

Application:

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

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 $L = 5 \times \varnothing$ of straight pipe at the valve inlet and of $L = 2 \times \varnothing$ of straight pipe at the valve outlet.

Advantages:

- the location of the functional components in one plane allows a simple assembly and easy operation
- the constant K_V -value of the metering station for all presetting values allows a simple and quick regulation
- only one 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 the flow rate via the metering station
- exact measurement of the pressure loss which is proportional to the flow rate via the integrated metering station
- K_V -value of the integrated metering station displayed on the affixed identification plate

Function:

Hydronic balancing is carried out by setting the double regulating and commissioning valves during flow measurement at the metering station. The balance is additionally achieved by the presetting with memory lock.

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

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.

In cooling systems using mixtures of water and glycol, correction factors have to be taken into consideration.

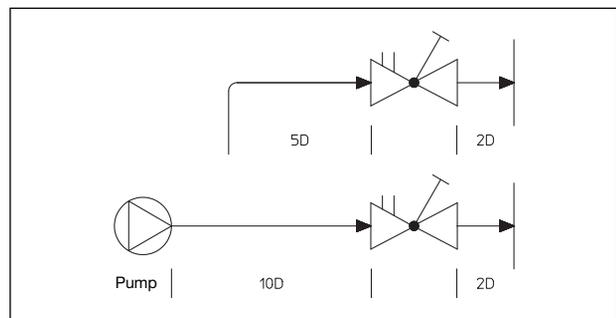
Installation, transport and storage:

Attention:

- Please protect against external forces (e.g. impacts, vibrations etc.)
- External components like handwheels or pressure test points 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 to be used.
- Storage temperature: -20 °C up to $+60\text{ °C}$



“Hydrocontrol MFC”



Installation advice

“Hydrocontrol MFC” Double regulating and commissioning valves DN 65 – DN 150

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.

All functional components in one plane.

Lengths according to DIN EN 558-1 basic series 1 (corresponds to ISO 5752 series 1)

PN 16, -10 °C to +150 °C

Round flanges according to DIN EN 1092-2, PN 16 (corresponds to ISO 7005-2, PN 16)

Valve body made of cast iron (EN G.JL 250 according to DIN EN 1561), bonnet, disc and metering station made of bronze.

Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

Models:

Size	k_{vs}	k_v value of the integrated metering station	Item no.
DN 65	86.7	102.0	1065851
DN 80	102.0	125.0	1065852
DN 100	198.0	262.0	1065853
DN 125	271.0	350.0	1065854
DN 150	400.0	530.0	1065855

Presetting DN 65 – DN 150:

- The presetting value of the “Hydrocontrol MFC” is set by turning the handwheel.
 - 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.
 - 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.
- 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.

Readability of the setting scales:

Depending on the installation position of the double regulating and commissioning valve, an improvement of the 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.

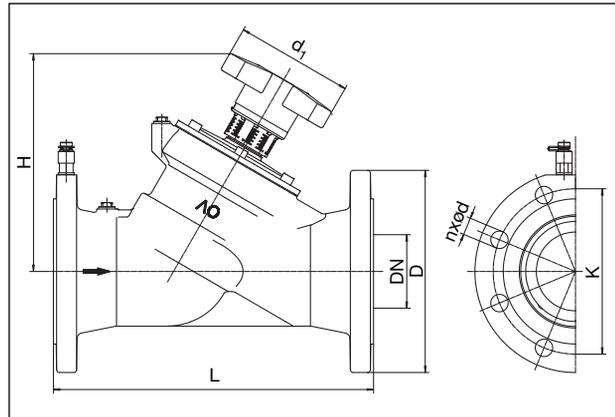
Next, without altering the presetting (still indicating “0”), adjust the position of the handwheel so that the indicator window is clearly visible. Finally refit the handwheel to the valve stem, tighten the screw and replace the cover plug.

