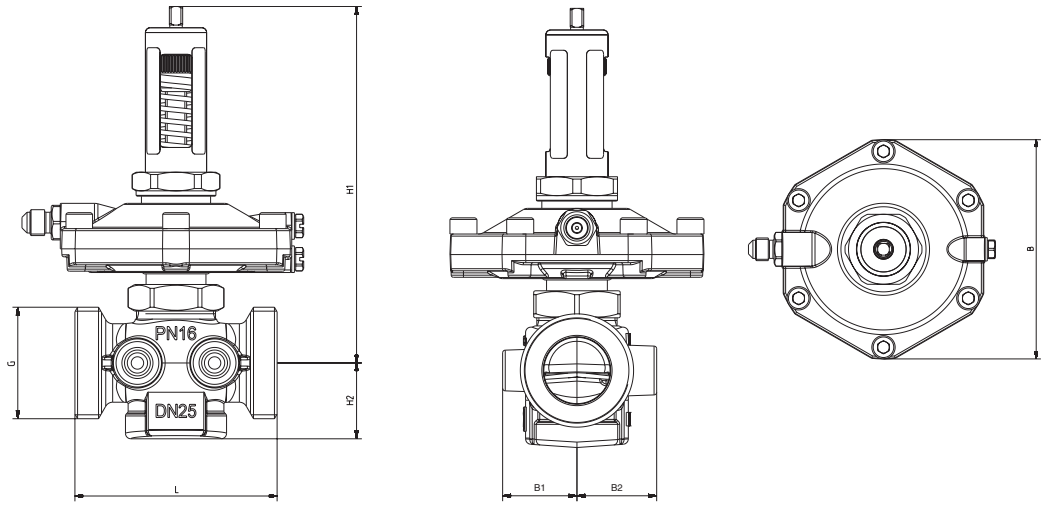
HERZ Differential Pressure Control Valve 4002

Data sheet **4002,** Issue 0118

Dimensions in mm



	DN	G	L	H1	H2	B	B1	B2
1 **4002** 41	15	3/4 G	66	133	28	95	26	29
1 **4002** 61								
1 **4002** 71								
1 **4002** 42	20	1 G	76	134	29	95	28	30
1 **4002** 62								
1 **4002** 72								
1 **4002** 43	25	1 1/4 flatsealing	76	134	29	95	28	30
1 **4002** 63								
1 **4002** 73								
1 **4002** 44	32	1½ flatsealing	114	150	47	95	–	–
1 **4002** 64								
1 **4002** 74								
1 **4002** 45	40	1¾ flatsealing	132	160	55	95	–	–
1 **4002** 65								
1 **4002** 75								
1 **4002** 46	50	2⅜ flatsealing	140	160	55	94	–	–
1 **4002** 66								
1 **4002** 76								

Technical data

max. operating pressure	16 bar
max. differential pressure	2 bar (body/diaphragm)
min. operating temperature	2 °C (pure water)
min. operating temperature	- 20 °C (frost protection)
max. operating temperature	up to **DN 32** 130 °C
	from **DN 40** 110 °C
DP Range 4002 4x	5 - 30 kPa
DP Range 4002 6x	25 - 60 kPa
DP Range 4002 7x	45 - 80 kPa

Important note: The capillary must be connected when you make pressure tests and any isolating valves (1 **0269** 09, 1 **4007** 78, ...) in the capillary must be open. During flushing, capillary isolating valves should be shut to prevent the valve from attempting to regulate the flow. To prevent damage of the body and the diaphragm a maximum differential pressure of 2 bar between supply and return is allowed at all times.

Application

The differential pressure controller is a straight-version linear controller and works without auxiliary power. The nominal differential pressure can be continuously adjusted from 50 to 300 mbar and 250 to 600 mbar, respectively. The value for the setting can be read from the diagram. The nominal set point is factory preset to a minimum. If necessary, the nominal set point can be adjusted using the pre-setting key (1 4002 01). A capillary (1000 mm) is included and should be connected to the circuit regulating valve in the flow.

