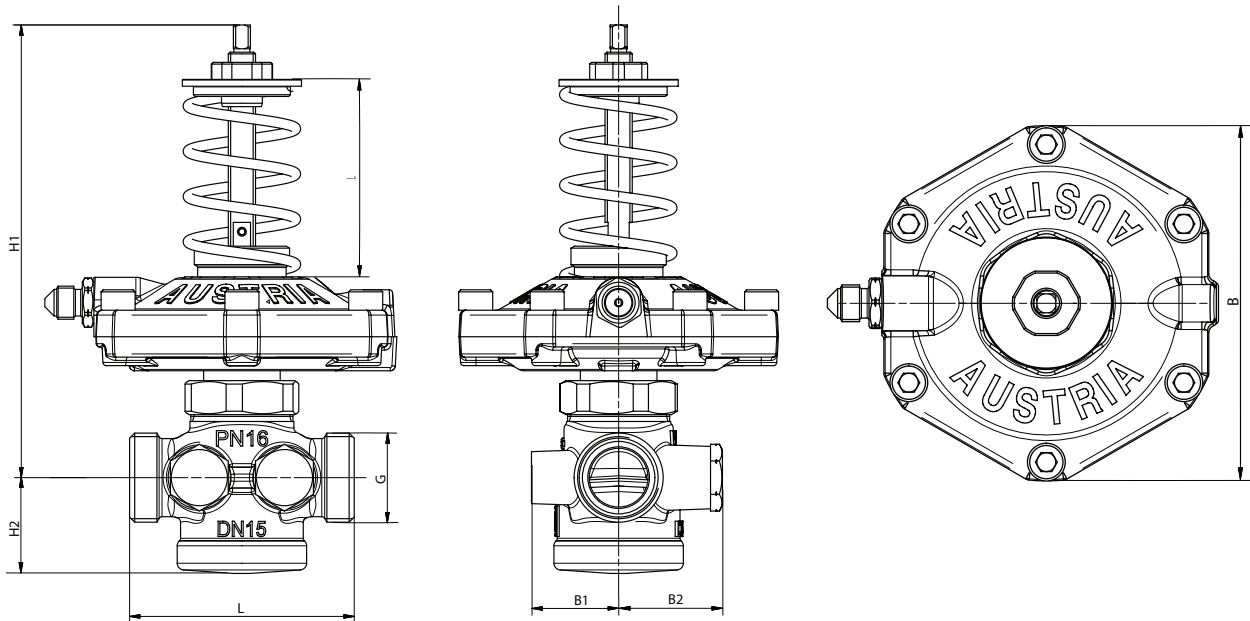


HERZ Differential pressure controller with adjustable setpoint (50-150 kPa)