Protecting the setting:

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

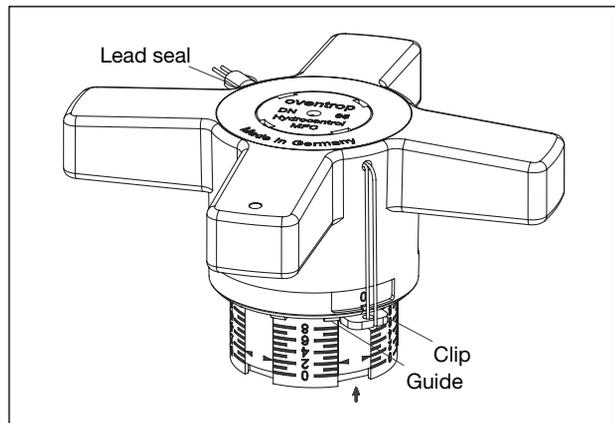
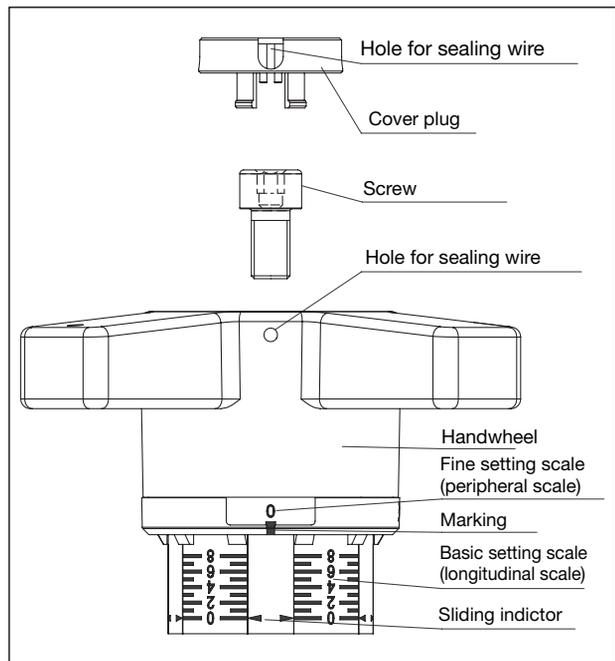
Locking the handwheel:

The handwheel can be locked in any position (1/10th of a turn). To do so, push the enclosed clip in the cut-out into the handwheel below the holes between the guides until stop (see sketch). The clip can now be sealed as illustrated. It is essential that the sealing wire is fitted tightly.



DN	L	H	d_1	D	K	$n \times \varnothing d$	Approx. weight [kg]
65	290	188	110	185	145	4 x 19	17
80	310	203	110	200	160	8 x 19	22
100	350	240	160	220	180	8 x 19	33
125	400	283	160	250	210	8 x 19	45
150	480	285	160	285	240	8 x 23	57

Dimensions



“Hydrocontrol MFC” Double regulating and commissioning valves DN 200 – DN 300

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.

All functional components in one plane.

Lengths according to DIN EN 558-1 basic series 1 (corresponds to ISO 5752 series 1)

PN 16, -10 °C to +150 °C

Round flanges according to DIN EN 1092-2, PN 16 (corresponds to ISO 7005-2, PN 16)

Valve body made of cast iron (EN GJL 250 according to DIN EN 1561), bonnet made of nodular cast iron (EN GJS-400-15 according to DIN EN 1563), disc and metering station made of bronze.

Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

Models:

Size	k_{vs}	k_v value of the integrated metering station	Item no.
DN 200	750.0	805.0	1065856
DN 250	1090.0	1250.0	1065857
DN 300	1500.0	1850.0	1065858

Presetting DN 200 – DN 400:

- The presetting value of the valve is set by turning the handwheel.
 - The complete turns of the handwheel are shown by the outer display.
 - 1/10th of a turn of the handwheel is shown by the inner display.
- Remove cover plug by introducing a screwdriver in the slot and gently prising it off.
- 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.
- Refit the cover plug.

Protecting the setting:

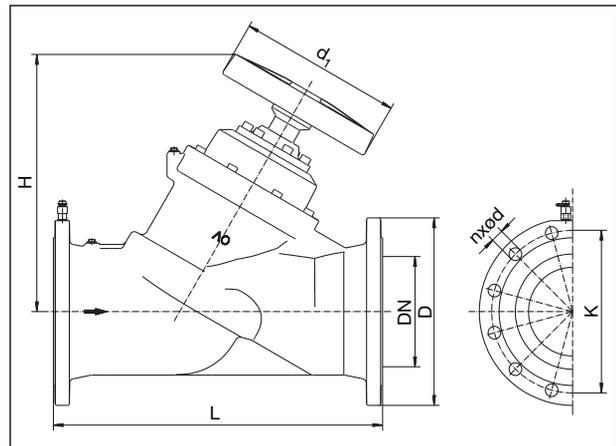
A sealing wire may be fitted through the hole in the handwheel and a lead seal may be fitted.

