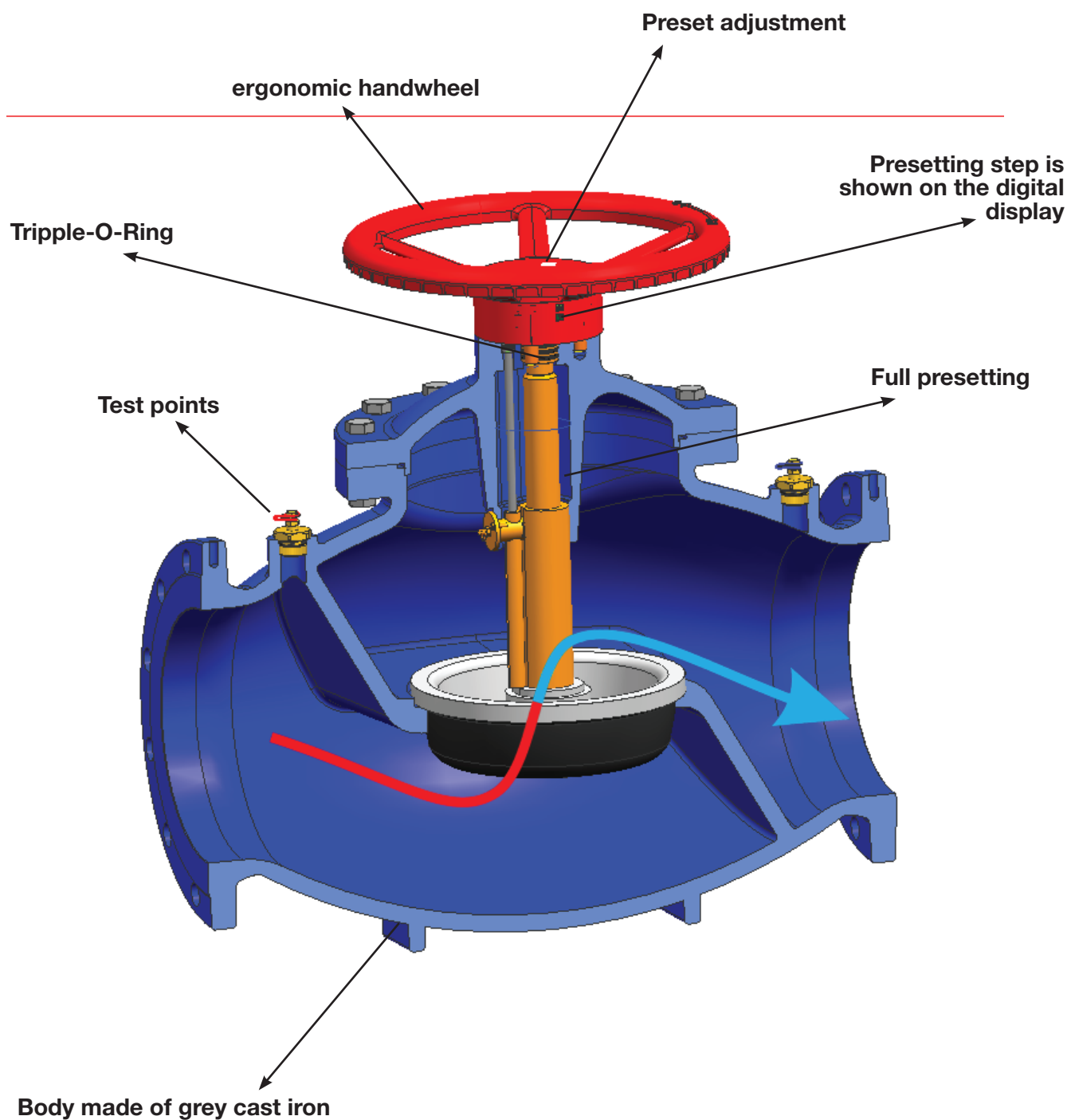


HERZ - Balancing Valves Cast Iron







4218 GF STRÖMAX-circuit regulating valve in a flanged version is available in nominal sizes of DN 50 to DN 300. All HERZ valves are factory-equipped with test points, which can be upgraded with extended test points. The flanged upper parts of HERZ 4218 GF STRÖMAX are made of cast iron.

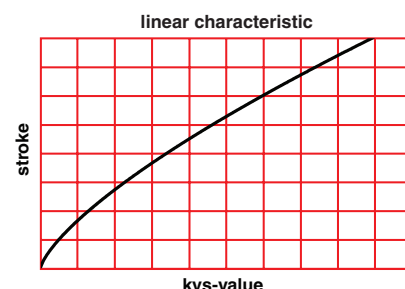
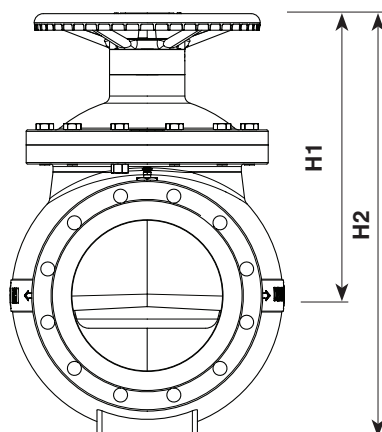
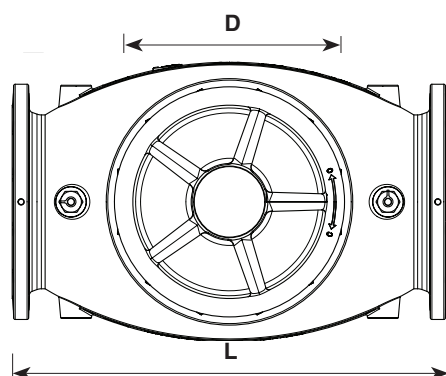
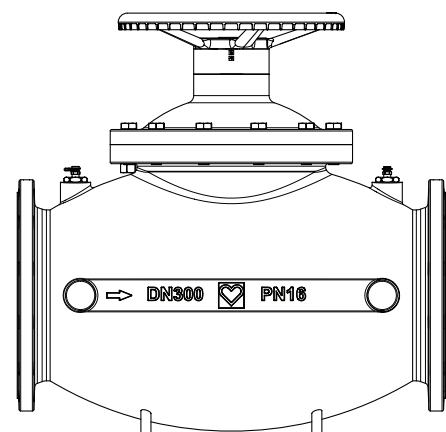
The pre-setting marker is fastened as a tag above the valve or pipe. The setting of the respective valve is marked by cutting or breaking off the teeth at the figures for full and partial turns. This permits checking and/or restoration of the original pre-setting made on the occasion of the system set-up after servicing without having to rely on documentation.

Presetting

1. Set the hand wheel to the desired position (Digital display on handwheel)
2. Red numbers are 1/10 of turn, blue numbers are a full turn.
3. The presetting spindle is beneath the cover. The spindle can be adjusted with an 8mm screwdriver. To preset turn anti clockwise up to stop. The valve is now able to close and open back to the preset position. Replace the cover on the handwheel.
4. The pre-setting marker is fastened as a tag above the valve or pipe. The setting of the respective valve is marked by cutting or breaking off the teeth at the figures for full and partial turns. This permits checking and/or restoration of the original pre-setting made on the occasion of system set-up after servicing without having to rely on documentation.

The setting of flowrate is achieved with a measuring device referring to the flow charts. Please see the operating instructions from the measuring device.

Minimum operating temperature - 10 °C
Maximum operating temperature 110 °C
Maximum operating pressure 16 bar



Order numbers 4218 GF	DN	L	H1	H2	D	kg
Linear characteristic						
1 4218 80	50	230	169	252	130	16,8
1 4218 81	65	290	186	278	154	23,6
1 4218 82	80	310	207	307	170	30
1 4218 83	100	350	235	345	200	40,5
1 4218 84	125	400	259	384	279	63
1 4218 85	150	480	307	450	280	88
1 4218 86	200	600	447	618	350	161
1 4218 87	250	730	503	705	420	257
1 4218 88	300	852	562	842	482	383

STRÖMAX 4218 GF

Function

Two test points are fitted on the same side of the valve and factory sealed. This arrangement ensures the best accessibility in any position and optimum connection of measuring instruments.

Field of application

For hydraulic balancing in heating or cooling systems for isolating of manifolds, risers, heat exchangers, heating and cooling systems.