Materials

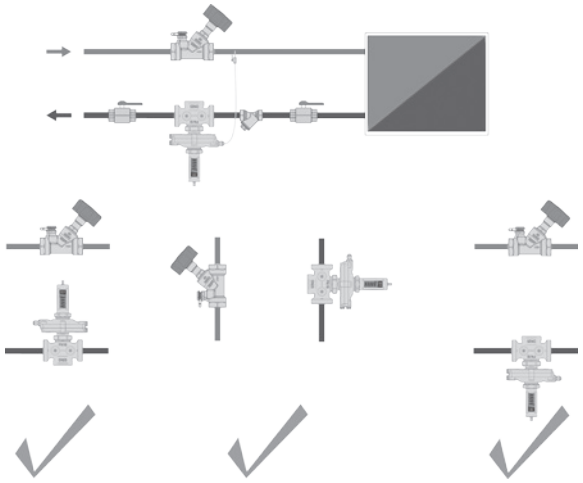
Body: dezincification-resistant brass
Membranes and O-rings: EPDM

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

EPDM gaskets can be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection

Installation

The valve is fitted in the return flow in any orientation. 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



kv values

	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
4002	2,66	4,36	5,38	9,48	14,95	14,95

Connection elements

1 **6220** .. Iron pipe connection, consisting of nut, seal and pipe nipple with male pipe thread
1 **6236** .. Soldering connection, consisting of nut, seal and soldering nipple
1 **6240** .. Welding connection, consisting of nut, seal and welding nipple
1 **6210** .. Iron pipe connection consisting of nut, seal and pipe nipple with male pipe thread
1 **6235** .. Soldering connection, consisting of nut, seal and soldering nipple

Tips

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

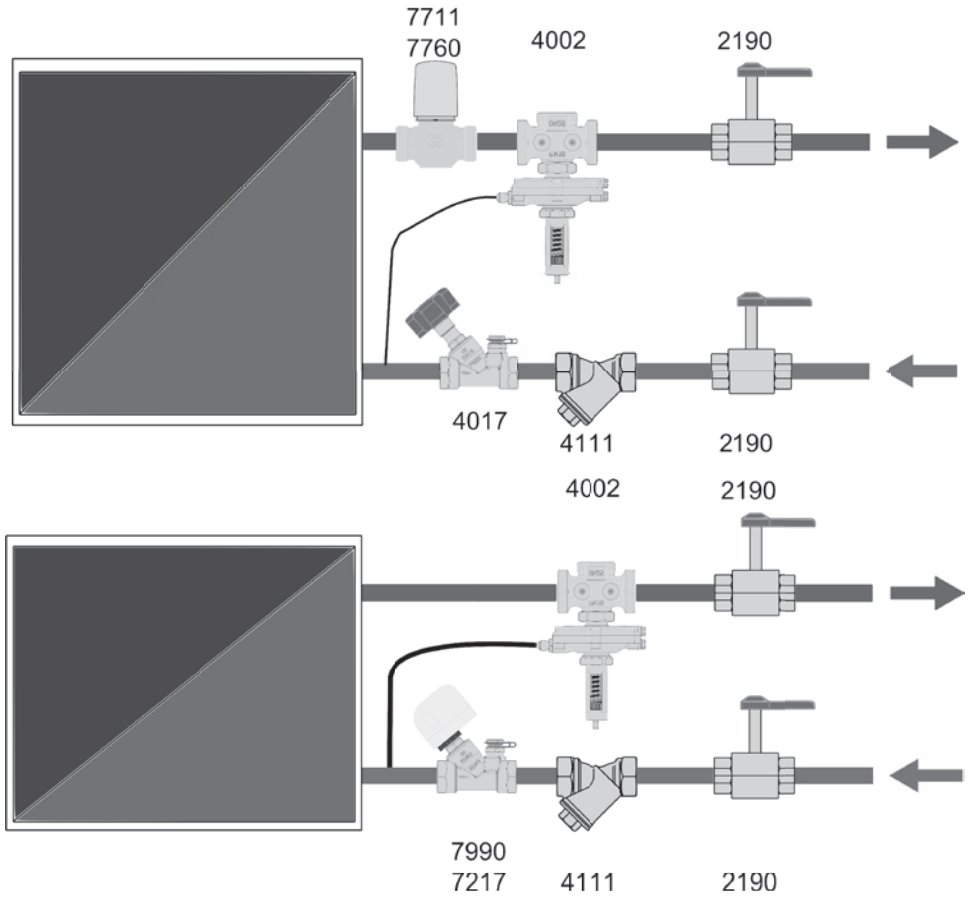
Test points

Two test points are fitted on the same side of the valve and factory sealed. Thanks to this arrangement they are easily accessible and measurement devices can be quickly fitted, no matter in what position the valve has been installed.

Pre-setting

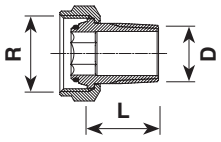
The valve setting is clearly shown on the scale on the valve indicator. The preset value can be easily adjusted. Once set, the differential pressure controller can always be adjusted to any position.

Application examples

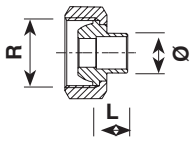


Please note: all diagrams are indicative in nature and do not claim to be complete.