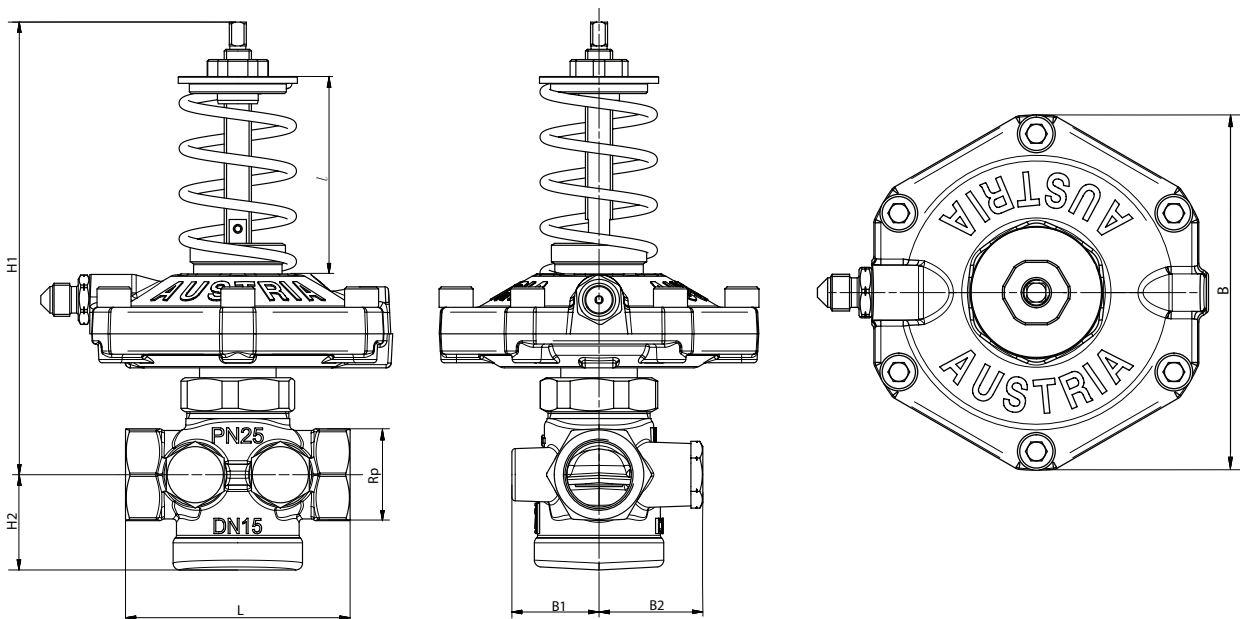
Data sheet 1 4X02 3X

☑ Dimensions in mm

1 4002 3X

*l* - compression spring travel, mm

1 4202 3X

*l* - compression spring travel, mm

dP	DN	Item		Thread, in	L, mm	H1, mm	H2, mm	B, mm	B1, mm	B2, mm
50-150 kPa	DN15	1 4002 31	MT	3/4 flat sealing	66	133	28	94	26	31
	DN20	1 4002 32		1 flat sealing	76	134	29	94	28	33
	DN25	1 4002 33		5/4 flat sealing	76	134	29	94	28	33
	DN32	1 4002 34		1 1/2 flat sealing	114	150	47	94	32	32
	DN40	1 4002 35		1 3/4 flat sealing	132	160	57	94	41	41
	DN50	1 4002 36		2 3/8 flat sealing	140	160	57	94	41	41
50-150 kPa	DN15	1 4202 31	FT	1/2	66	133	28	94	26	31
	DN20	1 4202 32		3/4	76	134	29	94	28	33
	DN25	1 4202 33		1	76	134	29	94	28	33
	DN32	1 4202 34		5/4	114	150	47	94	32	32
	DN40	1 4202 35		1 1/2	132	160	57	94	41	41
	DN50	1 4202 36		2	140	160	57	94	41	41

☑ Technical Data

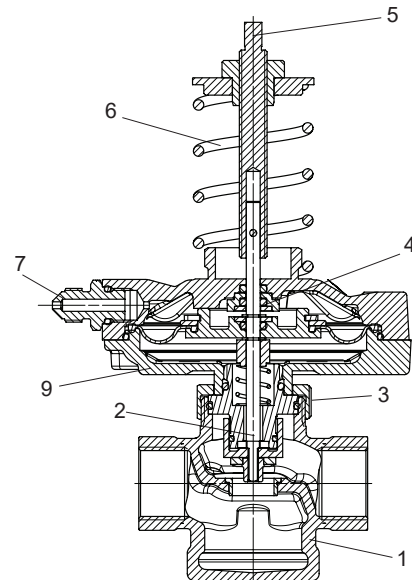
	DN15	DN20	DN25	DN32	DN40	DN50
k_{vs} value	2,6	4,2	5,3	7,1	12,4	
Operating pressure	max. 16 bar					
Max. operating pressure on the body	4 bar					
Min. operating temperature	2 °C (water); - 20 °C (frost protection)					
Max. permissible operating temperature	up to DN32: 130 °C DN40 - DN50: 110 °C					
Differential pressure regulation range	50 - 150 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.					

☑ Technical Data

	DN15	DN20	DN25	DN32	DN40	DN50
k_{vs} value	2,6	4,2	5,3	7,1	12,4	
Operating pressure	max. 16 bar					
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					
Differential pressure regulation range	50 - 150 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

N	Description	Material
1	Body	DZR Brass
2	Valve stem	Stainless steel 14301
3	Connection nut	Brass
4	O-Ring	EPDM
5	Adjusting spindle	Brass
6	Compression spring	Spring steel 14310
7	Connection point	Brass
8	Membrane	EPDM
9	Membrane body	Brass



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.

