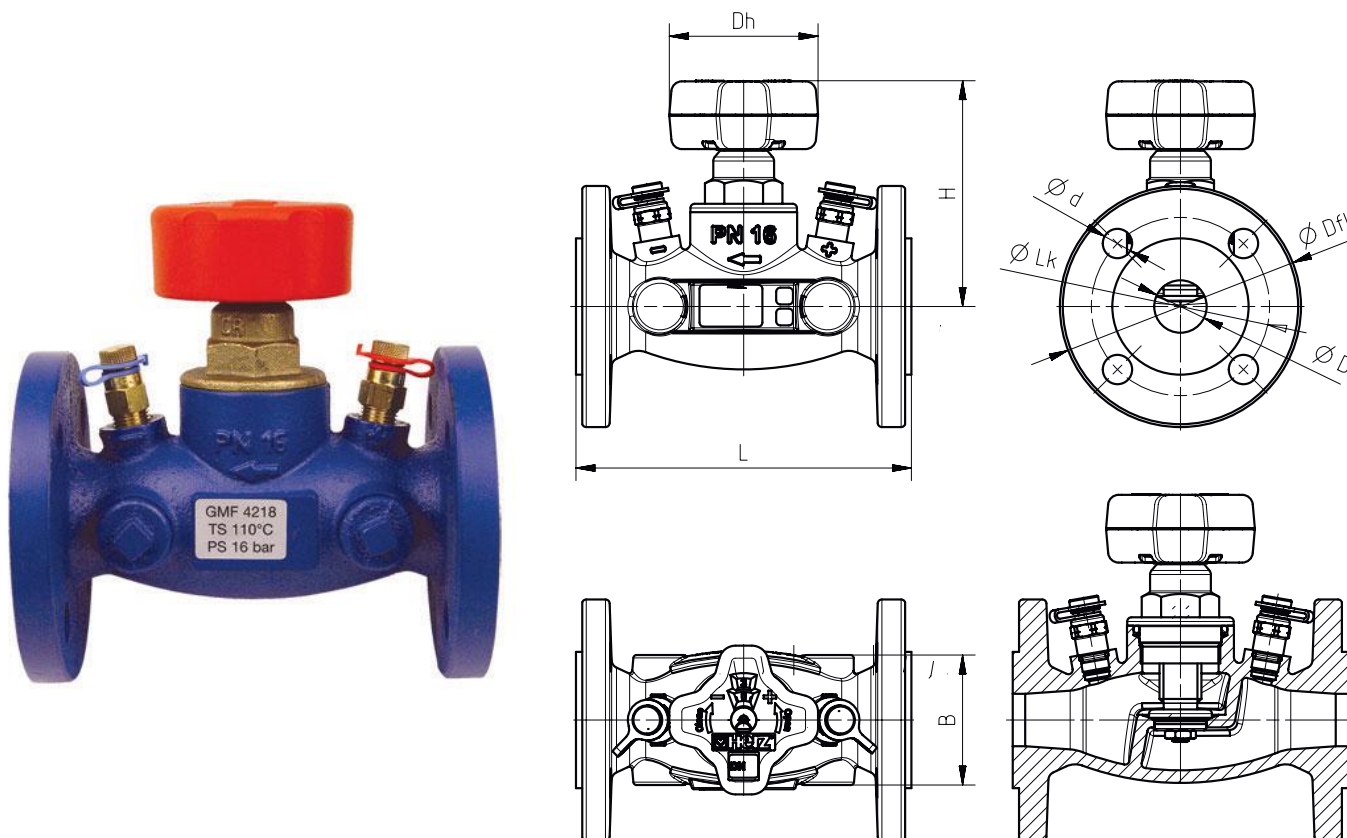


Commissioning valveSTRÖMAX-GMF

Commissioning valve for differential pressure measurement in
flanged design straight body with test points Normsheet 4218 GMF

☑ 4218 GMF STRÖMAX-GMF with test points and Drain options



☑ Dimensions in mm, order numbers

Order Nr. 4218 GMF	DN	L	H	B	Dh	Dfl	D	d	kg	kvs
1 4218 43	25	160	110	58	71	115	25	14	4,5	11,53
1 4218 44	32	180	110	64	71	140	30	19	6,3	16,6
1 4218 45	40	200	110	72	71	150	40	19	7,2	28,6
1 4218 46	50	230	135	90	110	165	50	19	11	37,84
1 4218 47	65	290	145	112	110	185	65	19	16,7	60,3
1 4218 48	80	310	145	116	110	200	80	19	18,2	67,8
1 4218 49	100	350	190	158	190	220	100	19	29,5	99,55
1 4218 50	125	400	230	188	190	250	125	19	48,3	186,58
1 4218 51	150	480	264	212	190	285	150	23	68	279,05

☑ Model 4218 GMF

4218 GMF STRÖMAX-GMF-Commissioning valve with measuring valve, straight body DN 25 - 150

Body of grey cast iron GJL 250 according to EN 1561, flange according to EN 1092, PN 16;length according to ÖNORM EN-558-1, basicseries 1; painted blue. Thermostatic upper part of brass to DN 100; from DN 125 thermstatic upper part of grey cast iron. Digital display of the pre-setting levels. Non-rising spindle with double O-ring seal.

☑ Test points STRÖMAX-GMF

Two test points (pipe thread 1/4) are mounted next to the handwheel in the same direction and sealed at the factory. This arrangement ensures the best accessibility and optimal connection of measuring devices in all installation positions..

