Application:

Oventrop double regulating and commissioning valves "Hydrocontrol MFC" with integrated measuring orifice are installed in the risers of hot water central heating and cooling systems and serve to achieve a hydronic balance between the different risers of the system.

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

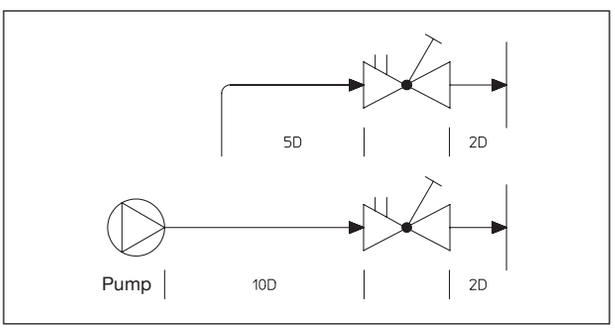
When installing the valve it must be ensured that the direction of flow conforms to the direction of the arrow on the valve body and that the valve is installed with a minimum of L = 5 x Ø of straight pipe at the valve inlet and of L = 2 x Ø of straight pipe at the valve outlet.

Advantages:
- the location of the functional components in <u>one</u> plane allows for a simple installation and easy operation
- the constant k_V value of the measuring orifice for all presetting values allows for a simple and quick regulation
- 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 the flow rate via the measuring orifice
- the integrated measuring orifice allows for an exact measurement of the pressure loss which is proportional to the flow rate
- the k_V value of the integrated measuring orifice is indicated on the marking plate

Function:
Hydronic balancing is carried out by setting the double regulating and commissioning valve during flow measurement at the measuring orifice. The balance can also be achieved by the reproducible presetting at the valve.
The selected presetting can be read off two scales (basic setting = longitudinal scale, fine setting = peripheral scale, see sections "Presetting" on page 2 and 3).
The presetting is reproducible by opening the valve until stop.
The flow charts are valid for both, installation in the supply and 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:
- 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 to +60 °C

"Hydrocontrol MFC"



Installation advice

Double regulating and commissioning valves “Hydrocontrol MFC” 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.
Length 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, disc and measuring orifice made of bronze.
Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

Size	k_{VS}	k_V value of the integrated measuring orifice	**Item no.**
DN 65	86.7	102.0	1068551
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

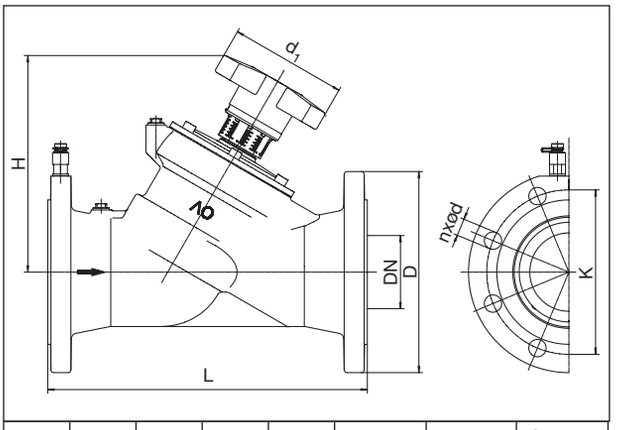
Presetting DN 65 – DN 150:

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 1/10th 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 4 mm Allen key.

Readability of the presetting scales:
Depending on the installation position of the double regulating and commissioning valve, an improvement of the readability is obtained by twisting the scales. To do so, close the valve until both scales are in the ‘0’ position, remove the cover plug, undo the screw and with a light tug pull off the handwheel from the valve stem. Next, without altering the setting (still indicating ‘0’), adjust the position of the handwheel so that the display window of the peripheral scale is clearly visible. Finally, refit the handwheel to the valve stem, tighten the screw replace the cover plug.