HERZ STRÖMAX- GF 4218 linear

Dn	50	65	80	100	125	150	200	250	300
kvs	49	75	110	165	241	372	704	812	1383
Pos.	kv	kv	kv	kv	kv	kv	kv	kv	kv
0,5	0,44	3,7	4,04	7,54	16,72	15,68	4,124	42,13	47,09
1,0	2,24	5,2	7,79	13,44	26,32	24,98	12,43	61,63	66,49
1,5	5,24	6,7	11,54	19,34	35,92	34,28	33,195	81,13	85,89
2,0	8,04	7,97	15,24	25,28	45,55	43,59	53,96	100,65	105,29
2,5	9,74	9,22	17,24	29,93	53,15	52,04	74,725	117,3	124,69
3,0	11,46	10,46	19,26	34,61	60,74	60,49	95,49	133,92	144,09
3,5	12,61	12,96	20,56	37,71	69,09	64,89	116,255	153,82	163,49
4,0	13,8	15,43	22,86	40,89	77,46	69,31	137,02	173,71	182,95
4,5	14,8	17,43	24,96	45,29	86,11	77,81	169,12	194,61	212,6
5,0	16	19,53	27,05	49,65	94,78	86,33	201,22	215,54	242,25
5,5	17,5	21,03	30,7	54,95	103,73	96,28	233,32	239,14	271,9
6,0	19,1	22,79	34,39	60,27	112,71	106,26	265,48	262,7	301,57
6,5	20,95	24,24	39,94	67,47	124,36	118,16	302,38	289,65	323,52
7,0	22,83	25,49	45,53	74,68	136,05	130,1	339,28	316,64	345,47
7,5	24,83	27,74	52,68	82,33	152	150,2	376,18	358,24	367,42
8,0	26,65	30,01	59,85	90,01	167,92	170,26	412,98	399,81	389,29
8,5	28,35	32,81	66,3	96,96	178,42	193,91	442,38	456,36	455,27
9,0	30,08	35,6	72,73	103,97	188,92	217,54	471,78	512,88	520,57
9,5	31,28	38,85	77,38	109,92	200,52	236,74	501,18	554,88	585,87
10,0	32,44	42,05	82,07	115,92	212,12	255,9	530,55	596,85	664,16
10,5	33,24	44,85	86,07	121,07	220,47	272	545,6	646,65	724,76
11,0	34,08	47,66	90,17	126,18	228,85	288,11	560,65	696,48	785,36
11,5	34,53	44,66	93,42	130,58	235,75	301,56	575,7	738,53	845,96
12,0	34,96	51,63	96,7	134,97	242,65	315,05	590,75	780,57	906,57
12,5		54,13	99,05	138,87	249,2	327,65	605,8	813,17	957,77
13,0		56,49	101,38	142,74	255,79	340,27	620,86	845,73	1008,97
13,5		58,49	104,08	146,74		347,57	634,71	886,63	1060,17
14,0		60,77	106,78	150,79		354,84	648,56	927,53	1111,34
14,5		62,47		154,54		363,04	662,41	949,88	1174,89
15,0		64,21		158,31		371,26	676,33	972,25	1238,44
15,5		65,56		161,46		380,41		993	1301,99
16,0		66,94		164,59		389,54		1013,7	1365,63
16,5				167,04				1039,3	1406,38
17,0				169,45				1064,89	14473,13
17,5								1073,79	1487,88
18,0								1082,72	1528,67
18,5									1571,57
19,0									1614,47
19,5									1657,37
20,0									1700,28
20,5									1721,43
21,0									1742,58
21,5									1763,73
22,0									1784,91

Due to different installation conditions in the laboratory and in the operating place the table can contain deviations of measurement results.

STRÖMAX 4218 GMF

The differential pressure is measured by an appropriate measuring device and the specific flow rate is determined. All HERZ-measuring computers directly determine the corresponding flow rate. The flow can be limited by default. The preset value remains the same even when the valve is closed. The presetting is displayed digitally on handwheel.

Function

Two test points are fitted on the same side of the valve and factory sealed. This arrangement ensures the best accessibility in any position and optimum connection of measuring instruments.

Field of application

For hydraulic balancing in heating or cooling systems for isolating of manifolds, risers, heat exchangers, heating and cooling systems.

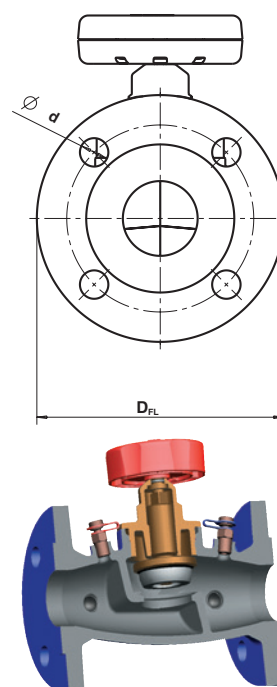
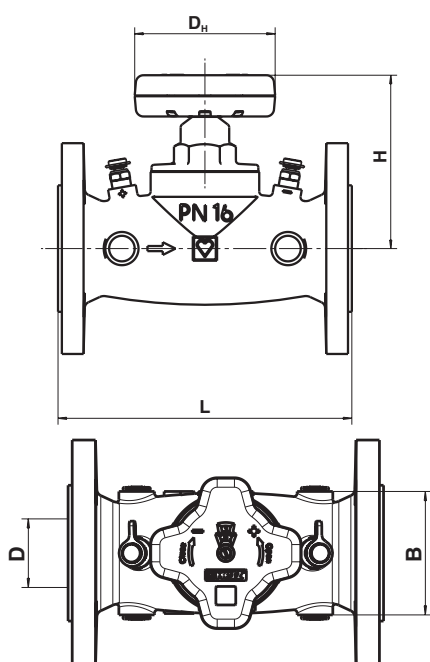
Presetting

The valve will be delivered in opened position. The pre- setting permits the maximum possible stroke. when the valve is fully closed, the hand wheel digital display will indicate 0.0

1. Set the hand wheel to the desired position (Digital display on handwheel).
2. Remove the hand wheel securing screw, the handwheel should not be removed.
3. The presetting spindle is now accessible, screw in with a screwdriver blade width 3 x 60 until stop position is reached.
4. Replace the hand wheel securing screw.
5. To mark the adjusted position on the presetting marker and fix it on the valve.

The setting of flowrate is achieved with a measuring device referring to the flow charts. Please see the operating instructions from the measuring device.

Minimum operating temperature - 10 °C
Maximum operating temperature 110 °C
Maximum operating pressure 16 bar



Order number 4218 GMF	DN	L	H	B	DH	DFL	D	d	kg	kvs
1 4218 43	25	160	107	58	71	115	25	14	3,71	12,2
1 4218 44	32	180	113	64	71	140	32	19	4,80	17,3
1 4218 45	40	200	113	72	71	150	40	19	6,35	28,6
1 4218 46	50	230	133	90	110	165	50	19	9,81	38
1 4218 47	65	290	145	112	110	185	65	19	13,70	60,3
1 4218 48	80	310	145	116	110	200	80	19	16,28	68,5
1 4218 49	100	350	190	166	190	220	100	19	29,70	99,55
1 4218 50	125	400	230	220	190	250	125	19	48,00	186,58
1 4218 51	150	480	264	244	190	285	150	23	66,60	279,05

HERZ STRÖMAX 4218 GMF

DN	25	32	40	50	65	80	100	125	150
kvs	12,2	17,3	28,6	38	60,3	68,5	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	11,53		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								87,53	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

Due to different installation conditions in the laboratory and in the operating place the table can contain deviations of measurement results.

Flow measuring orifice plates

Function

The orifice plate made of stainless steel PN 16 and has two measuring valves. The design of the orifice is in accordance with BS 1042, the performance curve characteristics are according to BS 7350.

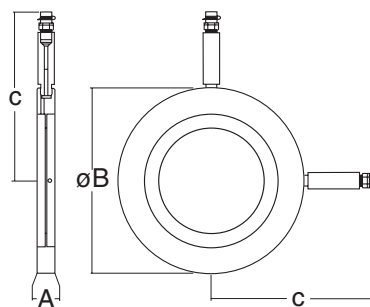
Field of application

HERZ orifice plates are installed in the circuits of the hot water central heating and cooling systems, and ensure the balance of the hydraulic circuits.

The orifice plates are used either in a supply or in a return pipe.

They are either closely coupled with a balancing valve HERZ to form a complete set or used in connection with an isolation valve HERZ.

The balancing is accomplished by setting the control valve during the measurements of the pressure drop at orifice.