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.

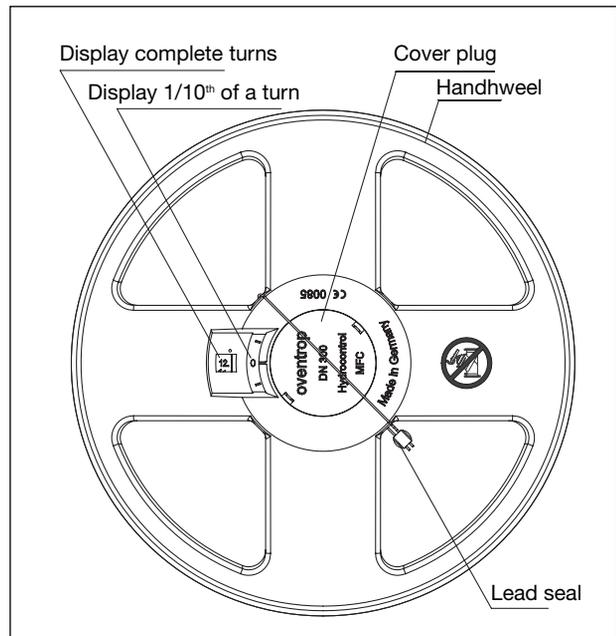
Accessories sets:

Extension for accessories sets (80 mm)	1060295
Extension for accessories sets (40 mm)	1688295
Stem extension (35 mm)	1688296
Lead sealing set (10-fold)	1089091
Locking set (1-fold)	1060180



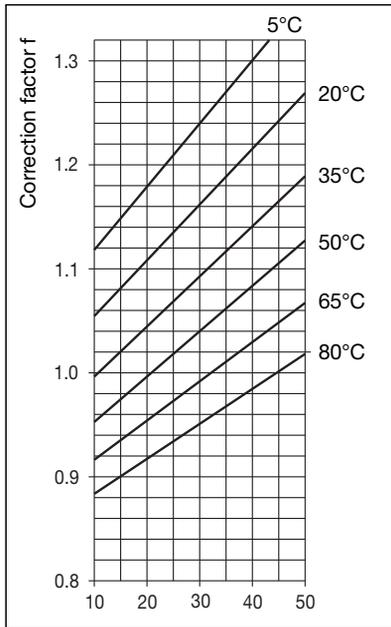
DN	L	H	d ₁	D	K	n x Ød	Approx. weight [kg]
200	600	467	300	340	295	12 x 23	172
250	730	480	300	405	355	12 x 28	197
300	850	515	300	460	410	12 x 28	265

Dimensions

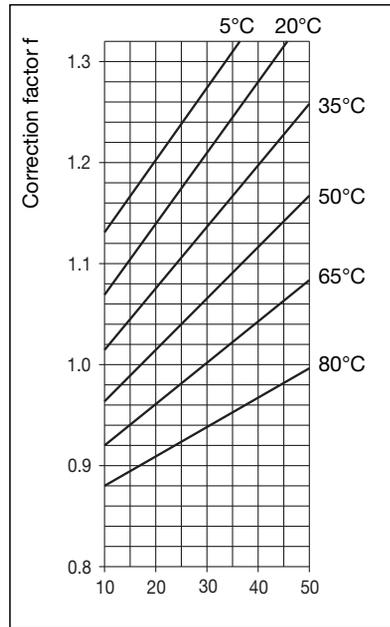


Correction factor for mixtures of water and glycol:

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



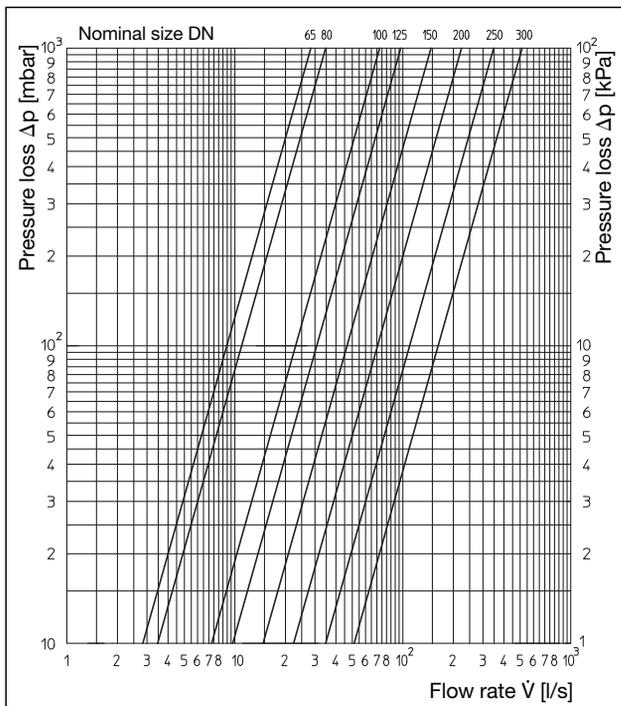
Weight proportion of ethylene glycol [%]



Weight proportion of propylene glycol [%]

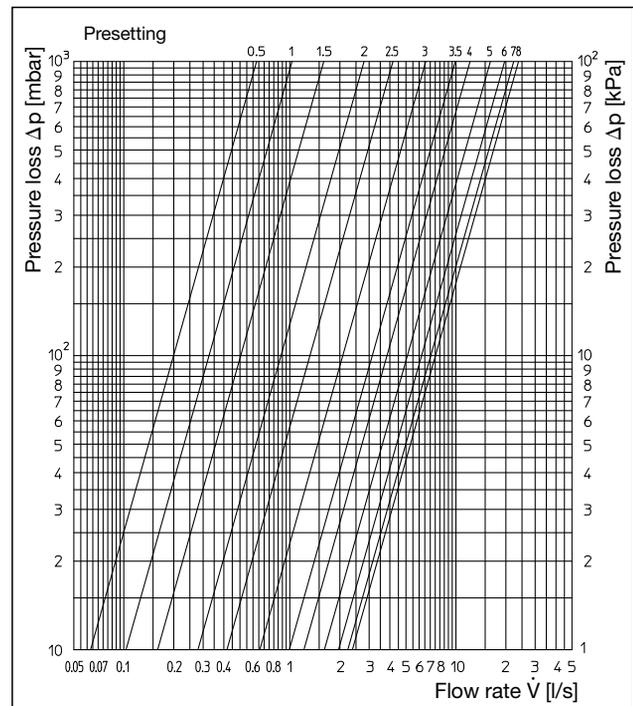
Flow charts:

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

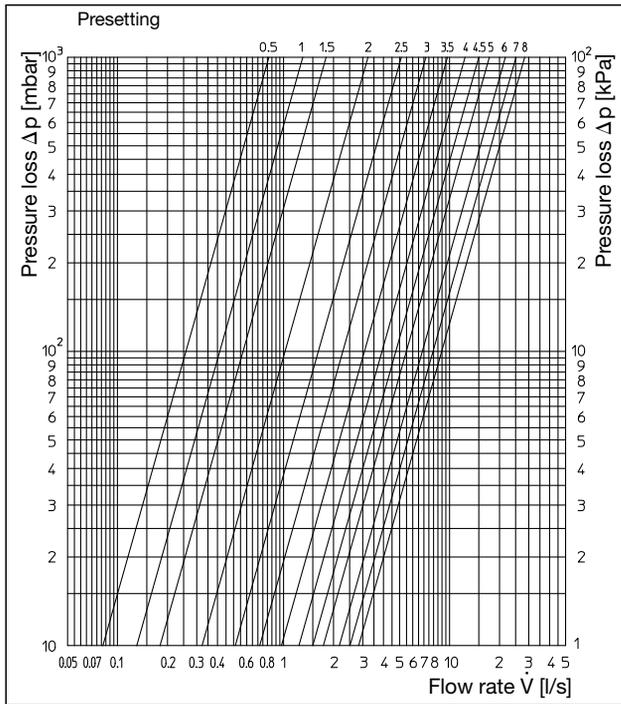


Metering station

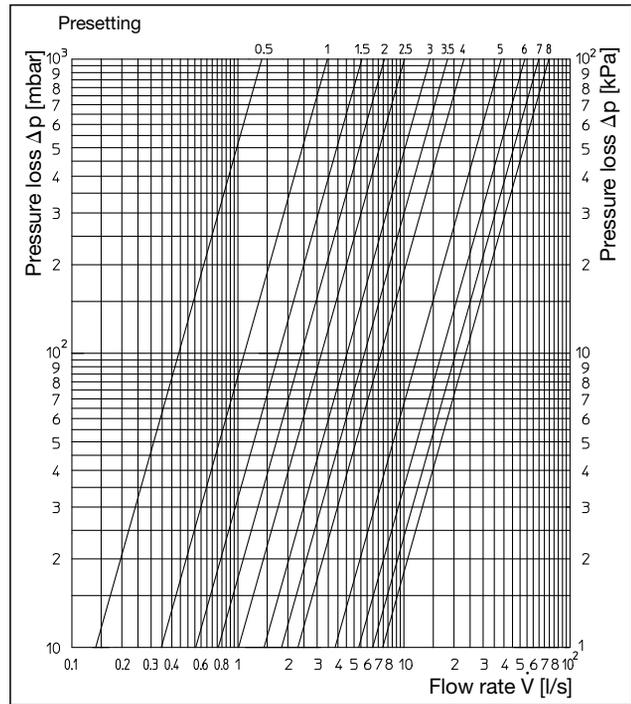
DN 65



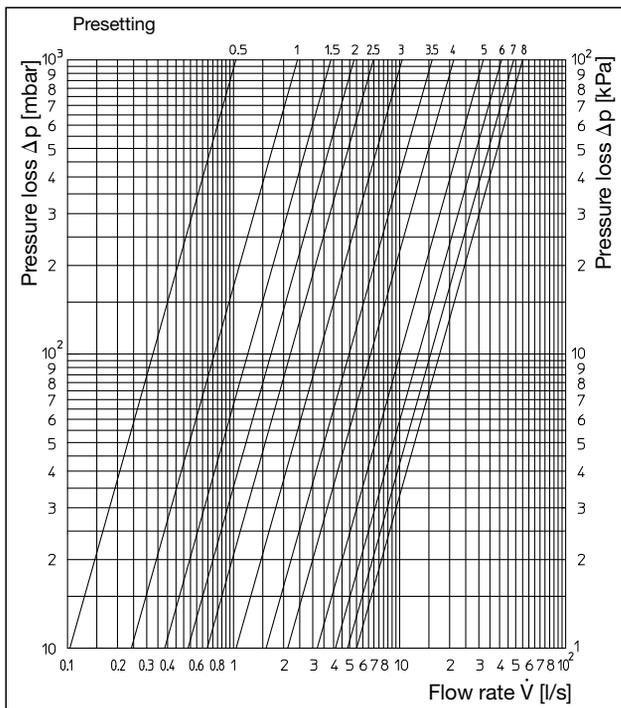
DN 80



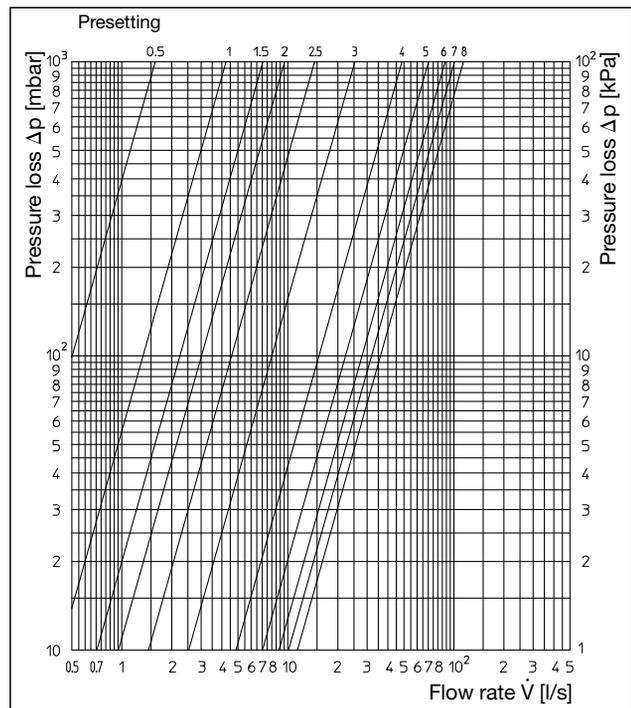
