“Hydrocontrol VFC” cast iron, PN 16
“Hydrocontrol VFR” bronze, PN 16
“Hydrocontrol VFN” nodular cast iron, PN 25
Double regulating and commissioning valves

Technical Information

Application:

Oventrop double regulating and commissioning valves “Hydrocontrol VFC/VFR/VFN” are installed in the pipework of hot water central heating systems and cooling systems and serve to achieve a hydronic balance between the various circuits of the system.

The bronze double regulating and commissioning valves “Hydrocontrol VFR” may also be used for cold salt water (38 °C max.) and domestic water.

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

When installing the valves, it is to be observed that the direction of flow conforms to the arrow on the valve body and the valve is installed with a minimum of L = 3 x ∅ (3 x nominal pipe diameter) of straight pipe at the valve inlet and of L = 2 x ∅ (2 x nominal pipe diameter) of straight pipe at the valve outlet.

Advantages:

- the location of the functional components in <u>one</u> plane allows a simple assembly and easy operation
- only <u>one</u> valve for 5 functions:
  presetting
  measuring
  isolating
  filling (with accessory)
  draining (with accessory)
- low pressure loss (oblique pattern)
- infinitely adjustable presetting which can be read off in any position due to the moveable display, exact measurement of pressure loss and flow by using the pressure test points
- 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 led around the stem assembly to the test points ensures the best possible accuracy between the differential pressure measured at the pressure test point and the actual differential pressure of the valve

Function:

The balance is achieved by a presetting with memory lock.

The calculated flow rate or pressure loss for each individual pipe can be preset centrally and be regulated precisely.

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

The selected presetting can be read off two scales (basic setting longitudinal scale and fine setting peripheral scale, see illustration presetting).

The presetting is reproducible by opening the valve until stop.

The flow charts are valid for the installation of the double regulating and commissioning valve in the supply or the return pipe provided the direction of flow conforms to the arrow on the valve body.

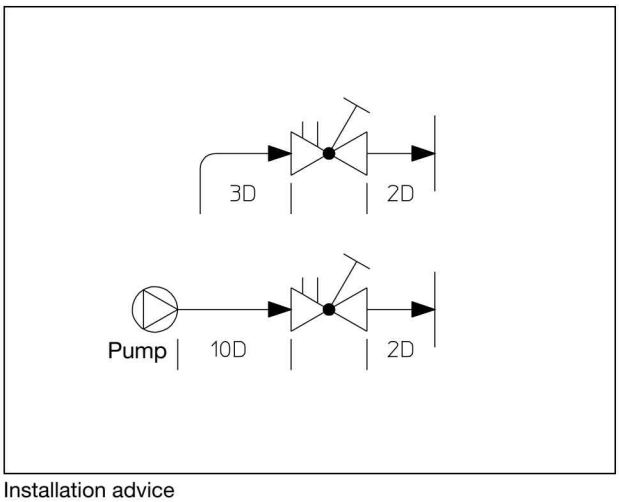
The Oventrop double regulating and commissioning valves have two threaded ports which are equipped with the pressure test points for measuring the differential pressure.

Installation, transport and storage:

- Protect against external forces (e.g. impacts, vibrations etc.)
- External components like handwheels, pressure test points or actuators must not be misused for the absorption of external forces, e.g. as connection point for lever tools etc.
- Suitable transport and lifting devices are be used.
- Storage temperature -20 °C up to +60 °C

“Hydrocontrol VFC”

“Hydrocontrol VFR”



Installation advice

**Double regulating and commissioning valves
DN 20 – DN 50
Measuring technique “classic”**

Tender specification:

Oventrop double regulating and commissioning valves with secured, infinitely adjustable presetting controllable at any time with the help of the flow limiting device.

Lengths according to DIN EN 558-1 basic series 1
(corresponds to ISO 5752 series 1)
All functional components in one plane, pressure test point and fill and drain ball valve interchangeable.

Models:	“Hydrocontrol VFC”			“Hydrocontrol VFR”
	PN 16	PN 6	ANSI 150	PN 16
Size	Item no.	Item no.	Item no.	Item no.
DN 20	1062646	1062676	1062946	
DN 25	1062647	1062677	1062947	
DN 32	1062648	1062678	1062948	
DN 40	1062649	1062679	1062949	
DN 50	1062650	1062680	1062950	1062350

“Hydrocontrol VFC”
PN 16, -10°C to +150°C, PN 20 for cold water
Round flanges according to DIN EN 1092-2, PN 16
(corresponds to ISO 7005-2, PN 16)
PN 6, -10°C to +150°C
Round flanges according to DIN EN 1092-2, PN 6
(corresponds to ISO 7005-2, PN 6)
ANSI 150, -10°C to +150°C
Hole circle of the flanged connection according to ANSI 150
Valve body made of cast iron (GG 25 EN-GJL-250 according to DIN EN 1561), bonnet, stem and disc made of bronze/dezincification resistant brass. Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.
With type approval certificate for shipbuilding (PN 16 and ANSI 150).