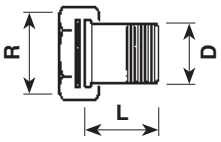
HERZ-Connection elements



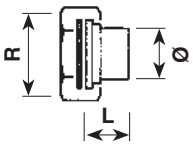
6210/6211



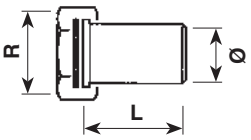
6235



6220/6221

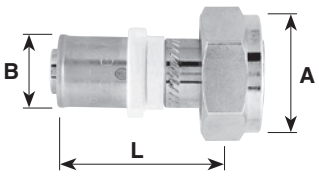


6236



6240/6241

Valve dimension	Order number	R	D	ø	L
DN 15	1 **6210** 21	3/4	1/2	–	25
DN 15	1 **6210** 26	3/4	1/2	–	21
DN 15	1 **6210** 11	3/4	1/2	–	30
DN 15	1 **6211** 00	3/4	3/8	–	24
DN 20	1 **6210** 02	1	3/4	–	30
DN 20	1 **6210** 12	1	1/2	–	30
DN 25	1 **6220** 63	1¼	1	–	35
DN 32	1 **6220** 64	1½	1	–	40
DN 40	1 **6220** 65	1¾	1½	–	49
DN 50	1 **6220** 66	2⅜	2	–	56
DN 15	1 **6235** 21	3/4	–	12	13
DN 15	1 **6235** 31	3/4	–	15	13
DN 15	1 **6235** 41	3/4	–	18	18
DN 20	1 **6235** 12	1	–	18	18
DN 25	1 **6236** 63	1¼	–	28	24
DN 32	1 **6236** 64	1½	–	35	27
DN 40	1 **6236** 65	1¾	–	42	31
DN 50	1 **6236** 66	2⅜	–	54	37
DN 25	1 **6240** 63	1¼	–	34	51
DN 32	1 **6240** 64	1½	–	42	54
DN 40	1 **6240** 65	1¾	–	48	57
DN 50	1 **6240** 66	2⅜	–	60	60

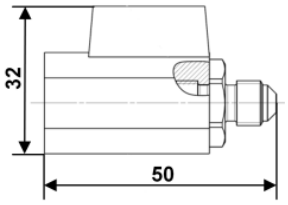


Valve dimension	Order number	A	B	L
DN 15	P **7014** 81	G 3/4	14 x 2	50
DN 15	P **7016** 81	G 3/4	16 x 2	50
DN 15	P **7018** 81	G 3/4	18 x 2	50
DN 15	P **7020** 81	G 3/4	20 x 2	50
DN 25	P **7026** 43	G 1¼	26 x 3	50
DN 25	P **7032** 43	G 1¼	32 x 3	50
DN 25	P **7040** 43	G 1¼	40 x 3,5	70
DN 32	P **7032** 44	G 1½	32 x 3	50
DN 32	P **7040** 44	G 1½	40 x 3,5	70
DN 32	P **7050** 44	G 1½	50 x 4	70

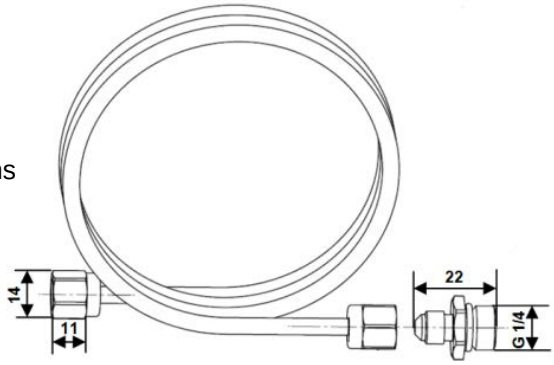
Accessories and spare parts

1 **4117** xx	HERZ-STRÖMAX circuit control valves, angle version
1 **4217** xx	HERZ- STRÖMAX circuit control valves, straight version
1 **4017** xx	HERZ- STRÖMAX circuit control valves with integrated metering orifice plate
1 **4125** xx	HERZ shut-off valves, angle version
1 **4115** xx	HERZ shut-off valves, angle version
1 **4215** xx	HERZ shut-off valves, straight version, also variants with male threads. For details please refer to the corresponding data sheets.
1 **0284** 01	test point for HERZ circuit control valve, blue cap (return)
1 **0284** 02	test point for HERZ circuit control valve, red cap (flow)
1 **0284** 11	test point for HERZ circuit control valve, extended model, blue cap (return)
1 **0284** 12	test point for HERZ circuit control valve, extended model, red cap (flow)
1 **0284** 21	HERZ test point with draining function, blue cap (return)
1 **0284** 22	HERZ test point with draining function, red cap (flow)
1 **0284** 00	test point adapter set
1 **0273** 09	screw plug 1/4
1 **4006** 02	HERZ pre-setting key for differential pressure control