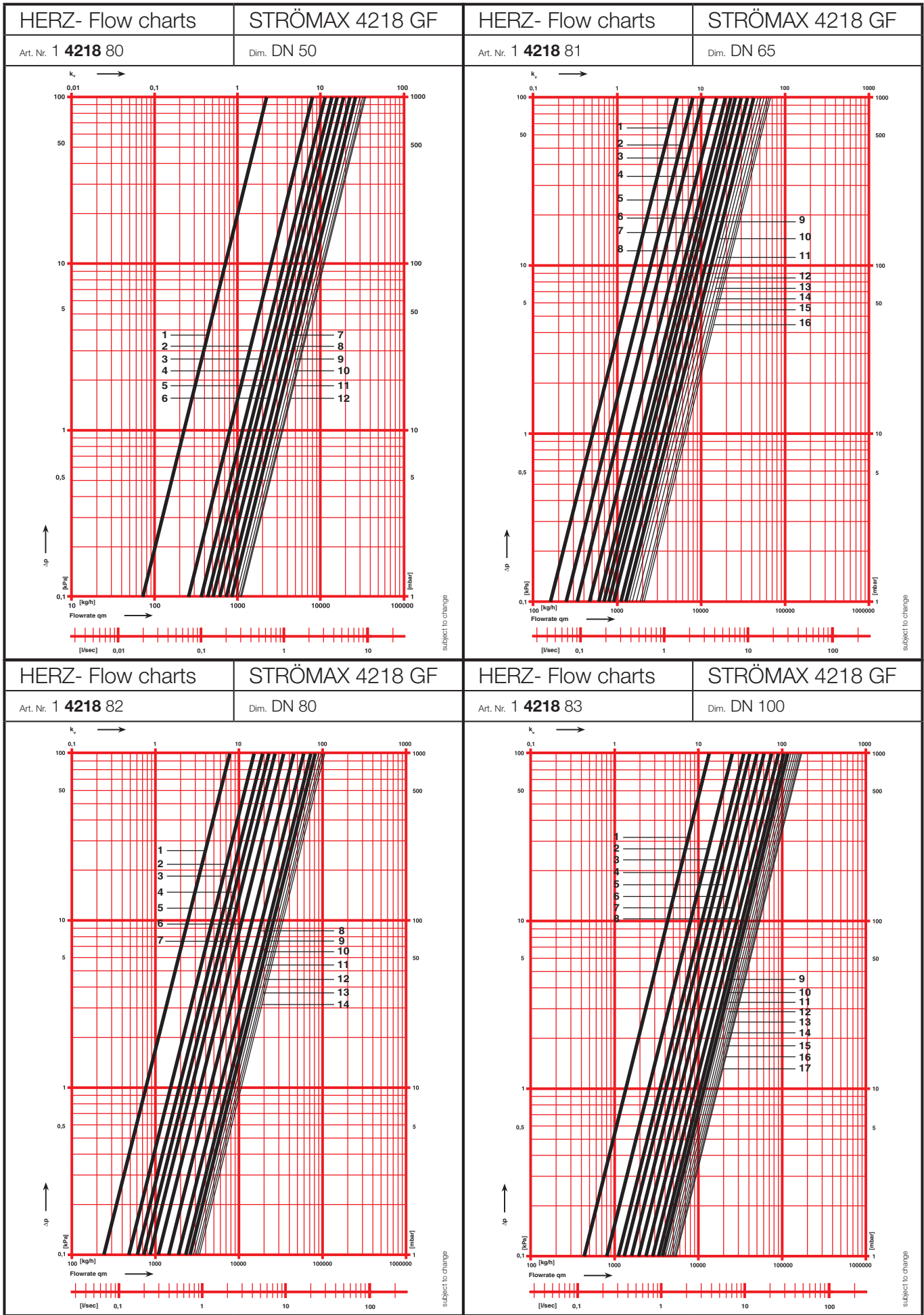
Benefits :

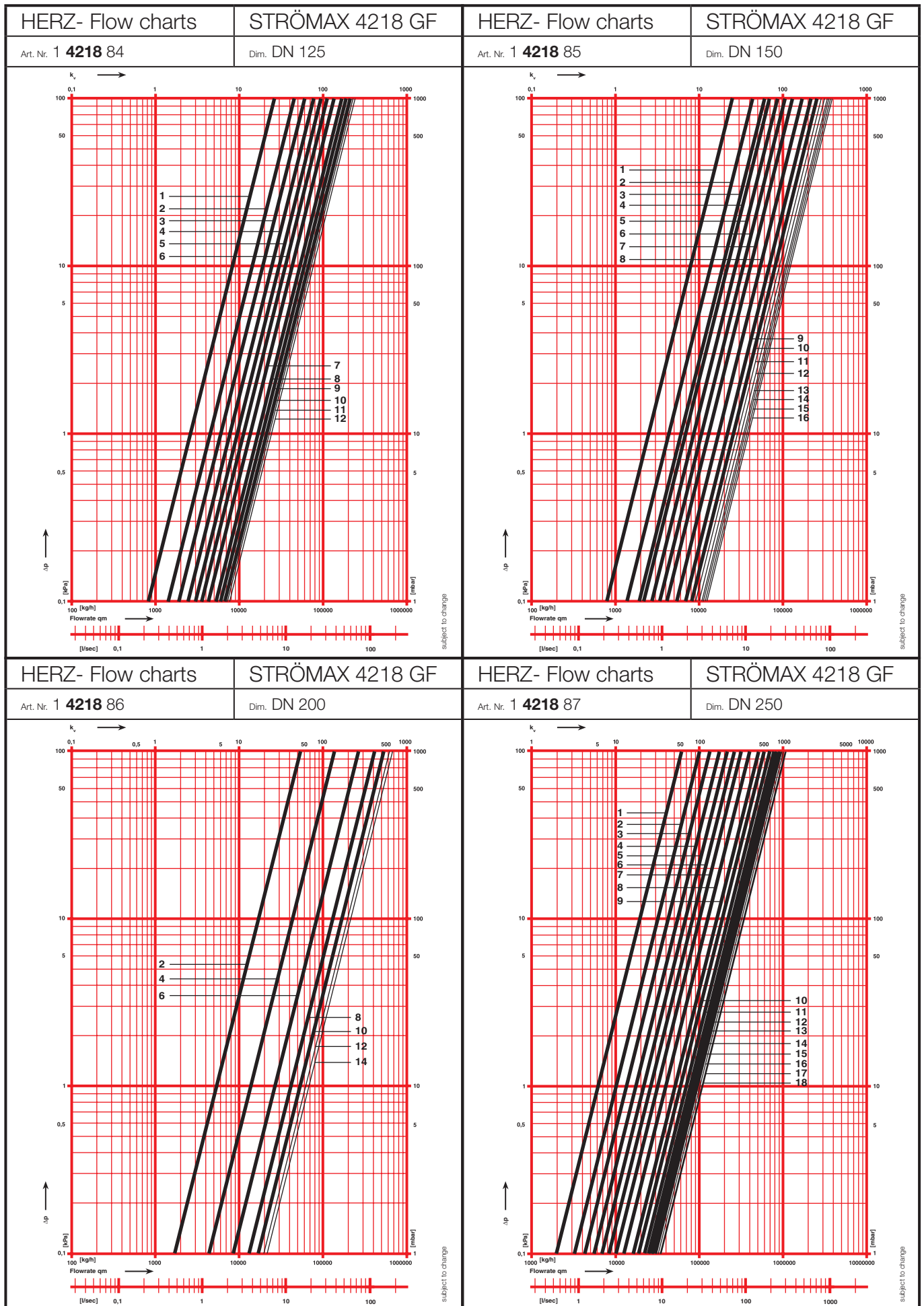
- Ease of use because of the use of only one characteristic of the orifice plate.
- Can be installed separately, e.g. as a fixed orifice.

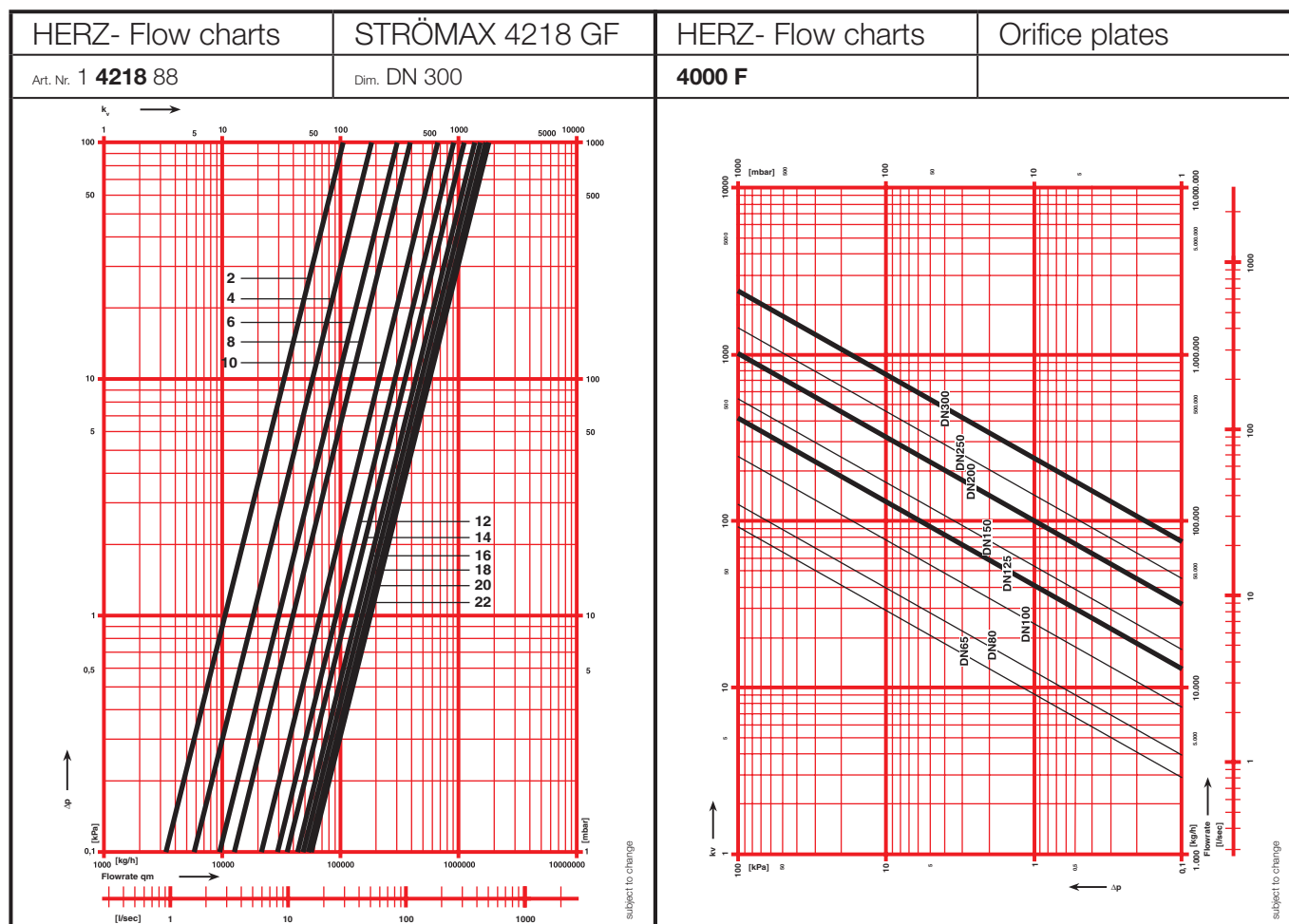
Maximum operating temperature **110 °C**
Maximum operating pressure **16 bar**

