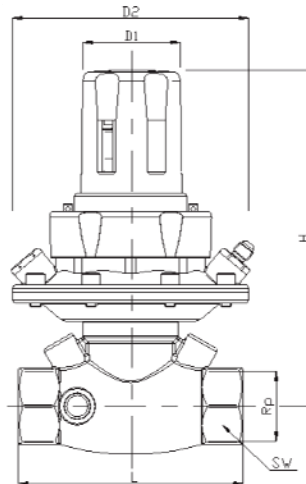


HERZ Differential pressure controller

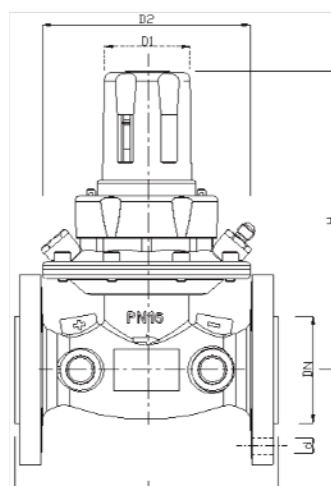
Data sheet for **4007**, Issue 0616

Dimensions in mm
4007



Order number	DN	Rp	L	SW	H	D1	D2
1 4007 01	15	1/2	100	27	170	50	125
1 4007 02	20	3/4	100	32	170	50	125
1 4007 03	25	1	120	41	180	50	125
1 4007 04	32	1 1/4	140	50	185	50	125
1 4007 05	40	1 1/2	150	55	185	50	125
1 4007 06	50	2	165	70	196	50	125
1 4007 07	65	2 1/2	190	85	203	50	125
1 4007 08	80	3	210	100	205	50	125

4007 F



Order number	DN	L	H	D1	D2	d
1 4007 13	25	160	180	50	125	14
1 4007 14	32	180	185	50	125	19
1 4007 15	40	200	185	50	125	19
1 4007 16	50	230	196	50	125	19
1 4007 17	65	290	206	50	125	19
1 4007 18	80	310	207	50	125	19

☑ Model

The differential pressure controller is a straight-version proportional controller and works without auxiliary energy. The required nominal differential pressure can be continuously adjusted from 50 to 300 mbar. The adjusted set point can be read, locked and sealed. The nominal set point is factory preset at minimum. The required set point is adjusted by means of a hand wheel and secured against turning by the block ring. The impulse line (1000 mm) is included with the valve and is connected to a circuit regulating valve in the flow.

It is possible to convert HERZ STROMAX valves 4215, 4217 or 4218 AGF to a differential pressure controller.

☑ Other versions

4007 for FWW, 23 kPa fixed adjustment. The dimensions are the same as **4007 0x** in the same DN

Order number		DN
1 4007 51	---	15
1 4007 52	---	20
1 4007 53	1 4007 63	25
1 4007 54	1 4007 64	32
1 4007 55	1 4007 65	40
1 4007 56	1 4007 66	50
1 4007 57	1 4007 67	65
1 4007 58	1 4007 68	80

☑ Operational data

Max. operating pressure	16 bar
Test pressure	24 bar
Max. DP on the body	2 bar
Min. operating temperature	+2 °C (pure water)
Max. operating temperature	130 °C DN 15 - DN 32 110 °C DN 40 - DN 80
Min. operating temperature	-20 °C (frost protection, brass body) -10 °C (frost protection, grey cast-iron body)

Order number	DN	Kvs [m ³ /h]	Q min [l/h]	Q max [l/h]L
1 4007 01	15	4,8	50	1200
1 4007 02	20	5,9	50	1200
1 4007 03	25	9,5	200	4000
1 4007 04	32	13,2	250	4250
1 4007 05	40	15,6	200	5750
1 4007 06	50	25,2	750	9000
1 4007 07	65	26,0	750	10000
1 4007 08	80	27,0	750	12000

☑ Materials

Valve Body 4007	Dezincification-resistant brass
Valve Body 4007F	Grey cast iron GJL 250 according to EN 1561
PN16 Flanges	to EN 1092
Membrane and O-Rings	EPDM
Set point spring	Stainless steel
Ethylene and propylene glycol is to be used in a mixing ratio of 25 - 50 Vol. [%].	
Water quality according to ONORM H 5195 and VDI 2035	

☑ Application

For heating and cooling systems, to ensure constant differential pressure constant within the control range.

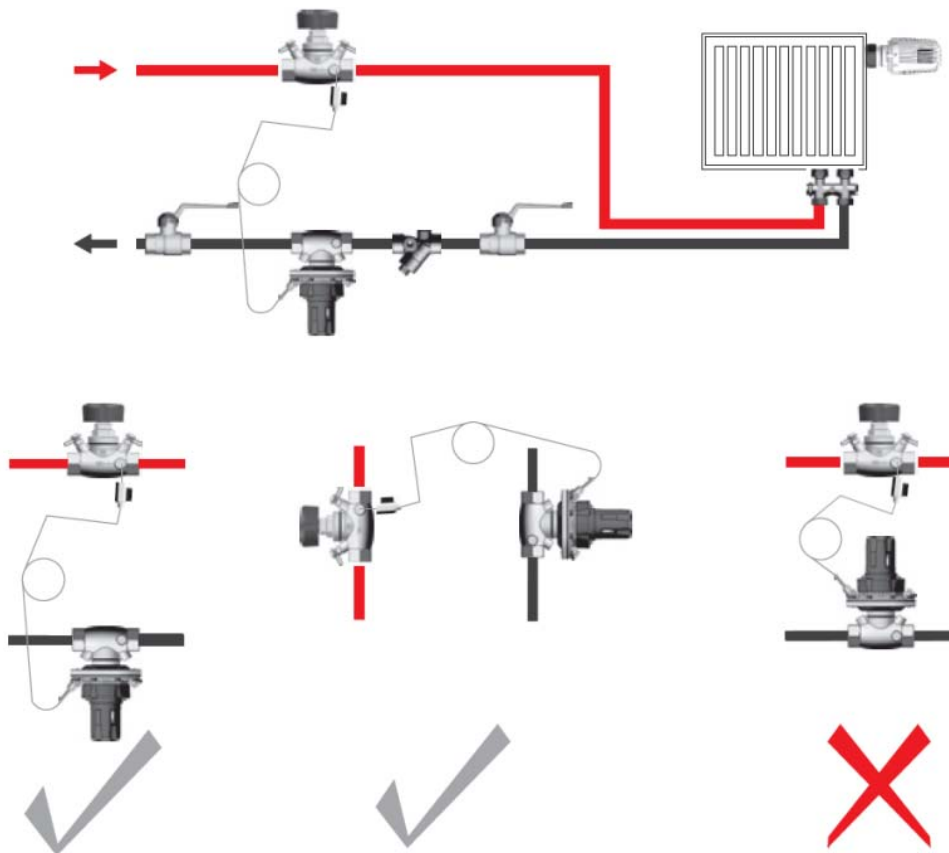
Reset from HERZ STROMAX circuit regulating valves.

