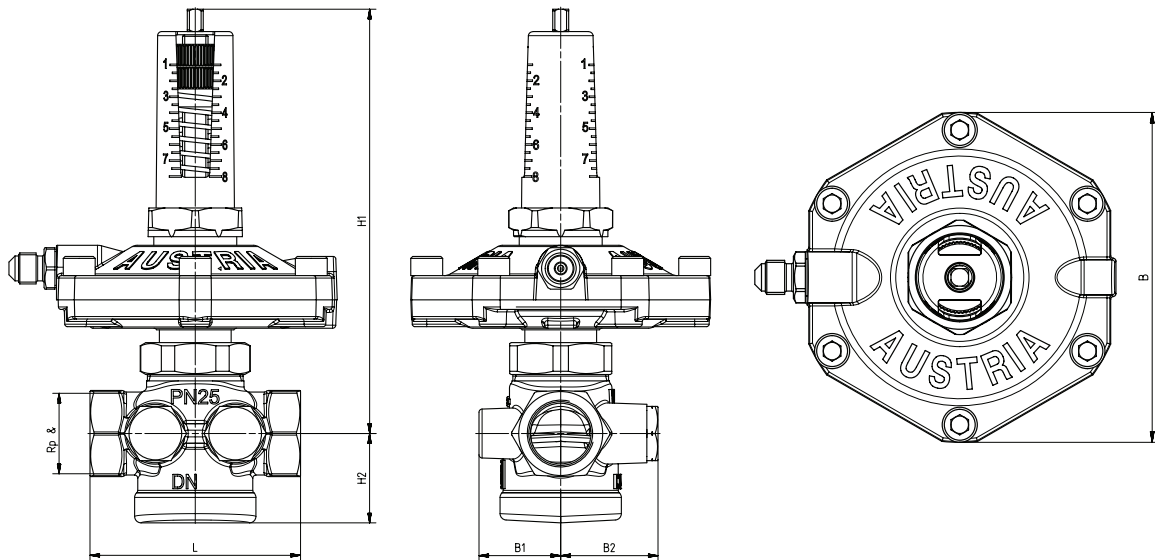


HERZ Differential pressure controller with adjustable setpoint (5-30 kPa; 25-60 kPa)

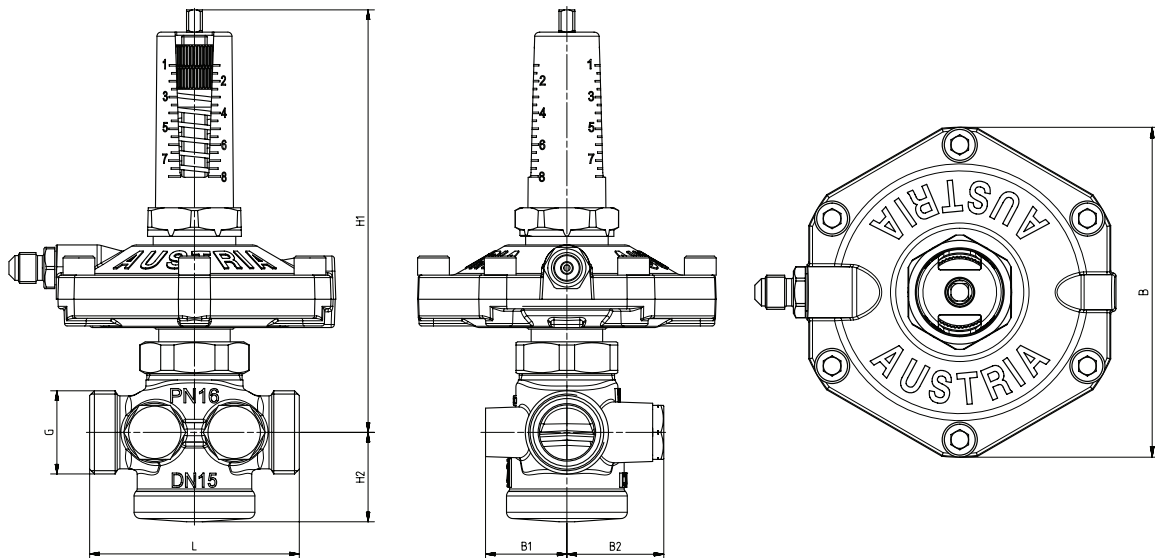
Data sheet 4002, Issue 0122

☑ Dimensions in mm

1 4202 XX



1 4002 XX



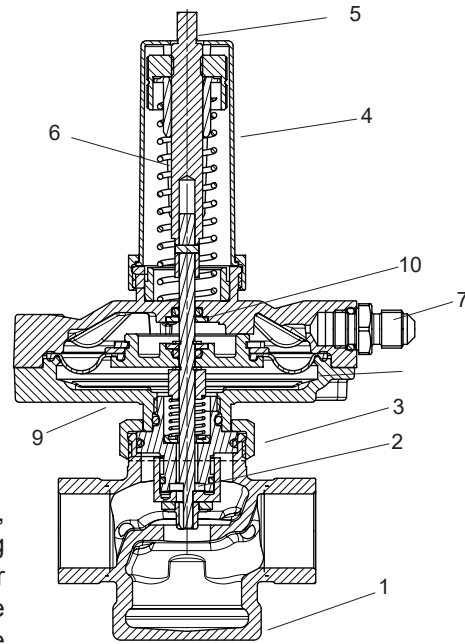
dP	DN	Item	Thread, in	L, mm	H1, mm	H2, mm	B, mm	B1, mm	B2, mm	
5-30 kPa	DN15	1 4002 41	MT	3/4 G	66	133	28	94	26	31
	DN20	1 4002 42		1 G	76	134	29	94	28	33
	DN25	1 4002 43		5/4 flat sealing	76	134	29	94	28	33
	DN32	1 4002 44		1 1/2 flat sealing	114	150	47	94	32	32
	DN40	1 4002 45		1 3/4 flat sealing	132	160	58	94	41	41
	DN50	1 4002 46		2 3/8 flat sealing	140	160	58	94	41	41
25-60 kPa	DN15	1 4002 61	MT	3/4 G	66	133	28	94	26	31
	DN20	1 4002 62		1 G	76	134	29	94	28	33
	DN25	1 4002 63		5/4 flat sealing	76	134	29	94	28	33
	DN32	1 4002 64		1 1/2 flat sealing	114	150	47	94	32	32
	DN40	1 4002 65		1 3/4 flat sealing	132	160	58	94	41	41
	DN50	1 4002 66		2 3/8 flat sealing	140	160	58	94	41	41
5-30 kPa	DN15	1 4202 41	FT	1/2	66	133	28	94	26	31
	DN20	1 4202 42		3/4	76	134	29	94	28	33
	DN25	1 4202 43		1	90	134	29	94	28	33
	DN32	1 4202 44		5/4	114	150	46	94	32	32
	DN40	1 4202 45		1 1/2	132	160	57	94	41	41
	DN50	1 4202 46		2	140	160	57	94	41	41
25-60 kPa	DN15	1 4202 61	FT	1/2	66	133	28	94	26	31
	DN20	1 4202 62		3/4	76	134	29	94	28	33
	DN25	1 4202 63		1	90	134	29	94	28	33
	DN32	1 4202 64		5/4	114	150	46	94	32	32
	DN40	1 4202 65		1 1/2	132	160	57	94	41	41
	DN50	1 4202 66		2	140	160	57	94	41	41

☑ Technical Data

	DN15	DN20	DN25	DN32	DN40	DN50
k_{vs} value	2,66	4,36	5,38	9,48	14,95	14,95
Operating pressure	max. 16 bar (4002) max. 25 bar (4202)					
Max. operating pressure on the body	4 bar					
Min. operating temperature	2 °C (water); - 20 °C (frost protection)					
Max. permissible operating temperature	up to DN32: 130 °C DN40 - DN50: 110 °C					
Control set (see table above)	5 - 30 kPa 25 - 60 kPa					
Water quality	according to ÖNORM H 5195 and VDI 2035 The use of ethylene glycol and propylene glycol is permitted in a mixing ratio of 25 - 50% by volume.					