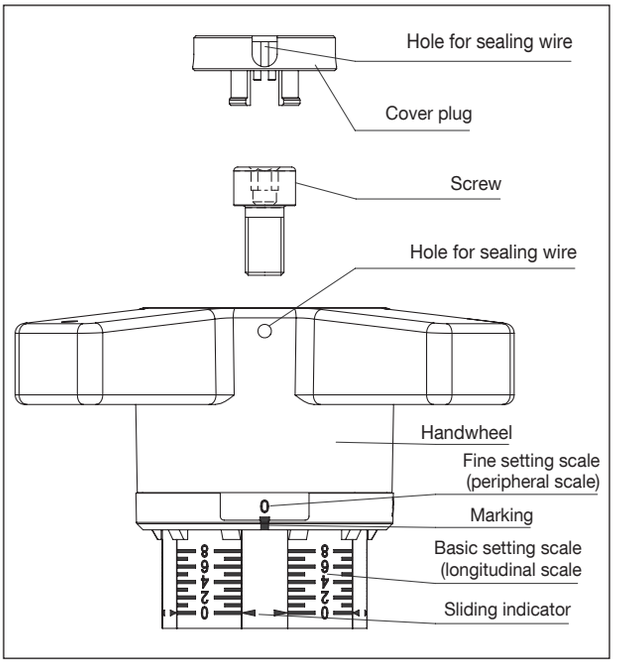
Protecting the presetting:
With the cover plug in place, fit the sealing wire (supplied with each valve) through the hole in the handwheel and secure with the lead seal.

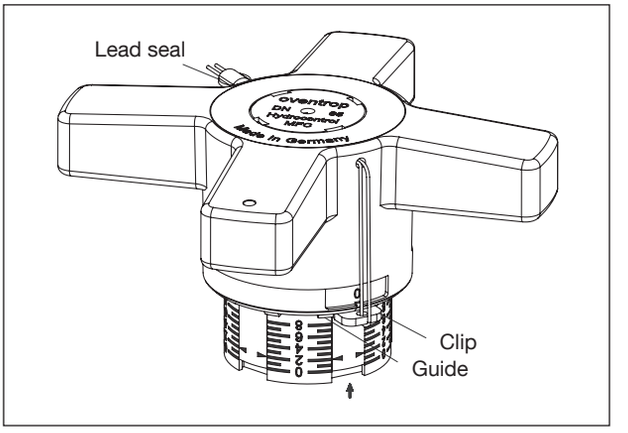
Locking the handwheel:
The handwheel can be locked in any position (1/10th of a turn). To do so, insert the enclosed clip into the cut-out in the handwheel below the hole between the guides until stop (see sketch). The clip can now be lead locked as illustrated. It is essential that the wire is fitted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



DN	L	H	d_1	D	K	n x Ød	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





2020 Oventrop

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

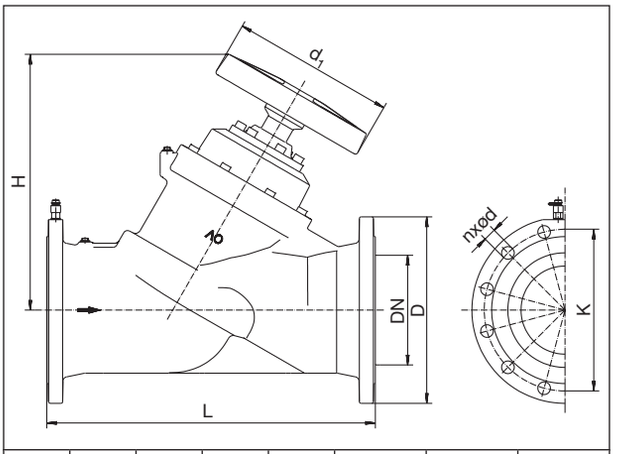
Tender specification:

Oventrop double regulating and commissioning valves with secured, infinitely adjustable presetting controllable at any time with the help of the limiting device.
All functional components in one plane.
Length 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)

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 measuring orifice made of bronze.
Disc with PTFE seal. Maintenance-free stem seal due to double EPDM O-ring.

Size	k_{VS}	k_V value of the integrated measuring orifice	**Item no.**
DN 200	750.0	805.0	1068556
DN 250	1090.0	1250.0	1065857
DN 300	1500.0	1850.0	1065858

