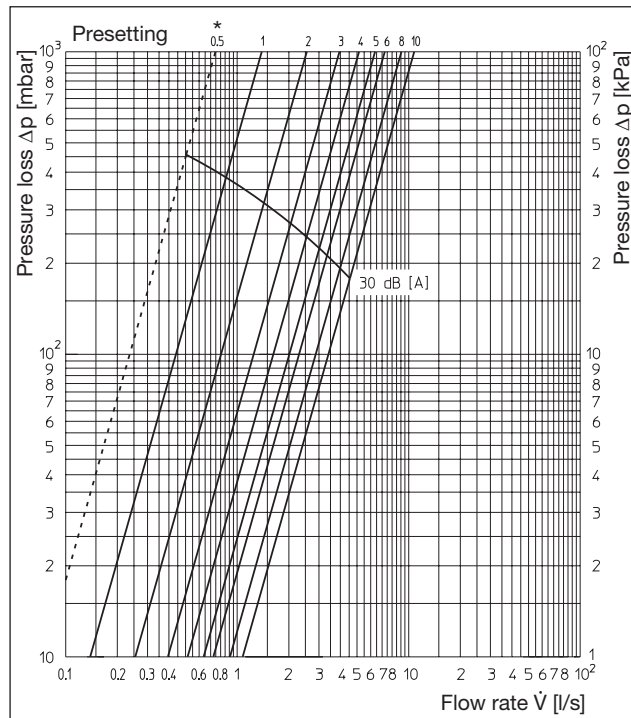
**DN 40**



\* Avoid presettings < 1, see tolerance curve on page 9.

| Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 0.25  | 1.20        | 3390       | 5.    | 15.26       | 21         | 9     | 26.09       | 7.2        |
| 0.5   | 2.66        | 690        | 5.1   | 15.65       | 20         | 9.1   | 26.24       | 7.1        |
| 0.75  | 3.54        | 390        | 5.2   | 16.10       | 19         | 9.2   | 26.38       | 7.0        |
| 1.    | 4.13        | 286        | 5.3   | 16.55       | 18         | 9.3   | 26.52       | 6.9        |
| 1.1   | 4.46        | 245        | 5.4   | 16.95       | 17         | 9.4   | 26.66       | 6.9        |
| 1.2   | 4.78        | 214        | 5.5   | 17.35       | 16         | 9.5   | 26.80       | 6.8        |
| 1.3   | 5.10        | 188        | 5.6   | 17.80       | 15         | 9.6   | 26.94       | 6.7        |
| 1.4   | 5.42        | 166        | 5.7   | 18.20       | 15         | 9.7   | 27.08       | 6.7        |
| 1.5   | 5.74        | 148        | 5.8   | 18.65       | 14         | 9.8   | 27.22       | 6.6        |
| 1.6   | 6.06        | 133        | 5.9   | 19.05       | 13         | 9.9   | 27.37       | 6.5        |
| 1.7   | 6.38        | 120        | 6.    | 19.45       | 13         | 10.   | 27.51       | 6.4        |
| 1.8   | 6.70        | 109        | 6.1   | 19.75       | 13         |       |             |            |
| 1.9   | 7.02        | 99         | 6.2   | 20.05       | 12         |       |             |            |
| 2.    | 7.34        | 91         | 6.3   | 20.35       | 12         |       |             |            |
| 2.1   | 7.62        | 84         | 6.4   | 20.65       | 11         |       |             |            |
| 2.2   | 7.89        | 78         | 6.5   | 20.95       | 11         |       |             |            |
| 2.3   | 8.16        | 73         | 6.6   | 21.25       | 10         |       |             |            |
| 2.4   | 8.43        | 69         | 6.7   | 21.55       | 10         |       |             |            |
| 2.5   | 8.70        | 64         | 6.8   | 21.85       | 10         |       |             |            |
| 2.6   | 8.97        | 61         | 6.9   | 22.15       | 9.9        |       |             |            |
| 2.7   | 9.24        | 57         | 7.    | 22.45       | 9.7        |       |             |            |
| 2.8   | 9.51        | 54         | 7.1   | 22.70       | 9.5        |       |             |            |
| 2.9   | 9.77        | 51         | 7.2   | 22.95       | 9.3        |       |             |            |
| 3.    | 10.02       | 49         | 7.3   | 23.15       | 9.1        |       |             |            |
| 3.1   | 10.25       | 46         | 7.4   | 23.35       | 9.0        |       |             |            |
| 3.2   | 10.50       | 44         | 7.5   | 23.62       | 8.7        |       |             |            |
| 3.3   | 10.73       | 42         | 7.6   | 23.87       | 8.6        |       |             |            |
| 3.4   | 10.97       | 41         | 7.7   | 24.10       | 8.4        |       |             |            |
| 3.5   | 11.20       | 39         | 7.8   | 24.35       | 8.2        |       |             |            |
| 3.6   | 11.43       | 37         | 7.9   | 24.58       | 8.1        |       |             |            |
| 3.7   | 11.66       | 36         | 8.    | 24.82       | 7.9        |       |             |            |
| 3.8   | 11.90       | 34         | 8.1   | 24.95       | 7.8        |       |             |            |
| 3.9   | 12.13       | 33         | 8.2   | 25.07       | 7.7        |       |             |            |
| 4.    | 12.36       | 32         | 8.3   | 25.20       | 7.7        |       |             |            |
| 4.1   | 12.65       | 31         | 8.4   | 25.32       | 7.6        |       |             |            |
| 4.2   | 12.95       | 29         | 8.5   | 25.45       | 7.5        |       |             |            |
| 4.3   | 13.25       | 28         | 8.6   | 25.57       | 7.5        |       |             |            |
| 4.4   | 13.52       | 27         | 8.7   | 25.70       | 7.4        |       |             |            |
| 4.5   | 13.80       | 26         | 8.8   | 25.83       | 7.3        |       |             |            |
| 4.6   | 14.10       | 25         | 8.9   | 25.96       | 7.2        |       |             |            |
| 4.7   | 14.40       | 24         |       |             |            |       |             |            |
| 4.8   | 14.70       | 23         |       |             |            |       |             |            |
| 4.9   | 14.98       | 22         |       |             |            |       |             |            |