Material

No	Description	Material
1	Body	DZR Brass
2	Valve stem	Stainless steel 14301
3	Connection nut	Brass
4	Indicator sleeve	Plastic (red)
5	Adjusting spindle	Brass
6	Compression spring	Spring steel 14310 NS
7	Connection point	Brass
8	Membrane	EPDM
9	Membrane body	Brass
10	O-Ring	EPDM



Ammonia contained in hemp damages brass valve housings, EPDM seals are swollen by mineral oils or lubricants containing mineral oils and thus lead to failure of the EPDM seals. For antifreeze and corrosion protection agents based on ethylene glycol and propylene glycol, the relevant information can be found in the manufacturer's documents.

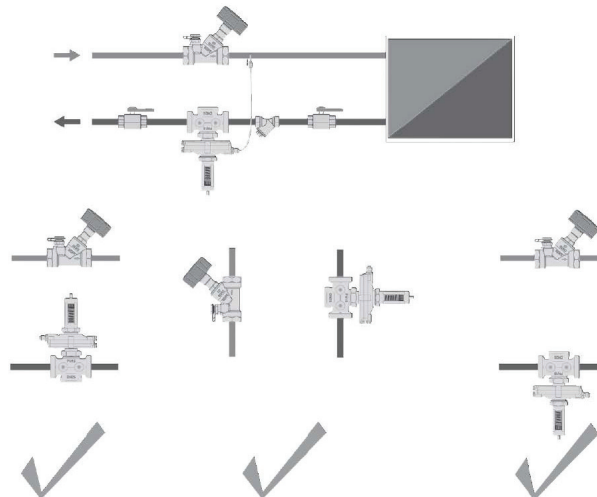
Pursuant to Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1% (w/w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an alloy, actual exposure is not expected and therefore no additional information on safe use is necessary.

Field of application

The Differential pressure controller is a straight-version linear controller and works without auxiliary power. The desired differential pressure setpoint can be adjusted between 5 and 30 kPa; 25 and 60 kPa. The set value can be read off using the setting diagram. The setpoint is set to minimum at the factory. The required setpoint is set with the pre-setting key (1 4006 02). A capillary (1000 mm) is included and should be connected to the regulating valve in the flow.

Installation

The valve is fitted in the return in any position. The arrow on the valve body should align with the direction of flow. It is recommended that an isolation valve is fitted both upstream and downstream of the differential pressure controller.



Function description

The differential pressure controllers are used to stabilize the differential pressure in heating and cooling circuits, which ensures that the heating consumer is independent of dynamic fluctuations in the riser.

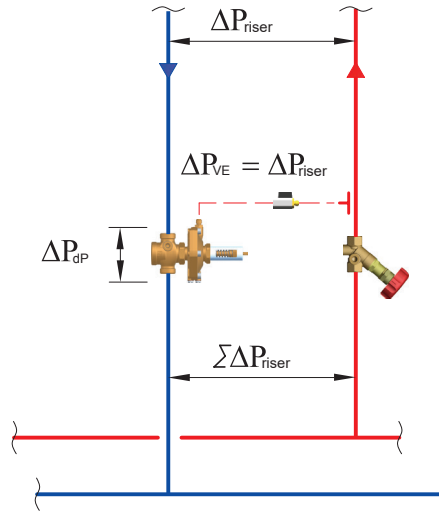
For the presetting of the differential pressure controller, the pressure loss ΔP of the riser (of the branch, of the system) is used.

The total pressure loss of the riser $\Sigma\Delta P_{riser}$ [kPa] is calculated using the following formula:

$$\Sigma\Delta P_{riser} = \Delta P_{riser} + \Delta P_{dp}$$

in which:

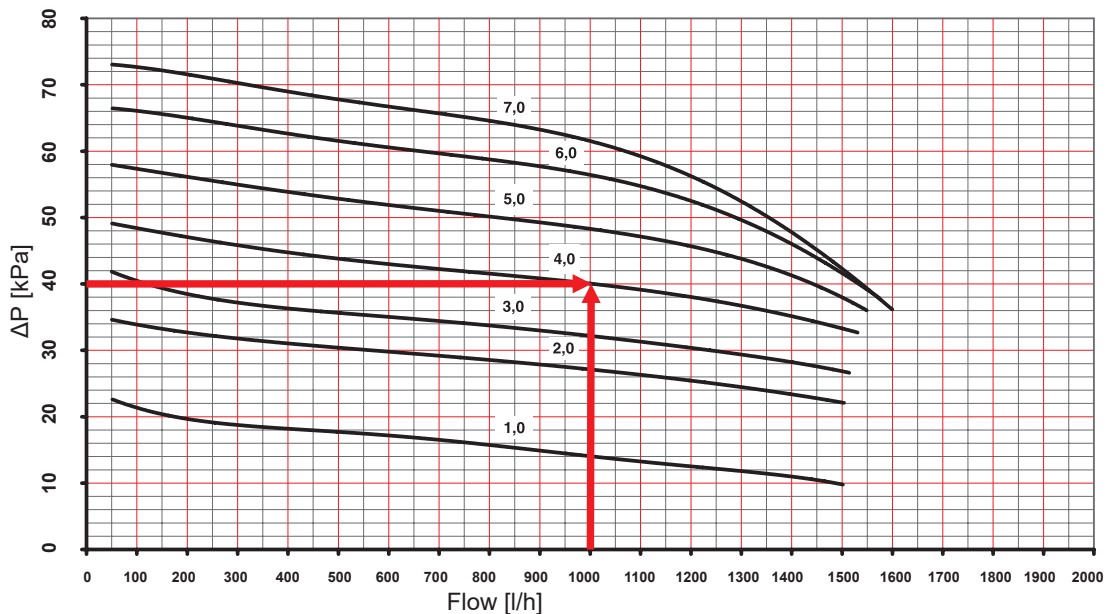
ΔP_{dp} - pressure loss of the DP controller. A minimum ΔP_{dp} of 10 kPa is recommended for optimal function.



Setting

The controller is set to minimum at the factory. The setting is made by turning the knurled nut. The differential pressure controller can be set in any position. The respective setting of the controller is clearly displayed.

Example: Desired differential pressure $\Delta P_{riser} = 40$ kPa (400 mbar)
 Flow rate 1000 l / h.
 Setting value on scale 4



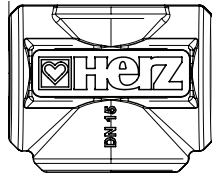
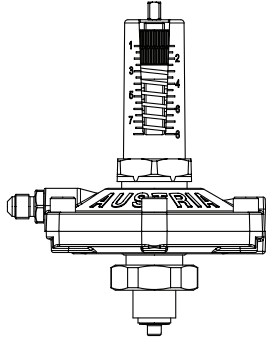

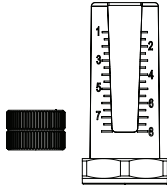
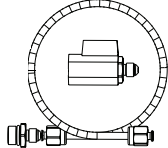
☑ Warning notices

The valves must be installed for the correct application using clean fittings. A HERZ strainer (4111) should be fitted to prevent impurities.