☑ Installation

Installation is carried out in the return flow and it should be hanging or vertical but not standing. The direction of the flow is in the direction of the arrow shown on the body. The impulse pipe should be connected to a flow mounted regulating valve.

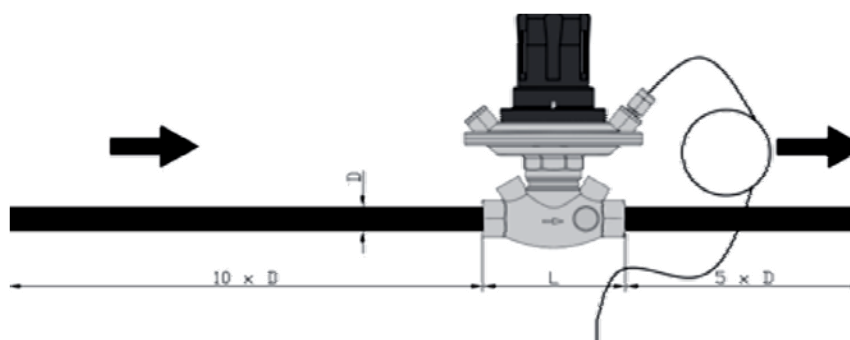
Installation of a shut-off valve both in front and behind the differential pressure controller is recommended. Also the onsite use of a ball valve in the impulse line is recommended in order to prevent pressure shocks on the membrane when filling the device.

The differential pressure controller can be isolated using an SW 4 Allen key. It is recommended that the block ring is set to prevent adjustment of the set point during isolation.



☑ Measuring

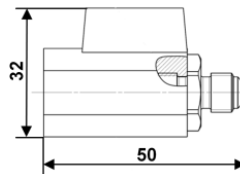
The valves must always be installed with a minimum of 10 pipe diameters of straight pipe, without intrusion, upstream. Downstream of the valve a minimum of 5 pipe diameters of straight pipe are required.



☑ Accessories and replacement parts

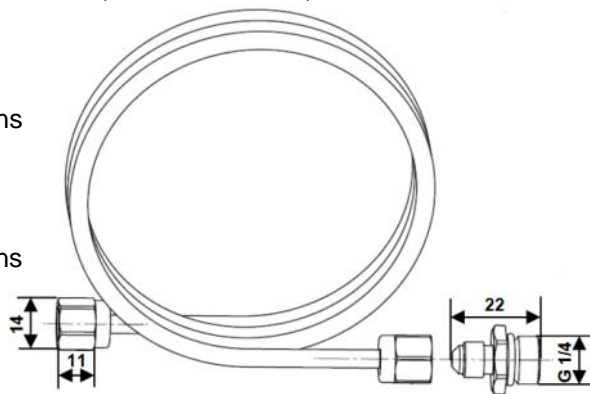
- | | |
|----------------------|--|
| 1 4017 xx | HERZ- Fixed orifice double regulating valves |
| 1 4117 xx | HERZ- STROMAX circuit control valves, Y-version |
| 1 4217 xx | HERZ- STROMAX circuit control valves, straight version |
| 1 4125 xx | HERZ shut-off valves, Y-version |
| 1 4115 xx | HERZ shut-off valves, Y-version |
| 1 4215 xx | HERZ shut-off valves, straight version plus variants with outside thread connections. Details can be found in the corresponding data sheets. |
| 1 4218 xx GMF | HERZ STROMAX circuit control valves, straight version, grey cast-iron body and brass upper parts |
| 1 4218 xx GF | HERZ STROMAX circuit control valves, straight version, grey cast-iron body |
| 1 4218 xx AGF | HERZ STROMAX circuit control valves, straight version, grey cast-iron body and brass upper parts |
| 1 6386 xx | Replacement upper parts for differential pressure controller |

- 1 **4007** 78
 ball valve for the control capillary connections
 Male thread x Female thread 1/8



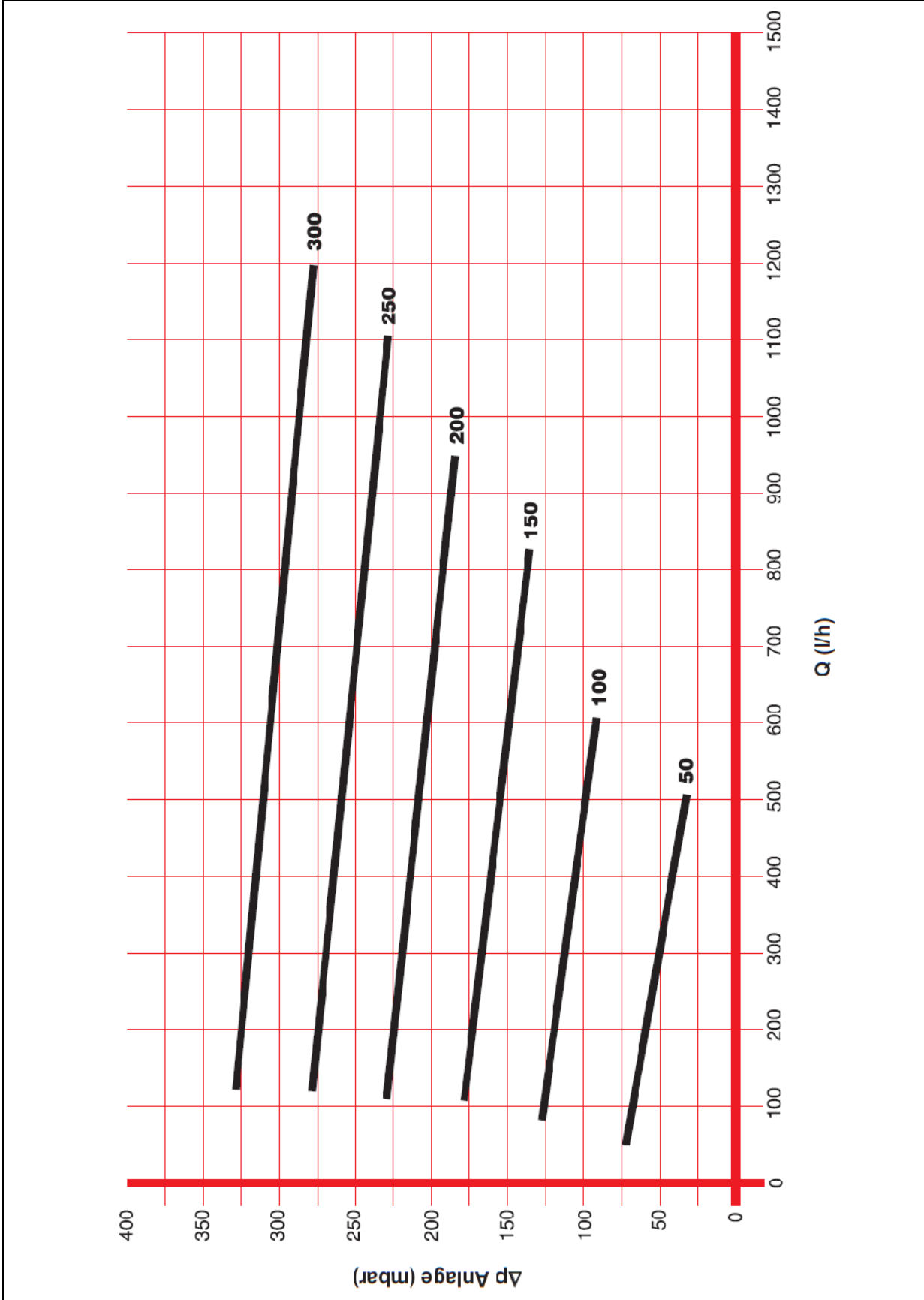
- 1 **4007** 79
 control capillary with connections
 G 1/4
 length 1,000 mm