☑ Draining valves

1 0284 2X

HERZ test point with drain valve, Brass version, red cap (supply) or blue cap (return).

1 0276 09

Draining valve with handle and swivelling hose connection, brass version, hose connection 1 6206 01 must be ordered separately

☑ Application

For hydraulic balancing in heating or cooling systems, regulating and shutting off distribution circuits, heat exchangers, heating and cooling terminals.

☑ Technical data

Max. operation temperature DN 32 - 130 °C; DN 40 - 110 °C

Max. operation pressure 16 bar

Water purity in accordance with the ÖNORM H 5195 and VDI 2035 standards. Ethylene and propylene glycol can be used in a ratio of 25-50 vol. [%] are mixed.

☑ Material

Valve body

grey cast iron GJL 250 according to EN 1561

Valve upper part

to DN 100 - brass, as of DN 125 - grey cast iron

O-ring

EPDM

☑ Characteristics**Flow direction**

When installing, observe the direction of flow according to the arrow on the housing.

Installation

Due to the non-rising valve spindle, which is arranged perpendicular to the valve axis, optimal accessibility and operability of the valve must be guaranteed for every installation position.

Spindle seal

The spindle seal is made by means of an elastic double O-ring and thus ensures tightness and ease of movement in the long term.

Double-O-ring

The maintenance-free double O-ring seal ensures permanent, secure sealing of the valve spindle and ease of movement when the valve is operated.

Seat gasket

The temperature-resistant and permanently elastic soft seal is corrosion-resistant and allows low closing forces.

☑ Differential pressure measurement

The STRÖMAX-GMF double regulating and commissioning valve is equipped with two test points: If a suitable measuring device is used, the differential pressure can be measured and the respective flow rate can be determined depending on the setting level. The respective flow rate can also be read directly on the HERZ measuring computer (see device manual).

☑ Settings

The circuit regulating valve STRÖMAX-GMF is delivered in the open position. The default setting allows the maximum possible stroke. The handwheel mechanism is set so that the digital display shows 0.0 when the valve is closed.

☑ Setting and fixing

Presetting procedure

1. Set to the desired step according to calculation (digital display on the hand wheel).
2. Remove the hand wheel locking screw, the handwheel must not be removed.
3. Screw in the now accessible presetting spindle with a screwdriver, blade 3 x 60, as far as it will go.
4. Screw in the handwheel fastening screw again.
5. Attach the presetting seal (1 6517 04).
6. Mark the set position on the presetting marker (1 6517 05) and attach it to the valve.

Positions 5 and 6 are not necessary for the function, but are recommended.

The setting of a certain flow value without specifying the setting level is possible with the STRÖMAX-GM valve using a measuring device. The setting can be carried out with a differential pressure measuring device 1 8900 05 with the aid of the HERZ setting diagrams. When using a measuring computer, the operating instructions for the device must be observed.

☑ Digital display factory setting

The factory setting of the digital display is 0.0 when the valve is closed. If the complete handwheel (rotary handle, number wheels, base plate) is removed from the valve or a damaged part has to be replaced, proceed as follows to ensure the correct digital display:

1. Put on the complete handwheel and push it on until the hexagon on the housing and the toothing of the spindle engage.
2. Turn the valve clockwise to close.
3. If the digital display shows 0.0 in this position, the handwheel is correctly attached and can be fixed with a screw. If there is another display, remove the entire handwheel.
4. By turning the base plate and turning handle, bring the digital display to 0.0 and put the complete handwheel back on without turning the spindle.
5. Screw in the handwheel fastening screw again.

The valve can now be set to the desired position.

☑ Test points

The two mounted test points 0284 have a soft seal and are built into the line regulating valve so that they cannot be lost.

☑ Actuation

The HERZ measuring computer has matching couplings 1 0284 00 with which a perfect attachment to the test points is guaranteed.

☑ Dimension

STRÖMAX-GMF, STRÖMAX-AGF and differential pressure regulator 4007 F valve bodies have the same dimensions, the upper parts are dimensionally identical to the STRÖMAX-GM / GR.

☑ Equipment

- 1 6517 04 Pre-setting tampering seal
- 1 6517 05 Pre-setting marker
- 1 6640 00 HERZ-Universal key
- 1 8900 05 HerzCOMP 650 measuring computer
- 1 0284 21 HERZ test point with drain valve, red cap
- 1 0284 22 HERZ test point with drain valve, blue cap
- 1 0276 09 Draining valve with handle and swivelling hose connection
- 1 6206 02 Hose connection
- 1 0284 00 Pressure transducer set for quick test points

☒ Spare parts

1 0284 01	Test point for HERZ-STRÖMAX commissioning valves, blue cap		
1 0284 02	Test point for HERZ-STRÖMAX commissioning valves, red cap		
1 6517 06	DN 15 - 40	STRÖMAX-GMF	Handwheel
1 6517 08	DN 50 - 80	STRÖMAX-GMF	Handwheel
1 6517 10	DN 100 - 150	STRÖMAX-GMF	Handwheel
1 6387 31	DN 25	STRÖMAX-GMF	Valve upper part complete
1 6387 22	DN 32	STRÖMAX-GMF	Valve upper part complete
1 6387 23	DN 40	STRÖMAX-GMF	Valve upper part complete
1 6387 24	DN 50	STRÖMAX-GMF	Valve upper part complete
1 6387 25	DN 65	STRÖMAX-GMF	Valve upper part complete
1 6387 26	DN 80	STRÖMAX-GMF	Valve upper part complete