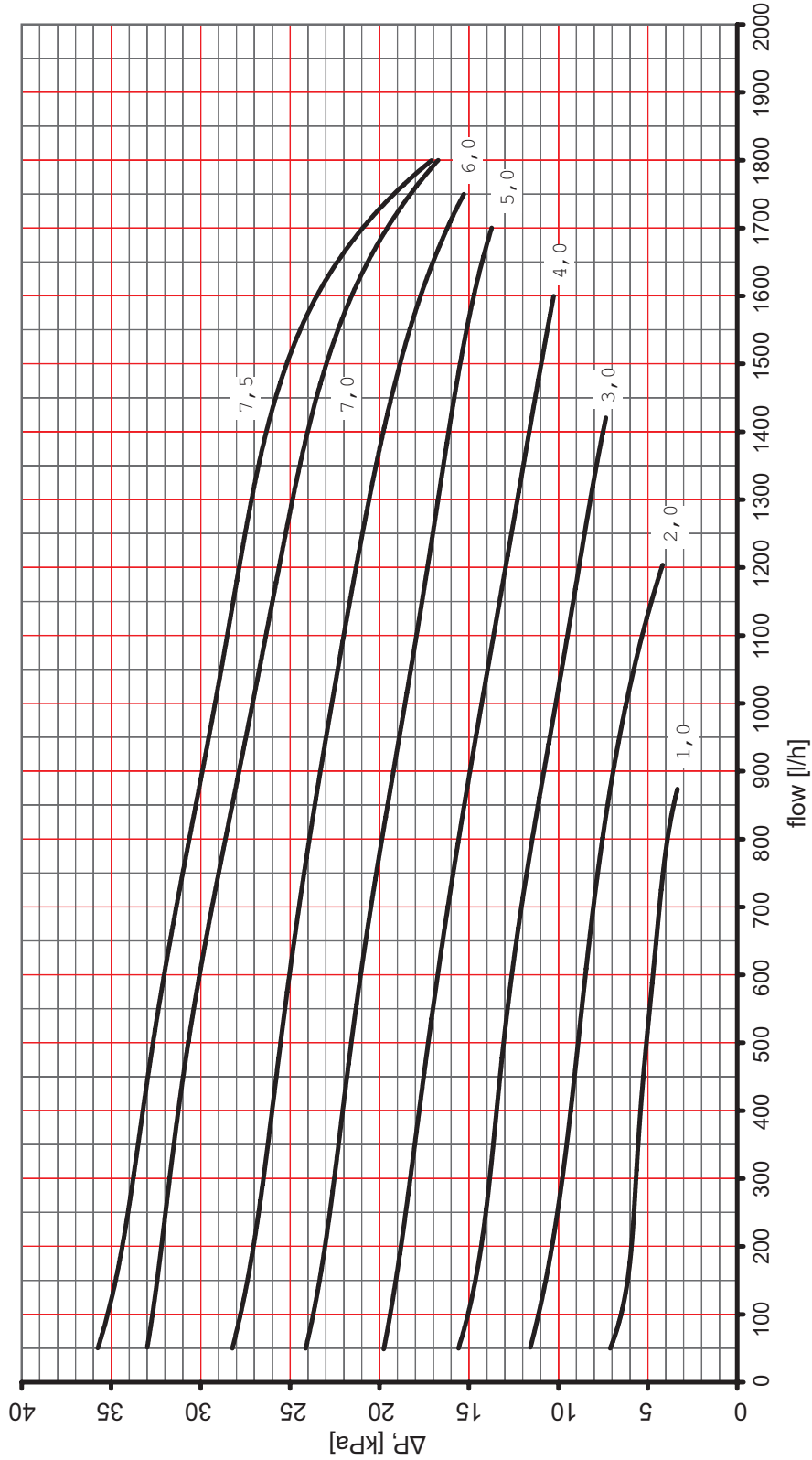
☑ Test points

Two test points are fitted next to each other. This arrangement ensures the best accessibility and optimal connection of measuring devices in all installation positions.