**DN 50**

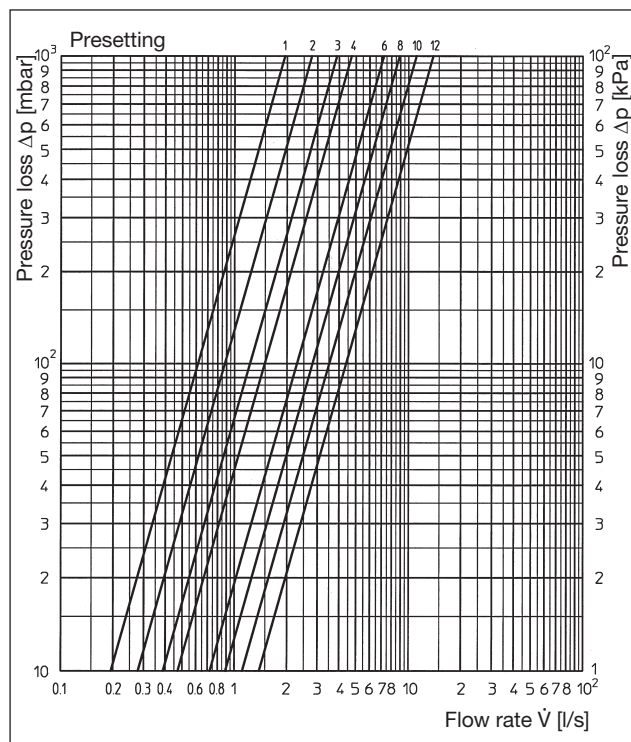


\* Avoid presettings < 1, see tolerance curve on page 9.

| Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 0.5   | 2.69        | 1743       | 5.    | 22.93       | 24         | 9.    | 36.68       | 9.4        |
| 0.75  | 4.17        | 726        | 5.1   | 23.25       | 23         | 9.1   | 37.00       | 9.2        |
| 1.    | 5.06        | 493        | 5.2   | 23.57       | 23         | 9.2   | 37.25       | 9.1        |
| 1.1   | 5.50        | 417        | 5.3   | 23.90       | 22         | 9.3   | 37.50       | 9.0        |
| 1.2   | 5.95        | 356        | 5.4   | 24.20       | 22         | 9.4   | 37.75       | 8.9        |
| 1.3   | 6.35        | 313        | 5.5   | 24.50       | 21         | 9.5   | 37.95       | 8.8        |
| 1.4   | 6.75        | 277        | 5.6   | 24.80       | 21         | 9.6   | 38.15       | 8.7        |
| 1.5   | 7.15        | 247        | 5.7   | 25.15       | 20         | 9.7   | 38.35       | 8.6        |
| 1.6   | 7.55        | 221        | 5.8   | 25.45       | 19         | 9.8   | 38.50       | 8.5        |
| 1.7   | 7.95        | 200        | 5.9   | 25.80       | 19         | 9.9   | 38.65       | 8.5        |
| 1.8   | 8.40        | 179        | 6.    | 26.09       | 19         | 10.   | 38.78       | 8.4        |
| 1.9   | 8.80        | 163        | 6.1   | 26.45       | 18         |       |             |            |
| 2.    | 9.17        | 150        | 6.2   | 26.80       | 18         |       |             |            |
| 2.1   | 9.65        | 135        | 6.3   | 27.10       | 17         |       |             |            |
| 2.2   | 10.15       | 122        | 6.4   | 27.45       | 17         |       |             |            |
| 2.3   | 10.65       | 111        | 6.5   | 27.75       | 16         |       |             |            |
| 2.4   | 11.15       | 101        | 6.6   | 28.05       | 16         |       |             |            |
| 2.5   | 11.65       | 93         | 6.7   | 28.40       | 16         |       |             |            |
| 2.6   | 12.15       | 85         | 6.8   | 28.75       | 15         |       |             |            |
| 2.7   | 12.65       | 79         | 6.9   | 29.10       | 15         |       |             |            |
| 2.8   | 13.20       | 72         | 7.    | 29.41       | 15         |       |             |            |
| 2.9   | 13.70       | 67         | 7.1   | 29.75       | 14         |       |             |            |
| 3.    | 14.23       | 62         | 7.2   | 30.10       | 14         |       |             |            |
| 3.1   | 14.65       | 59         | 7.3   | 30.40       | 14         |       |             |            |
| 3.2   | 15.10       | 55         | 7.4   | 30.75       | 13         |       |             |            |
| 3.3   | 15.50       | 53         | 7.5   | 31.10       | 13         |       |             |            |
| 3.4   | 15.95       | 50         | 7.6   | 31.45       | 13         |       |             |            |
| 3.5   | 16.35       | 47         | 7.7   | 31.80       | 12         |       |             |            |
| 3.6   | 16.80       | 45         | 7.8   | 32.10       | 12         |       |             |            |
| 3.7   | 17.25       | 42         | 7.9   | 32.45       | 12         |       |             |            |
| 3.8   | 17.65       | 40         | 8.    | 32.73       | 12         |       |             |            |
| 3.9   | 18.10       | 39         | 8.1   | 33.15       | 11         |       |             |            |
| 4.    | 18.50       | 37         | 8.2   | 33.55       | 11         |       |             |            |
| 4.1   | 19.00       | 35         | 8.3   | 33.90       | 11         |       |             |            |
| 4.2   | 19.45       | 33         | 8.4   | 34.30       | 11         |       |             |            |
| 4.3   | 19.85       | 32         | 8.5   | 34.70       | 10         |       |             |            |
| 4.4   | 20.30       | 31         | 8.6   | 35.10       | 10         |       |             |            |
| 4.5   | 20.70       | 29         | 8.7   | 35.50       | 10         |       |             |            |
| 4.6   | 21.15       | 28         | 8.8   | 35.90       | 9.8        |       |             |            |
| 4.7   | 21.60       | 27         | 8.9   | 36.30       | 9.6        |       |             |            |
| 4.8   | 22.05       | 26         |       |             |            |       |             |            |
| 4.9   | 22.50       | 25         |       |             |            |       |             |            |