☒ kvs-Values

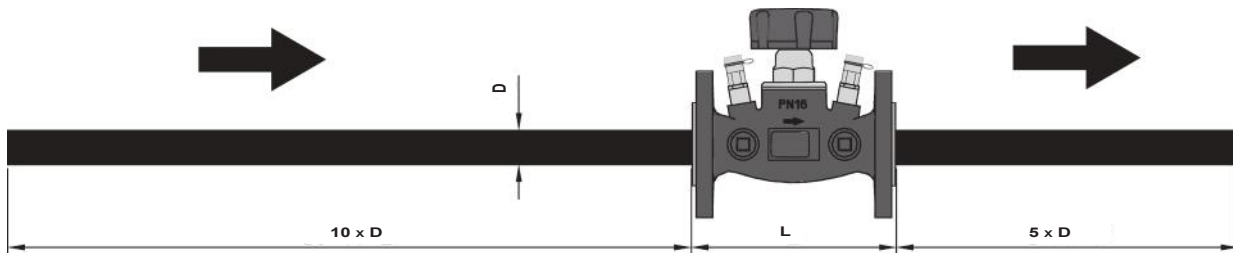
DN	25	32	40	50	65	80	100	125	150
kvs	11,56	16,60	28,60	37,84	60,30	67,80	99,55	186,58	279,05
Position	kv	kv	kv	kv	kv	kv	kv	kv	kv
0,5	0,35	1,15	1,40	2,70	8,36	11,50	0,00	1,58	8,75
1,0	0,75	1,90	2,50	7,80	11,56	15,90	12,35	4,36	17,50
1,5	1,15	2,65	3,60	12,90	14,76	20,30	18,04	10,72	26,08
2,0	1,90	3,40	4,70	18,60	17,80	24,69	23,74	17,08	34,66
2,5	4,10	4,15	5,95	22,60	20,15	27,74	29,84	20,27	38,27
3,0	6,30	4,90	7,20	27,80	22,50	30,60	35,96	23,45	41,88
3,5	7,70	7,35	9,85	29,30	26,55	36,10	42,56	24,93	44,53
4,0	9,10	9,80	12,55	31,60	31,60	41,70	49,20	26,41	47,17
4,5	9,80	12,40	16,05	33,60	38,10	50,70	51,10	28,09	50,34
5,0	10,50	15,00	19,70	35,50	43,90	60,30	53,00	29,77	53,50
5,5	10,55	15,80	21,60	37,15	47,40	62,00	57,50	32,57	57,43
6,0	10,65	16,60	23,50	37,84	51,00	63,78	61,96	35,37	61,36
6,5	10,70		25,15		53,85	65,88	66,86	38,62	66,14
7,0	11,50		26,80		56,70	67,80	71,81	41,87	70,92
7,5	11,53		27,30		58,50		77,11	46,01	76,30
8,0	11,56		27,80		60,30		82,42	50,14	81,68
8,5			28,20				87,77	54,94	87,87
9,0			28,60				93,20	59,74	94,06
9,5							99,55	65,47	100,52
10,0								71,19	106,98
10,5								78,53	114,74
11,0								85,87	122,50
11,5								95,99	132,72
12,0								106,10	142,93
12,5								117,92	155,86
13,0								129,73	168,79
13,5								141,12	181,98
14,0								152,51	195,17
14,5								162,60	207,69
15,0								172,69	220,21
15,5								179,64	233,05
16,0								186,58	245,88
16,5									255,72
17,0									265,56
17,5									272,31
18,0									279,05

Please note that, in the following standard diagrams and the table, specified flow and setting values for the dimensioning - design - of HERZ-STRÖMAX-4218 GMF double regulating and commissioning valves are given. To check the preset values and to change the setting after measuring the differential pressure at the valve during operation, separate tables are sent on request.

Measurements

In order to maintain meaningful measurement results, it is important to observe the calming sections in the inlet and outlet.

The calming section should be 10 x the pipe diameter in the inlet and 5 x the pipe diameter in the outlet.



Correction factors must be used for systems with frost protection. The water-glycol mixture has a different viscosity than pure water and is also temperature-dependent. When taking measurements with the measuring computer, the displayed measured value is therefore falsified.

Coating

<Primer based on alkyd resins (synthetic resin primer) and contains lead and chromate-free rust protection pigments. Top coat with epoxy resin. Solvent content is lower than permitted in the VOC Plant Ordinance 2002.

Degree of gloss: matt

Dry layer thickness (TSD): ~ 100 µm

**Correction factors for glycol mixtures
for measurements with a measuring computer**

Temperature °C	Ethylene glycol 34% (Factor)	Ethylene glycol 40% (Factor)	Ethylene glycol 44% (Factor)
-20	1,98	2,133	2,235
-15	1,833	1,9908	2,096
-10	1,737	1,8738	1,965
-5	1,649	1,7702	1,851
0	1,567	1,6744	1,746
5	1,482	1,5876	1,658
10	1,412	1,505	1,567
15	1,342	1,4254	1,481
20	1,281	1,3554	1,405
25	1,226	1,2956	1,342
30	1,163	1,2284	1,272
35	1,123	1,1848	1,226
40	1,079	1,136	1,174
45	1,04	1,0928	1,128
50	1	1,0528	1,088
55	0,974	1,0214	1,053
60	0,947	0,9938	1,025
65	0,926	0,9714	1
70	0,912	0,9528	0,98
75	0,893	0,9332	0,96
80	0,884	0,9242	0,951