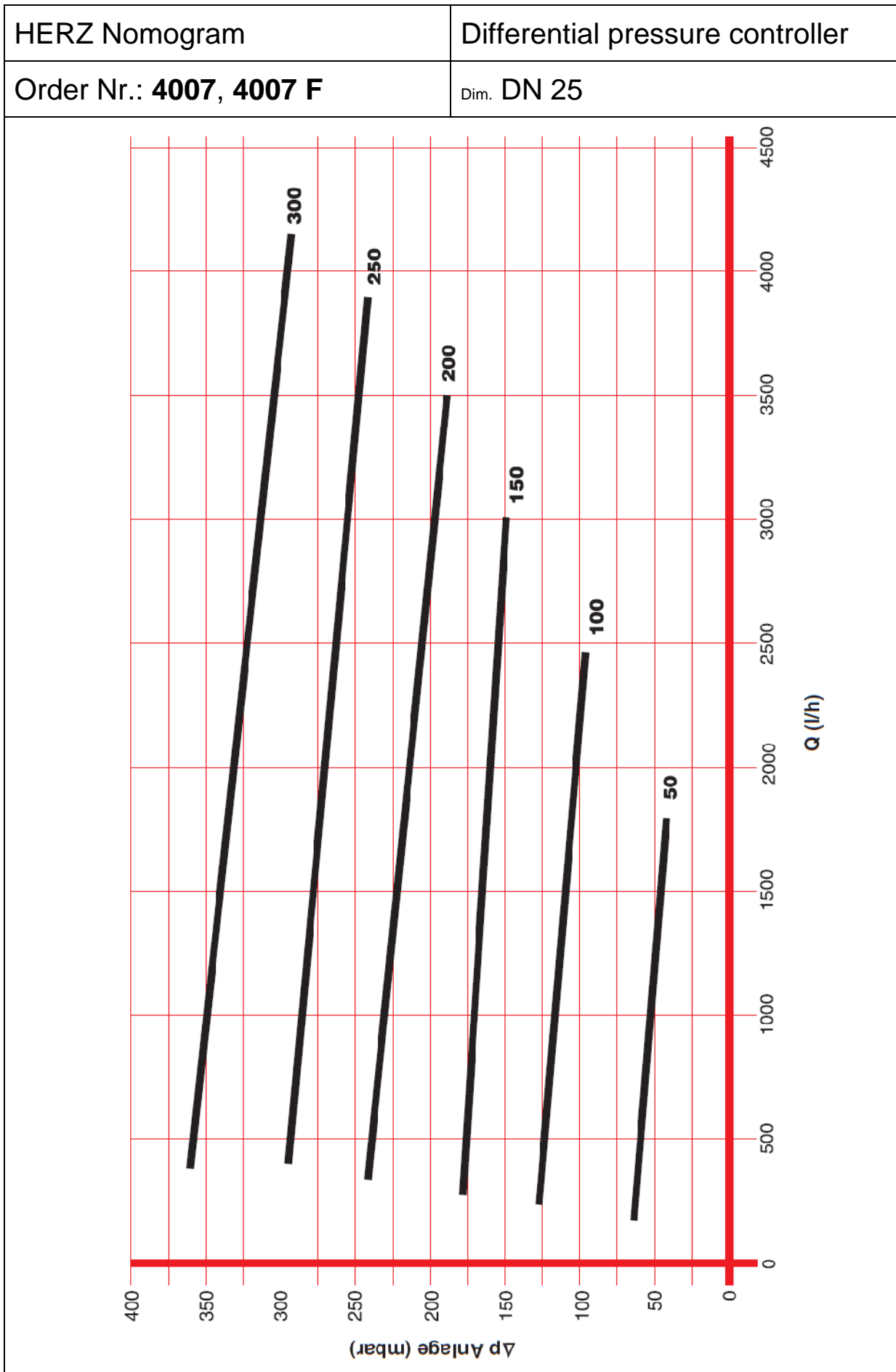
- 1 **4007** 80
 control capillary with connections
 G 1/4
 length 1,500 mm



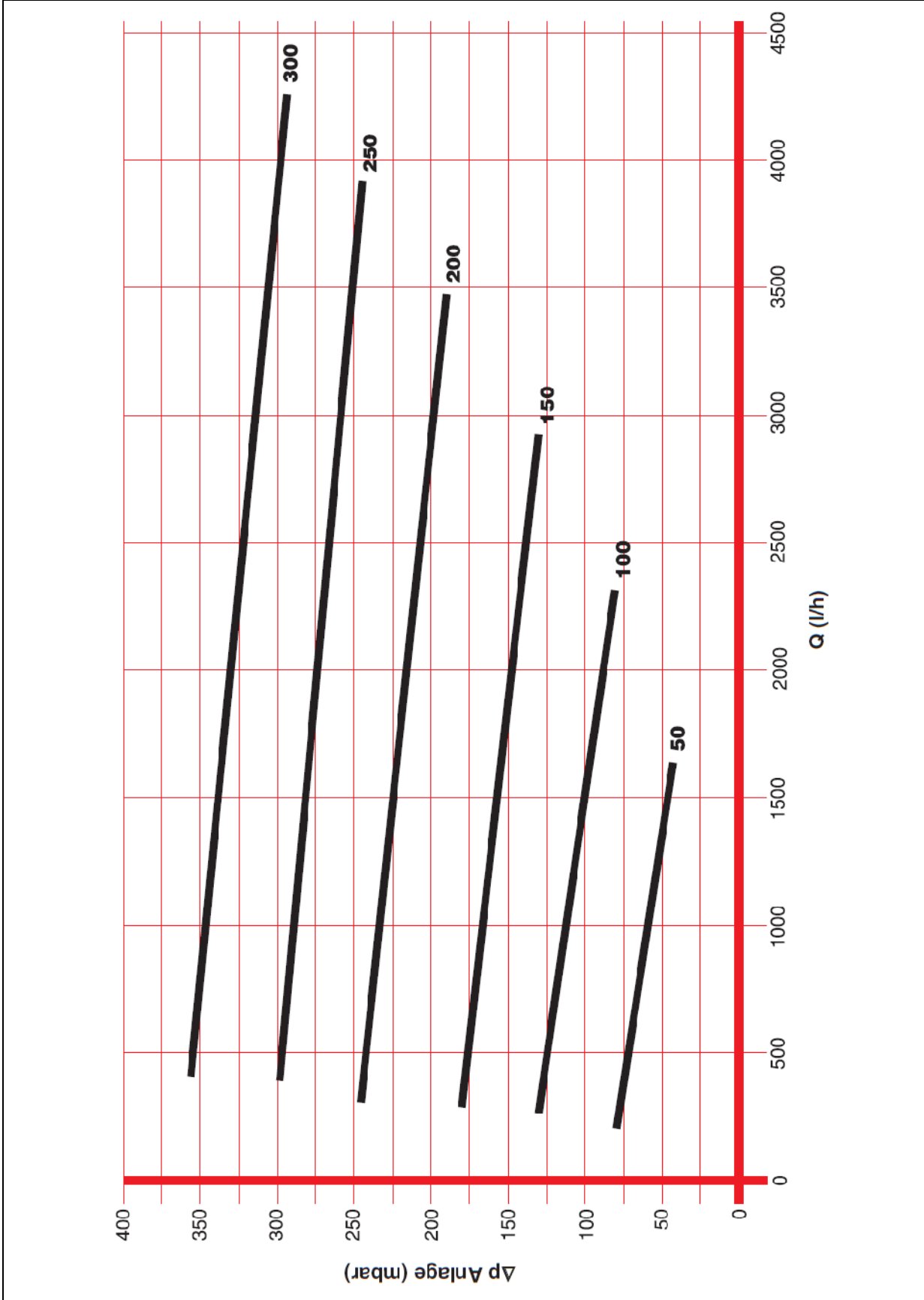
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HERZ Nomogram	Differential pressure controller
Order Nr.: 4007	Dim. DN 15, DN 20