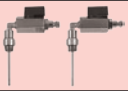


Order number Orifice plate	DN	A	B	C	kv	kg
1 4000 07	65	20	158	160	100,7	1,9
1 4000 08	80	20	166	170	133,8	2,2
1 4000 09	100	20	164	176	237,7	2,7
1 4000 10	125	20	194	191	339	3,2
1 4000 11	150	20	220	204	511	3,8
1 4000 12	200	20	275	232	858	5,5
1 4000 13	250	20	331	258	1235	7,0
1 4000 14	300	20	386	287	1793	10,0





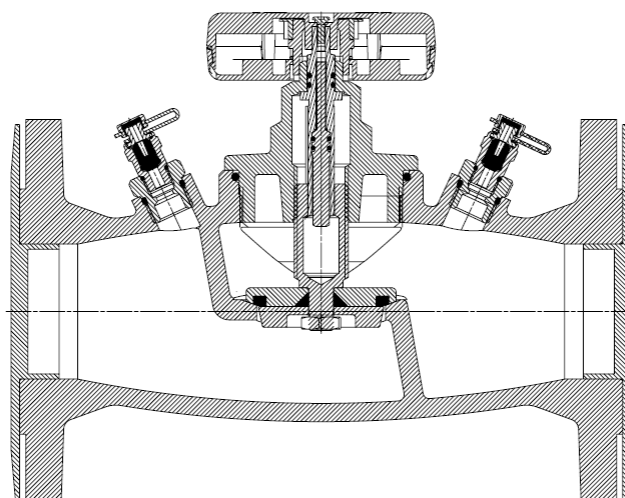


			Order number
	Test point adaptors		1 0284 00
	Test point extension 1 Set = 2 Pcs	1/4	1 0284 10
	Test points for HERZ-STRÖMAX-Circuit regulating valves (manufactured from 2004), brass version, blue cap (return) for flow computer.	1/4	1 0284 01
	Test points for HERZ-STRÖMAX-Circuit regulating valves (manufactured from 2004), brass version, red cap (flow) for flow computer.	1/4	1 0284 02
	Test points for HERZ-STRÖMAX-Circuit regulating valves BrassExtended model for insulated valves up to 40mm version, blue cap (return) for flow computer.	1/4	1 0284 11
	Test points for HERZ-STRÖMAX-Circuit regulating valves. Brass version, red cap (flow) for flow computer. Extended model for insulated valves up to 40 mm.	1/4	1 0284 12
	Test points with draining function Brass version, red cap (flow).	1/4	1 0284 22
	Test points with draining function Brass version, blue cap (return).	1/4	1 0284 21
	Test points long version with draining function, blue cap	1/4	1 0284 23
	Test points long version with draining function, red cap	1/4	1 0284 24
	Presetting marker Plastic tag for marking the presetting step. Can be mounted on the valve or pipe.		1 6517 05
	Test points with pulse pipe connection brass version, blue cap (return) for flow computer.	1/4	1 0284 03
	Test points with pulse pipe connection brass version, red cap (flow) for flow computer.	1/4	1 0284 03