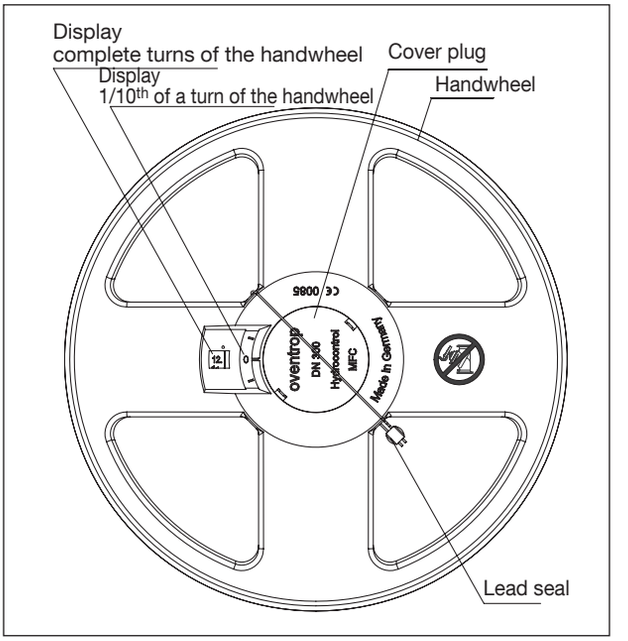


DN	L	H	d_1	D	K	n x Ød	Approx. weight [kg]
200	600	467	300	340	295	12 x 23	172
250	730	480	300	405	355	12 x 28	197
300	850	515	300	460	410	12 x 28	265

Dimensions

Presetting DN 200 – DN 300:

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 the cover plug by introducing a screwdriver into 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.

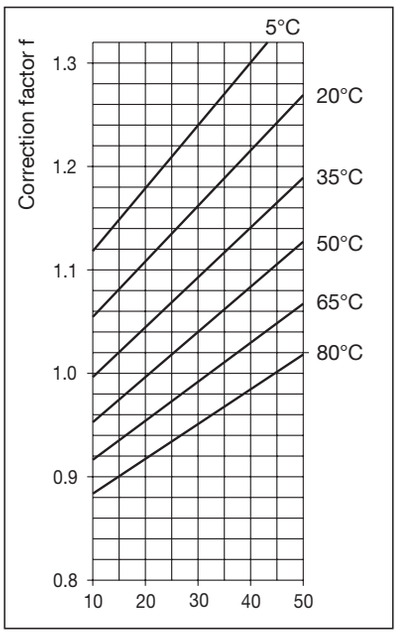


Protecting the presetting:
With the cover plug in place, fit the sealing wire (supplied with each valve) through the hole in the handwheel and secure with the lead seal.

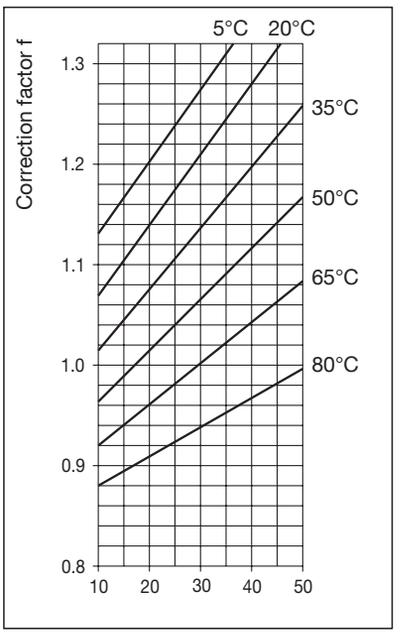
Accessories:	Item no.
Pressure test point extension (80 mm)	1060295
Pressure test point extension (40 mm)	1688295
Stem extension (35 mm)	1688297
Lead sealing set (10 fold)	1089091
Locking set (1 fold)	1060180

Correction factors for mixtures of water and glycol:

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



Weight proportion of ethylene glycol [%]