$$dP_R / f = dP_{\text{Display}}$$

$$Q_R * 1 / \sqrt{f} = Q_{\text{Display}}$$

dP_R

Differential pressure realistic

dP_{Display}

Differential pressure on the Display

Q_R

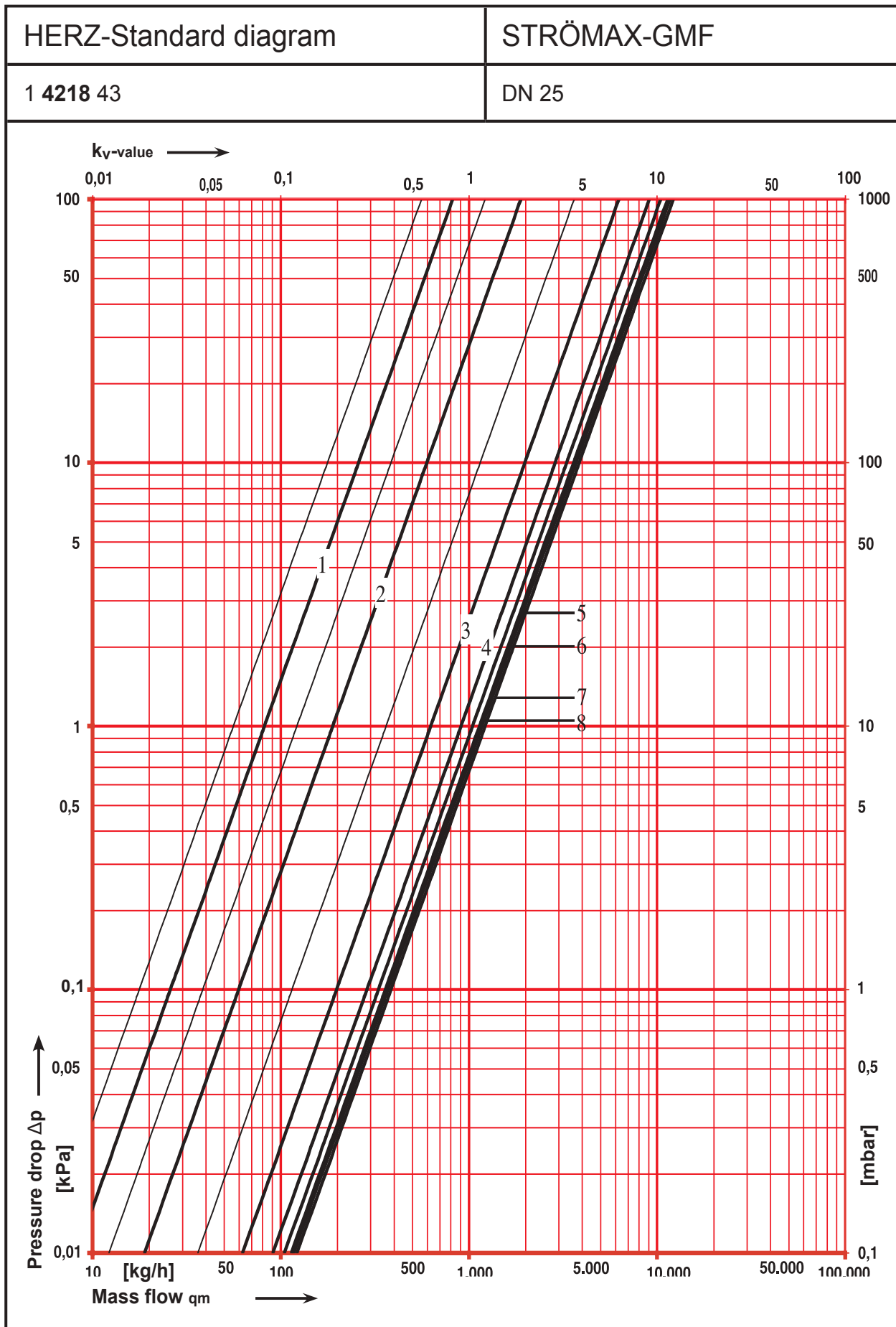
Amount of water realistic

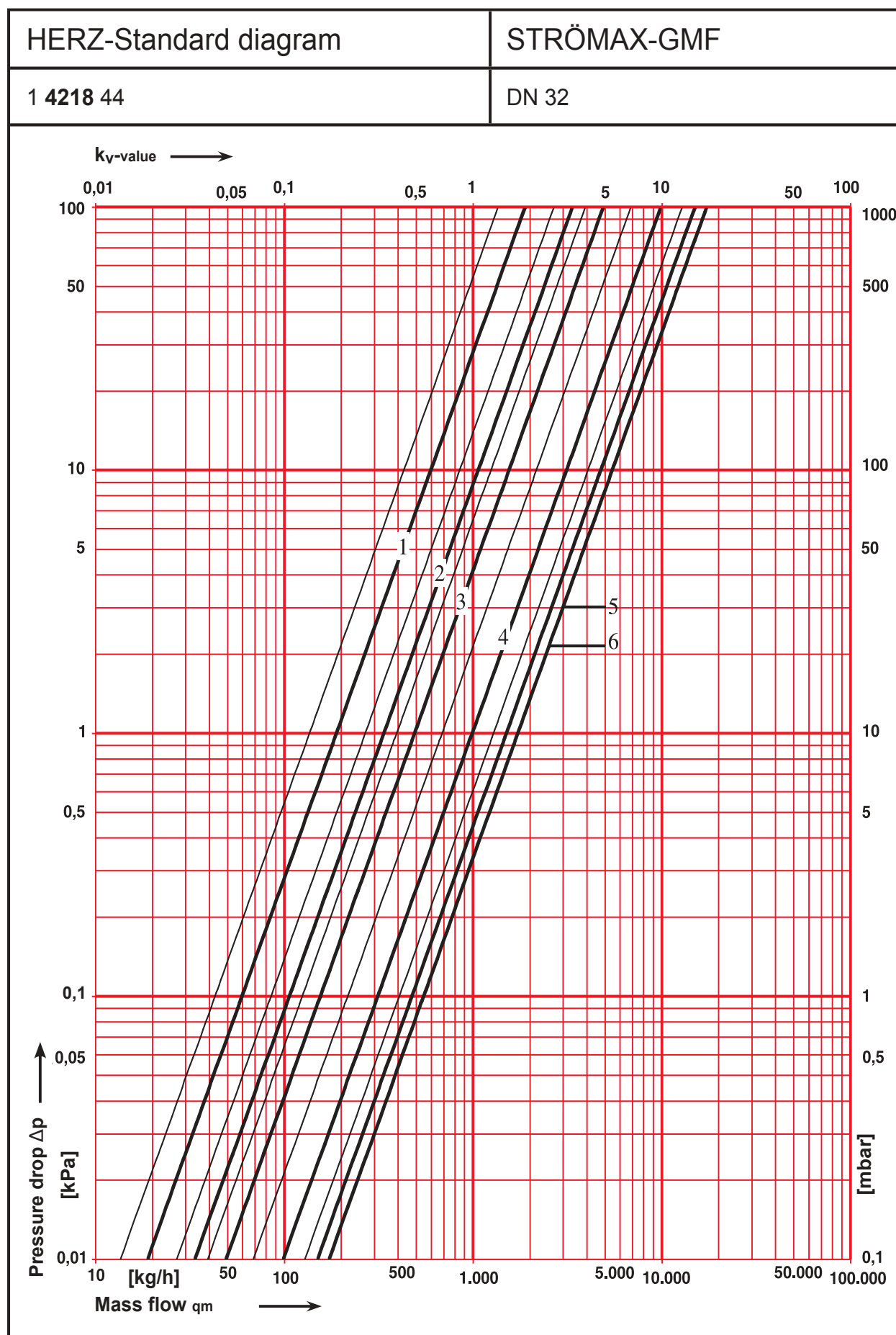