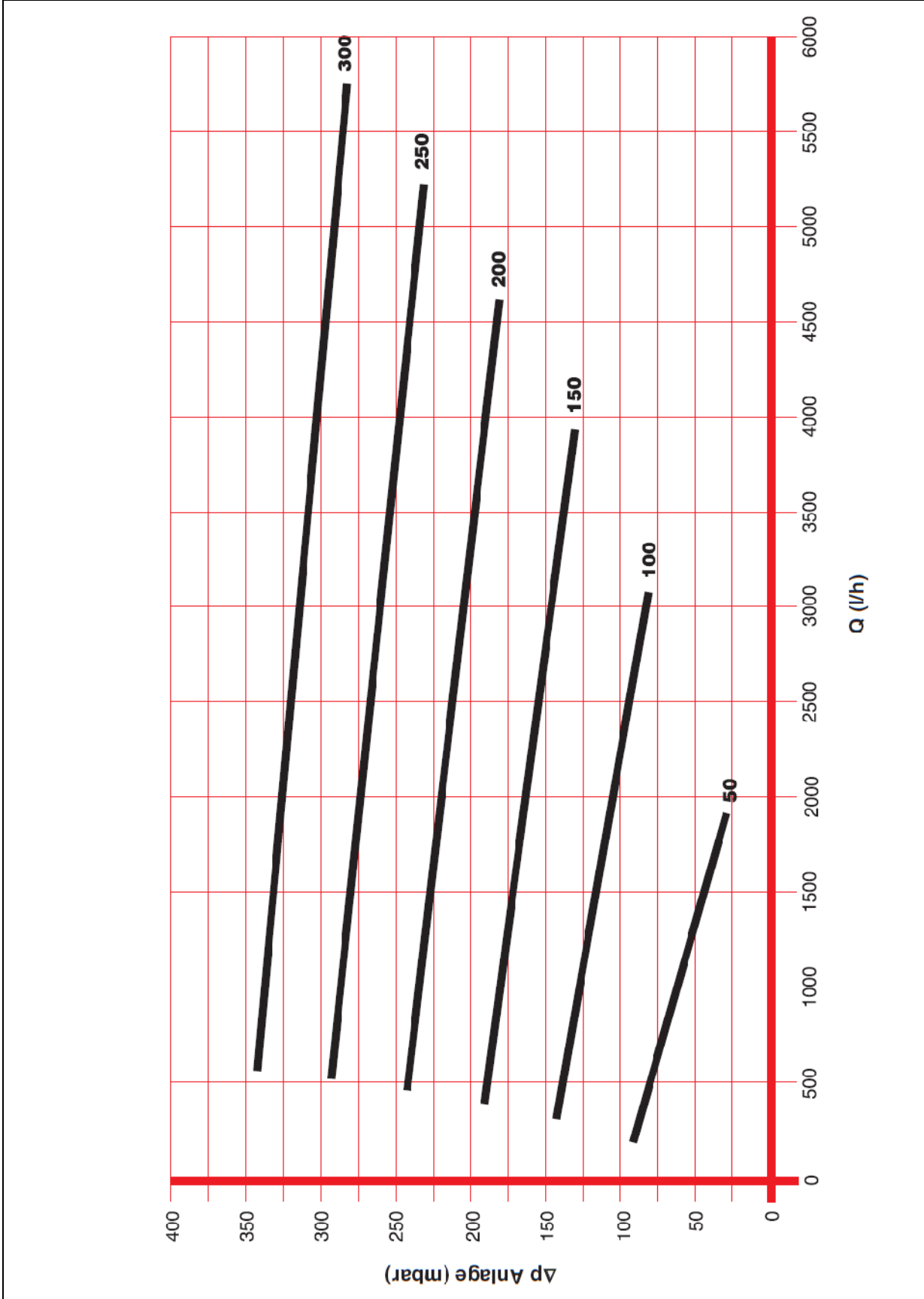




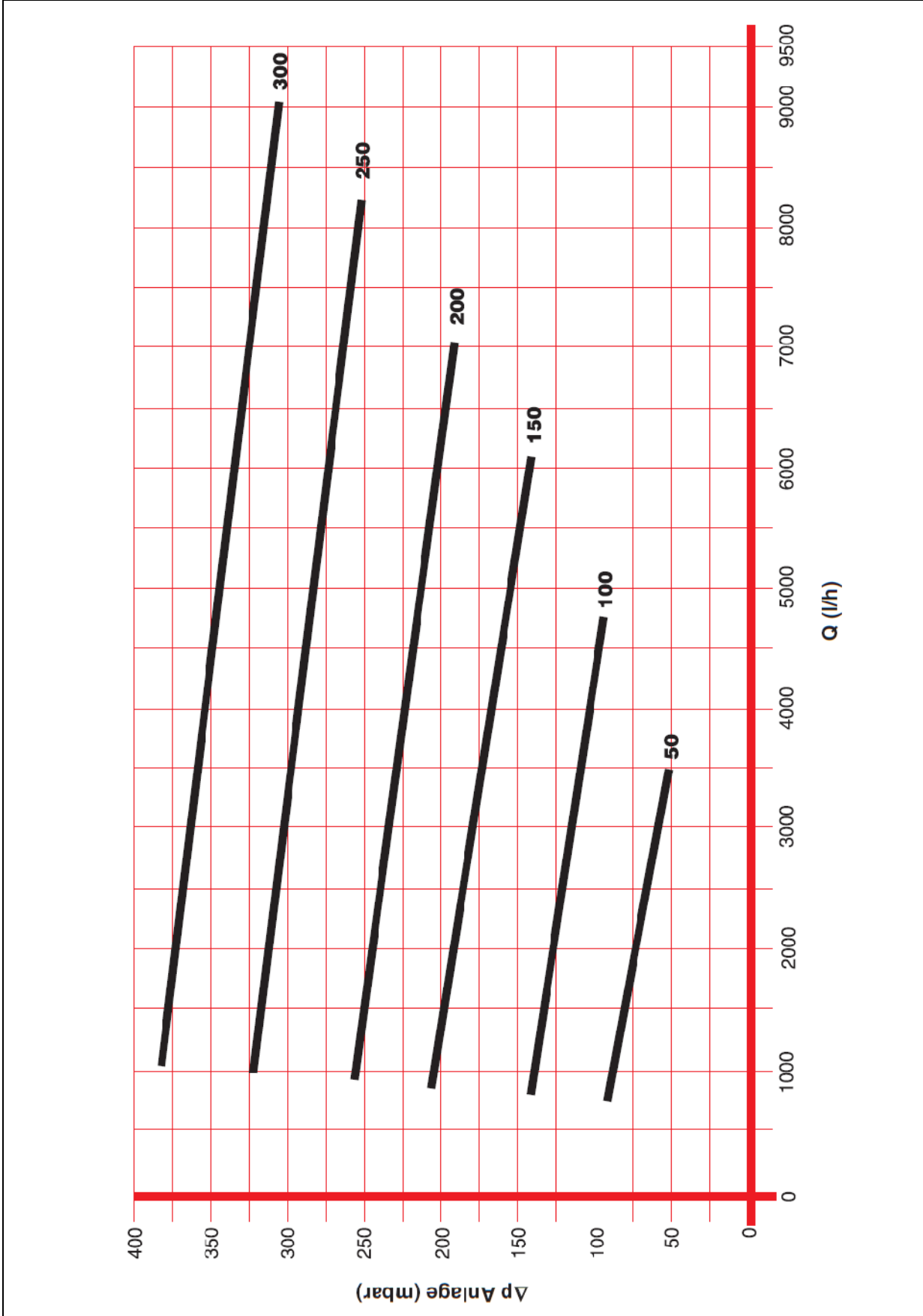
HERZ Nomogram	Differential pressure controller