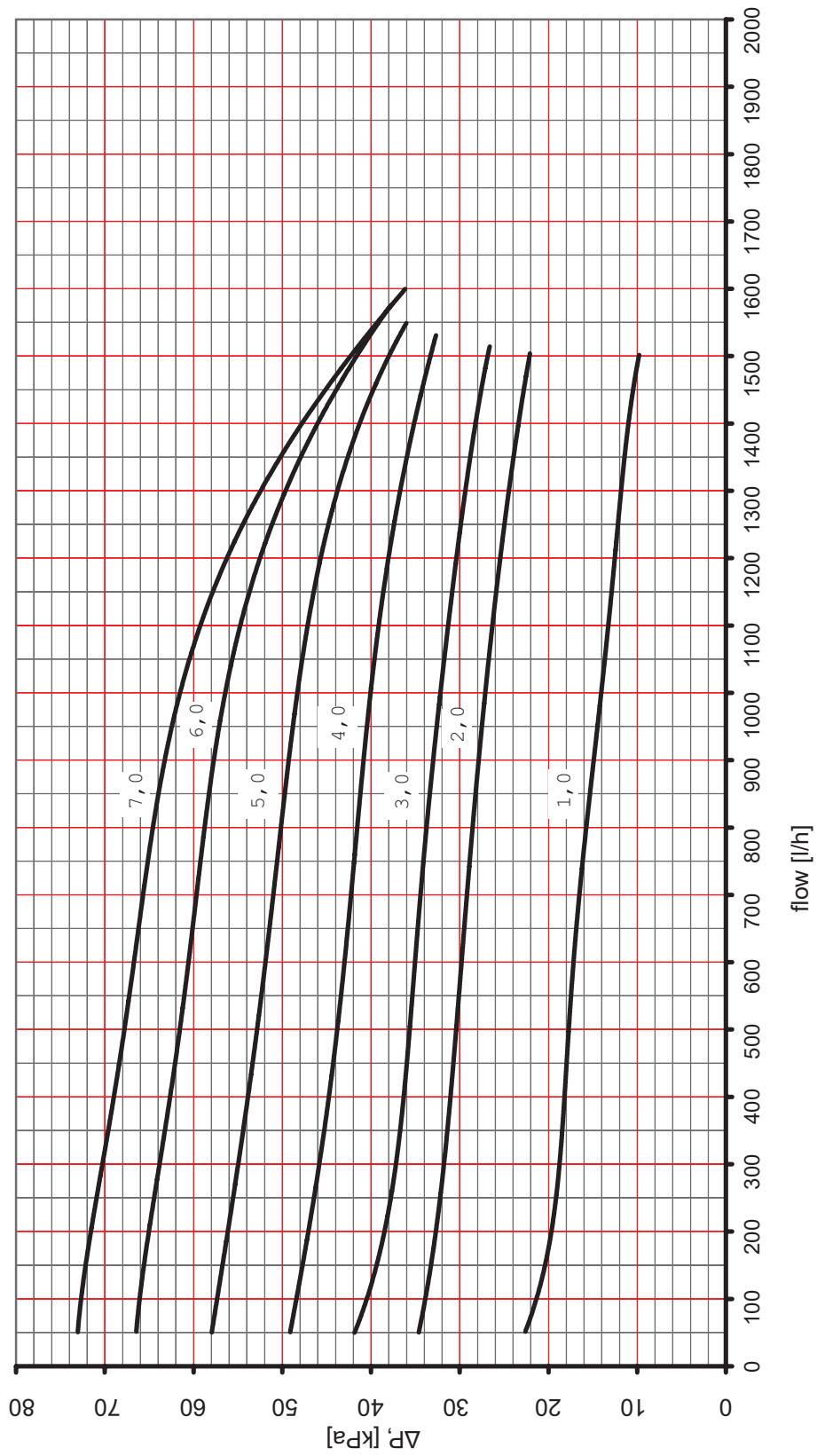
☑ Accessories and spare parts

Item	Dim.	Description	Image
1 4096 11	DN15	Insulation shells EPP (expanded polypropylene), color anthracite / black or silver-gray, B2 according to DIN 4102 and E according to DIN EN 13501-1, density approx. 45 kg/m ³ , integrated geometric lock. For the differential pressure controller 4002/4202.	
1 4096 12	DN20		
1 4096 13	DN25		
1 4096 14	DN32		
1 4096 15	DN40		
1 4096 16	DN50		
1 6386 91	-	Replacement upper part 1 4X02 41	
1 6386 92	-	Replacement upper part 1 4X02 42	
1 6386 93	-	Replacement upper part 1 4X02 43	
1 6386 94	-	Replacement upper part 1 4X02 44	
1 6386 95	-	Replacement upper part 1 4X02 45- 46	
1 6386 96	-	Replacement upper part 1 4X02 61	
1 6386 97	-	Replacement upper part 1 4X02 62	
1 6386 98	-	Replacement upper part 1 4X02 63	
1 6386 99	-	Replacement upper part 1 4X02 64	
1 6387 00	-	Replacement upper part 1 4X02 65 - 66	
1 4002 97	DN15–50	5–30 kPa Replacement string 4002 / 4202	
1 4002 98	DN15–50	25–60 kPa Replacement string 4002 / 4202	
1 4002 99	DN15–50	45–80 kPa Replacement string 4002 / 4202	
1 4002 10	DN15–50	Indicator sleeve for HERZ differential pressure controller 4002/4202	
1 4002 78	1,0 m	Capillary for differential pressure controller with ball valve 1/8 ".	

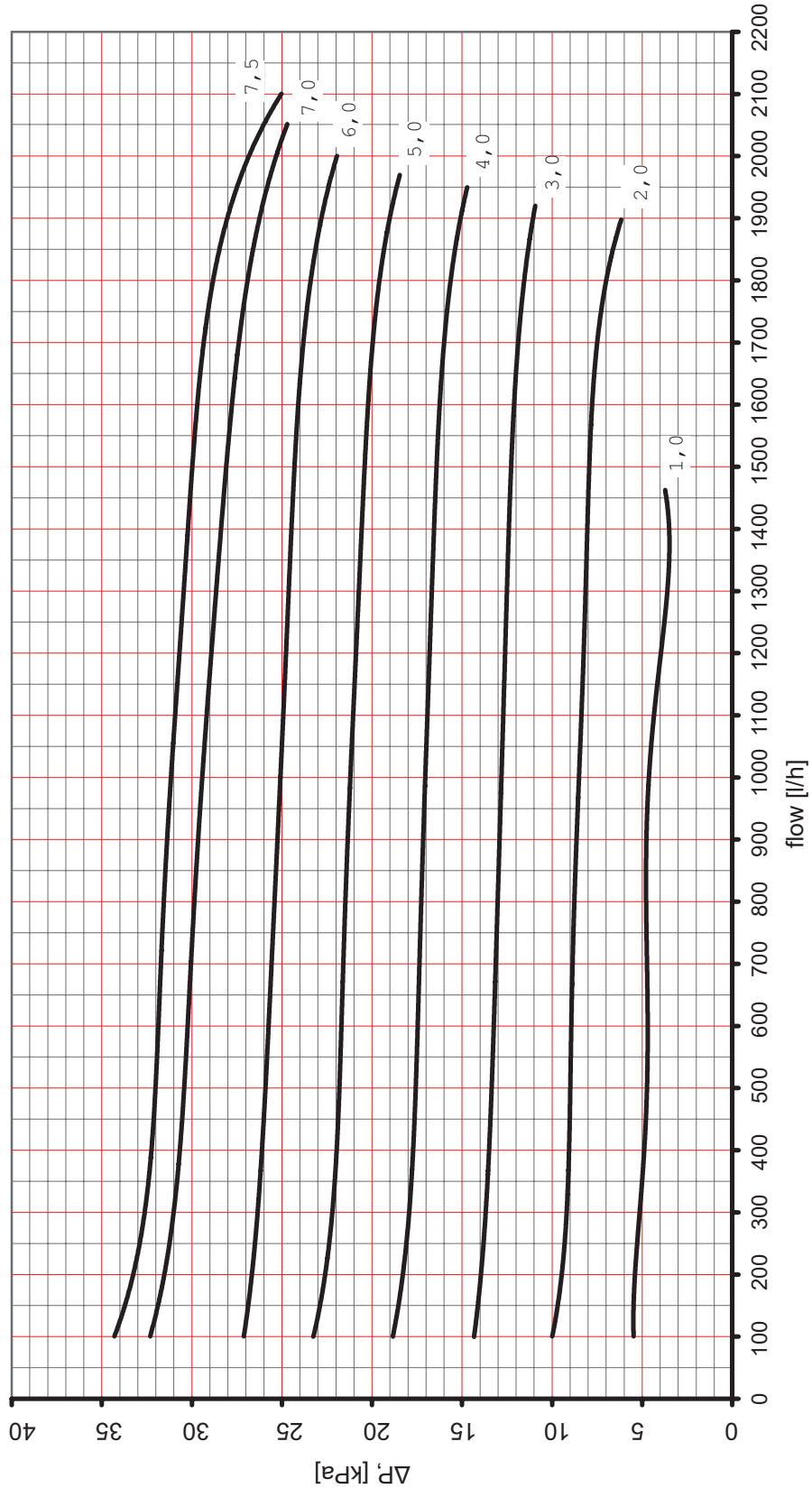
HERZ - Standard diagram	Differential pressure controller
1 4002 41 / 1 4202 41	Dim. DN 15 (5-30 kPa)