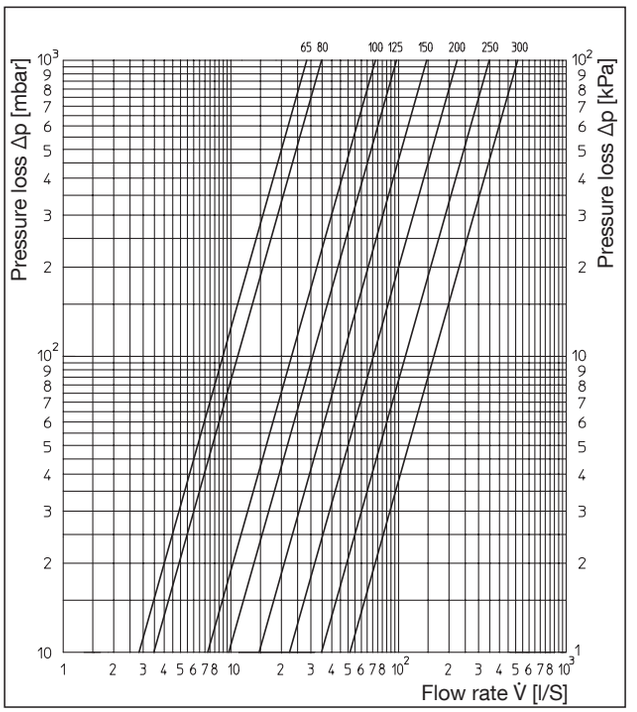


Weight proportion of propylene glycol [%]

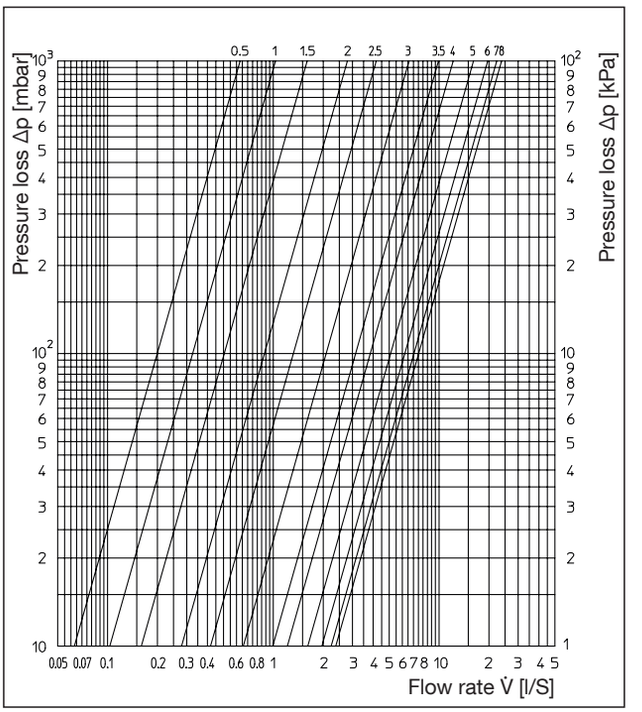
Flow charts:

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

Measuring orifice



DN 65



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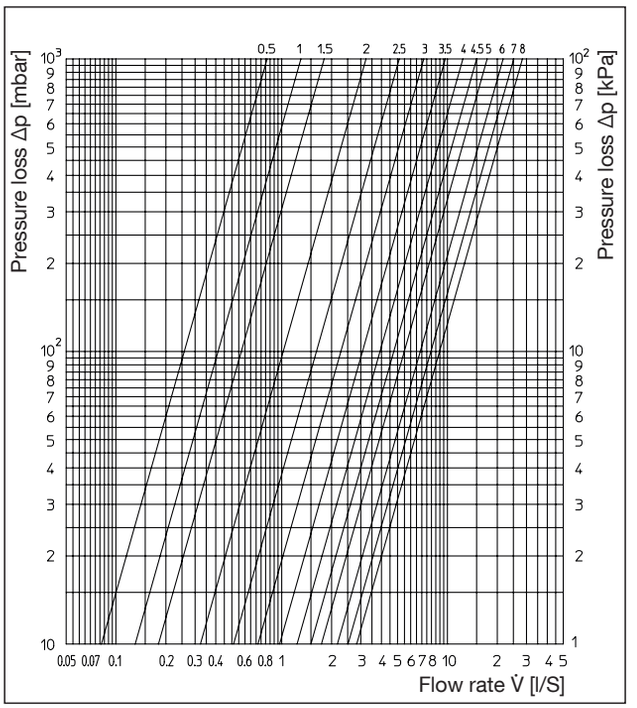
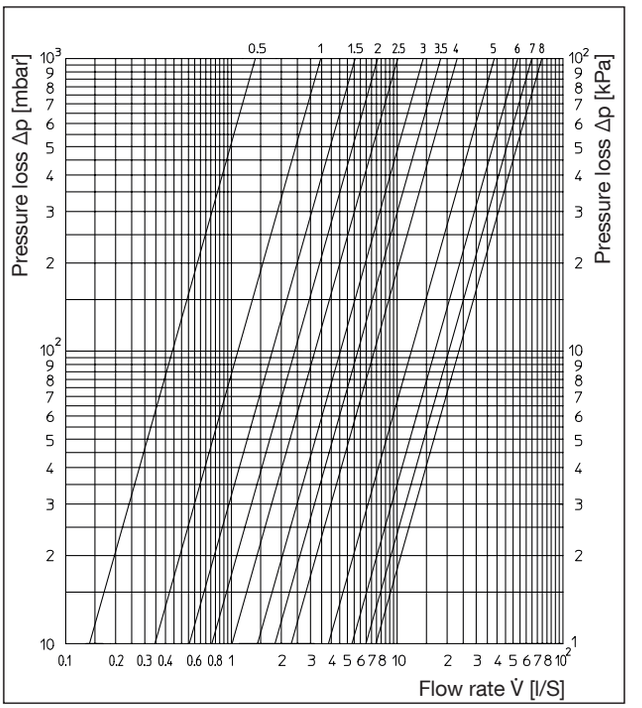
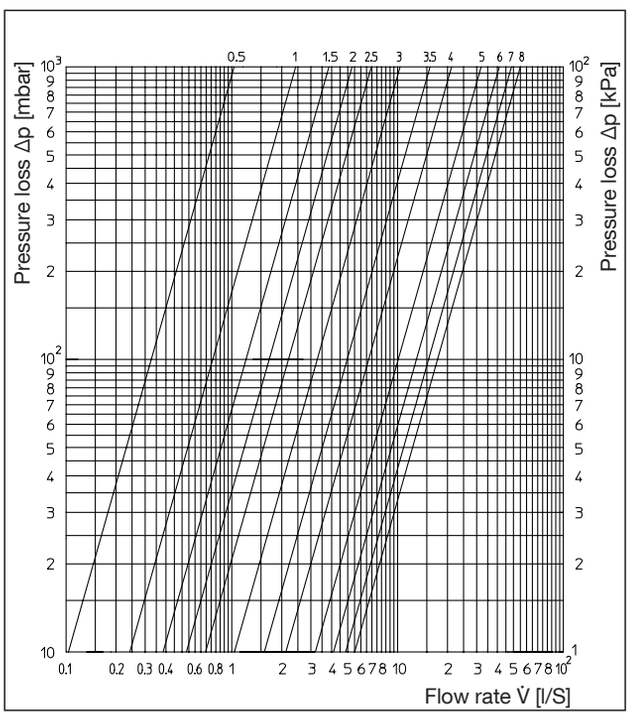
DN 80