Order Nr.: 4007, 4007 F	Dim. DN 32



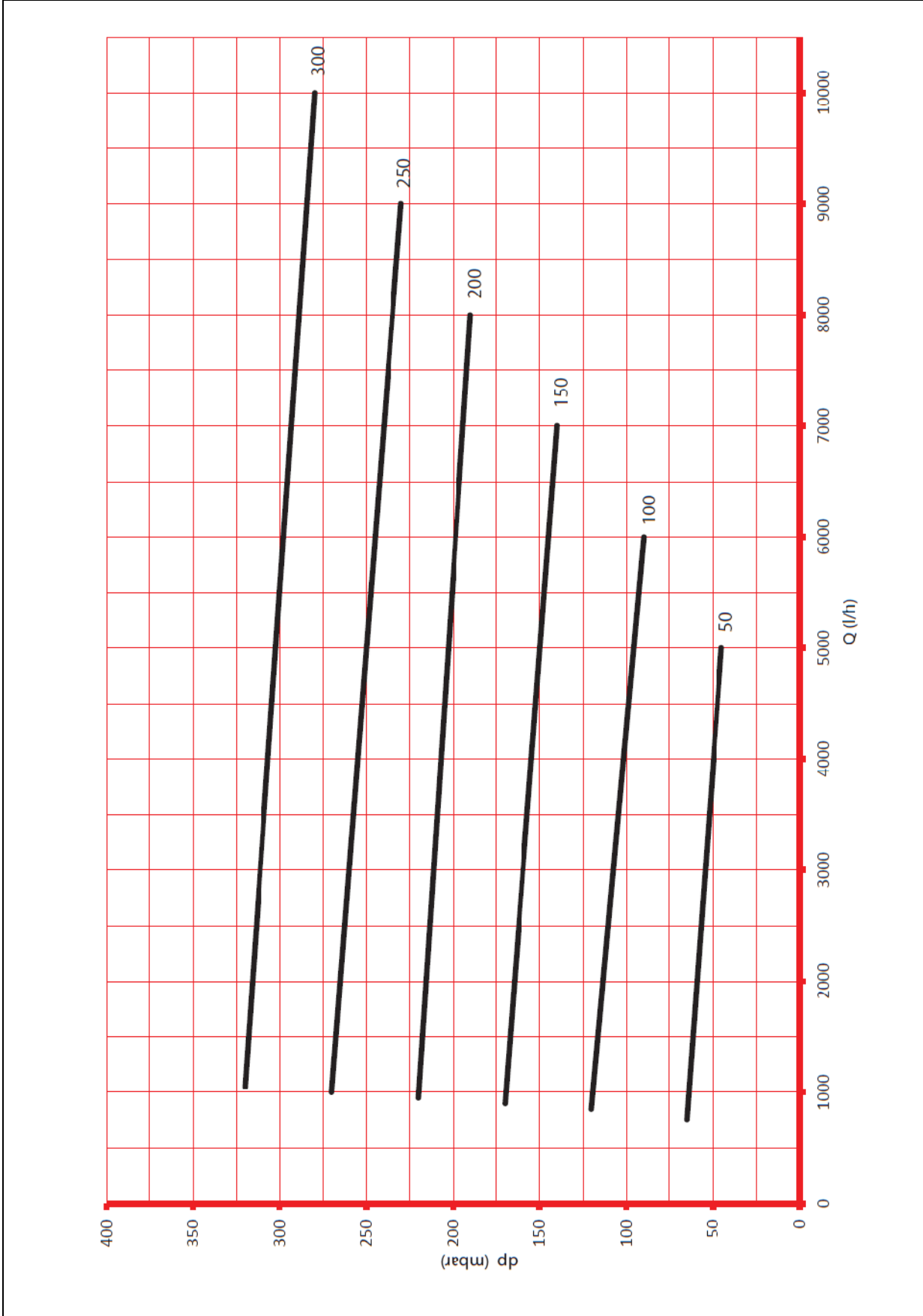
HERZ Nomogram	Differential pressure controller
Order Nr.: 4007, 4007 F	Dim. DN 40



