

52 170
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STA, STA-T

The new performance of these valves involves the following:

- Concealed presetting with an Allen key.
- The presetting value is readable on the nonius graduation. Number of turns 1—4 is read on the indication collar and parts of turn 0—9 is read on the handwheel.
- Definite presetting also for small flows.
- PTFE seat ring for safe shut-off.
- Increased volume capacity to obtain less pressure drop in the circuit.
- The valve cone is shaped to obtain a logarithmic function.

STA — Three functions in one valve

1. BALANCING VALVES

Each branch line in a heating installation must be provided with a balancing valve to permit regulation of the water flow between the different branches.

2. SHUT-OFF VALVE

The branch lines must also be provided with shut-off valves.

3. DRAINING VALVE

There must also be provision for draining the branches, for which a drain valve with house union is required.

STA-T — Four functions in one valve

Incorporating the three above-mentioned functions as well as:

4. WATER VOLUME MEASUREMENT

The valves have connections for pressure-drop measurement. By measuring the pressure-drop through the valve the water volume can easily be determined from the pressure-drop diagram.

As a guide in determining the correct valve dimension and setting (pressure-drop) there are diagrams for each size of valve showing the pressure-drop at different settings and water volumes. For information about noise data, consult your TA-office.

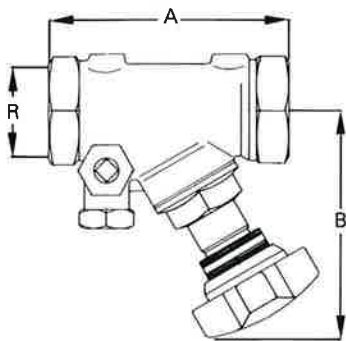
Type	Connections	TA.No
STA	Straight, female thread (size 65, flange PN 16)	52 170
STA-T	Straight, female thread measuring points (size 65, flange PN 16)	52 171
—	Measuring nipples	52 179

For overall dimensions, see the following pages.

TECHNICAL DESCRIPTION

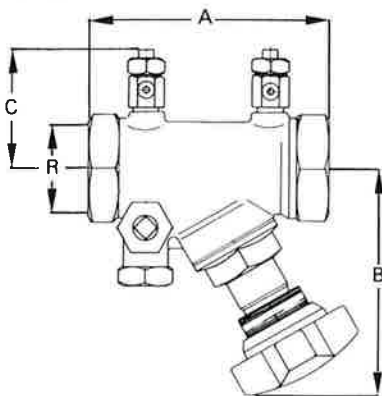
- Application:** Heating installations. Size 10—50 also for potable water installations.
- Nominal pressure:** PN 20
- Max. working pressure:** 20 bar = 2,0 MPA ≈ 225 psi
- Max. working temperature:** Size 10—50 + 150° C
Size 65 + 120° C
- Material:** Size 10—50 made of AMETAL® throughout.
Size 65 with valve body of cast iron (SIS 0125) and other parts of copper alloy (SIS 5170). Valve cone with resilient seal. Valves provided with red nylon handwheel.
- Draining:** Drain unit suitable for hose socket (with washer) and wing nut. Valves supplied with protective cap but excluding hose socket.
- Testing:** Each valve is individually tested before despatch, both for seat sealing and overall leak-tightness.
- Packing:** The valves are always packed in cartons in accordance with the carton packing list, see under flap 13.

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TA.No.	Conn. DN	A	B	C	R	Weight kg
52 170—010	10*	100	94	—	3/8	0,7
—015	15	90	94	—	1/2	0,7
—020	20	95	94	—	3/4	0,8
—025	25	105	104	—	1	0,9
—032	32	115	110	—	1 1/4	1,2
—040	40	125	120	—	1 1/2	1,4
—050	50	155	140	—	2	3,3
—065	65	210	155	—	Flanges PN 16	9,9