“Hydrocontrol VFR”
PN 16, -20°C to +150°C, PN 20 for cold water
Round flanges according to DIN EN 1092-2, PN 16
(corresponds to ISO 7005-2, PN 16)
Valve body, bonnet and disc made of bronze, stainless steel stem, disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.
With type approval certificate for shipbuilding.

Presetting DN 20 – DN 50:

1. The presetting value of the valve is set by turning the handwheel.
   a. The display of the basic setting is shown 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 display of the fine setting is shown by the peripheral scale on the handwheel together with the marking. The subdivisions of the peripheral scale correspond to 1/10th of a turn of the handwheel.
2. The set presetting value can be 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.

Visibility/readability of the setting scales:

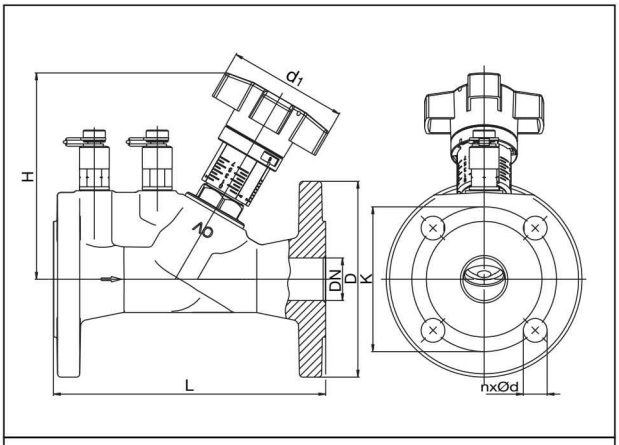
Depending on the installation position of the double regulating and commissioning valve, an improvement of the visibility/readability of the setting scales is obtained by twisting the scales. With the valve fully closed and the two setting scales on “0”, remove cover plug, undo screw and with a light tug pull the handwheel from the valve stem.
Next, without altering the presetting (still indicating “0”), adjust the position of the handwheel so that the indicator window is clearly visible. Finally refit the handwheel to the valve stem, tighten the screw and replace the cover plug.

Protecting the presetting:

The sealing wire (accessory) may be fitted through the hole in the handwheel and a lead seal may be fitted.

Locking the handwheel:

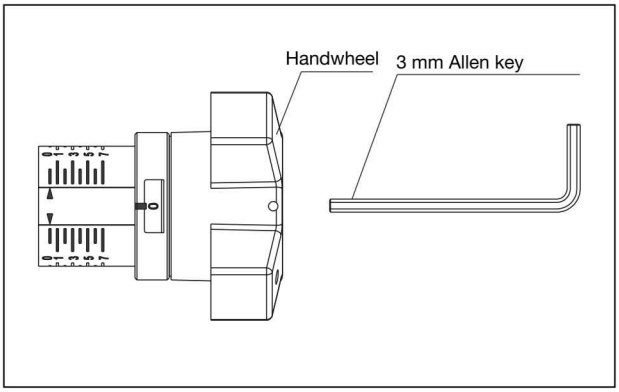
The handwheel can be locked in any position (1/10th of a turn). To do so, the existing cover plug is replaced by the cover plug of the locking set (accessory).
In addition, the locked handwheel can be secured by use of the sealing wire.

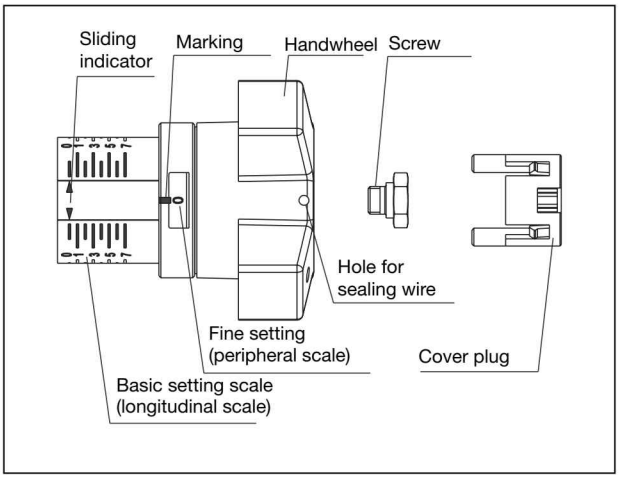


“Hydrocontrol VFC/VFR”						
				PN 16		
DN	L	H	d_1	D	K	n x Ød
20	150	118	70	105	75	4 x 14
25	160	118	70	115	85	4 x 14
32	180	136	70	140	100	4 x 19
40	200	136	70	150	110	4 x 19
50	230	145	70	165	125	4 x 19