Operation and Installation Manual HERZ 4218

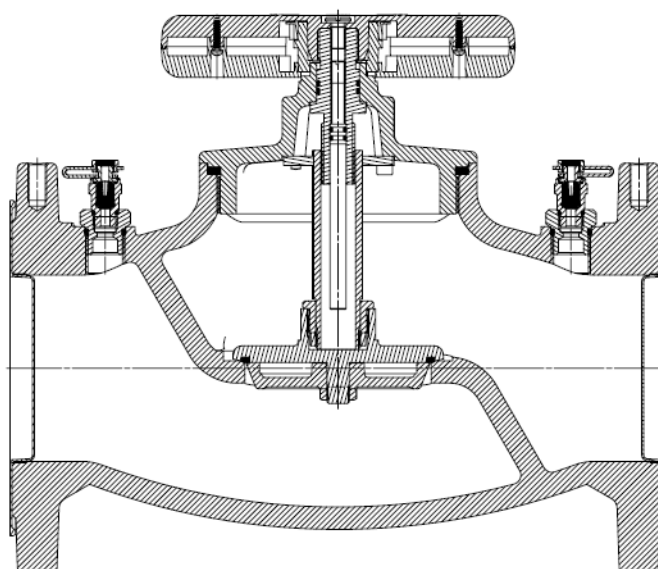
4218 GMF

DN 25 - DN 80



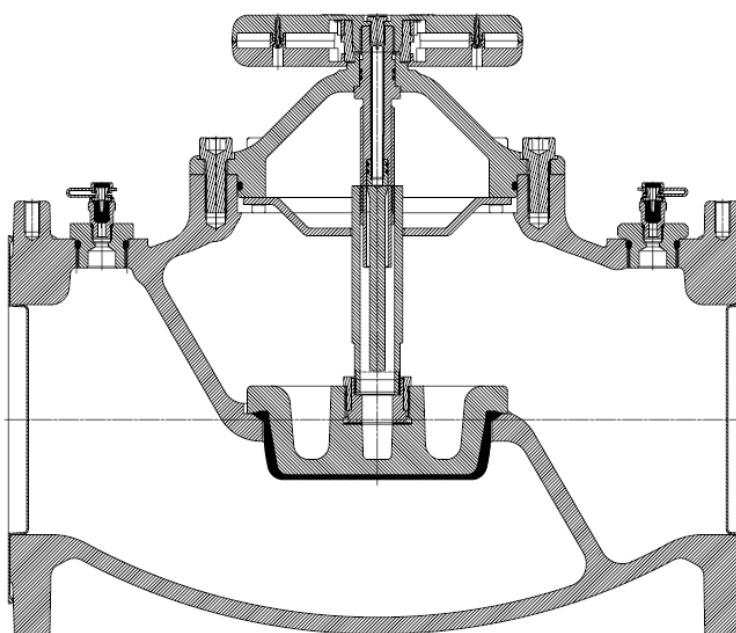
4218 GMF

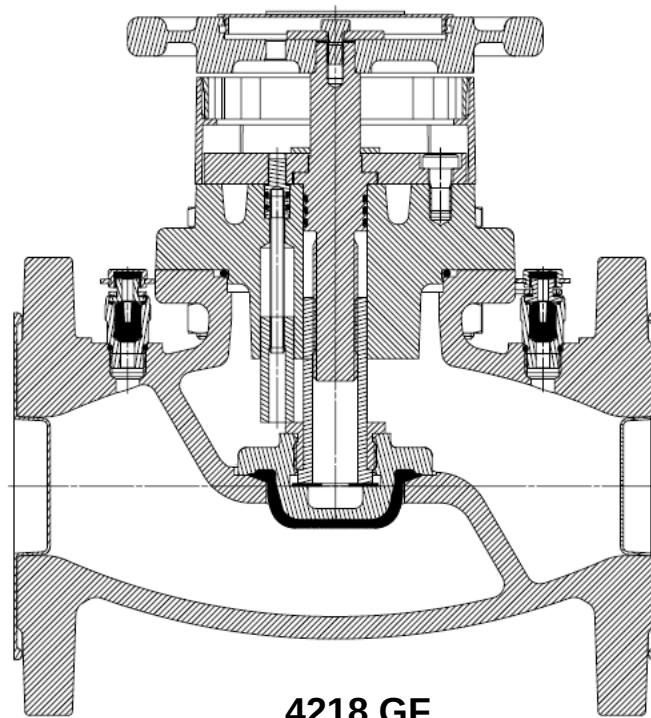
DN 100



4218 GMF

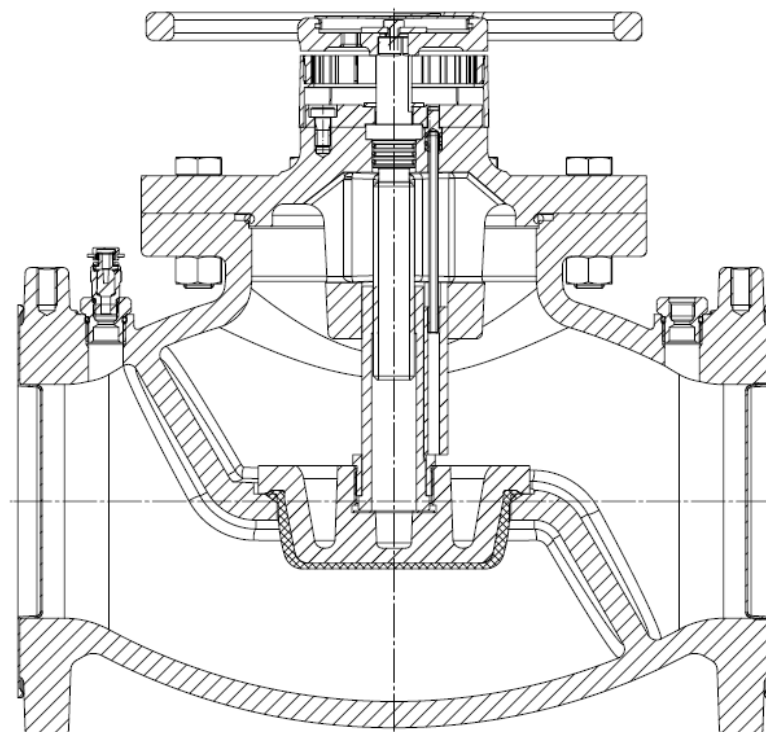
DN 125 - DN 150





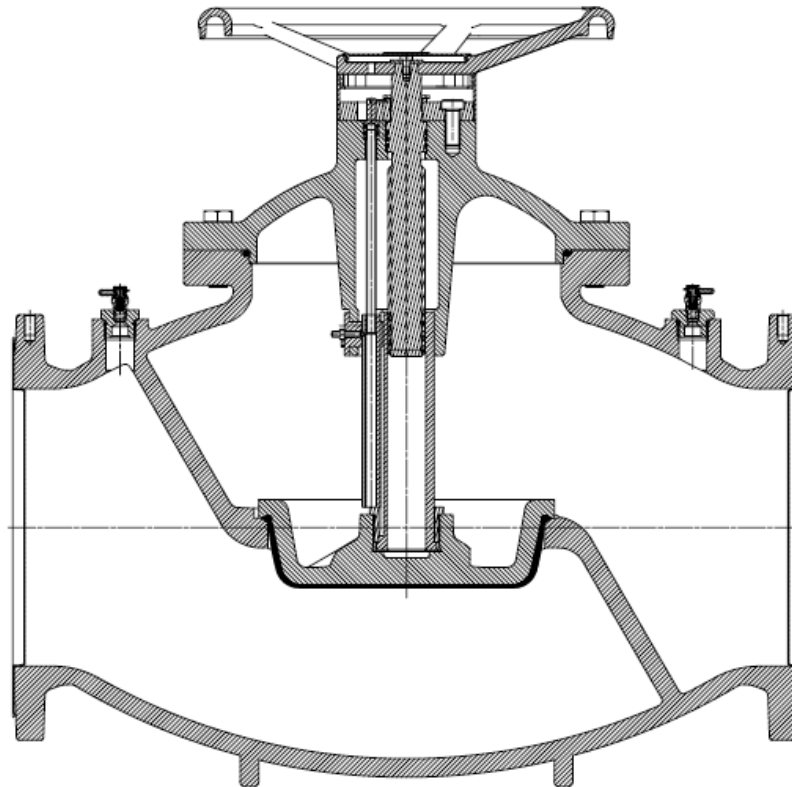
4218 GF

DN 50 - DN 100



4218 GF

DN 125 - DN 150

**4218 GF****DN 200 - DN 300**

4218 GMF and 4218 GF

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1.0 General information

That manual is an instruction for safe installation and maintenance. In case of difficulties, which cannot be solved by following the instructions, please contact the supplier or manufacturer.

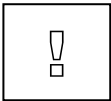
Assembly and installation must be carried out by licensed and specially trained fitters.

Damaged parts and components must be replaced with original spare parts.

For maintenance and repairs the current regional safety requirements must be followed.

All specifications and information within this document are reflecting the information available at the time of going to print and meant for informational purpose only. HERZ Armaturen reserves the right to modify and change products as well as its technical specifications and/or its function according to technological progress and requirements.

2.0 Storage and transport



Caution: Don't lift or carry the valve with the hand wheel!

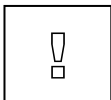
The valve is pre-assembled and delivered ex factory. In order to avoid damage during storing and transportation the flange covering must be fitted.

Storage: Temperature -15° to + 60 °C

3.0 Description

3.1 Field of application

For hydraulic balancing and isolating of manifolds, risers, heat exchangers, in heating and cooling systems. The regulating valve is equipped with two test points so it is possible to measure the differential pressure by use of the proper measuring devices and to determine the flow rate accordingly.



Caution: For certain flow media special materials are required. The valves are designed for normal operating conditions.

3.2 Operation

By turning the hand wheel (right clockwise) the valve is closed.

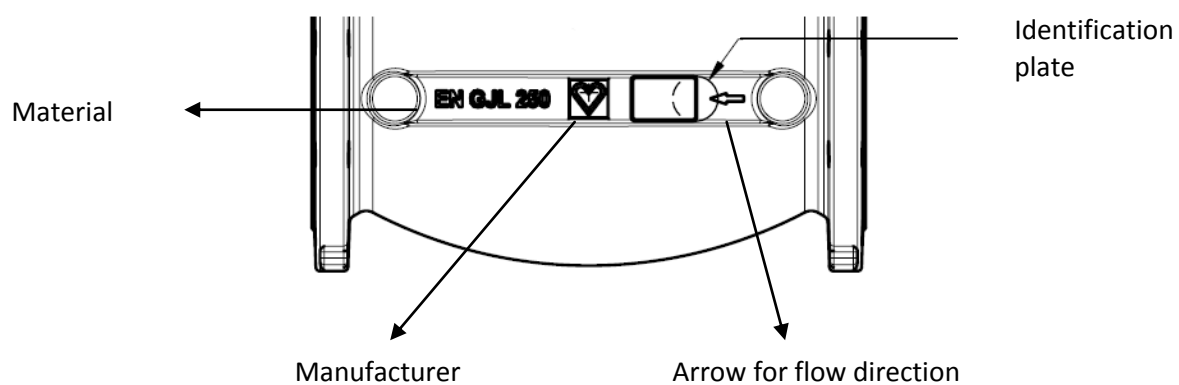
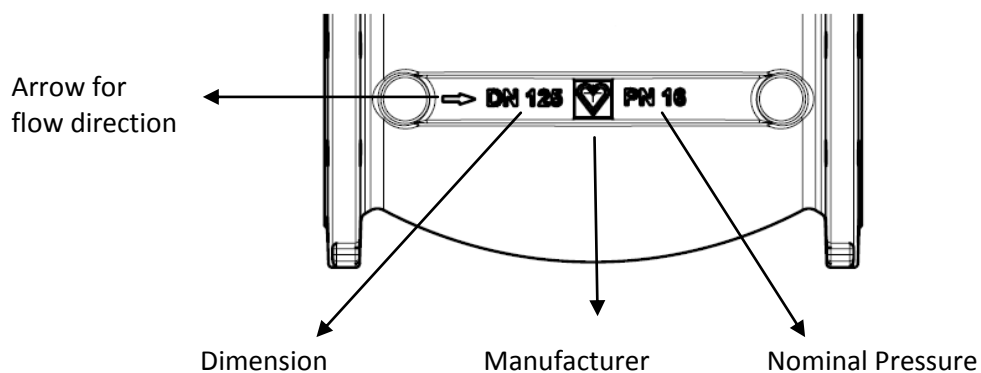
The position of the disk is indicated on the digital display. Red numbers show full turns and blue or black numbers (depending on the model) display 1/10 turns. The valve will be delivered in position 3.0. The hand wheel mechanics are adjusted so that the digital display indicates 0.0 if the valve is closed.

3.3 Technical Data

Please refer to the technical data sheet.

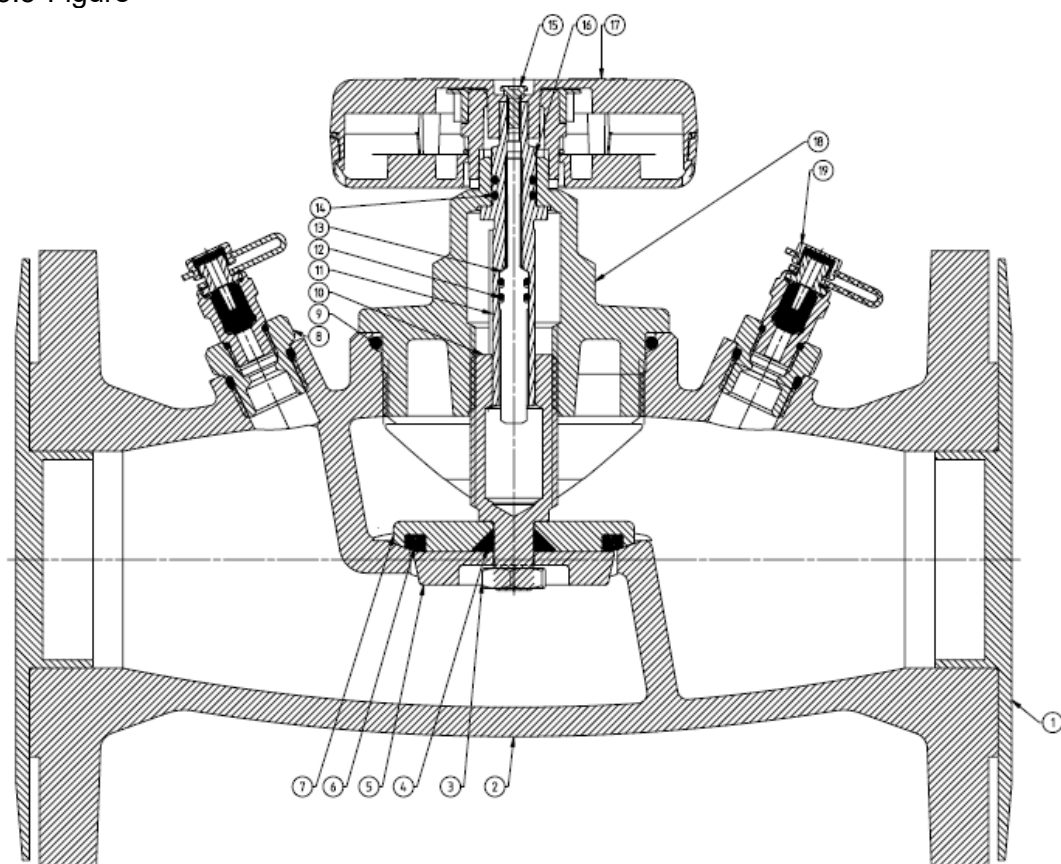
3.4 Marking on the body

The figure is an example. Valves of other dimensions and model may be different.