52 171



52 171—010	10*	100	94	53	3/8	0,8
—015	15	90	94	53	1/2	0,8
—020	20	95	94	56	3/4	0,9
—025	25	105	104	59	1	1,0
—032	32	115	110	63	1 1/4	1,3
—040	40	125	120	66	1 1/2	1,5
—050	50	155	140	84	2	3,4
—065	65	210	155	93	Flanges PN 16	10,0

Detachable measuring nipples. TA.No. 52 179—000

*Conn. DN 10 will be delivered as Conn. DN 15 with assembled nipples

Presetting STA:

Initial setting of a new valve for a particular pressure-drop, e.g. corresponding to digit 2,3 on the diagram, is carried out as follows

1. Close the valve fully (Fig. 1).
2. Open the valve to the preset value 2,3 (Fig. 2).
3. Unscrew the screw for the handwheel with an Allen key (3 mm) and remove the handwheel-screw.
4. Turn the innerstem clockwise till stop with the same Allen key (long end), and remount the handwheelscrew.
5. The valve is now preset.

To check the presetting of a valve, open it to stop, the indicator then shows the presetting number, in this case 2,3 (Fig. 2)

As a guide in determining the correct valve dimension and setting (pressure-drop) there are diagrams for each size of valve showing the pressure-drop at different settings and water volumes.

Fig. 1



Valve closed

Fig. 2



The valve is preset 2,3

Fig. 3



Valve open

Regulation of water volumes

The actual pressure-drops in the lines of a heating system are difficult to establish by calculation, meaning that the water volume — and thereby also the heat distribution — is often incorrect in practice. With the STA-T valve it is easy to regulate the desired water volume. By measuring the pressure-drop across the valve at a particular pre-setting value the water volume for the size of valve concerned can be read off from the pressure-drop diagram.

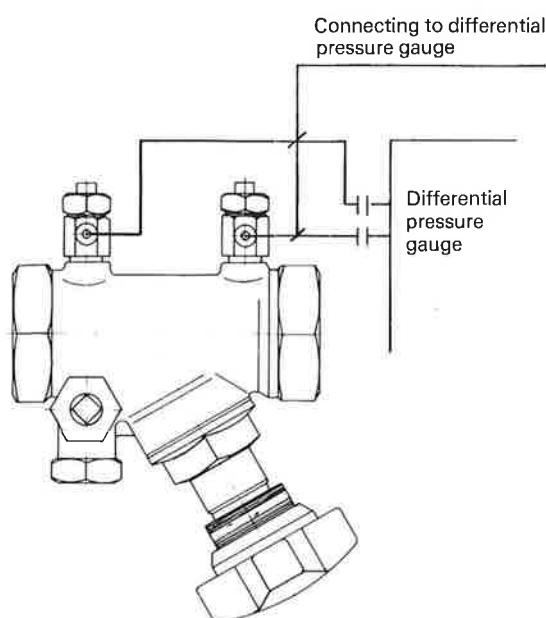
Preparations for measuring

Valve

Open the valve to the desired pre-setting value, e.g. 2,3 by turning the knob until its indicator comes opposite 2,3 on the nonius graduation.

Gauge

1. Use DTM 1*) the electronic differential manometer. It gives faster and simpler reading than the mercury one.
2. Blow out the air from the measuring line.
3. Note the differential pressure.



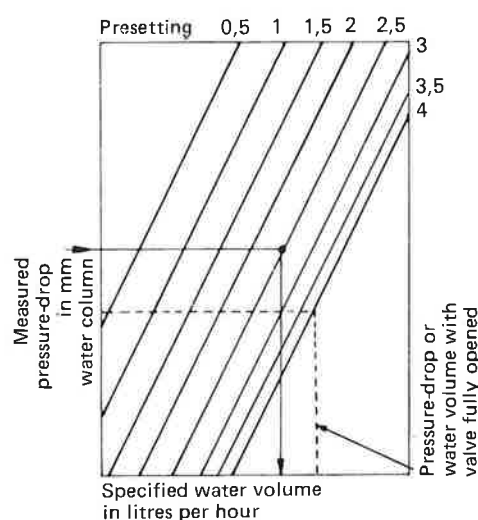
*) For further information see Control spec. sheet under flap I page 30-1.