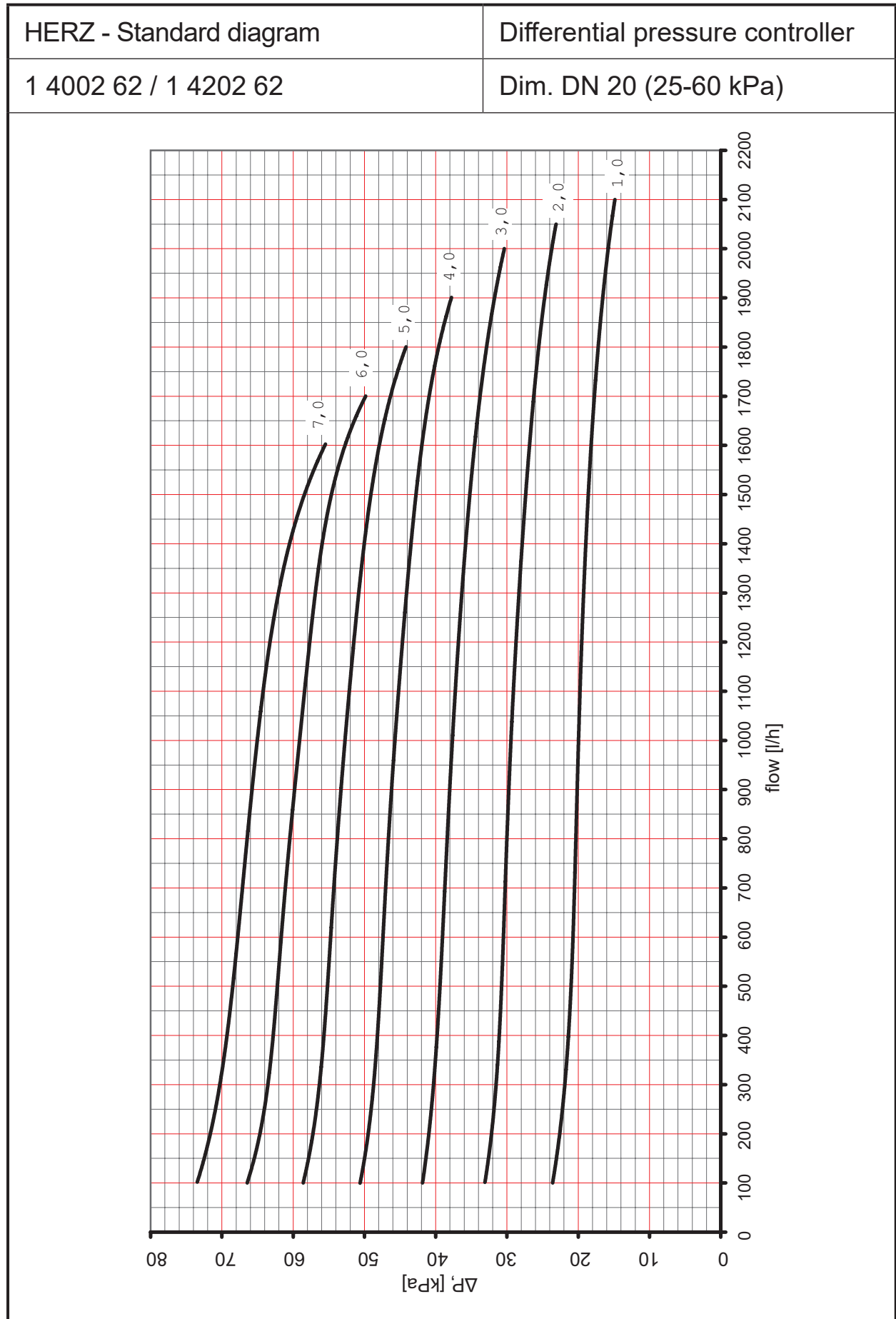


HERZ - Standard diagram	Differential pressure controller
1 4002 61 / 1 4202 61	Dim. DN 15 (25-60 kPa)

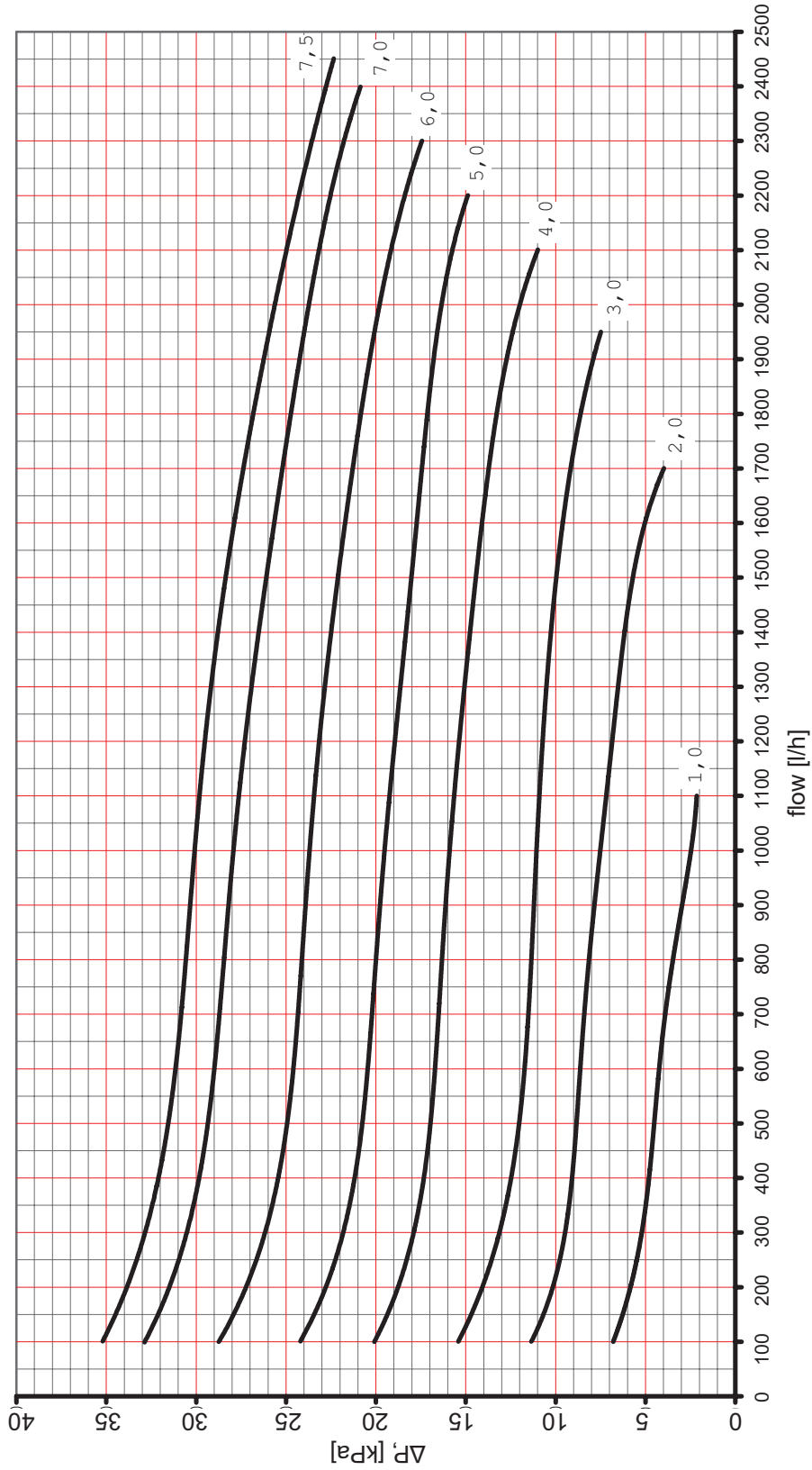


HERZ - Standard diagram	Differential pressure controller
1 4002 42 / 1 4202 42	Dim. DN 20 (5-30 kPa)