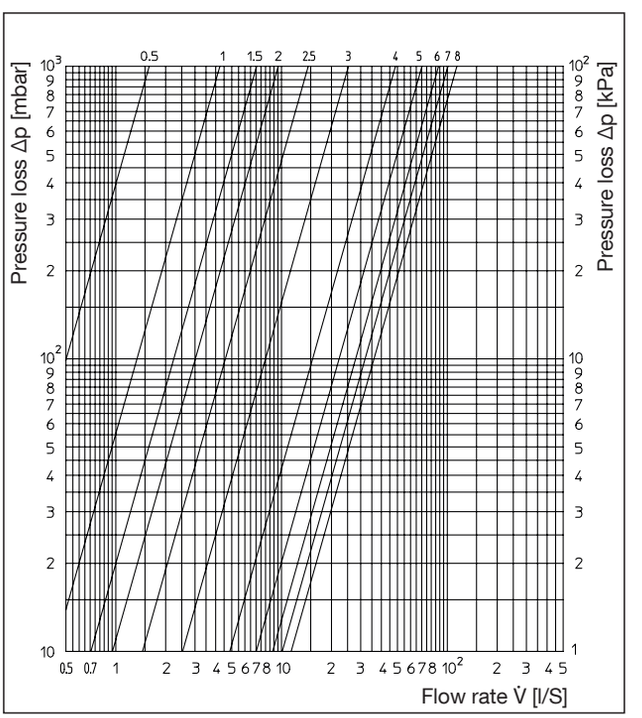
DN 125



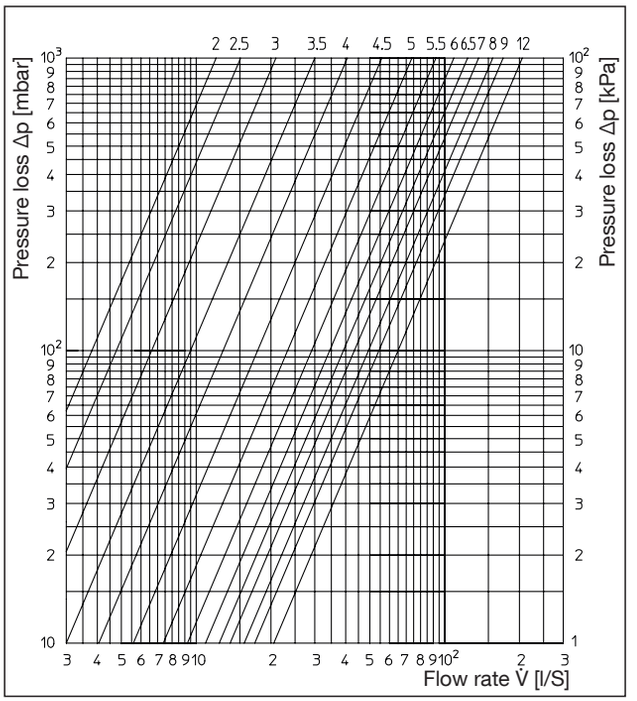
DN 100



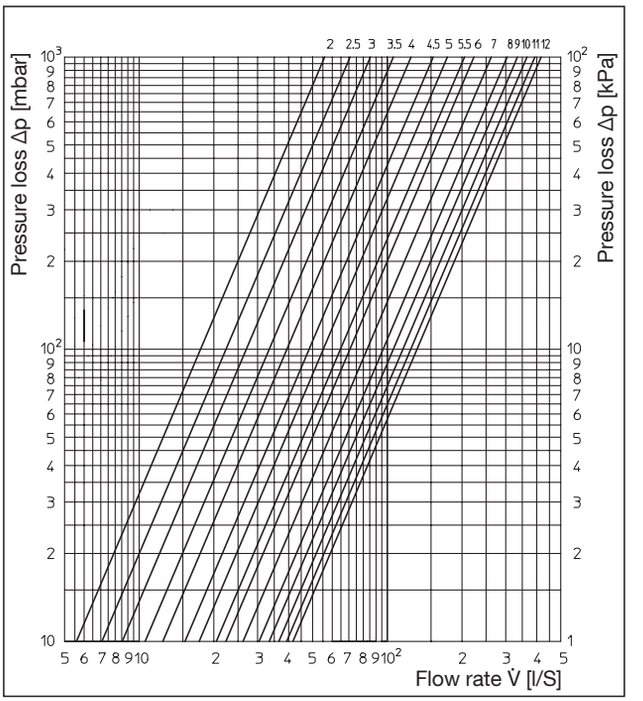
DN 150



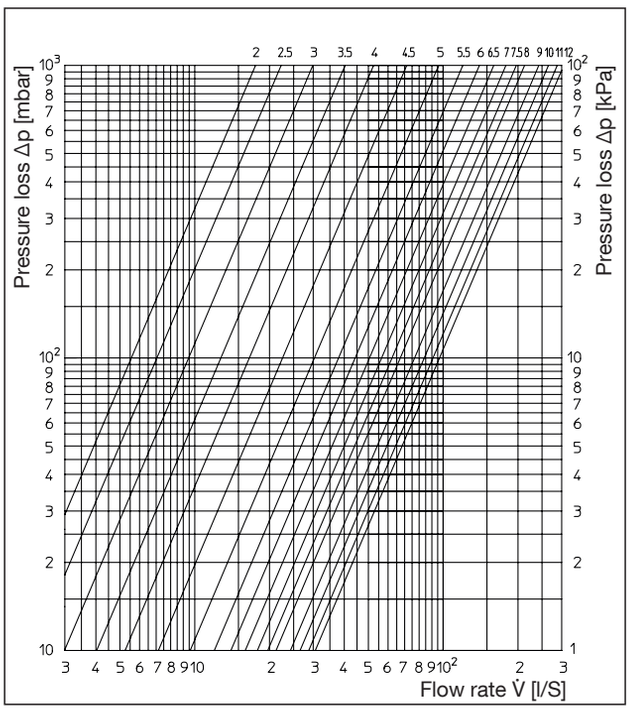
DN 200



DN 300



DN 250



Subject to technical modifications without notice.

Product range 2.1
ti 307-EN/10/MW
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