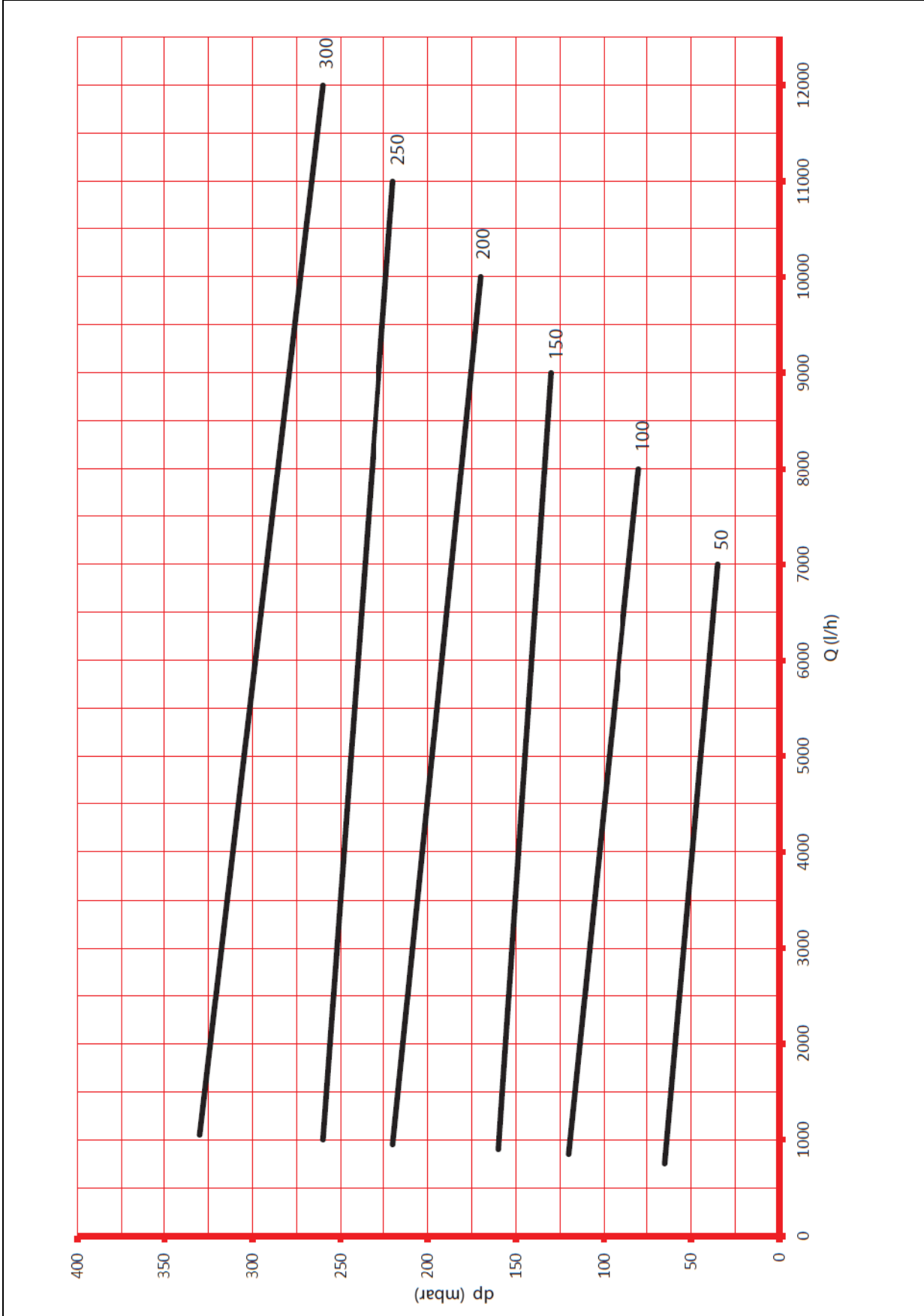
HERZ Nomogram	Differential pressure controller
Order Nr.: 4007, 4007 F	Dim. DN 50



HERZ Nomogram	Differential pressure controller
Order Nr.: 4007, 4007 F	Dim. DN 65



HERZ Nomogram	Differential pressure controller
Order Nr.: 4007, 4007 F	Dim. DN 80



Example

desired differential pressure

200 mbar

Flow rate

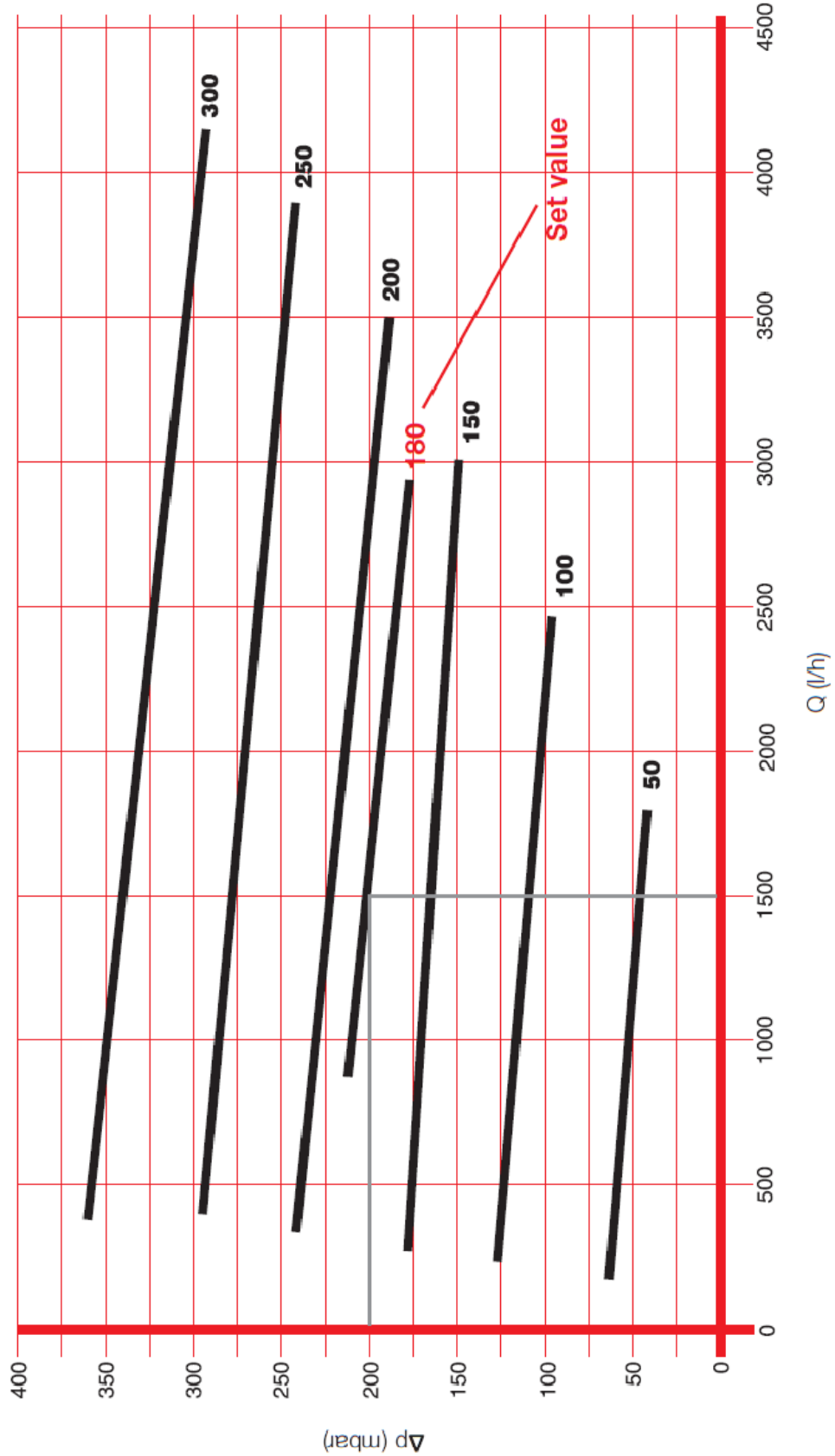
1500 l/h

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Adjustment value on scale 180

Adjustment value of the scale and equipment differential pressure are congruent for an amount of water.