	“Hydrocontrol VFC”			“Hydrocontrol VFC”		
	PN 6			ANSI 150		
DN	D	K	n x Ød	D	K	n x Ød
20	90	65	4 x 11	99	70	4 x 16
25	100	75	4 x 11	108	79	4 x 16
32	120	90	4 x 14	118	89	4 x 16
40	130	100	4 x 14	127	98	4 x 16
50	140	110	4 x 14	153	121	4 x 19

Dimensions





**Double regulating and commissioning valves
DN 65 – DN 150
Measuring technique “classic”**

Tender specification:

Oventrop double regulating and commissioning valves with secured, infinitely adjustable presetting controllable at any time with the help of the flow limiting device.
Lengths according to DIN EN 558-1 basic series 1
(corresponds to ISO 5752 series 1)
All functional components in one plane, pressure test point and fill and drain ball valve interchangeable.

	“Hydrocontrol VFC”			“Hydro-control VFR”	“Hydro-control VFN”
Size	PN 16	PN 6	ANSI 150	PN 16	PN 25
	Item no.	Item no.	Item no.	Item no.	Item no.
DN 65	1062651	1062681	1062951	1062351	1062451
DN 80	1062652	1062682	1062952	1062352	1062452
DN 100	1062653	1062683	1062953	1062353	1062453
DN 125	1062654	1062684	1062954	1062354	1062454
DN 150	1062655	1062685	1062955	1062355	1062455

“Hydrocontrol VFC”
PN 16, -10°C to +150°C, PN 20 for cold water
Round flanges according to DIN EN 1092-2, PN 16
(corresponds to ISO 7005-2, PN 16)
PN 6, -10°C to +150 °C
Round flanges according to DIN EN 1092-2, PN 6
(corresponds to ISO 7005-2, PN 6)
ANSI 150, -10°C to +150 °C
Hole circle of the flanged connection according to ANSI 150
Valve body made of cast iron (GG 25 EN-GJL-250 according to DIN EN 1561), bonnet, stem and disc made of bronze/dezincification resistant brass. Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

“Hydrocontrol VFR”
PN 16, -20°C to +150°C, PN 20 for cold water
Round flanges according to DIN EN 1092-2, PN 16
(corresponds to ISO 7005-2, PN 16)
Valve body, bonnet and disc made of bronze, stainless steel stem, disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

“Hydrocontrol VFN”
PN 25, -20°C to +150°C
Round flanges according to DIN EN 1092-2, PN 25
(corresponds to ISO 7005-2, PN 25)
Valve body made of nodular cast iron (GGG 50 EN-GJS-500-7 according to DIN EN 1563), bronze bonnet and disc, stem made of dezincification resistant brass. Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

Presetting DN 65 – DN 150:

1. The presetting value of the valve is set by turning the handwheel.
   a. The display of the basic setting is shown 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 display of the fine setting is shown by the peripheral scale on the handwheel together with the marking.
      The subdivisions of the peripheral scale correspond to 1/10th of a turn of the handwheel.
2. The set presetting value can be limited by turning the inner adjustment stem clockwise until it seats. This can be done by using the long end of a 4 mm Allen key.

Visibility/readability of the setting scales:

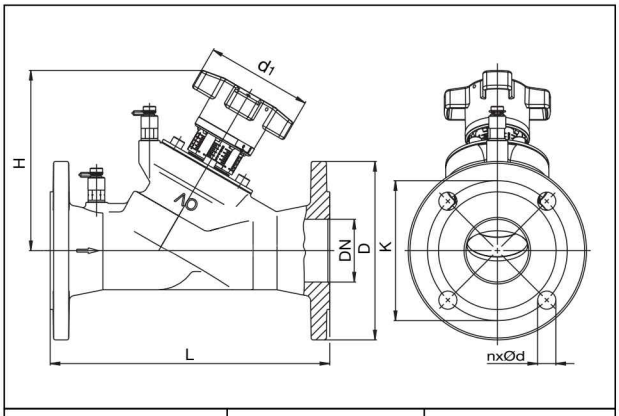
Depending on the installation position of the double regulating and commissioning valve, an improvement of the visibility/readability of the setting scales is obtained by twisting the scales. With the valve fully closed and the two setting scales on “0”, remove cover plug, undo screw and with a light tug pull the handwheel from the valve stem.
Next, without altering the presetting (still indicating “0”), adjust the position of the handwheel so that the indicator window is clearly visible. Finally refit the handwheel to the valve stem, tighten the screw and replace the cover plug.