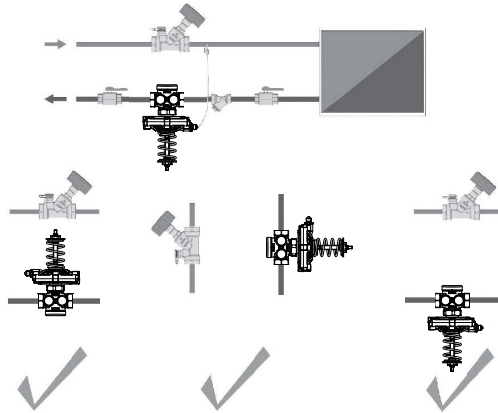
Pursuant to Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1% (w/w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an 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 50 and 150 kPa. The set value can be read off using the setting diagram. The setpoint is set to minimum at the factory ($l = 65 \text{ mm}$). 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.

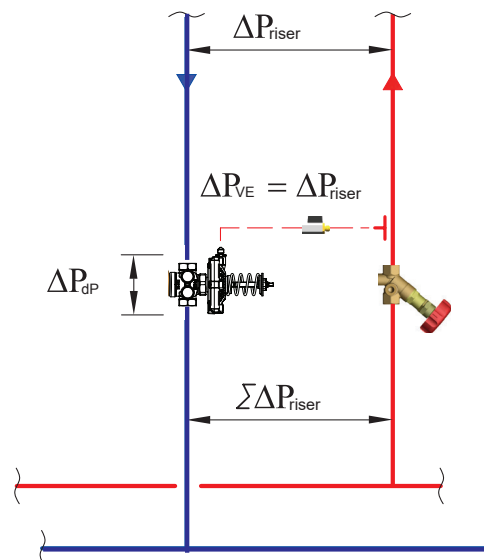
For the presetting of the differential pressure controller, the pressure loss ΔP of the riser (of the branch, of the system) is used.

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

$$\Sigma\Delta P_{\text{riser}} = \Delta P_{\text{riser}} + \Delta P_{\text{dP}}$$

in which:

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



Setting

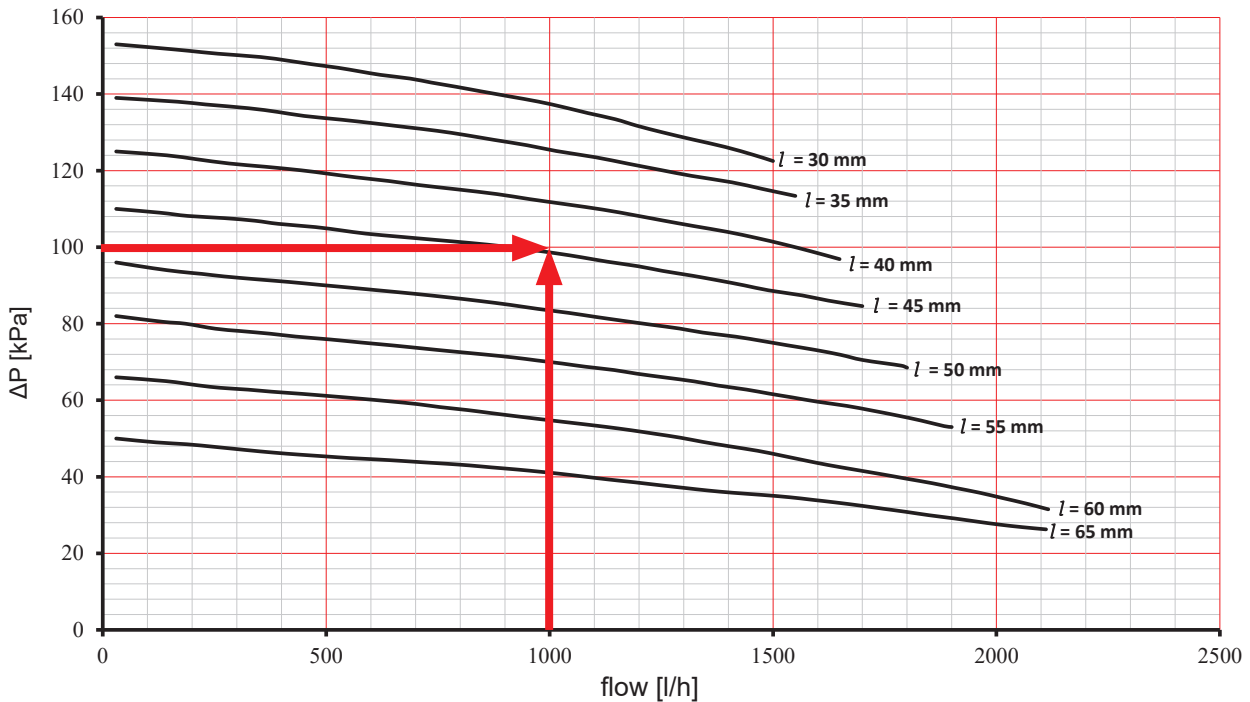
The controller is set to minimum at the factory ($l = 65 \text{ mm}$). The setting is made by turning the adjusting spindle. This changes the compression spring travel (l). The differential pressure controller can be set in any position. The setting of the differential pressure controllers can be found in the setting diagram (see below).