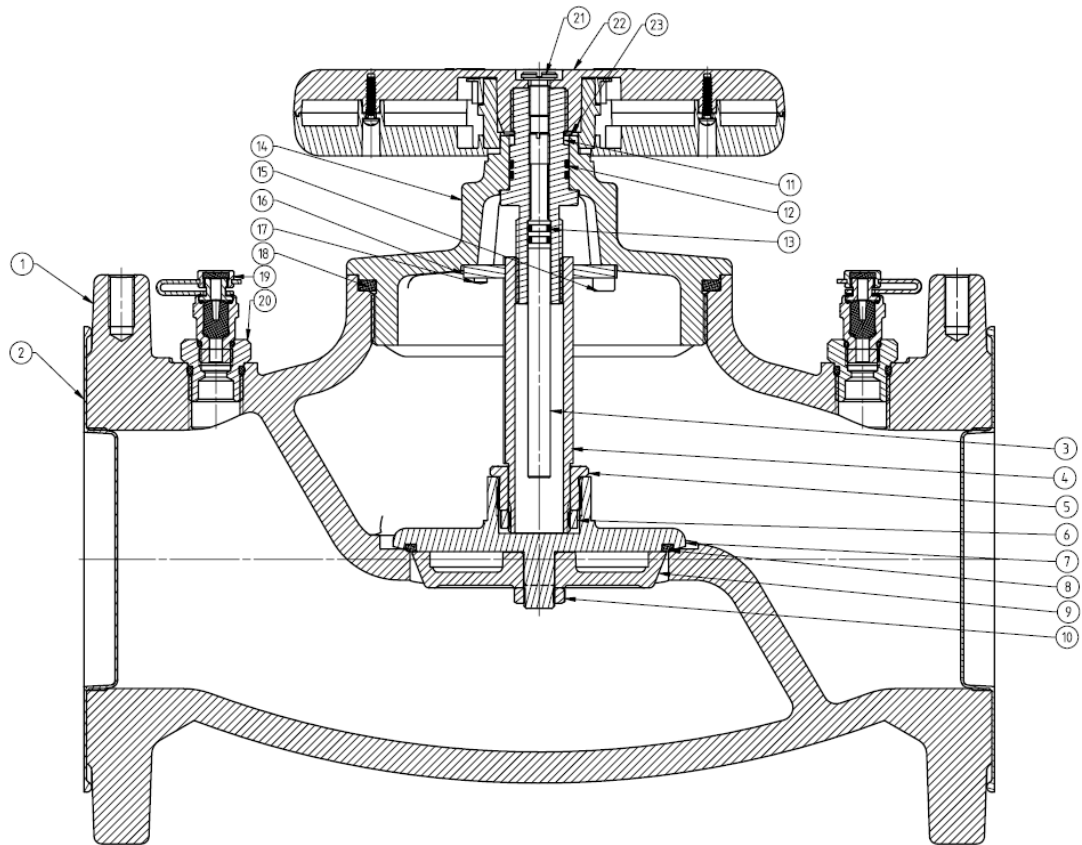
CE CE-identification only at following models:
1 4218 81-88

3.5 Figure



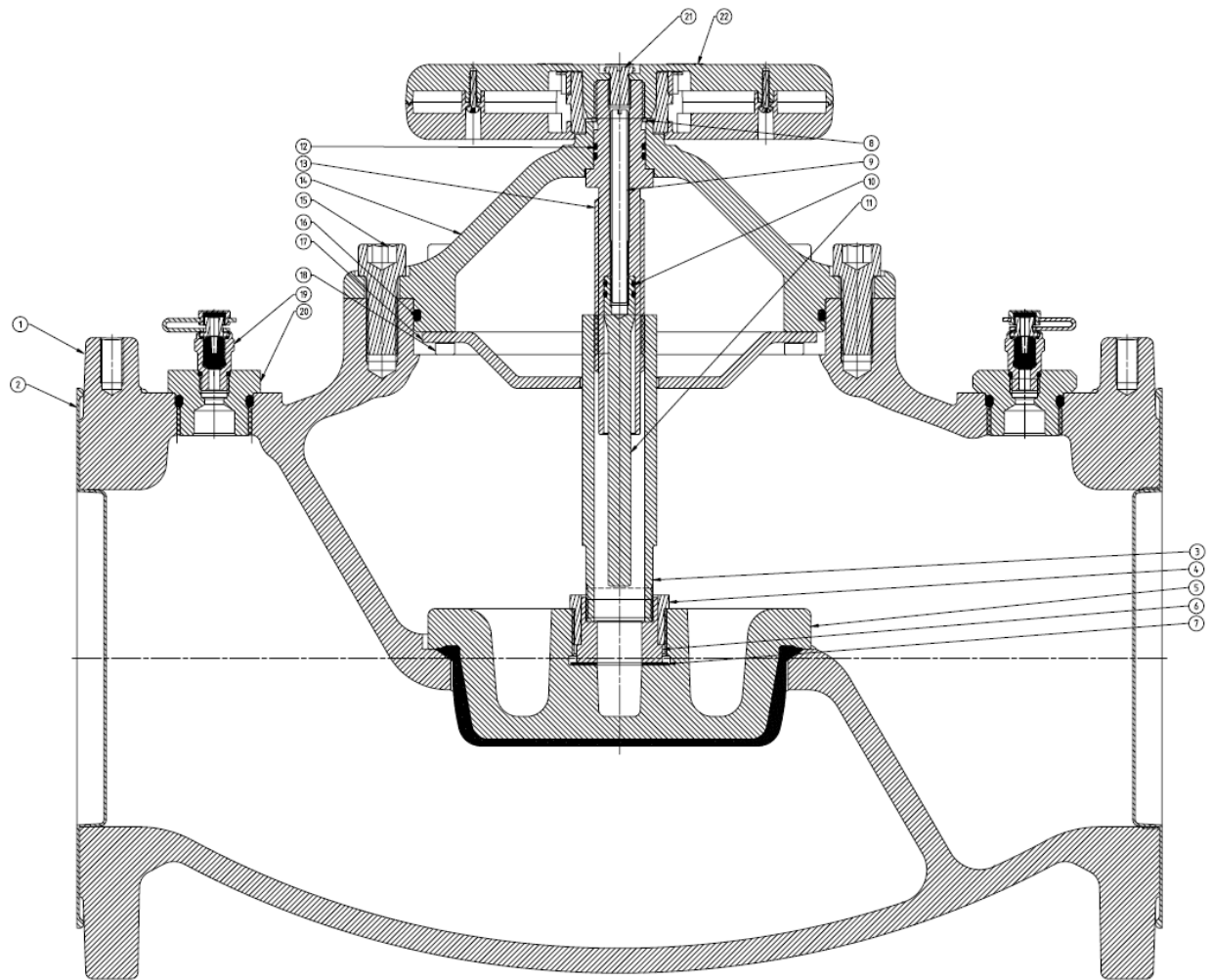
4218 GMF DN 25 - DN 80

Position	Description	Position	Description
1	Plastic cover	11	Spindle
2	Valve body	12	EPDM O-ring
3	Nut	13	Adjustable stop
4	EPDM O-ring	14	EPDM O-ring
5	Disc part II	15	Screw
6	EPDM O-ring	16	Snap ring
7	Disc part I	17	Hand wheel
8	Adapter	18	Bonnet
9	EPDM O-ring	19	Test point
10	Shear connector		