Measuring

Checking water volume at specified pre-setting

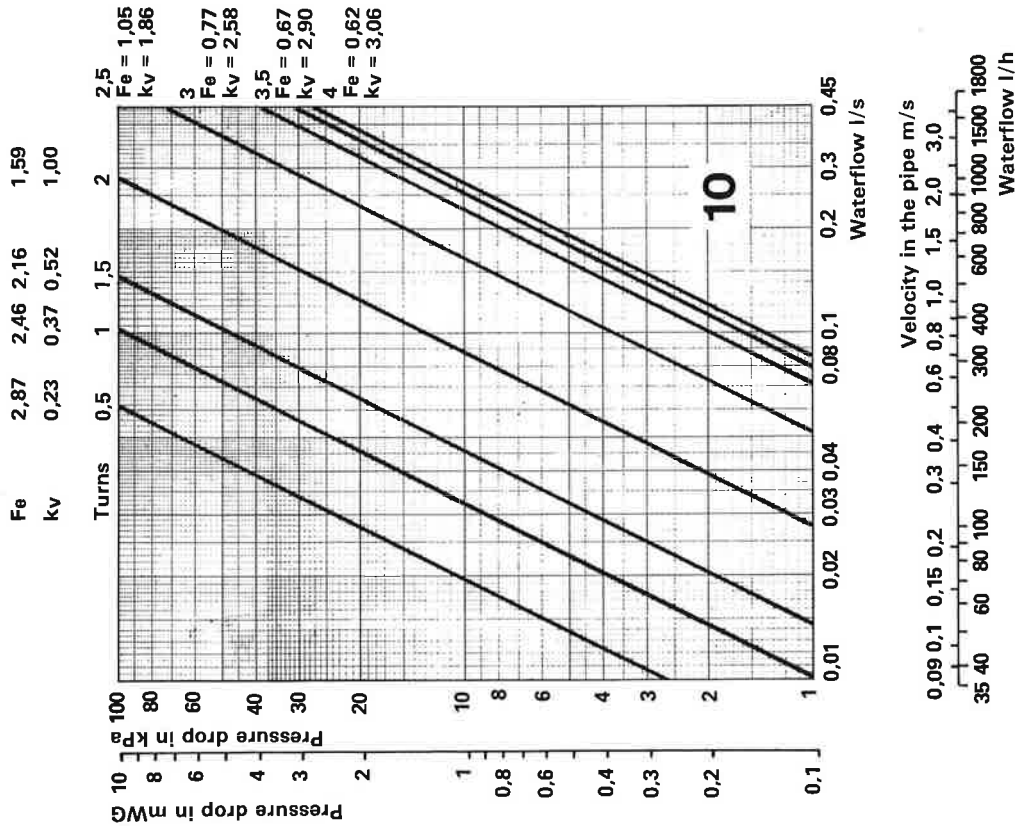
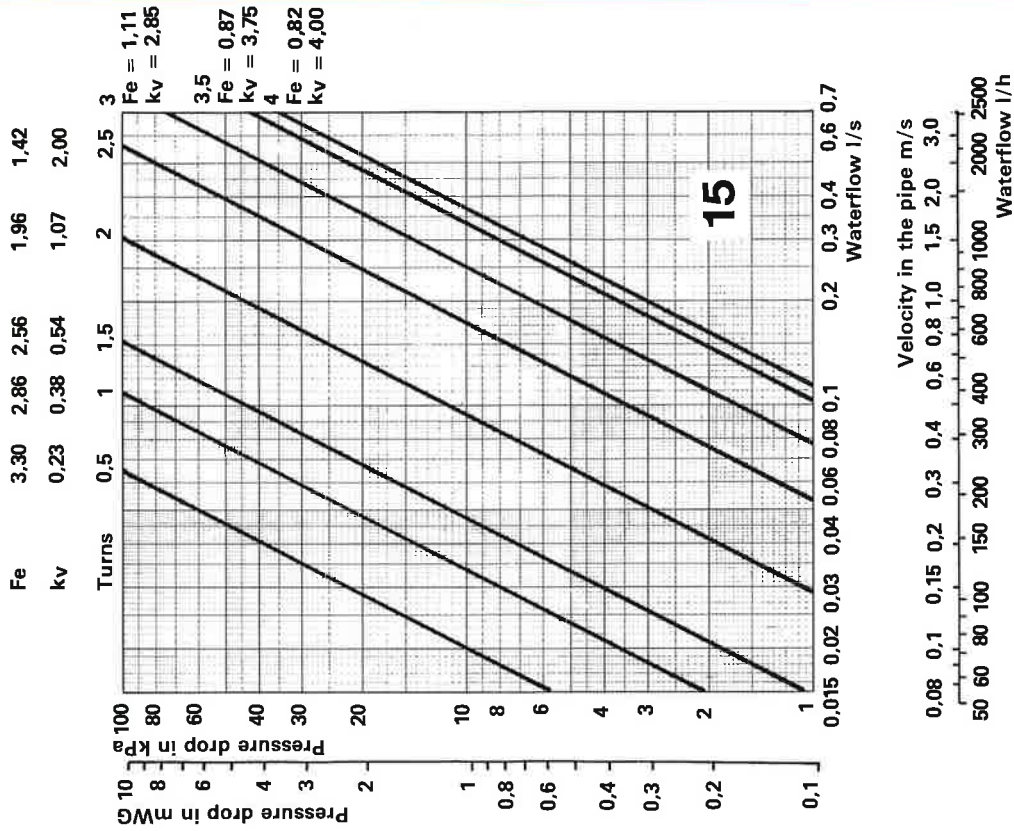
If a particular pre-setting value has been specified, e.g. 2,3, turn the knob 2,3 turns. Measure the pressure-drop as described above and read off the water volume through the valve at setting 2,3 in the pressure-drop diagram.