Example: Desired differential pressure $\Delta P_{\text{Strang}} = 100 \text{ kPa}$ (1000 mbar)

Flow rate 1000 l/h.

Result: compression spring travel $l = 45 \text{ mm}$

The compression spring travel is to be measured according to the picture (see above).



Warning notices

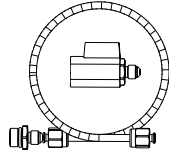
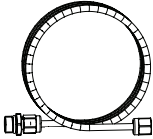
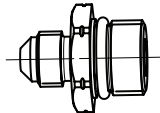
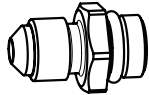
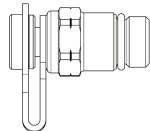
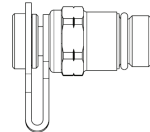
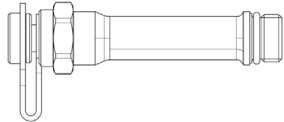
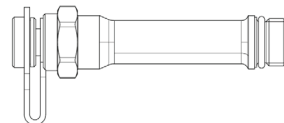
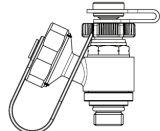
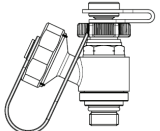

The valves must be installed for the correct application using clean fittings. A HERZ strainer (4111) should be fitted to prevent impurities.