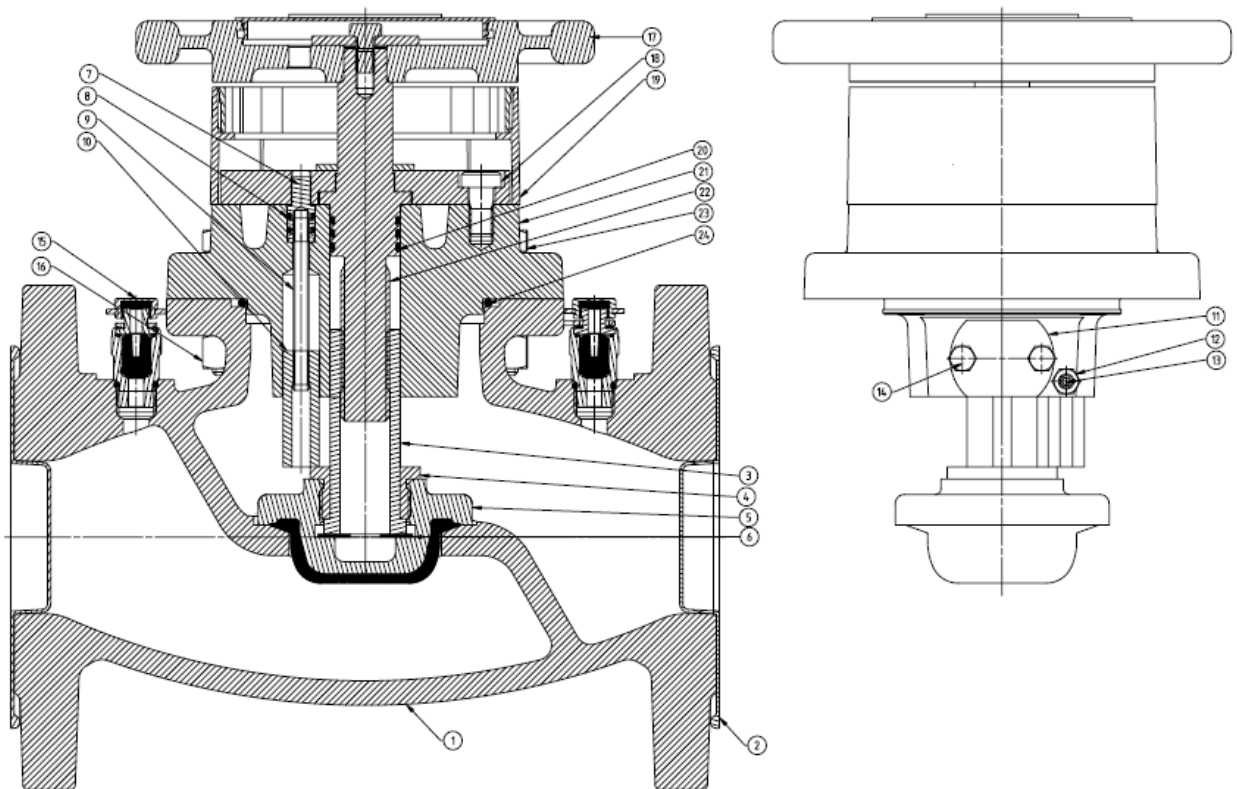
4218 GMF DN 100

Position	Description	Position	Description
1	Valve body	13	EPDM O-ring
2	Plastic cover	14	Bonnet
3	Adjustable stop	15	Screw
4	Shear connector	16	Position plate
5	Disc part I	17	Dowel pin
6	Fixing nut	18	EPDM O-ring
7	Disc	19	Test point
8	EPDM O-ring	20	Adapter
9	Disc part II	21	Screw
10	Nut	22	Hand wheel
11	Spindle	23	Snap ring
12	EPDM O-ring		



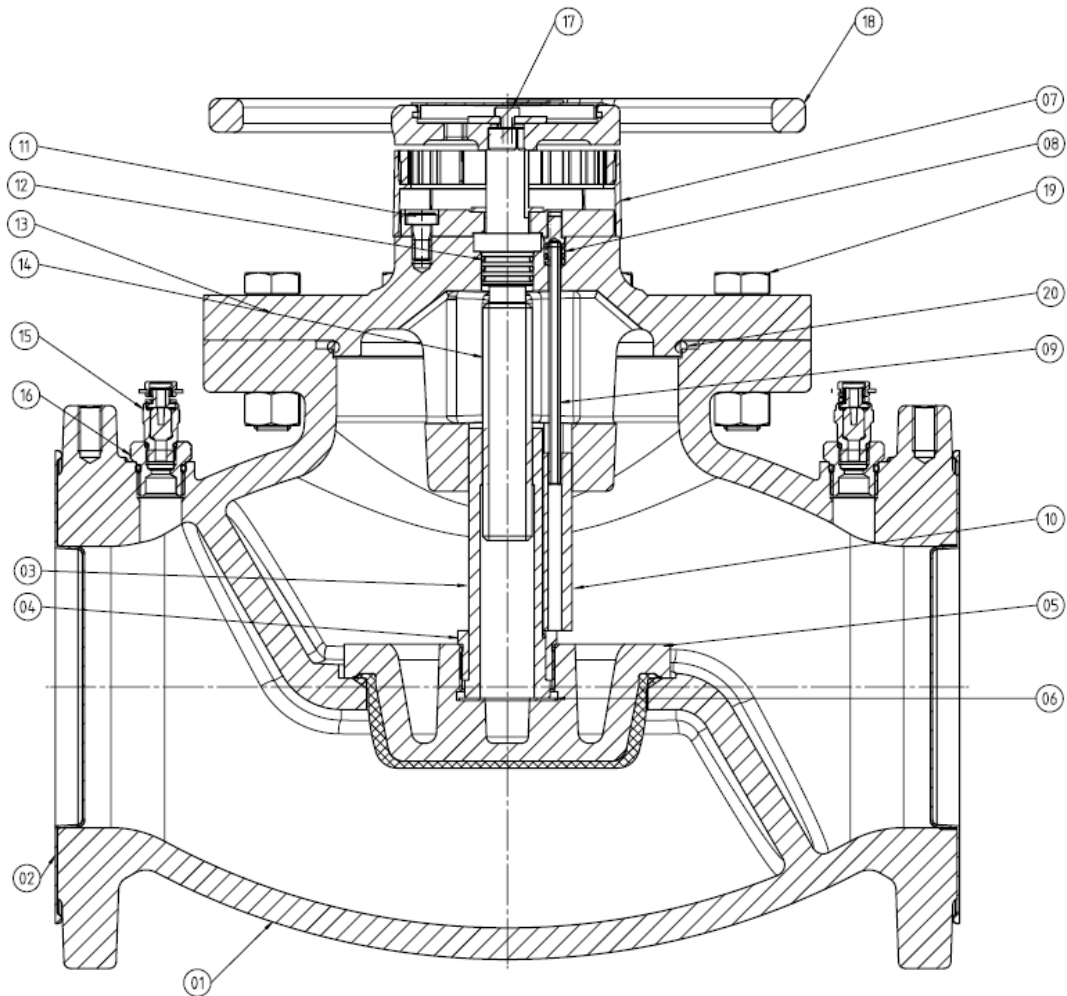
4218 GMF DN 125-150

Position	Description	Position	Description
1	Valve body	12	EPDM O-ring
2	Plastic cover	13	Spindle
3	Shear connector	14	Bonnet
4	Disc nut	15	Screw
5	Disc	16	EPDM O-ring
6	Fixing nut	17	Position plate
7	Rubber absorber	18	Screw
8	Snap ring	19	Test point
9	Thread rod	20	Adapter
10	EPDM O-ring	21	Screw
11	Stop pin	22	Hand wheel