Diagram 1 4007 ..

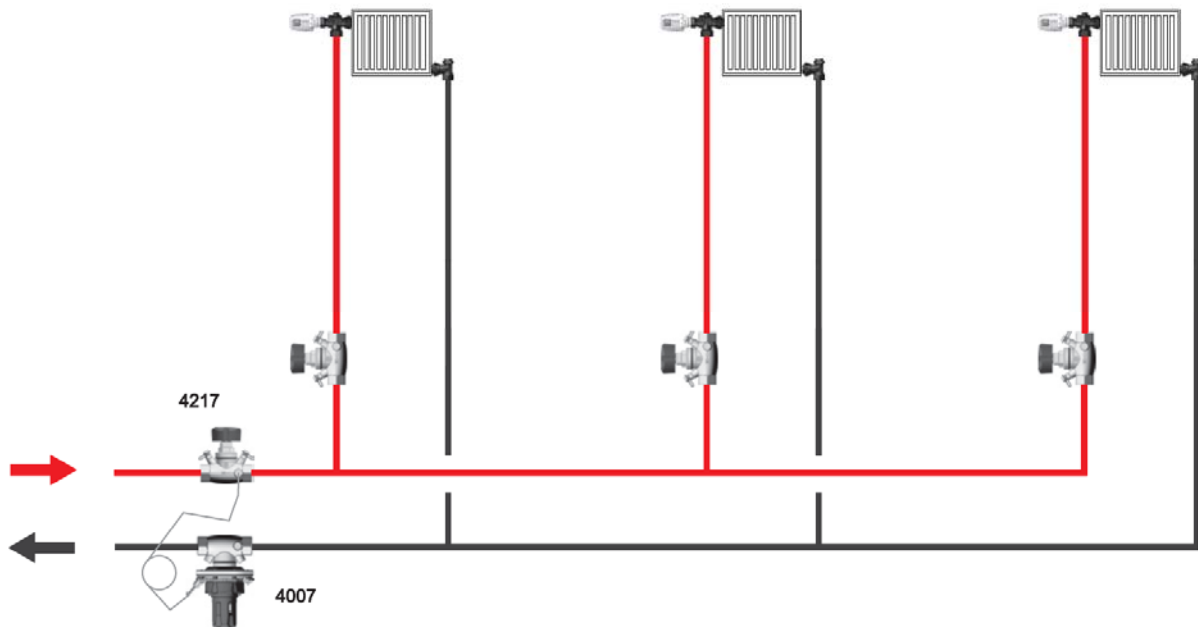


Application examples

Example 1

Keeping the differential pressure constant in the main branch

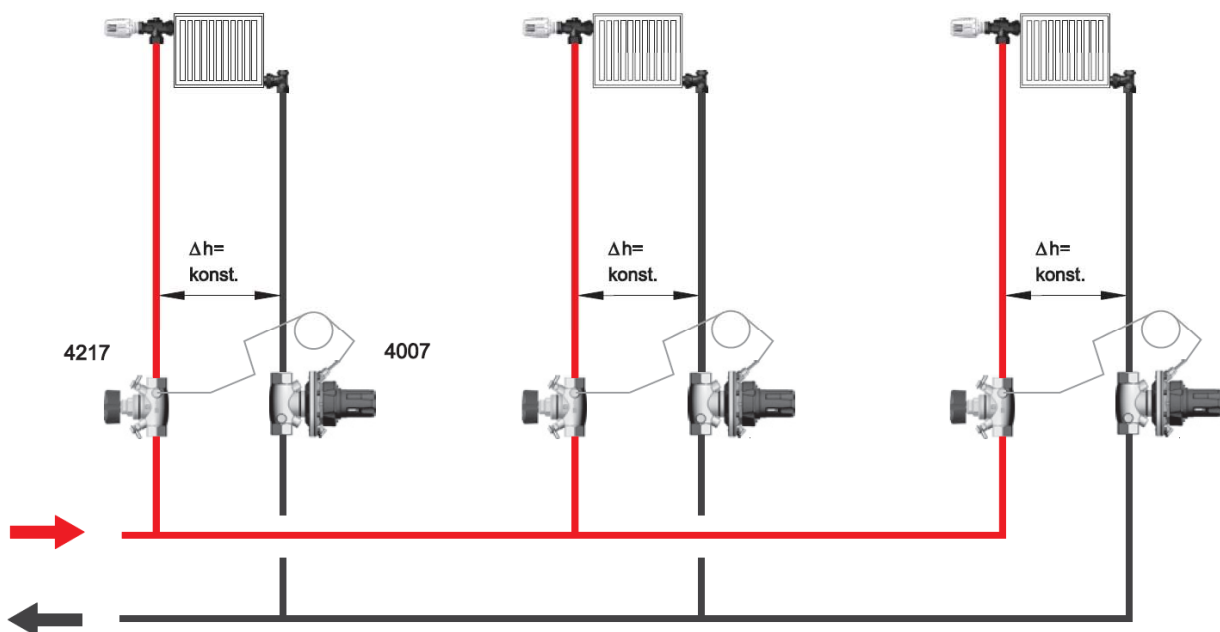
The 4007 differential pressure controller keeps the differential pressure in the supply pipe constant for the consumer. By using circuit control valves 4217 (or 4117- angle design) in the consumer supply pipe, the flow will be limited and the amounts of water can be controlled and measured.