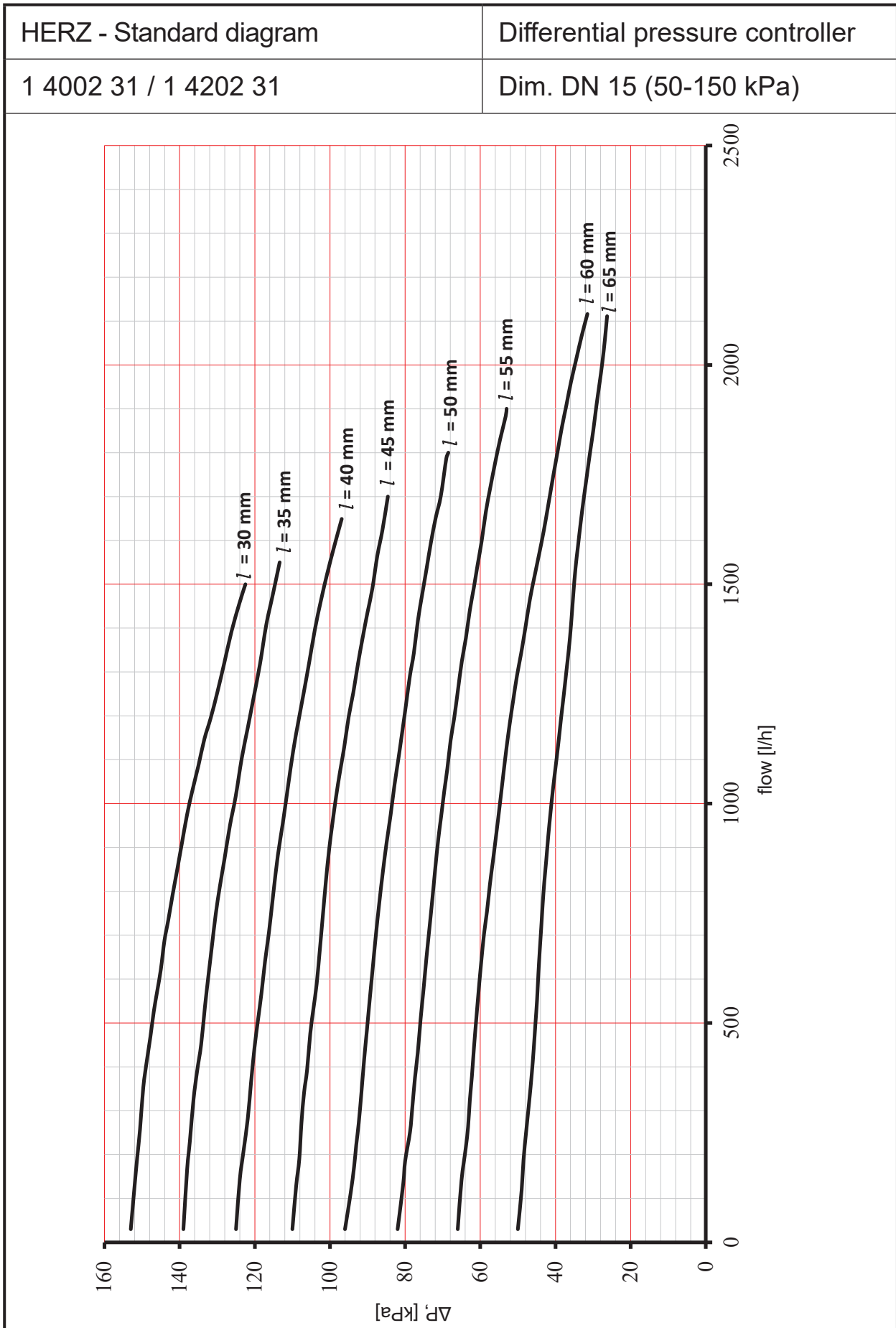
Test points

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.