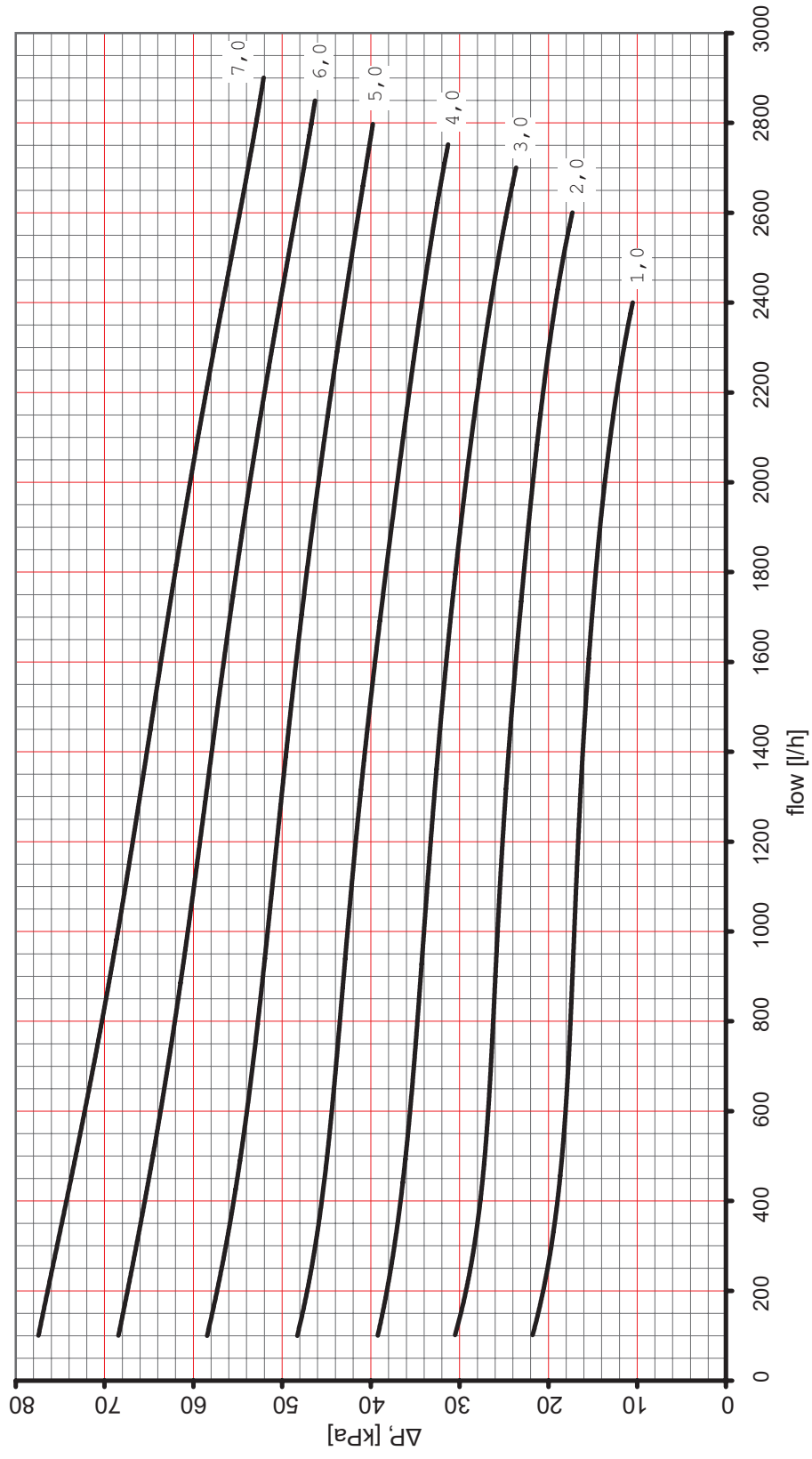




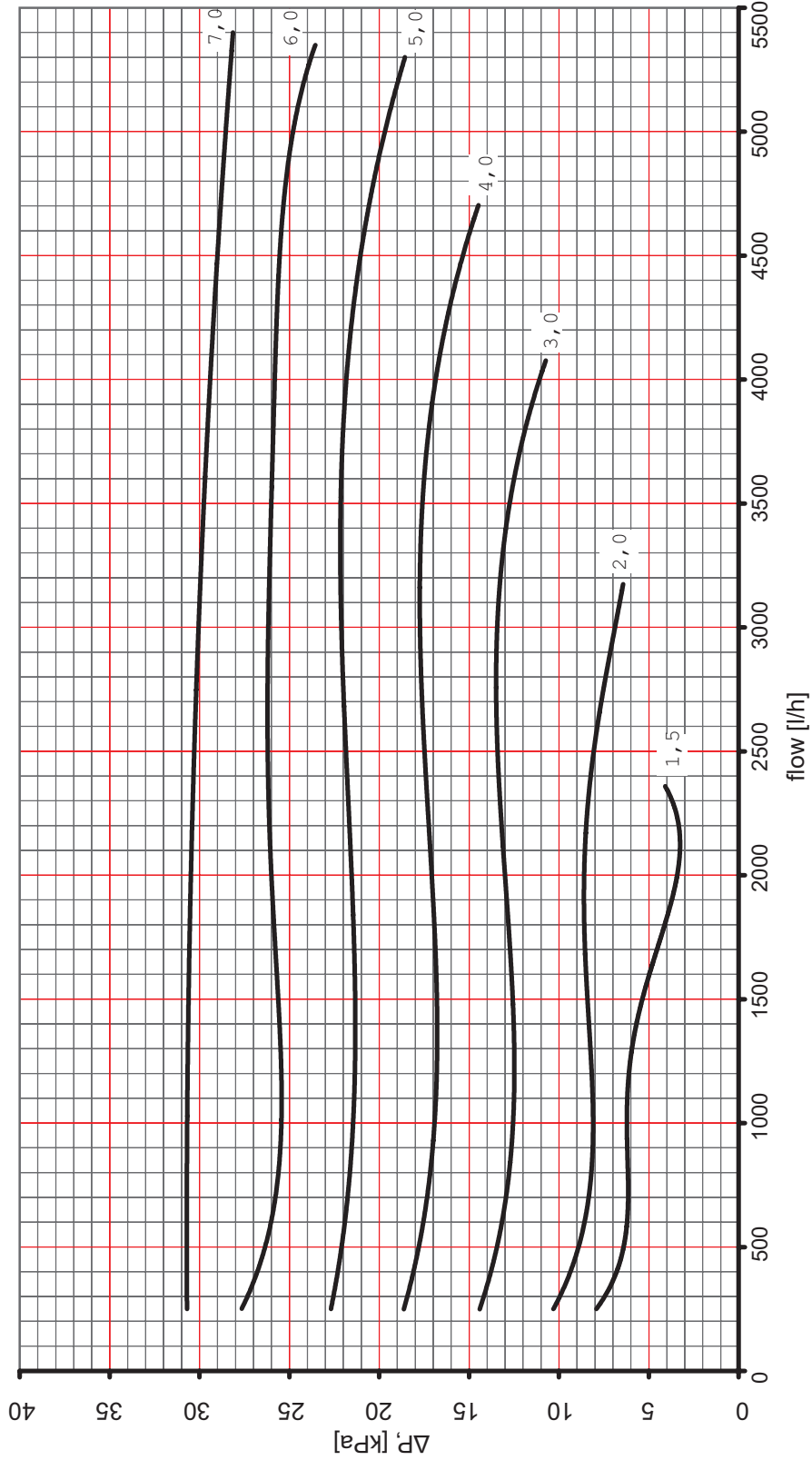
HERZ - Standard diagram	Differential pressure controller
1 4002 43 / 1 4202 43	Dim. DN 25 (5-30 kPa)