Protecting the setting:

A sealing wire may be fitted through the hole in the handwheel and a lead seal may be fitted.

Locking the handwheel:

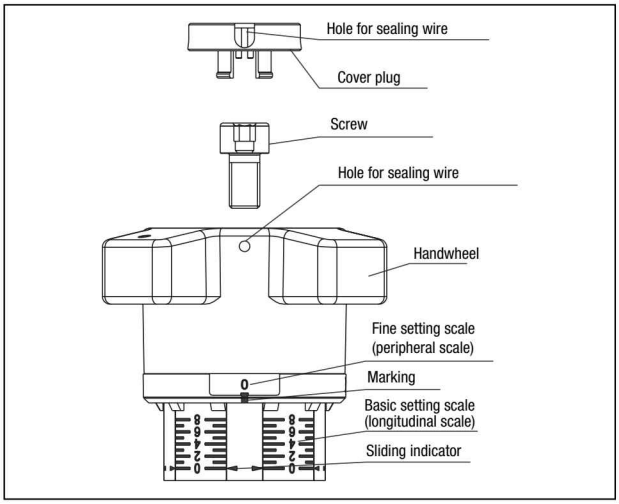
The handwheel can be locked in any position (1/10th of a turn). Fit the enclosed clip in the cut-out in the handwheel below the holes between the guides, making sure it locates into the sliding indicator (see sketch). The clip can now be sealed as illustrated. It is essential that the sealing wire is fitted tightly.

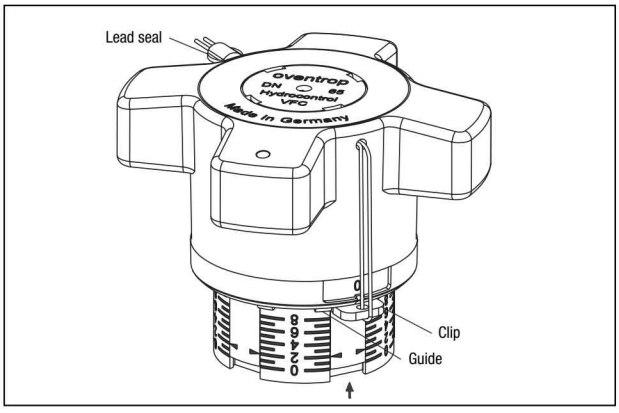


“Hydrocontrol VFC/ VFR/VFN”				“Hydrocontrol VFC”			“Hydrocontrol VFC”		
				PN 16			PN 6		
DN	L	H	d_1	D	K	n x Ød	D	K	n x Ød
65	290	188	110	185	145	4 x 19	160	130	4 x 14
80	310	203	110	200	160	8 x 19	190	150	4 x 19
100	350	240	160	220	180	8 x 19	210	170	4 x 19
125	400	283	160	250	210	8 x 19	240	200	8 x 19
150	480	285	160	285	240	8 x 23	265	225	8 x 19

	“Hydrocontrol VFC”			“Hydrocontrol VFR”			“Hydrocontrol VFN”		
	ANSI 150			PN 16			PN 25		
DN	D	K	n x Ød	D	K	n x Ød	D	K	n x Ød
65	185	140	4 x 19	185	145	4 x 19	185	145	8 x 19
80	200	152	4 x 19	200	160	8 x 19	200	160	8 x 19
100	220	191	8 x 19	220	180	8 x 19	235	190	8 x 23
125	250	216	8 x 22	250	210	8 x 19	270	220	8 x 28
150	285	241	8 x 22	285	240	8 x 23	300	250	8 x 28

Dimensions





**Double regulating and commissioning valves
DN 200 – DN 400
Measuring technique “classic”**

Tender specification:

Oventrop double regulating and commissioning valves with secured, infinitely adjustable presetting controllable at any time with the help of the flow limiting device.

Lengths according to DIN EN 558-1 basic series 1
(corresponds to ISO 5752 series 1)
All functional components in one plane, pressure test point and fill and drain ball valve interchangeable.