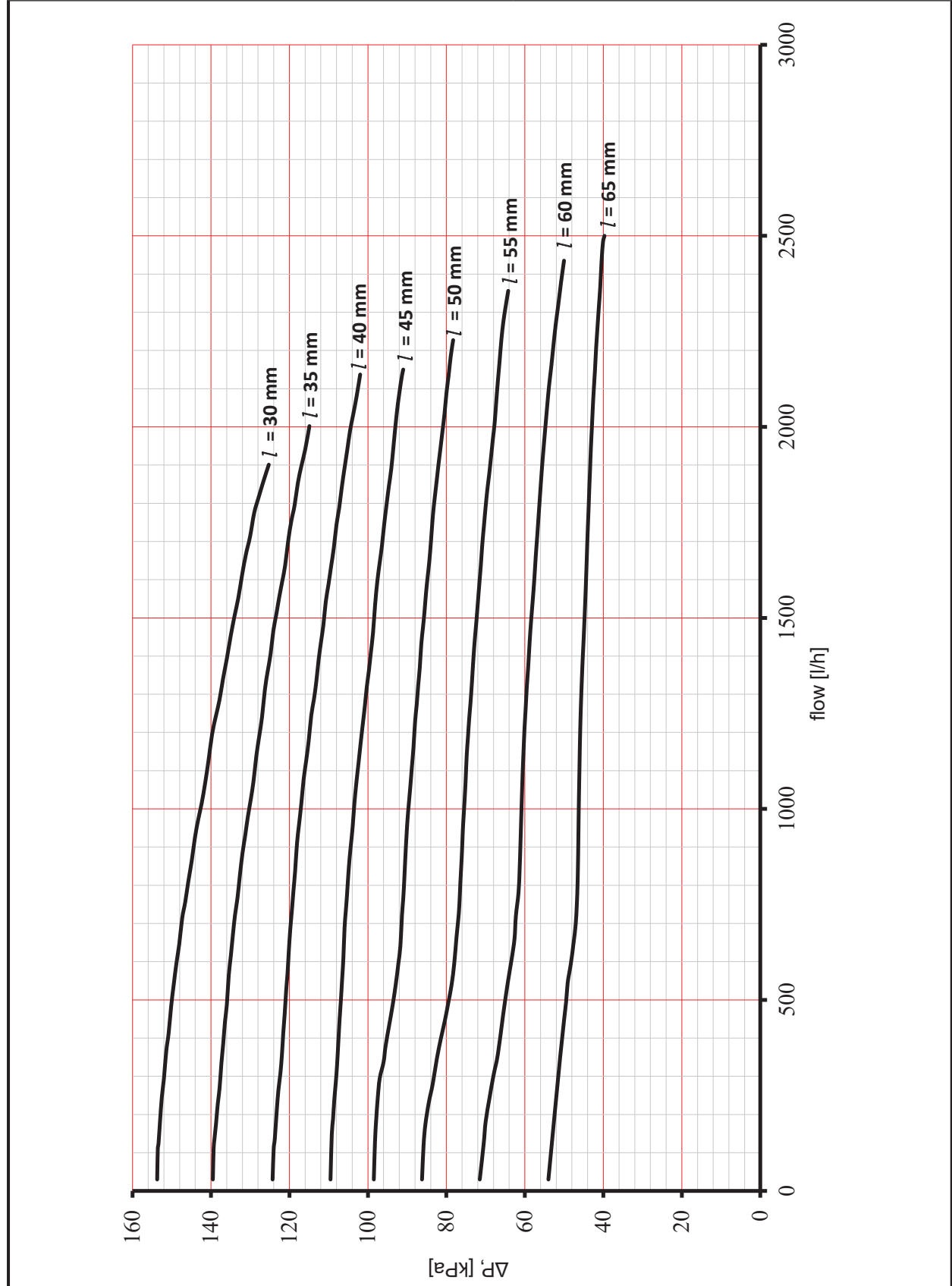
Accessories and spare parts

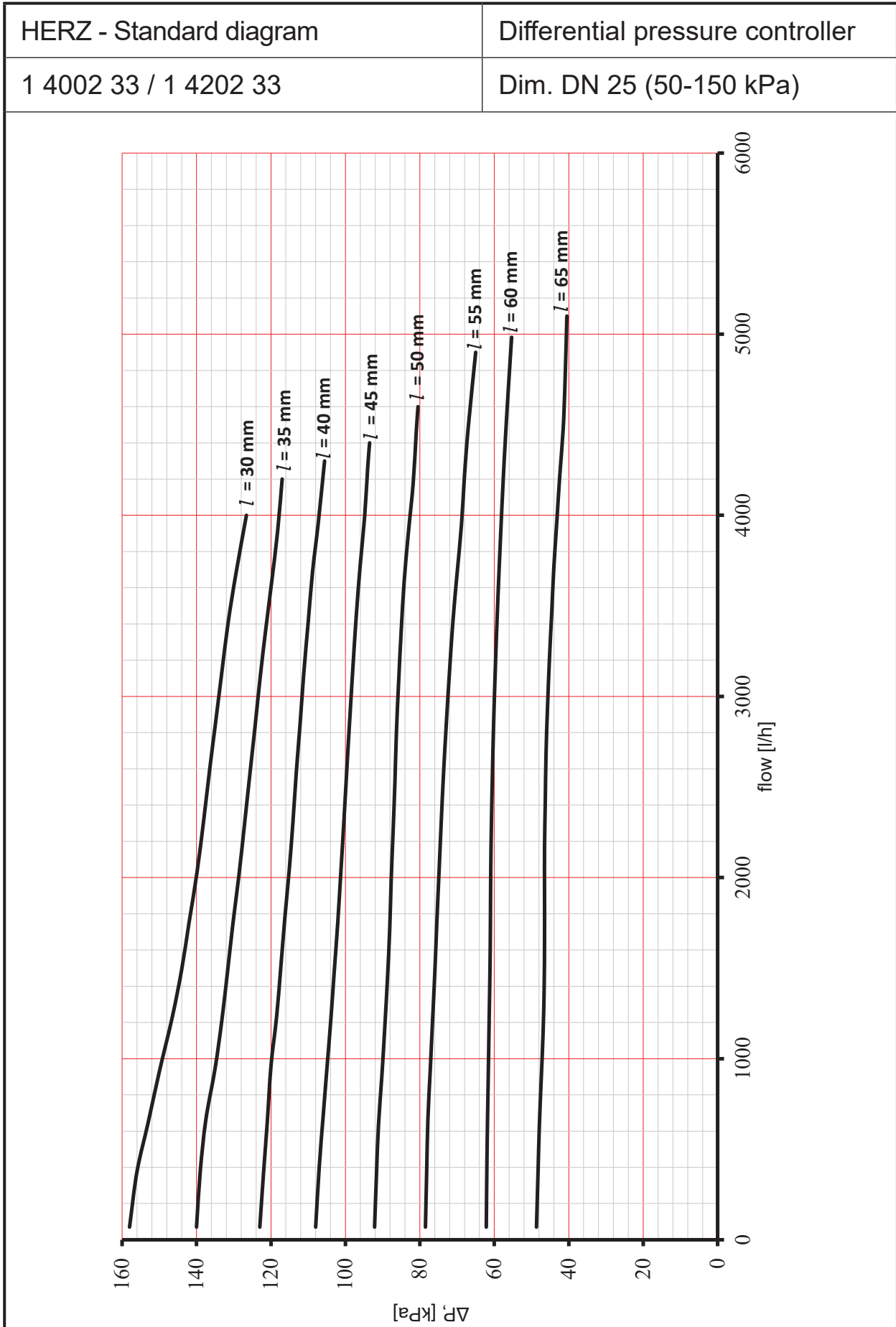
Item	Dim.	Description	Image
1 4096 11	DN15	Insulation shells	
1 4096 12	DN20	EPP (expanded polypropylene), color anthracite / black or silver-gray, B2 according to DIN 4102 and E according to DIN EN 13501-1, density approx.	
1 4096 13	DN25	45 kg/m ³ , integrated geometric lock.	
1 4096 14	DN32		
1 4096 15	DN40		
1 4096 16	DN50	For the differential pressure controller 4002/4202.	

1 4002 78	1,0 m	Capillary for differential pressure controller with ball valve 1/8 " .	
1 4002 80	2,0 m	Capillary for differential pressure controller with ball valve 1/8" G x 1/4" G.	
1 0269 19	1/8" x 1/4"	Connection point for capillary	
1 0269 09	1/8" x 1/8"	Connection point for capillary	
1 0284 01	1/4"	Quick test point for HERZ regulating point, blue cap (return)	
1 0284 02	1/4"	Quick test point for HERZ regulating valve, red cap (return)	
1 0284 11	1/4"	Test point for HERZ regulating valve, extended design, blue cap (return)	
1 0284 12	1/4"	Test point for HERZ regulating valve, extended design, red cap (supply)	
1 0284 21	1/4"	HERZ test point with drain valve, blue cap (return)	
1 0284 22	1/4"	HERZ test point with drain valve, red cap (supply)	
1 4006 02		Pre-setting key for HERZ differential pressure controller 4002/4202	