If the water volume does not agree with that desired, select another valve setting — still using the INNER scale — and repeat the measuring procedure until the correct water volume has been obtained.

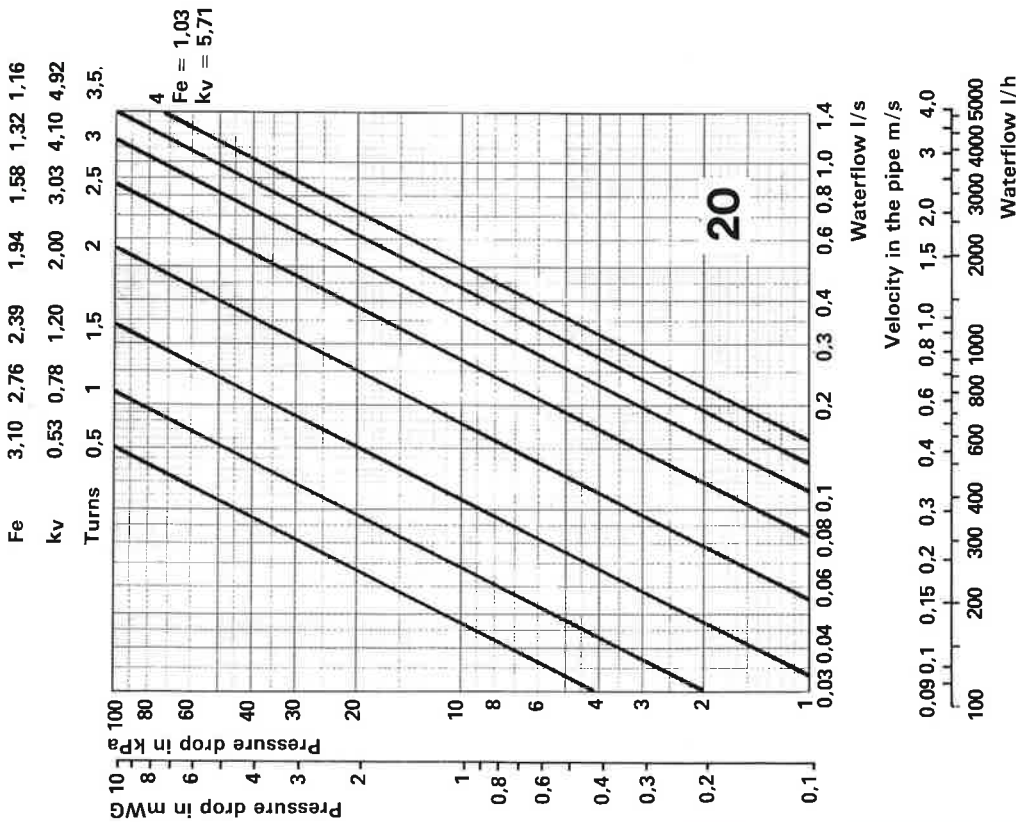
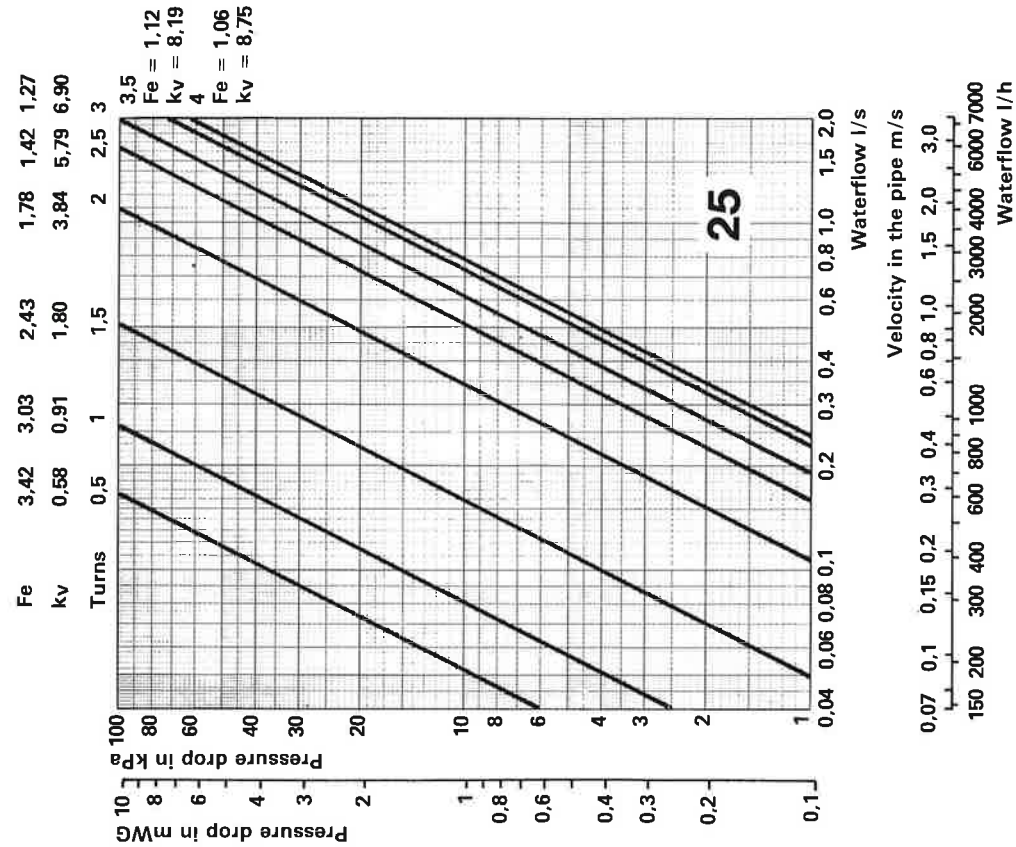


Where no pre-setting is specified

If no pre-setting value is specified, select a suitable valve opening, measure the pressure-drop and determine the water volume. If the water volume does not agree with that required, reset the valve and repeat the measuring procedure until the correct water volume has been obtained.