**Flow charts for double regulating and commissioning valves**

**DN 65**



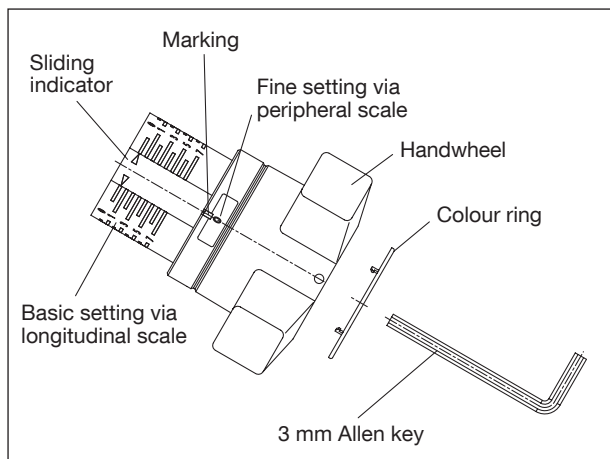
| Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value | Turns | $k_v$ value | Zeta value |
|-------|-------------|------------|-------|-------------|------------|-------|-------------|------------|
| 1.    | 7.00        | 705        | 5.    | 22.00       | 71         | 9.    | 35.00       | 28         |
| 1.1   | 7.30        | 648        | 5.1   | 22.40       | 69         | 9.1   | 35.50       | 27         |
| 1.2   | 7.60        | 598        | 5.2   | 22.80       | 66         | 9.2   | 36.00       | 27         |
| 1.3   | 7.90        | 554        | 5.3   | 23.20       | 64         | 9.3   | 36.50       | 26         |
| 1.4   | 8.20        | 514        | 5.4   | 23.60       | 62         | 9.4   | 37.00       | 25         |
| 1.5   | 8.50        | 478        | 5.5   | 24.00       | 60         | 9.5   | 37.50       | 25         |
| 1.6   | 8.80        | 446        | 5.6   | 24.40       | 58         | 9.6   | 38.00       | 24         |
| 1.7   | 9.10        | 417        | 5.7   | 24.80       | 56         | 9.7   | 38.50       | 23         |
| 1.8   | 9.40        | 391        | 5.8   | 25.20       | 54         | 9.8   | 39.00       | 23         |
| 1.9   | 9.70        | 367        | 5.9   | 25.60       | 53         | 9.9   | 39.50       | 22         |
| 2.    | 10.00       | 345        | 6.    | 26.00       | 51         | 10.   | 40.00       | 22         |
| 2.1   | 10.40       | 319        | 6.1   | 26.30       | 50         | 10.1  | 40.50       | 21         |
| 2.2   | 10.80       | 296        | 6.2   | 26.60       | 49         | 10.2  | 41.00       | 21         |
| 2.3   | 11.20       | 275        | 6.3   | 26.90       | 48         | 10.3  | 41.50       | 20         |
| 2.4   | 11.60       | 257        | 6.4   | 27.20       | 47         | 10.4  | 42.00       | 20         |
| 2.5   | 12.00       | 240        | 6.5   | 27.50       | 46         | 10.5  | 42.50       | 19         |
| 2.6   | 12.40       | 225        | 6.6   | 27.70       | 45         | 10.6  | 43.00       | 19         |
| 2.7   | 12.80       | 211        | 6.7   | 27.90       | 44         | 10.7  | 43.50       | 18         |
| 2.8   | 13.20       | 198        | 6.8   | 28.10       | 44         | 10.8  | 44.00       | 18         |
| 2.9   | 13.60       | 187        | 6.9   | 28.30       | 43         | 10.9  | 44.50       | 17         |
| 3.    | 14.00       | 176        | 7.    | 28.50       | 43         | 11.   | 45.00       | 17         |
| 3.1   | 14.30       | 169        | 7.1   | 28.50       | 42         | 11.1  | 45.50       | 17         |
| 3.2   | 14.60       | 162        | 7.2   | 29.10       | 41         | 11.2  | 46.00       | 16         |
| 3.3   | 14.90       | 156        | 7.3   | 29.40       | 40         | 11.3  | 46.50       | 16         |
| 3.4   | 15.20       | 150        | 7.4   | 29.70       | 39         | 11.4  | 47.00       | 16         |
| 3.5   | 15.50       | 144        | 7.5   | 30.00       | 38         | 11.5  | 47.50       | 15         |
| 3.6   | 15.80       | 138        | 7.6   | 30.40       | 37         | 11.6  | 48.00       | 15         |
| 3.7   | 16.10       | 133        | 7.7   | 30.80       | 36         | 11.7  | 48.50       | 15         |
| 3.8   | 16.40       | 128        | 7.8   | 31.20       | 35         | 11.8  | 49.00       | 14         |
| 3.9   | 16.70       | 124        | 7.9   | 31.60       | 35         | 11.9  | 49.50       | 14         |
| 4.    | 17.00       | 120        | 8.    | 32.00       | 34         | 12.   | 50.00       | 14         |
| 4.1   | 17.50       | 113        | 8.1   | 32.30       | 33         |       |             |            |
| 4.2   | 18.00       | 107        | 8.2   | 32.60       | 33         |       |             |            |
| 4.3   | 18.50       | 101        | 8.3   | 32.90       | 32         |       |             |            |
| 4.4   | 19.00       | 96         | 8.4   | 33.20       | 31         |       |             |            |
| 4.5   | 19.50       | 91         | 8.5   | 33.50       | 31         |       |             |            |
| 4.6   | 20.00       | 86         | 8.6   | 33.80       | 30         |       |             |            |
| 4.7   | 20.50       | 82         | 8.7   | 34.10       | 30         |       |             |            |
| 4.7   | 21.00       | 78         | 8.8   | 34.40       | 29         |       |             |            |
| 4.9   | 21.50       | 75         | 8.9   | 34.70       | 29         |       |             |            |