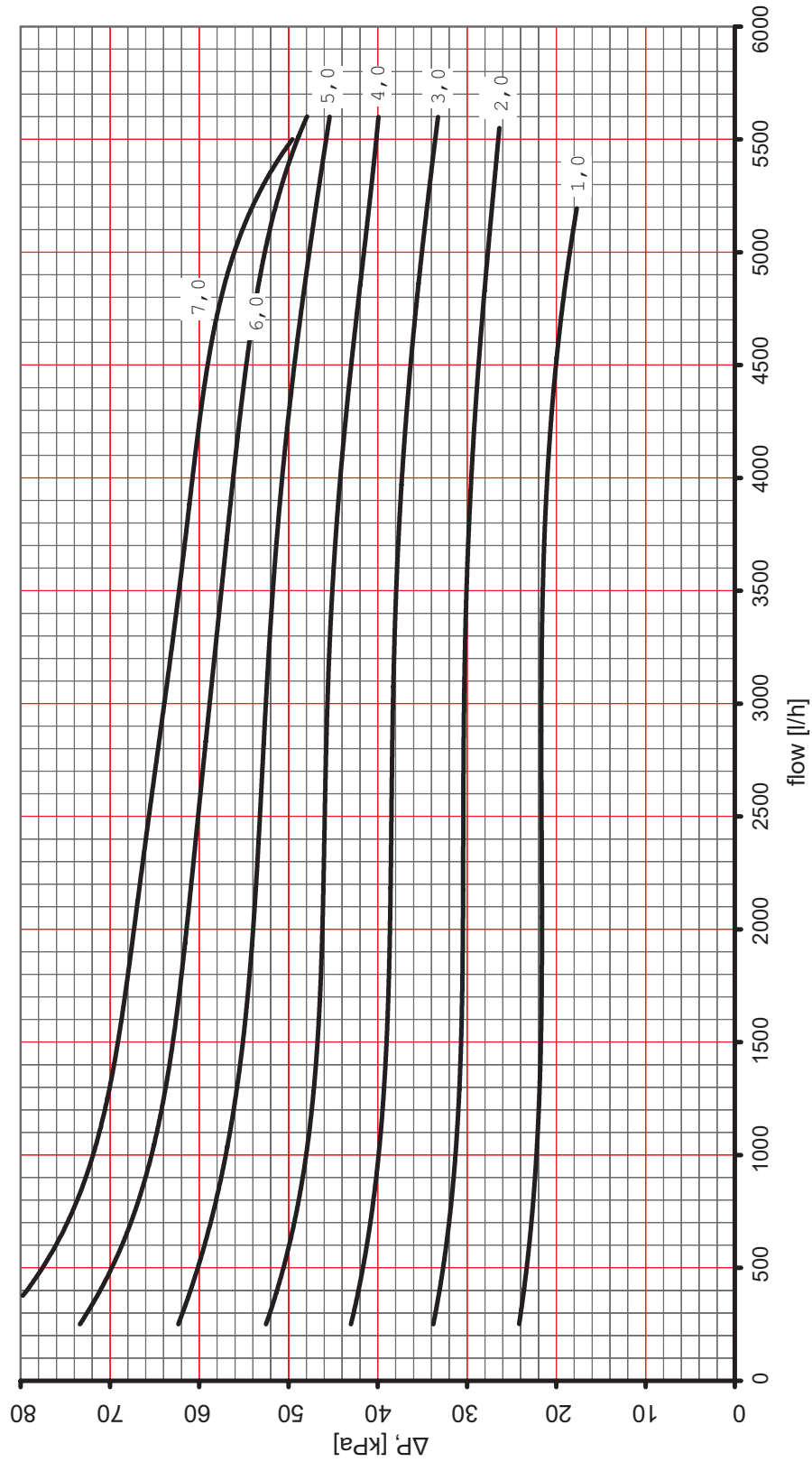
HERZ - Standard diagram	Differential pressure controller
1 4002 63 / 1 4202 63	Dim. DN 25 (25-60 kPa)



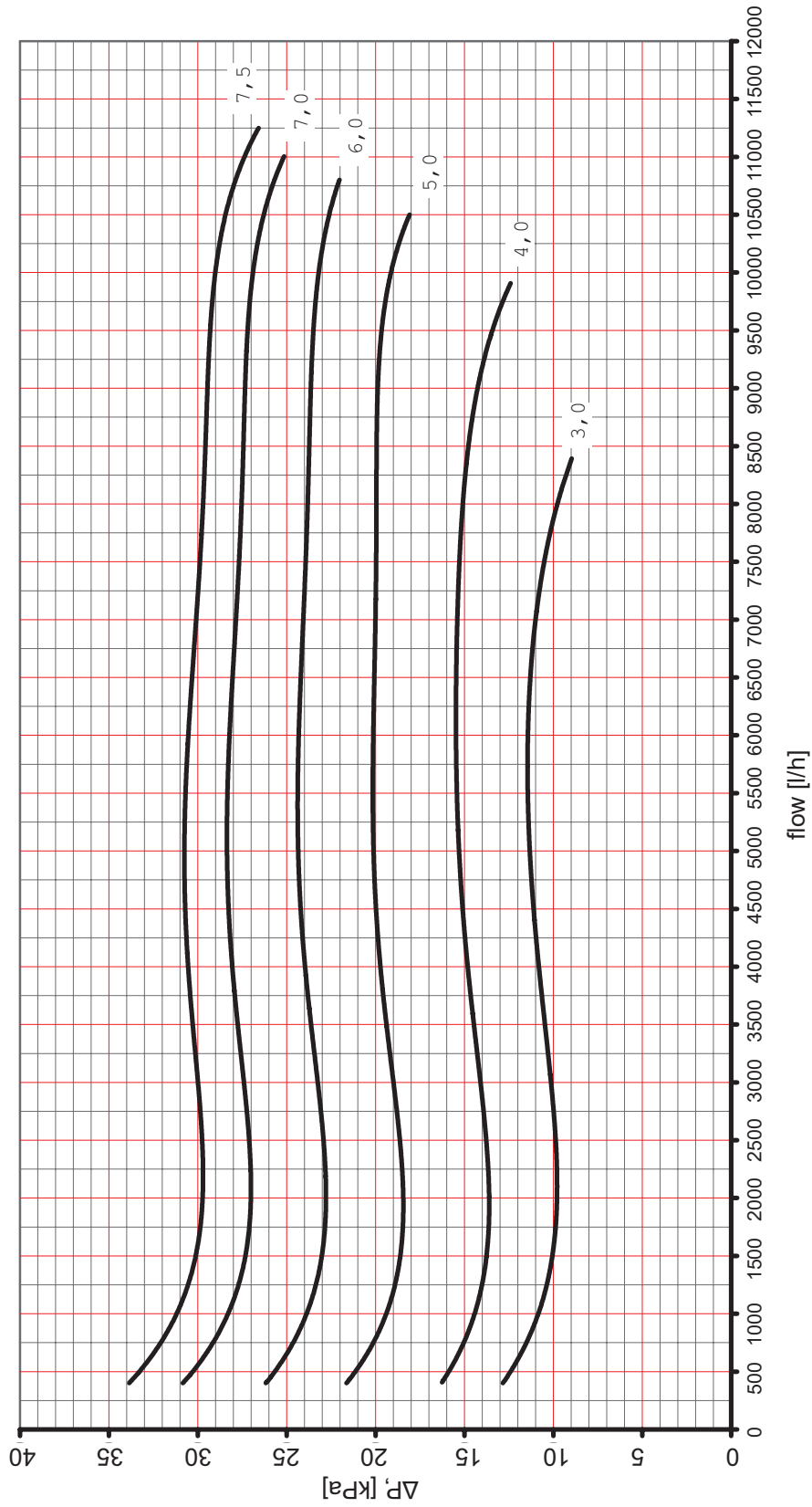
HERZ - Standard diagram	Differential pressure controller
1 4002 44 / 1 4202 44	Dim. DN 32 (5-30 kPa)