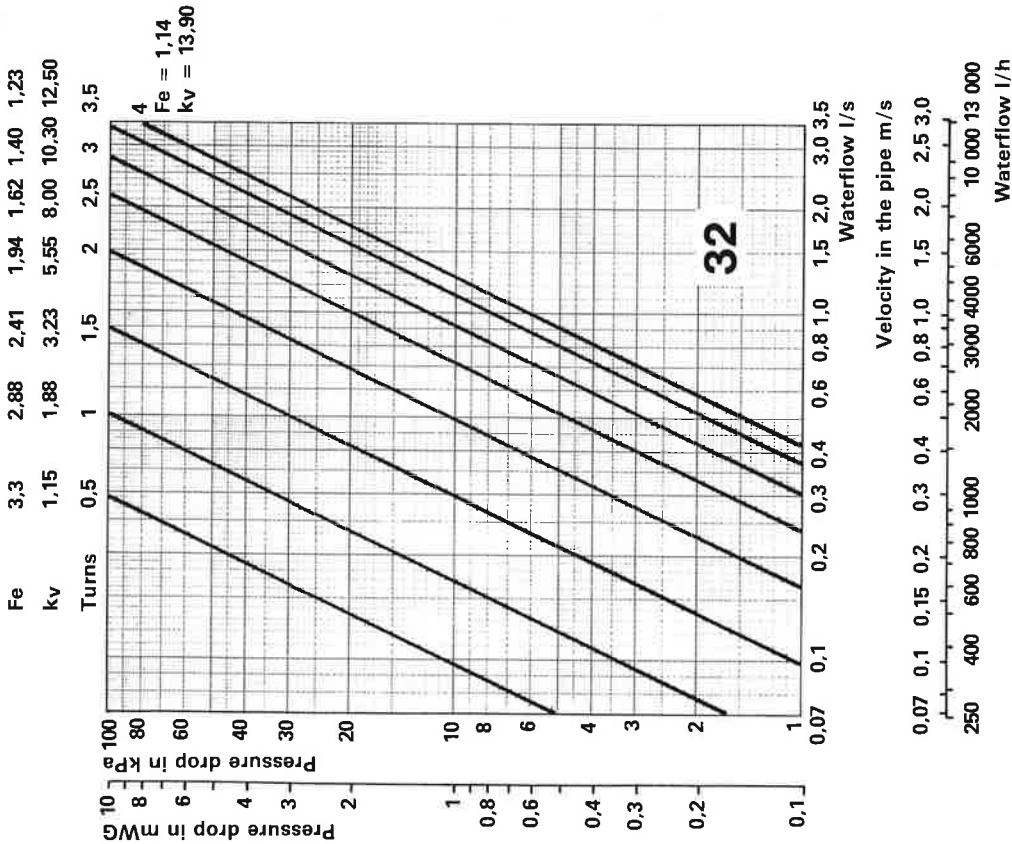
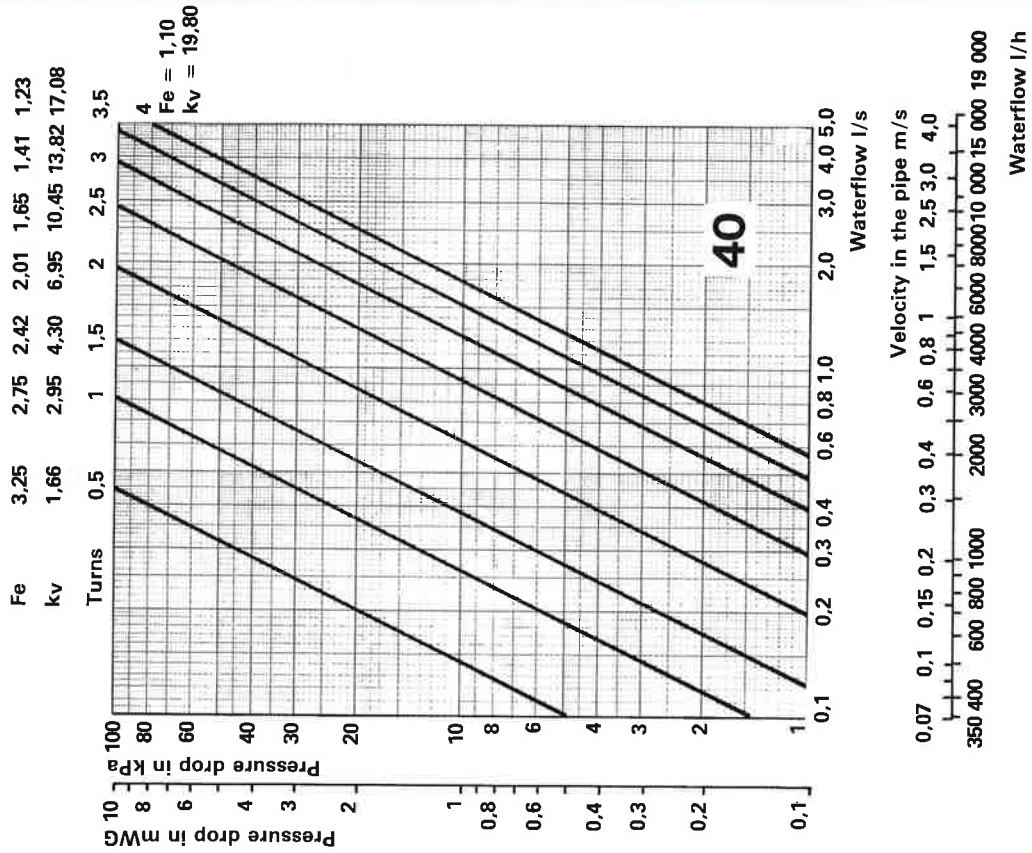