**Presetting:**

1. The presetting value of the valve is set by turning the handwheel.
  - a. The basic setting is displayed by the longitudinal scale together with the sliding indicator. Each turn of the handwheel is represented by a line on the longitudinal scale.
  - b. The fine setting is displayed by the peripheral scale together with the marking. The subdivisions of the peripheral scale correspond to 1/10<sup>th</sup> of a turn of the handwheel.
2. The set presetting value is limited by turning the inner adjustment stem clockwise until it seats. This can be done by using the long end of a 3 mm Allen key.

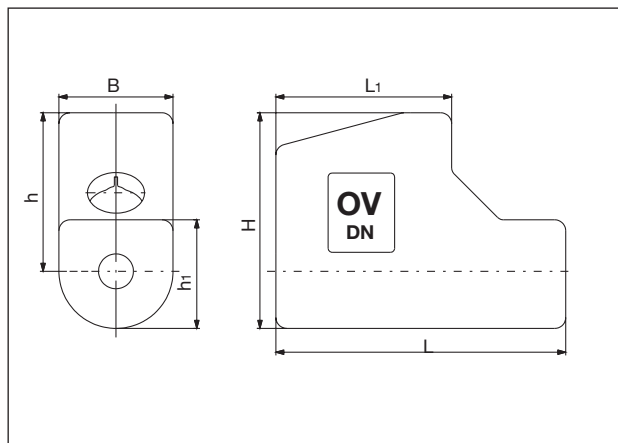
**Marking of the flow and return pipe:**

Clip one of the colour rings (red = supply, blue = return) supplied with each valve onto the handwheel.