Q_{Display}

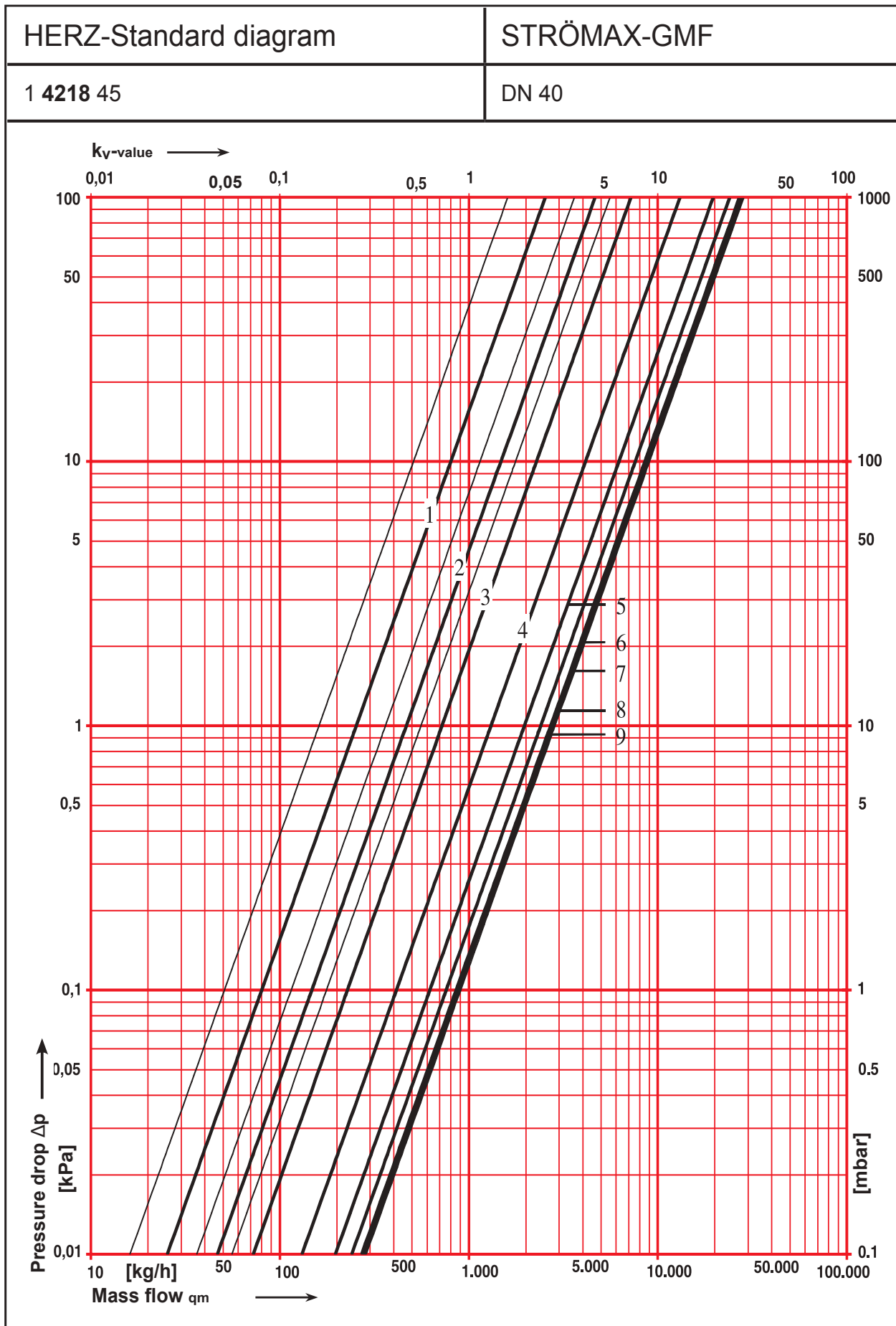
Amount of water on the display Display

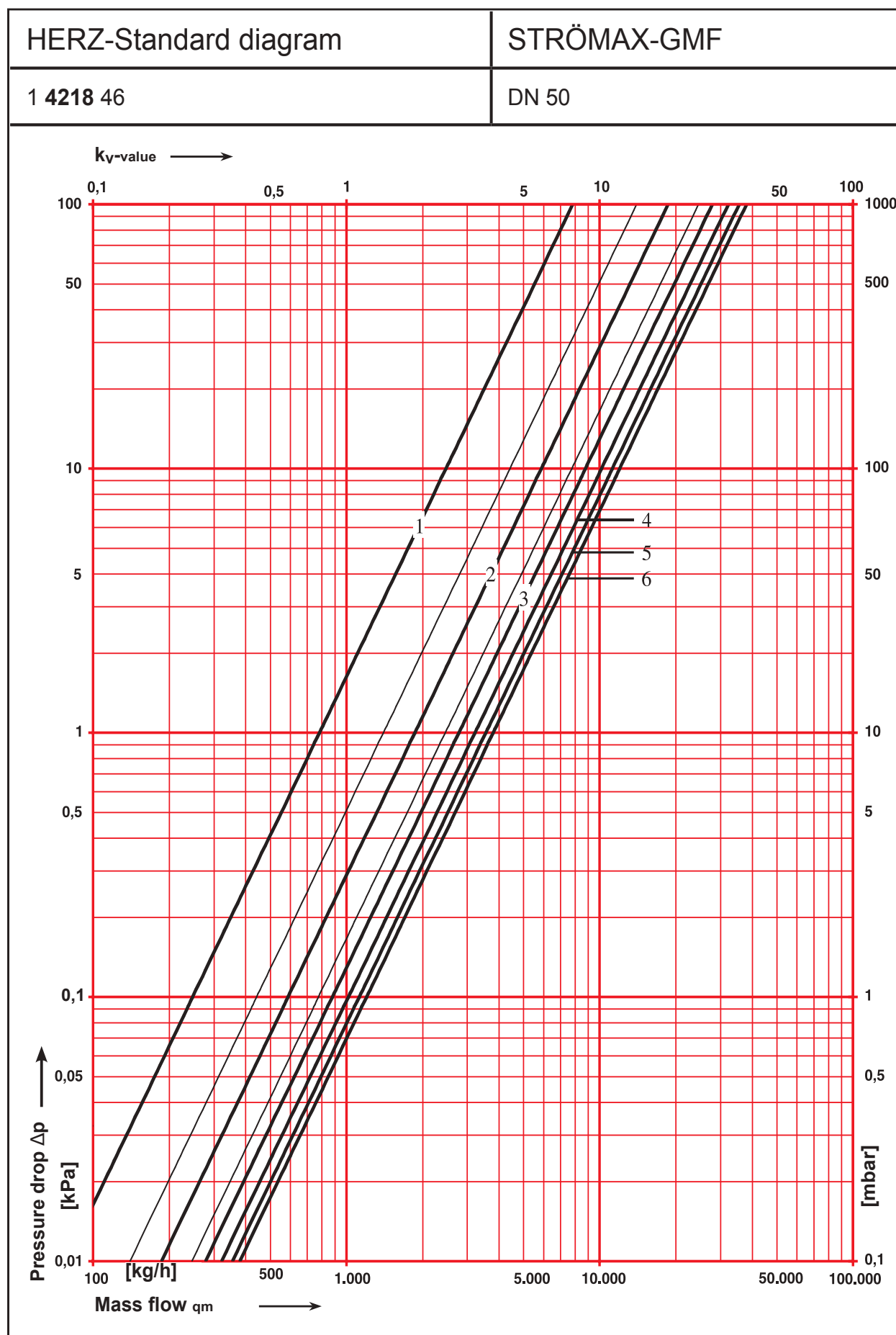
f