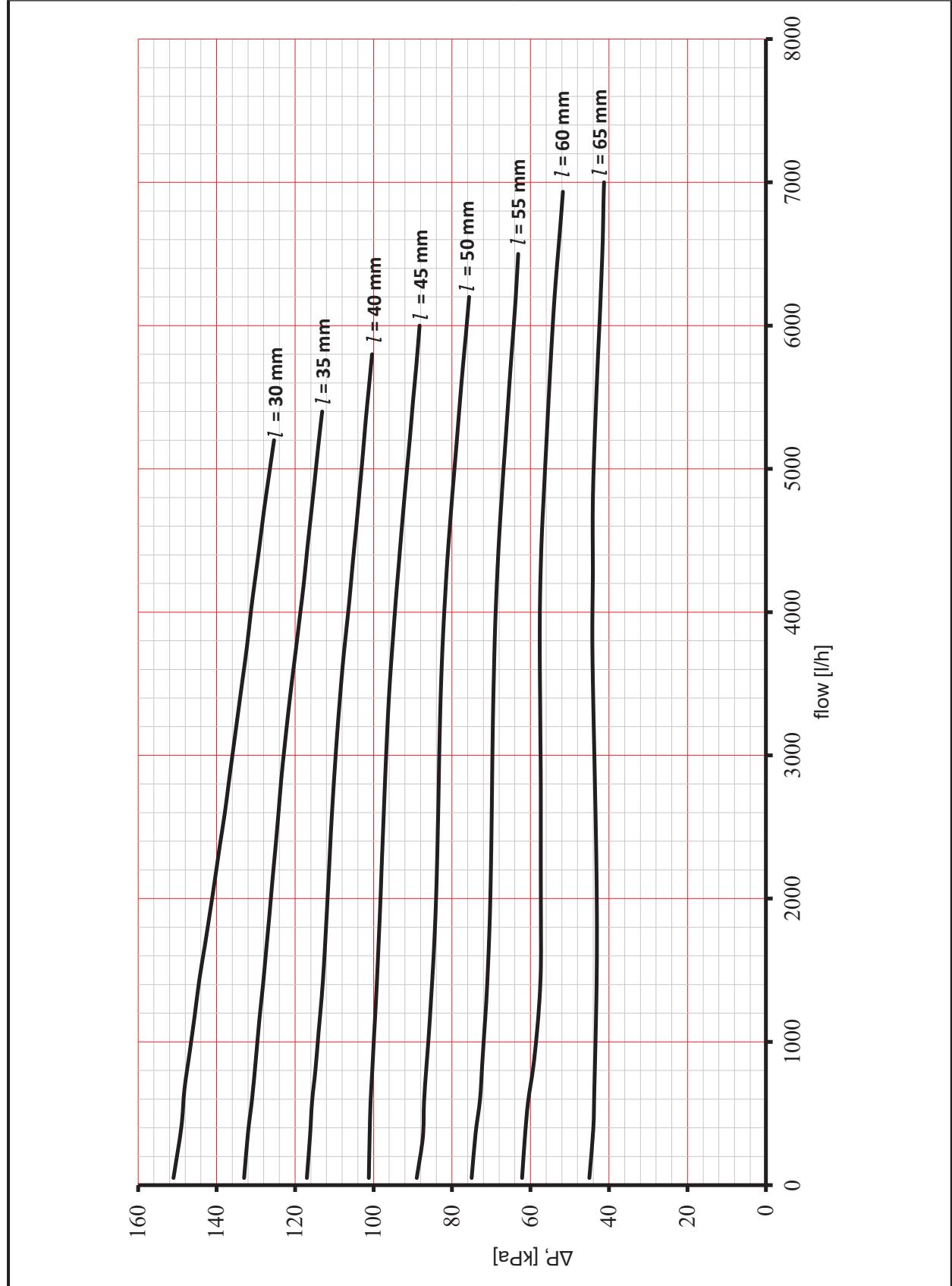


HERZ - Standard diagram	Differential pressure controller
1 4002 32 / 1 4202 32	Dim. DN 20 (50-150 kPa)





HERZ - Standard diagram	Differential pressure controller
1 4002 34 / 1 4202 34	Dim. DN 32 (50-150 kPa)



HERZ - Standard diagram	Differential pressure controller
1 4002 35 / 1 4202 35	Dim. DN 40 (50-150 kPa)