**“Hydrocontrol VTR/VPR”  
Bronze double regulating and commissioning valves PN 16/PN 25**



Insulation shells

| Size: | Item no. |
|-------|----------|
| DN 10 | 1060081  |
| DN 15 | 1060081  |
| DN 20 | 1060082  |
| DN 25 | 1060083  |
| DN 32 | 1060084  |
| DN 40 | 1060085  |
| DN 50 | 1060086  |

| DN | B   | L   | L <sub>1</sub> | H   | h   | h <sub>1</sub> |
|----|-----|-----|----------------|-----|-----|----------------|
| 15 | 72  | 183 | 111            | 136 | 100 | 69             |
| 20 | 80  | 195 | 122            | 143 | 103 | 77             |
| 25 | 88  | 243 | 141            | 151 | 107 | 85             |
| 32 | 102 | 254 | 149            | 172 | 121 | 97             |
| 40 | 109 | 250 | 152            | 185 | 131 | 105            |
| 50 | 125 | 276 | 163            | 209 | 147 | 120            |

Dimensions of insulation shells

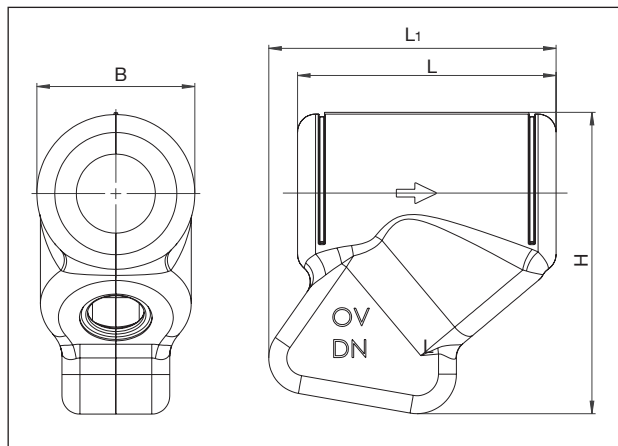
**Tender specification:**

Insulation shells made of polyurethane, consisting of two shells with tongue-and-groove fitting.

Only for heating systems.

Operating temperature  $t_s$ : +130 °C (for short periods up to +150 °C)

**Insulation shells:**



| Size:    | Item no. |
|----------|----------|
| DN 10/15 | 1060481  |
| DN 20    | 1060482  |
| DN 25    | 1060483  |
| DN 32    | 1060484  |
| DN 40    | 1060485  |
| DN 50    | 1060486  |

| DN    | B   | L   | L <sub>1</sub> | H   |
|-------|-----|-----|----------------|-----|
| 10/15 | 66  | 120 | 137            | 135 |
| 20    | 74  | 126 | 140            | 142 |
| 25    | 88  | 140 | 149            | 155 |
| 32    | 88  | 144 | 160            | 168 |
| 40    | 93  | 145 | 156            | 178 |
| 50    | 110 | 188 | 179            | 202 |

Dimensions of insulation shells

**Tender specification:**

Insulation shells made of closed-cell foamed polyethylene with additional solid mesh effect made of polypropylene; one-piece insulation of symmetric construction with tongue-and-groove fitting.

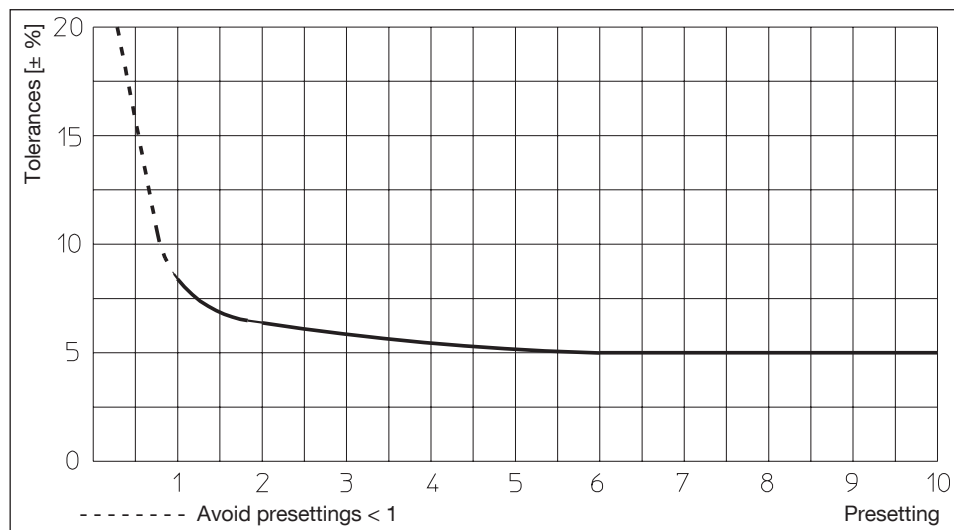
Only for heating systems.