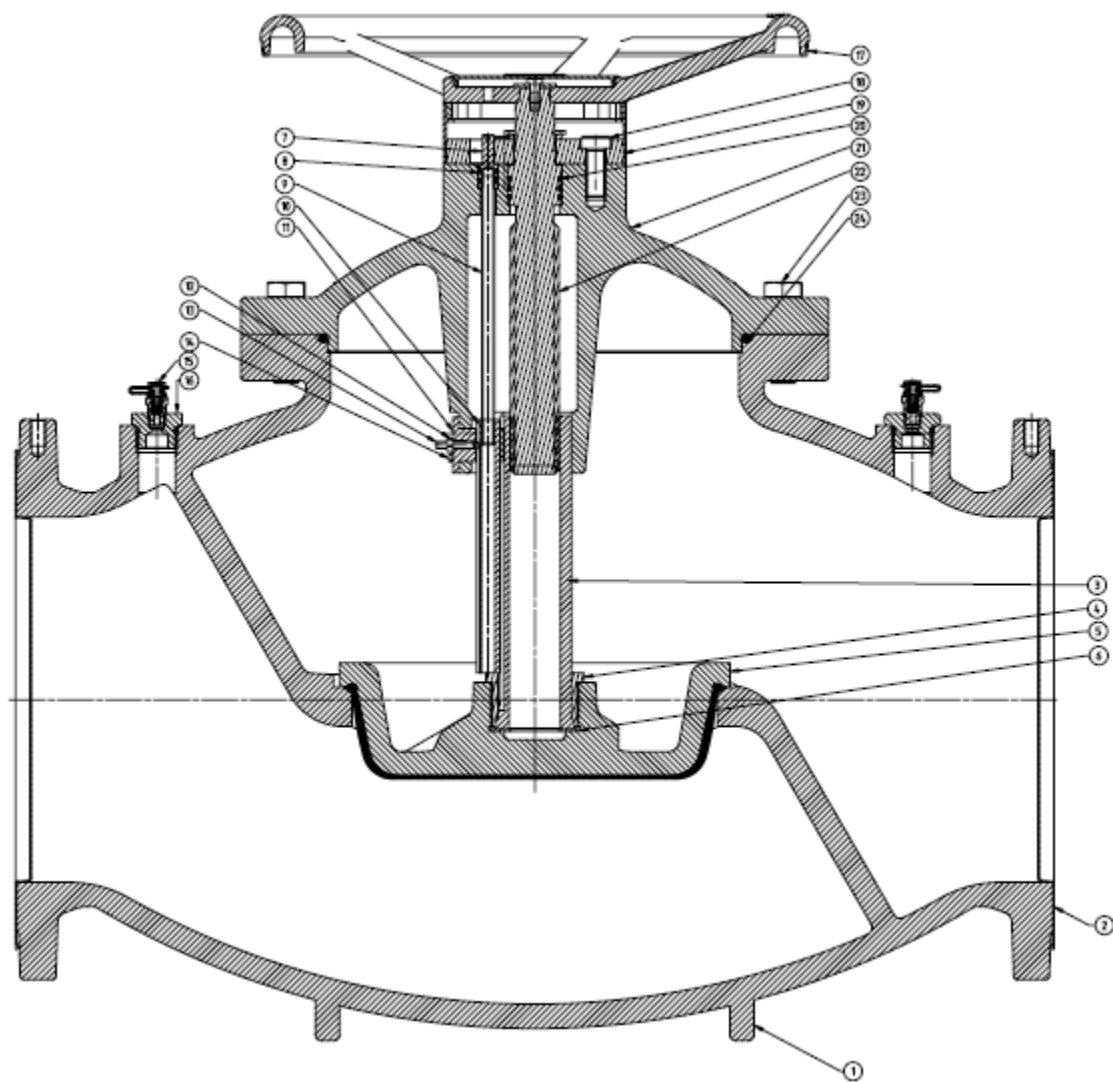
4218 GF DN 50 - DN 100

Position	Description	Position	Description
1	Valve body	13	ScREW
2	Plastic cover	14	Screw
3	Shear connector	15	Test point
4	Disc nut	16	Nut
5	Disc	17	Hand wheel
6	Rubber absorber	18	Screw
7	Regulation head	19	Stuffing box
8	EPDM O-ring	20	EPDM O-ring
9	Threaded rod	21	Bonnet
10	Stop pin	22	Spindle
11	Rotation lock	23	Screw
12	Nut	24	EPDM O-ring



4218 GF DN 125 - DN 150

Position	Description	Position	Description
1	Valve body	10	Stop pin
2	Plastic cover	11	Screw
3	Shear connector	12	EPDM O-ring
4	Disc nut	13	Bonnet
5	Disc	14	Spindle
6	Rubber absorber	15	Test point
7	Stuffing box	16	Adapter
8	EPDM O-ring	17	Scuw
9	Threaded rod	18	Hand wheel



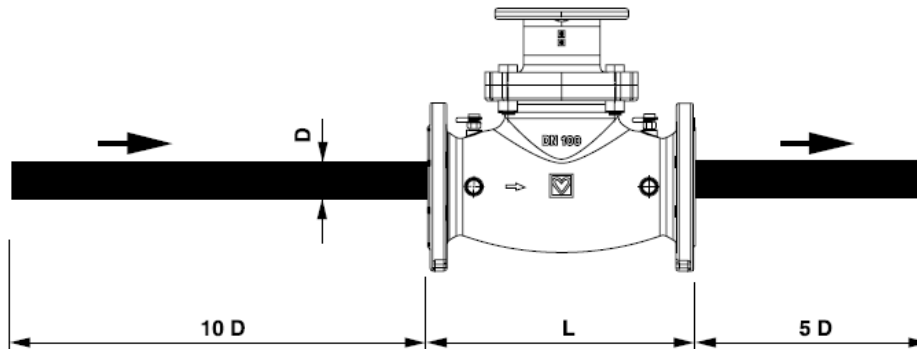
4218 GF DN 200 - DN 300

Position	Description	Position	Description
1	Valve body	13	Screw
2	Plastic cover	14	Screw
3	Shear connector	15	Test point
4	Disc nut	16	Adapter
5	Disc	17	Hand wheel
6	Rubber absorber	18	Screw
7	Regulation head	19	Stuffing box
8	EPDM O-ring	20	EPDM O-ring
9	Threaded rod	21	Bonnet
10	Stop pin	22	Spindle
11	Rotation lock	23	Screw
12	Nut	24	EPDM O-ring



4.0 Mounting

The valve can be mounted in any position. Please observe flow direction according to the arrow marked on the valve body. It is recommended 10 x straight pipe diameters upstream and 5 x straight pipe diameters downstream to install the valve.



Caution:

In accordance with the intended use of the valve clean processing is required. The introduction of dirt in the valve should be avoided.

During the assembly it should be ensured that the bolts are tightened clockwise.

The valve must not be lifted up or carried by the hand wheel. Please use suitable lifting equipment. Information about weight is available in the technical data sheet

The valves are designed for use in indoor installation.

5.0 Commissioning

When using a differential pressure manometer, setting can be performed on the basis of the HERZ-flow charts. A flowrate for the commissioning valve can only be set without specifying a pre-setting step if a measuring instrument is used. Follow the operating instructions when using a measuring computer.

Caution:

Before commissioning, information about material, temperature, pressure and flow direction should be checked.

The measurement valves may be opened only when an instrument is connected. If there are any leaks using hot water Risk of injury!

5.1 Presetting and fixing of the hand wheel- 4218 GMF (1 4218 43-51)

Pre-setting process

1. Set the valve at the pre-setting required (digital display of hand wheel).
2. Remove fastening screw of hand wheel. Hand wheel may not be pulled off.
3. The pre-setting spindle is now accessible. Screw in blade 3 x 60 until stop.
4. Replace the hand wheel fastening screw again.
5. Install pre-setting seal.
6. Mark the set position on the pre-setting marker and mount it to the valve.

Steps 5 and 6 are not necessary but recommended.



5.2 Presetting and fixing of the hand wheel- 4218 GF (1 4218 80-88)

1. Desired presetting stage in accordance with data (Digital display on hand wheel)
2. The red numbers are 1/10 of a turn, the blue or black are a full turn.
3. The presetting spindle is beneath the cover. The spindle can be adjusted with a screwdriver 8 mm. After presetting the spindle should be screwed clockwise until it stops. The valve is now able to close and open back to the preset position. Replace the cover on the hand wheel.
4. The pre-setting marker (1 6517 05) is fastened as a tag above the valve or pipe. The setting of the respective valve is marked by cutting or breaking off the teeth at the figures for full and partial turns. This permits checking and/or restoration of the original pre-setting made on the occasion of system set-up after servicing without having to rely on documentation.

6.0 Maintenance

The maintenance and service intervals are determined by the operator according to the requirements.

6.1 Disassembly of the handwheel- 4218 GMF

When the valve is closed the pre-setting of the digital display is 0,0. If the complete hand wheel (twist handle, numerical display, mounting base) is removed from the valve or a damaged part has to be renewed, it is recommended re-set the digital display as follows:

1. Mount complete hand wheel and slide it until the hexagonal of the body and the toothed spindle engage.
 2. Turn the valve clockwise and close it.
 3. If the digital displays shows a value of 0,0 the hand wheel is correctly mounted and can be fastened by a screw.
- If another value is displayed remove the hand wheel.
4. Twist mounting base and twist handle to set the digital display to 0,0 again. Remount the hand wheel without twisting the spindle.
 5. Screw in the fastening screw of the hand wheel.

The valve can now be set to the requested position.

6.2 Disassembly of the handwheel- 4218 GF

If the complete hand wheel (turning handle, numeric wheels, baseplate) has to be removed it is important to do this as per the following instruction:

1. Set the complete upper part and fastening the three allen screws and the four hexagon screws.
2. Close the valve clockwise.
3. If you see 0.0 on the digital display it is correct.
4. After this you can assemble the hand wheel.
5. Fix the attachment bolt.
6. Now you can preset the valve.

6.3 Disassembly of the upper part or the valve

In particular, the following points should be noted:

- No pressure in the pipe system
- medium must be cool
- emptied system



7.0 Identifying the causes in case of malfunctions

Please ensure that the installation and adjustment work has been carried out in accordance with these operating instructions.

In case of faults that cannot be corrected by the following table, please contact the supplier or manufacturer.

Problem	Reason	Solution
No flow	Valve is closed	Open valve
	Flange protection was not removed	Remove flange protection
Less flow	Valve not sufficiently open	Open valve
	Polluted strainer	Replace or clean filter
	Blockage in the pipe system	Check pipe system
Heavy operation	wrong direction of rotation	Note direction of rotation (against the clock the valve is opened)
Leaking at the spindle	Damaged upper part	Replace upper part/valve
Leakage at the valve seat	Hand wheel is not completely closed	retighten the Handwheel (without using tools)
	Seat disk is damaged by foreign objects	Replace valve
	To high differential pressure	Check pressure of the system and differential pressure, reduce pressure of the system
	polluted media (solids)	Clean valve and install strainer in front of the valve
valve cannot be opened	Stroke limitation was tighten to the spindle stop	Turn upward the stroke limitation
Display is not set to 0.0 , even the valve is completely closed	Display is not installed properly	Close valve, remove hand wheel, set display to 0.0, mount hand wheel

8.0 Warranty/Guarantee



Caution:

The content and period of warranty is specified in force at the time of delivery Edition of the "General Terms and Conditions of HERZ Armaturen GmbH" or in the sales contract itself.

For damage caused of incorrect handling or failure to comply with the instructions, data sheet and relevant regulations no guarantee claims can be asserted.

Natural wear and tear, installation of third-party products and maintenance are excluded from the warranty.

Any transport damage should be reported immediately to the competent cargo-handling or forwarding agent.