Fe = 10 log. for the coefficient ξd
 kv = Valve coefficient (m³/h at 1 bar)
 The capacity lines represents means measured on produced valves. The measuring has been carried out with water of the temperature 20 deg C.



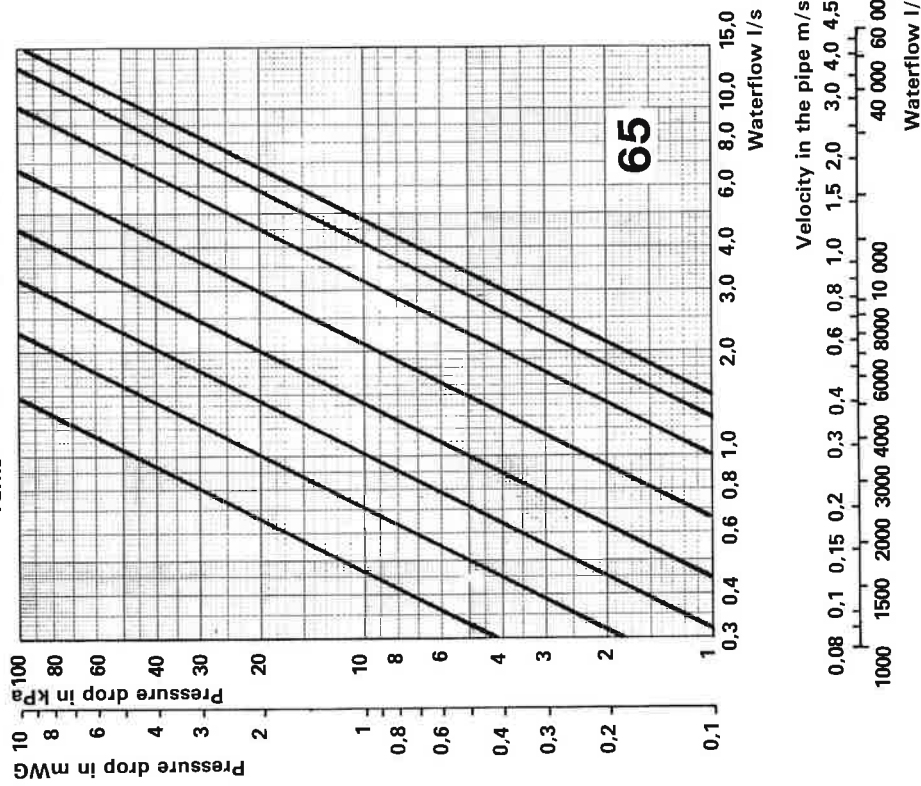
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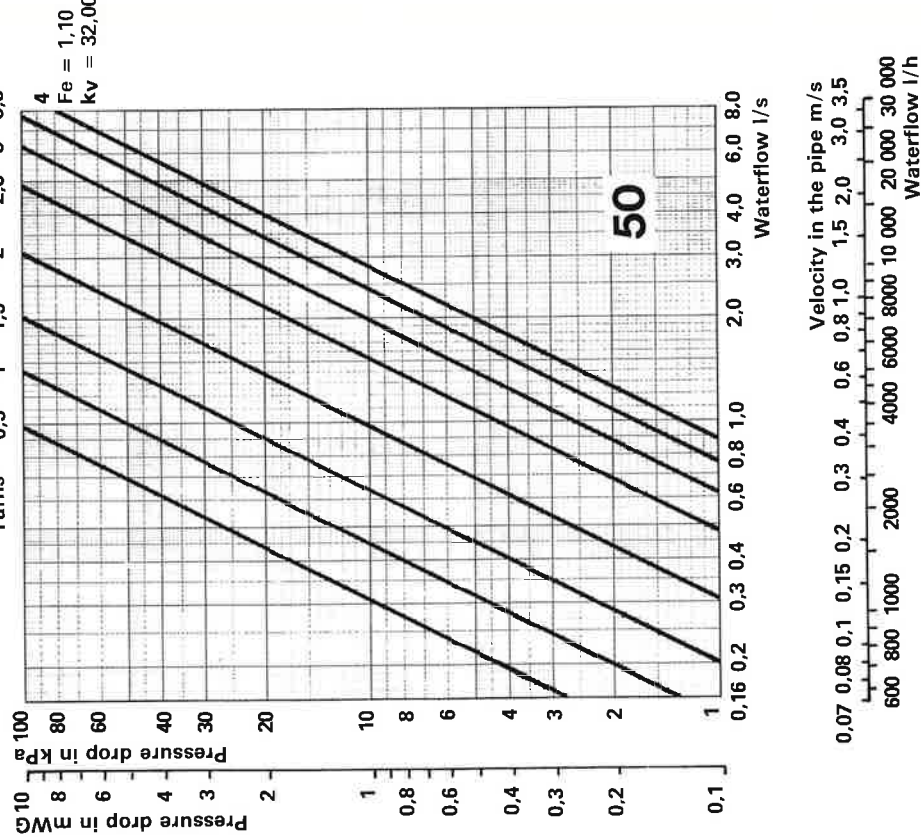


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 The capacity lines represents means measured on produced valves. The measuring has been carried out with water of the temperature 20 deg C.

Fe	3.11	2.75	2.44	2.15	1.82	1.45	1.23	1.11
kv	5.24	8.00	11.39	15.93	23.30	35.75	46.02	53.00
Turns	0.5	1	1.5	2	2.5	3	3.5	4



Fe	3.02	2.70	2.39	2.02	1.63	1.41	1.22
kv	3.46	5.01	7.18	11.00	17.15	22.30	27.50
Turns	0.5	1	1.5	2	2.5	3	3.5



Fe = 10 log. for the coefficient ξd
 kv = Valve coefficient (m³/h at 1 bar)
 The capacity lines represents means measured on produced valves. The measuring has been carried out with water of the temperature 20 deg C.