Operating temperature  $t_s$ : 100 °C

**Installation advice:**

Oventrop double regulating and commissioning valves serve to achieve the hydronic balance between the various circuits of a system. The direction of flow always has to conform to the arrow

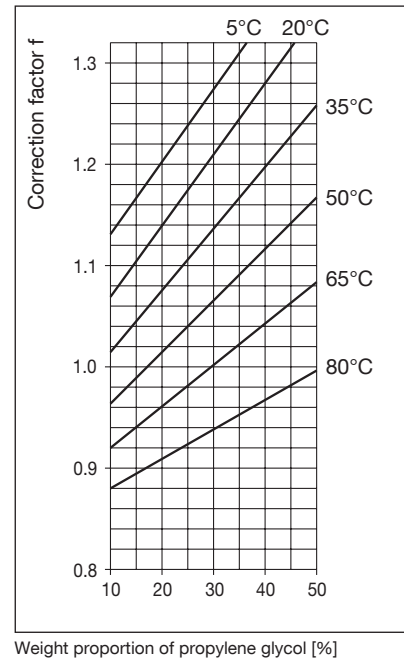
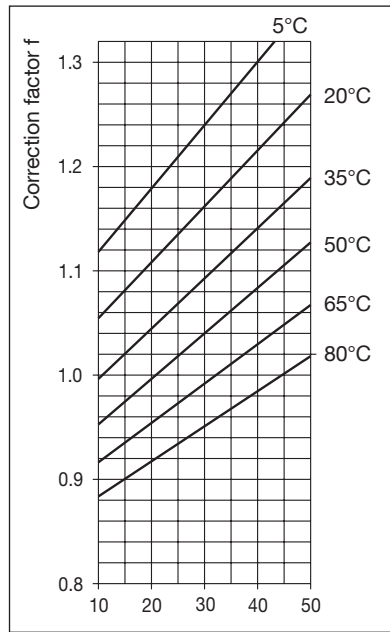
on the valve body. The flow tolerances are  $\pm 5\%$ . If installed against the flow, an increase of the flow tolerance of 1-3%, related to the chart value, must be considered.



Flow tolerances depending on the presetting for item no. 10601/02/03/05, DN 10 up to DN 50

**Correction factors for mixtures of water and glycol:**

When antifreeze liquids are added to the heating water, the values given in the chart must be multiplied by the correction factor *f*.



**Measurement and regulation**

**Oventrop measuring system “OV-DMC 3”**

featuring numerous functions and a wide range of applications:

- Display of the flow rate (display in m<sup>3</sup>/h, l/s, l/min. and gal/min.)
- Differential pressure measurement (display in mbar, PSI or kPa)
- Temperature measurement (display in °C or °F)
- Presetting Determination of the presetting value based on the measured differential pressure, given flow rate and valve size.

The characteristic lines of all Oventrop regulating valves are memorised in the device.

When entering the respective *k<sub>v</sub>* value, it is possible to carry out measurements on valves of other manufacturers.



Measuring system “OV-DMC 3” item no. 1069278 with double regulating and commissioning valve “Hydrocontrol VTR”

Subject to technical modifications without notice.

Product range 3  
ti 19-EN/10/MW  
Edition 2018