	“Hydrocontrol VFC”			“Hydro-control VFR”	“Hydro-control VFN”
Size	PN 16 Item no.	PN 6 Item no.	ANSI 150 Item no.	PN 16 Item no.	PN 25 Item no.
DN 200	1062656	1062686	1062956	1062356	1062456
DN 250	1062657		1062957		1062457
DN 300	1062658		1062958		1062458
DN 350	1062659		1062959		
DN 400	1062660				

“Hydrocontrol VFC”
PN 16, -10°C to +150°C, PN 20 for cold water
Round flanges according to DIN EN 1092-2, PN 16
(corresponds to ISO 7005-2, PN 16)
PN 6, -10°C to +150°C
Round flanges according to DIN EN 1092-2, PN 6
(corresponds to ISO 7005-2, PN 6)
ANSI 150, -10°C to +150°C
Hole circle of the flanged connection according to ANSI 150

Valve body (DN 200-DN 300 made of cast iron GG 25, EN-GJL-250 according to DIN EN 1561; DN 350 and DN 400 made of nodular cast iron GGG 50, EN-GJS-500-7 according to DIN EN 1563), bonnet (DN 200-DN 300 made of nodular cast iron GGG 40, EN-GJS-400-15 according to DIN EN 1563; DN 350 and DN 400 made of nodular cast iron GGG 50, EN-GJS-500-7 according to DIN EN 1563), bronze disc, stem made of dezincification resistant brass. Disc with PTFE or EPDM seal. Maintenance-free stem seal due to double EPDM O-ring.

“Hydrocontrol VFR”
PN 16, -20°C to +150°C, PN 20 for cold water
Round flanges according to DIN EN 1092-2, PN 16
(corresponds to ISO 7005-2, PN 16)
Valve body, bonnet and disc made of bronze, stainless steel stem. Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.
With type approval certificate for shipbuilding.

“Hydrocontrol VFN”
PN 25, -20°C to +150°C
Round flanges according to DIN EN 1092-2, PN 25
(corresponds to ISO 7005-2, PN 25)
Valve body made of nodular cast iron (GGG 50/EN-GJS-500-7 according to DIN EN 1563), bonnet made of nodular cast iron (GGG 40/EN-GJS-400-15 according to DIN EN 1563). Bronze disc, stem made of dezincification resistant brass. Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

Presetting DN 200 – DN 400:

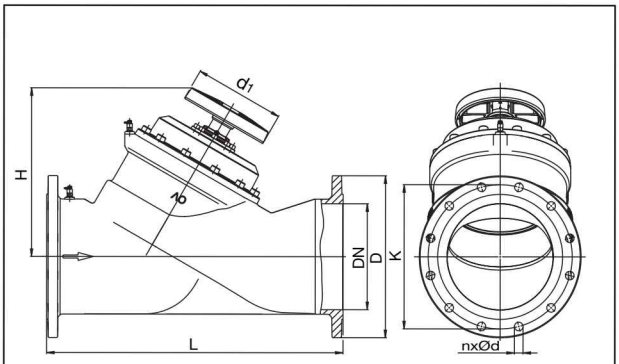
1. The presetting value of the valve is set by turning the handwheel.
   a. The complete turns of the handwheel are shown by the outer display.
   b. 1/10th of a turn of the handwheel is shown by the inner display.
2. Remove cover plug by introducing a screwdriver in the slot and gently prising it off.
3. The set presetting value can be limited by turning the inner adjustment stem clockwise until it seats. This can be done by using a 10 mm screwdriver.
4. Refit the cover plug.

Protecting the setting:

A sealing wire may be fitted through the hole in the handwheel and a lead seal may be fitted.

Locking the handwheel:

The handwheel can be locked in any position (1/10th of a turn) by removing the existing cover plug and replacing it with a special one. The sealing wire is then fitted through the hole in the handwheel and a lead seal is fitted.



“Hydrocontrol VFC/ VFR/VFN”				“Hydrocontrol VFC” PN 16			“Hydrocontrol VFC” PN 6		
DN	L	H	d1	D	K	n x Ød	D	K	n x Ød
200	600	467	300	340	295	12 x 23	320	280	8 x 19
250	730	480	300	405	355	12 x 28			
300	850	515	300	460	410	12 x 28			
350	980	560	300	520	470	16 x 28			
400	1100	655	300	580	525	16 x 31			

	“Hydrocontrol VFC” ANSI 150			“Hydrocontrol VFR” PN 16			“Hydrocontrol VFN” PN 25		
DN	D	K	n x Ød	D	K	n x Ød	D	K	n x Ød
200	340	298	8 x 22	340	295	12 x 23	360	310	12 x 28
250	405	362	12 x 25				425	370	12 x 31
300	485	432	12 x 25				485	430	16 x 31
350	535	476	12 x 28						

Dimensions