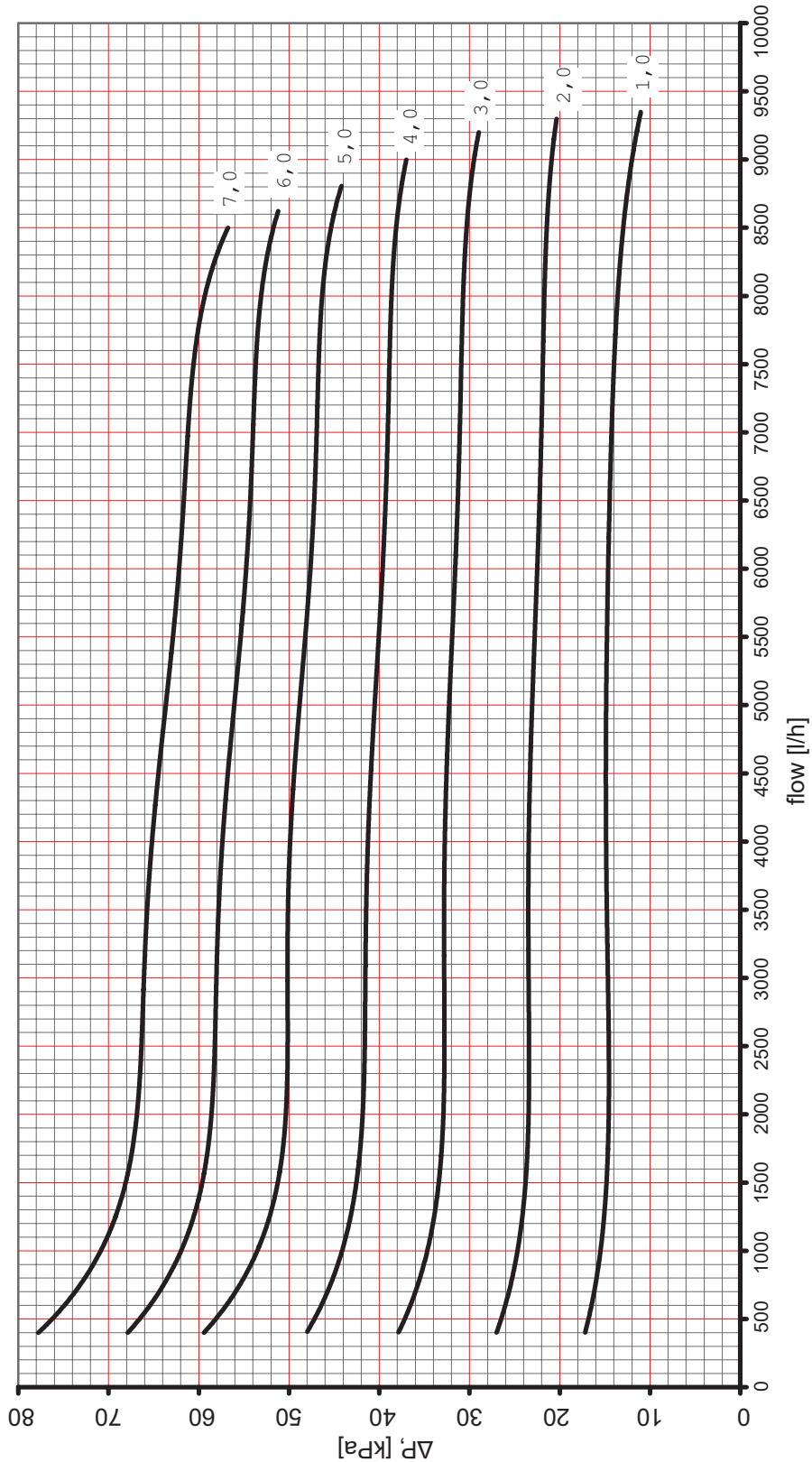
HERZ - Standard diagram	Differential pressure controller
1 4002 64 / 1 4202 64	Dim. DN 32 (25-60 kPa)



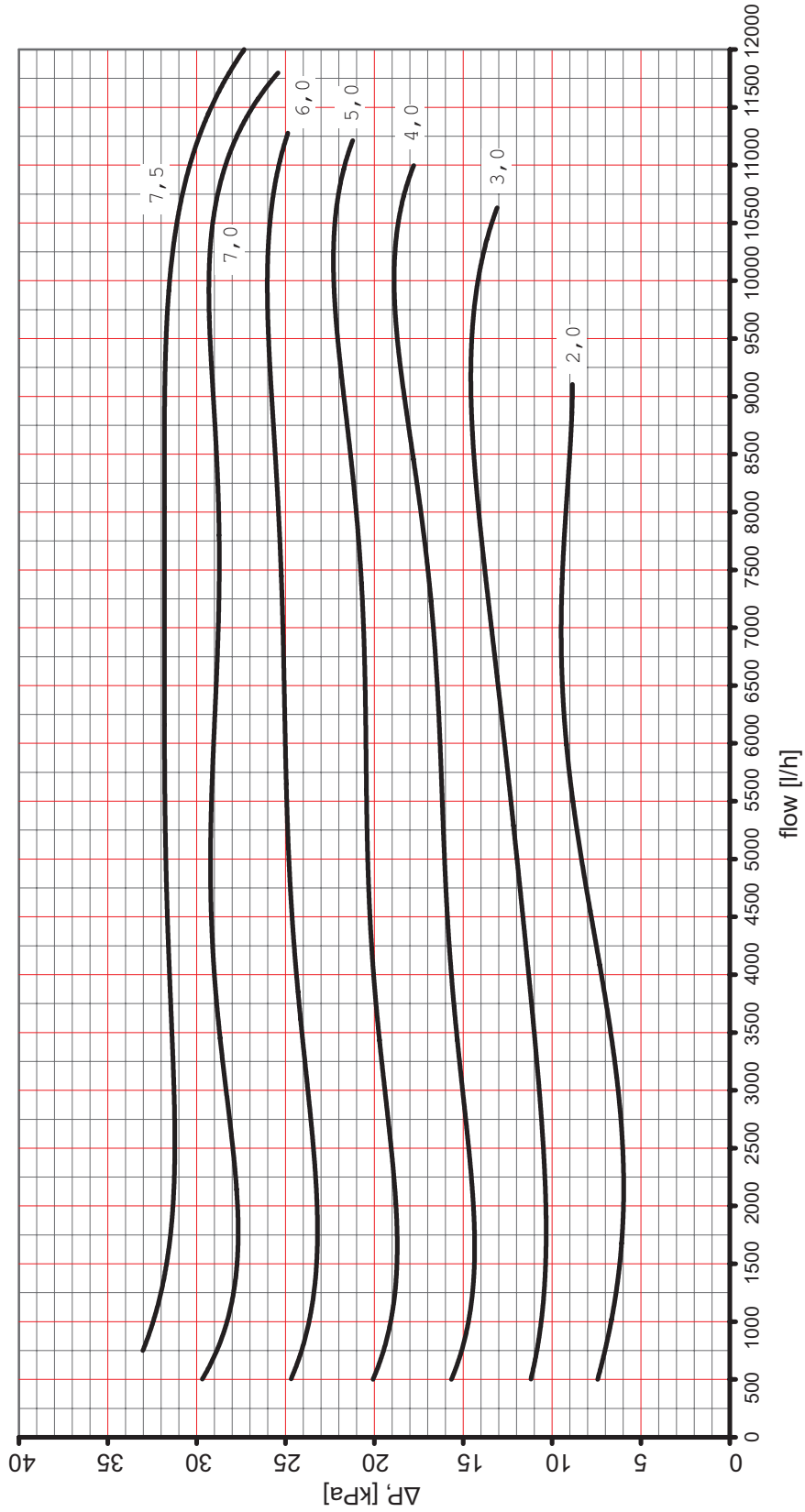
HERZ - Standard diagram	Differential pressure controller
1 4002 45 / 1 4202 45	Dim. DN 40 (5-30 kPa)



HERZ - Standard diagram	Differential pressure controller
1 4002 65 / 1 4202 65	Dim. DN 40 (25-60 kPa)



HERZ - Standard diagram	Differential pressure controller
1 4002 46 / 1 4202 46	Dim. DN 50 (5-30 kPa)



HERZ - Standard diagram	Differential pressure controller
1 4002 66 / 1 4202 66	Dim. DN 50 (25-60 kPa)