Example 2

Keeping the differential pressure constant in the sub-branch

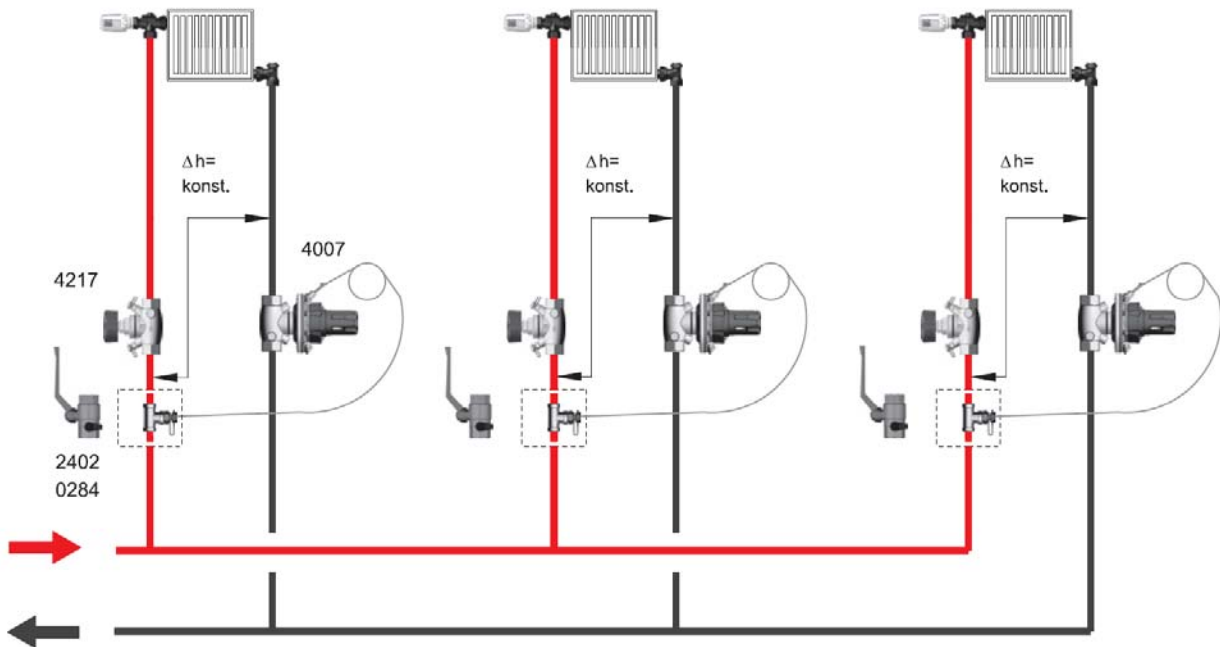
In equipment with pre-settable (thermostatic) valves the differential pressure is maintained constant despite the fluctuation in flowrate resulting from the TRV's opening and closing. Circuit control valves 4217 (or 4117) are used as partnering valves and for measuring.



Example 2a

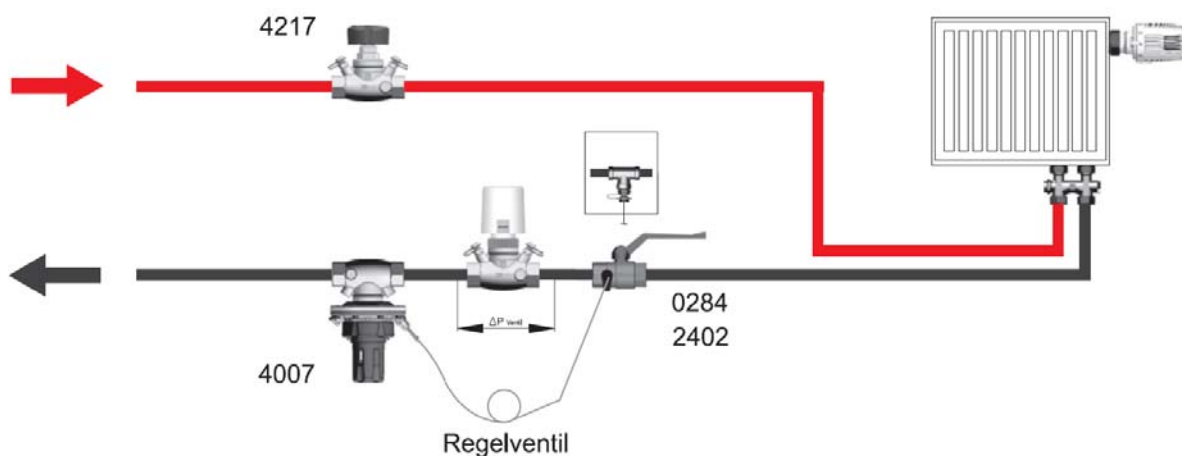
Use in equipment with non-balanced consumers

In systems that are not pre-set, the inflow is adjusted by the circuit control valve, 4217 (or 4017) and is measured using the measuring computer. The differential pressure is kept constant in the area displayed. This circuit has no effect on water distribution between the individual consumers. The capillary is installed on a test point (0284) for this purpose or on the drain plug of a ball valve (2402).


Example 3

Maintaining a constant differential pressure using a control valve

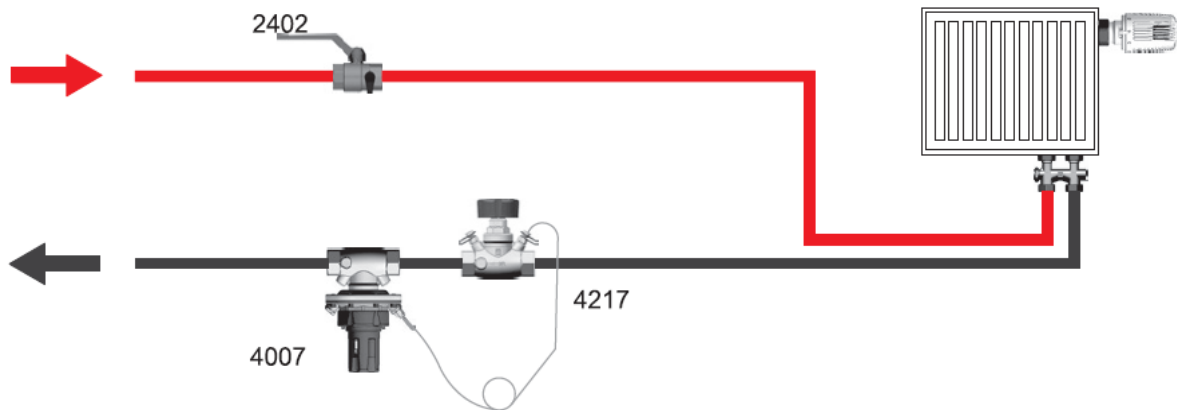
On equipment with large load fluctuations, the differential pressure can be kept constant with this setup using a control valve. This allows a valve authority of around 1 to be achieved. The nominal flow rate is generated from the drop in pressure in the control valve and the differential pressure set. With the measuring computer, 8903 (or 8900) measurements can be made via the circuit control valve, 4217 (or 4117). The capillary is installed on a test point for this purpose (0284) or to the drain plug of a ball valve (2402).



Example 4

Maintaining a constant volume flow

In equipment where a constant volume flow is required, the 4007 differential pressure controller can be combined with a circuit control valve, 4217 (or 4117). A defined drop in pressure occurs via the valve, which the controller tries to keep constant.

**Note:**

All drawings are symbolic in nature and do not claim to be complete

Ready-made modules can also be used for the circuit connection. These are pre-installed and contain isolation valves, drain valves, test points and a DP controller

1 4500 13	DN 25
1 4500 15	DN 40
1 4500 16	DN 50

Position	Bezeichnung
1	Ball valve
2	DP-Controller
3	Drain
4	Strainer
5	Test point