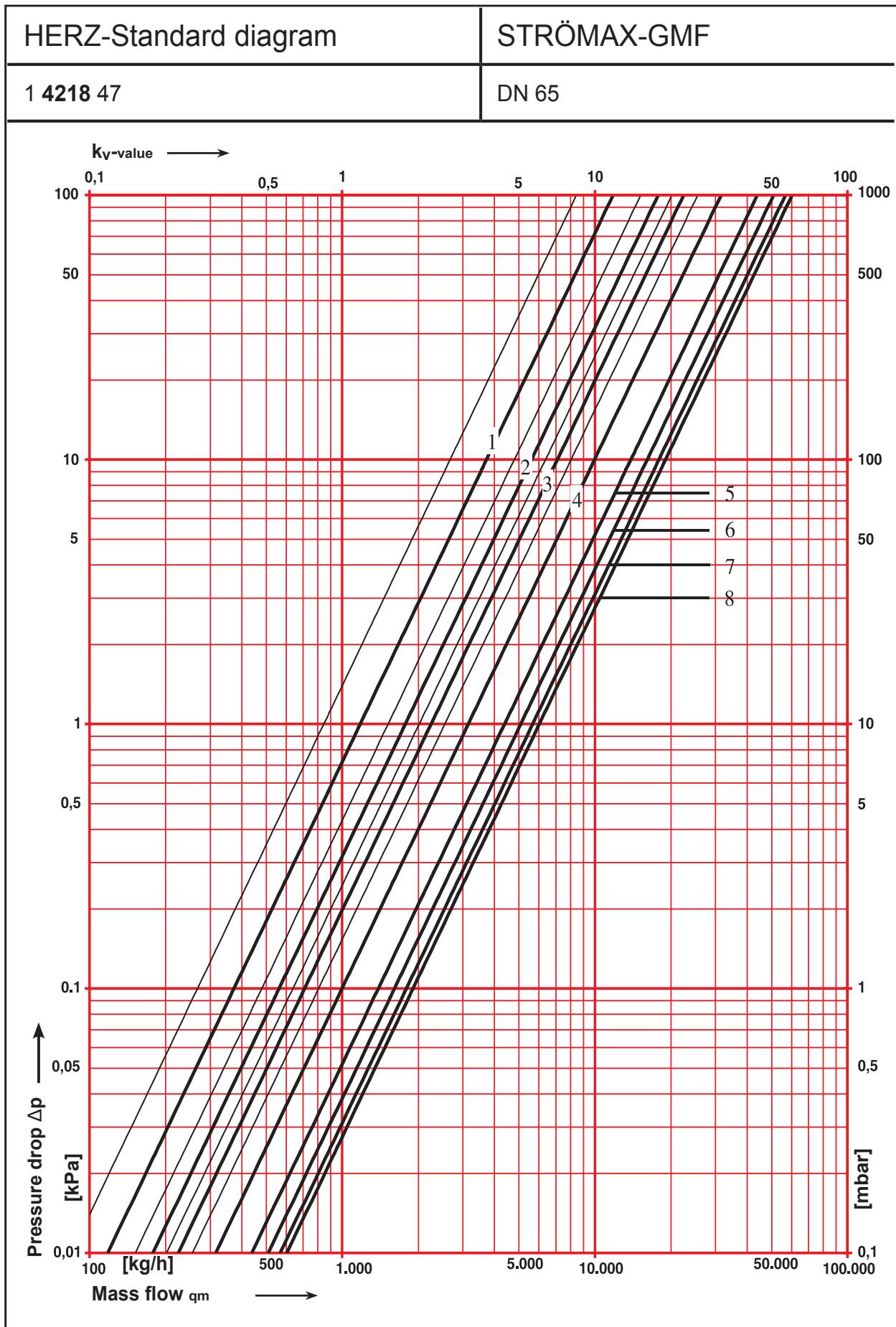
Factor from the table above

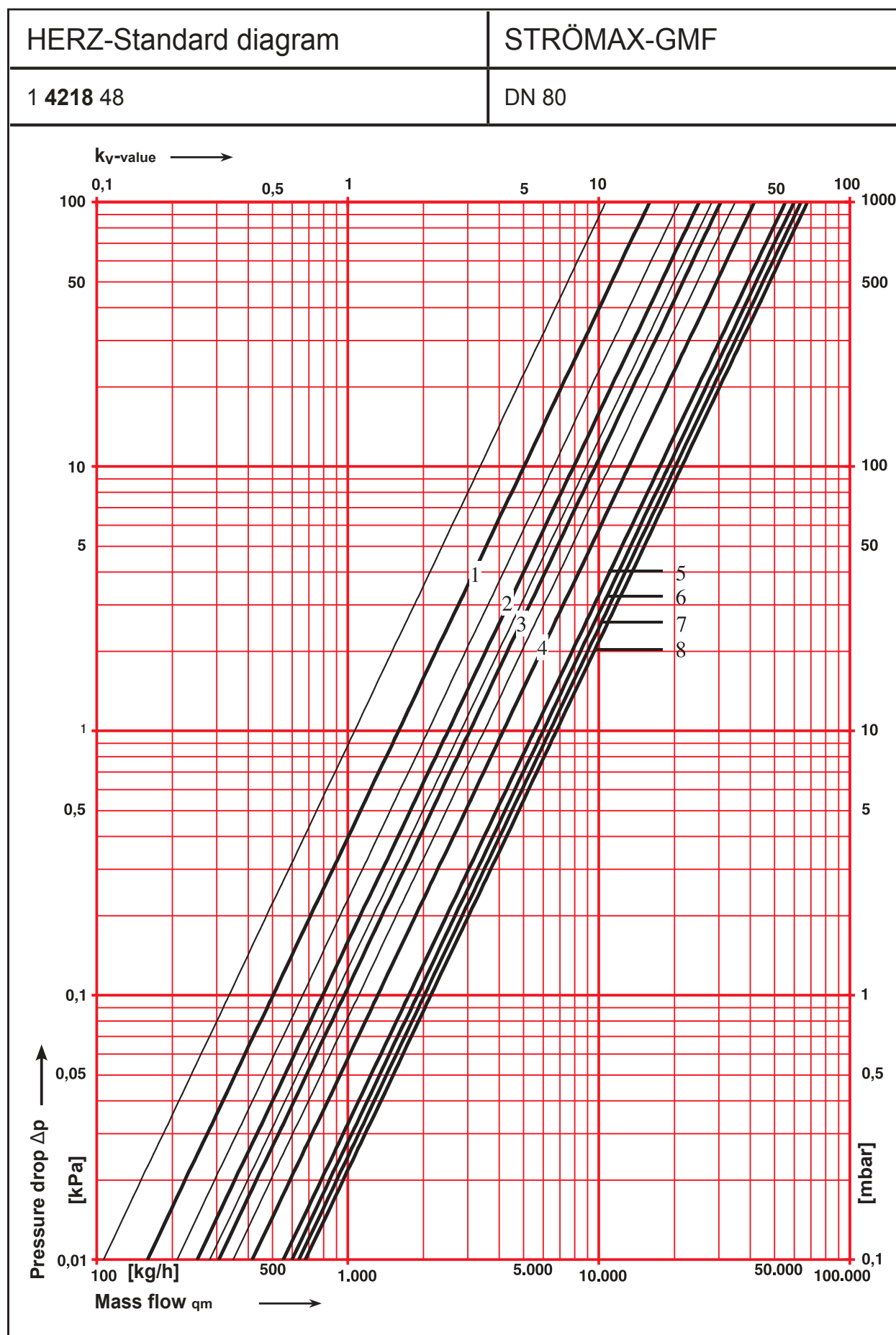










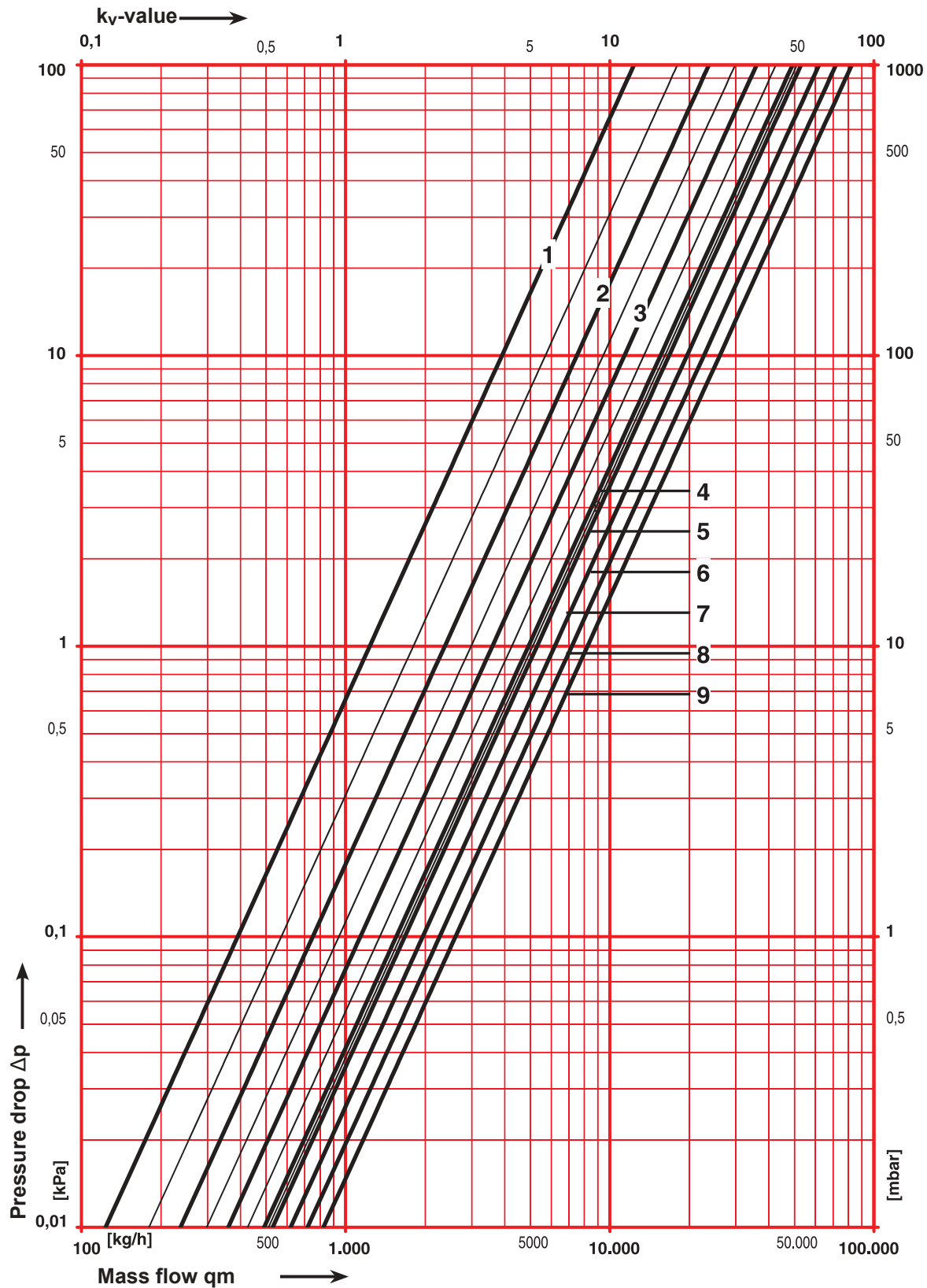


HERZ-Standard diagram

STRÖMAX 4218
GMF

Art. no. 1 4218 49

DN 100



HERZ-Standard diagram

STRÖMAX 4218
GMF

Art. no. 1 4218 50

DN 125