DN 125



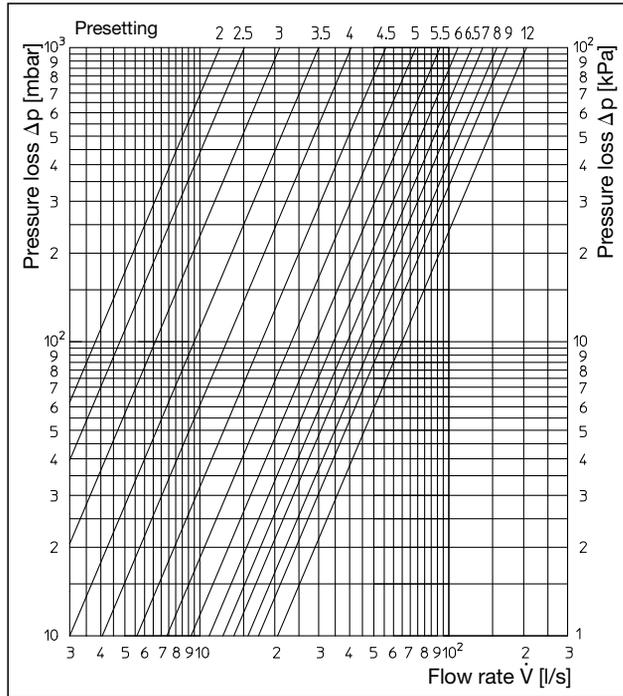
DN 100



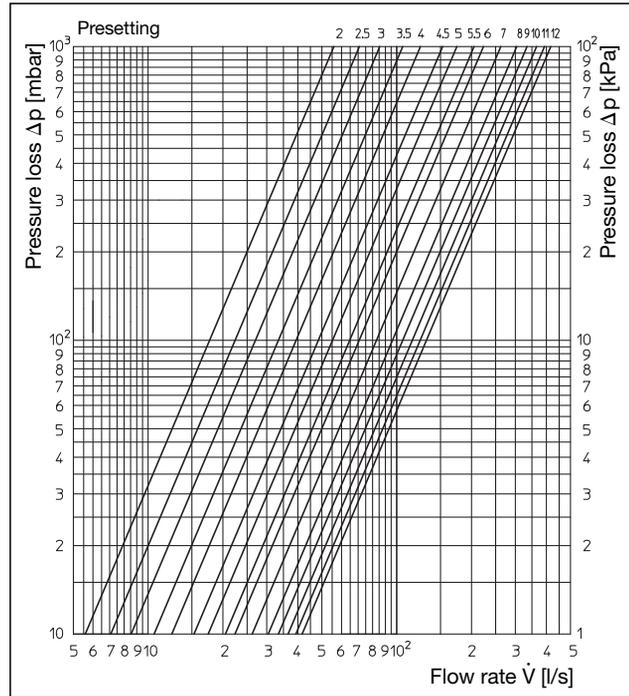
DN 150



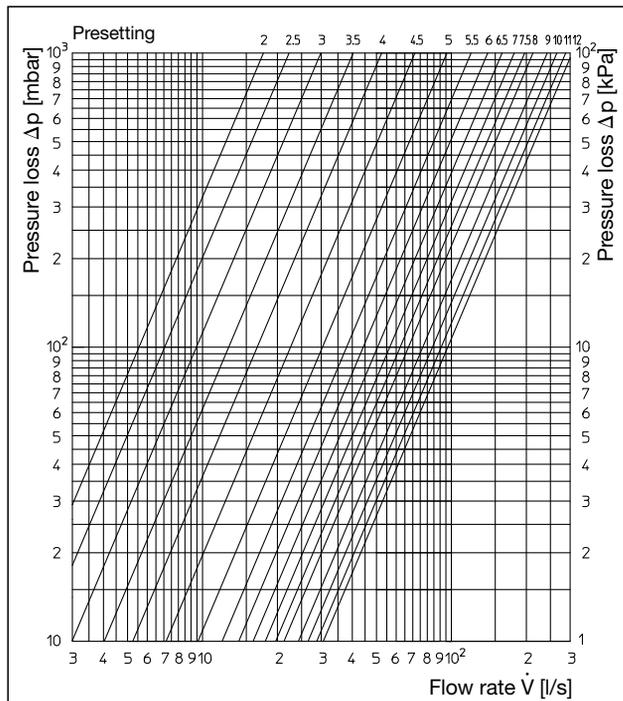
DN 200



DN 300



DN 250



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