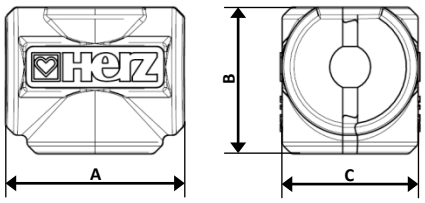
1 **4002** 78
control capillary
with ball valve G 1/8



1 **4002** 80
control capillary with connections
G 1/4
length 2000 mm



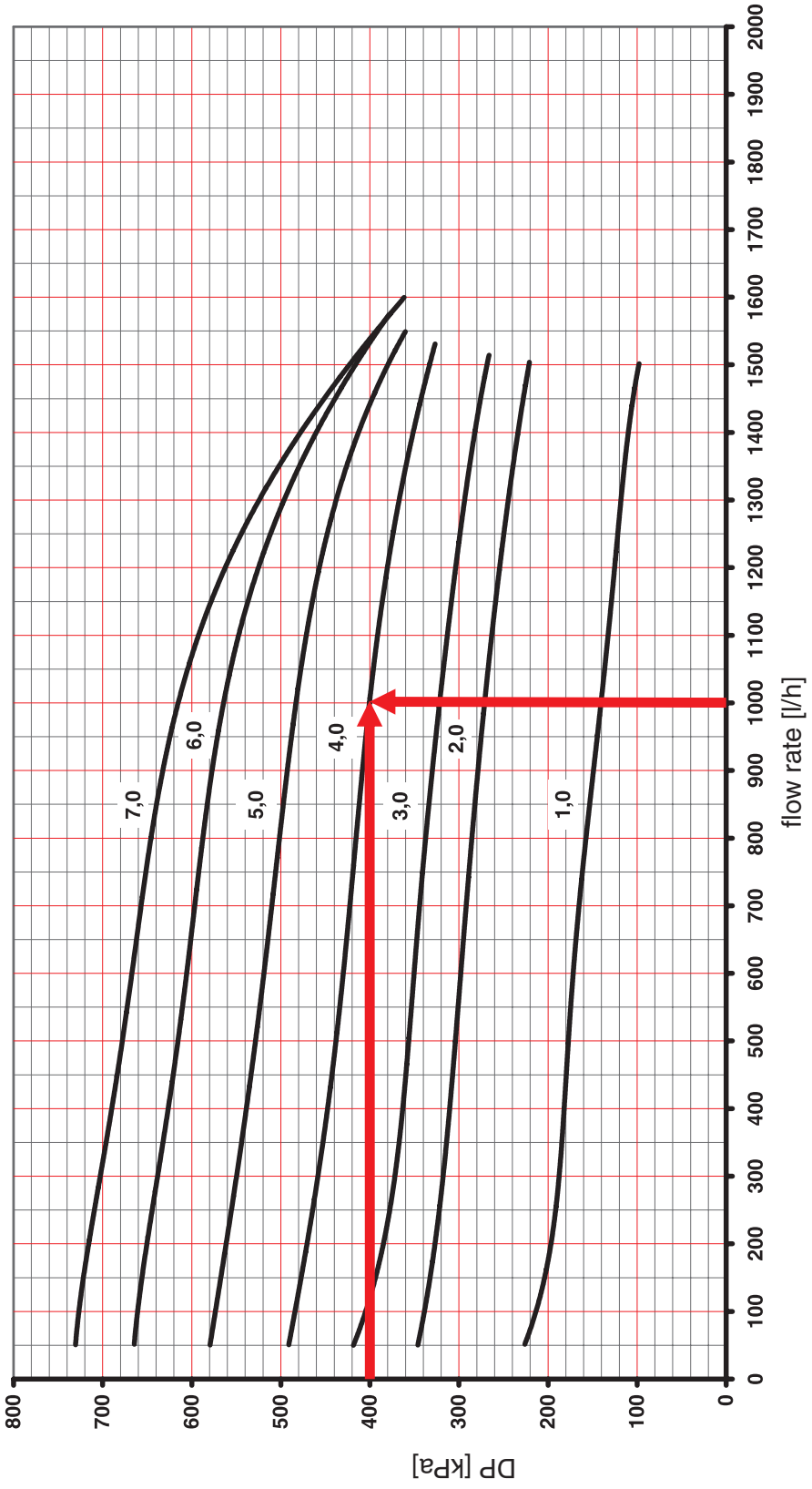
1 **4096** 1x
Insulation shell
made of EPP (expanded polypropylene)
According to DIN 4102 and E after DIN EN 13501-1
Weight 45 kg/m³



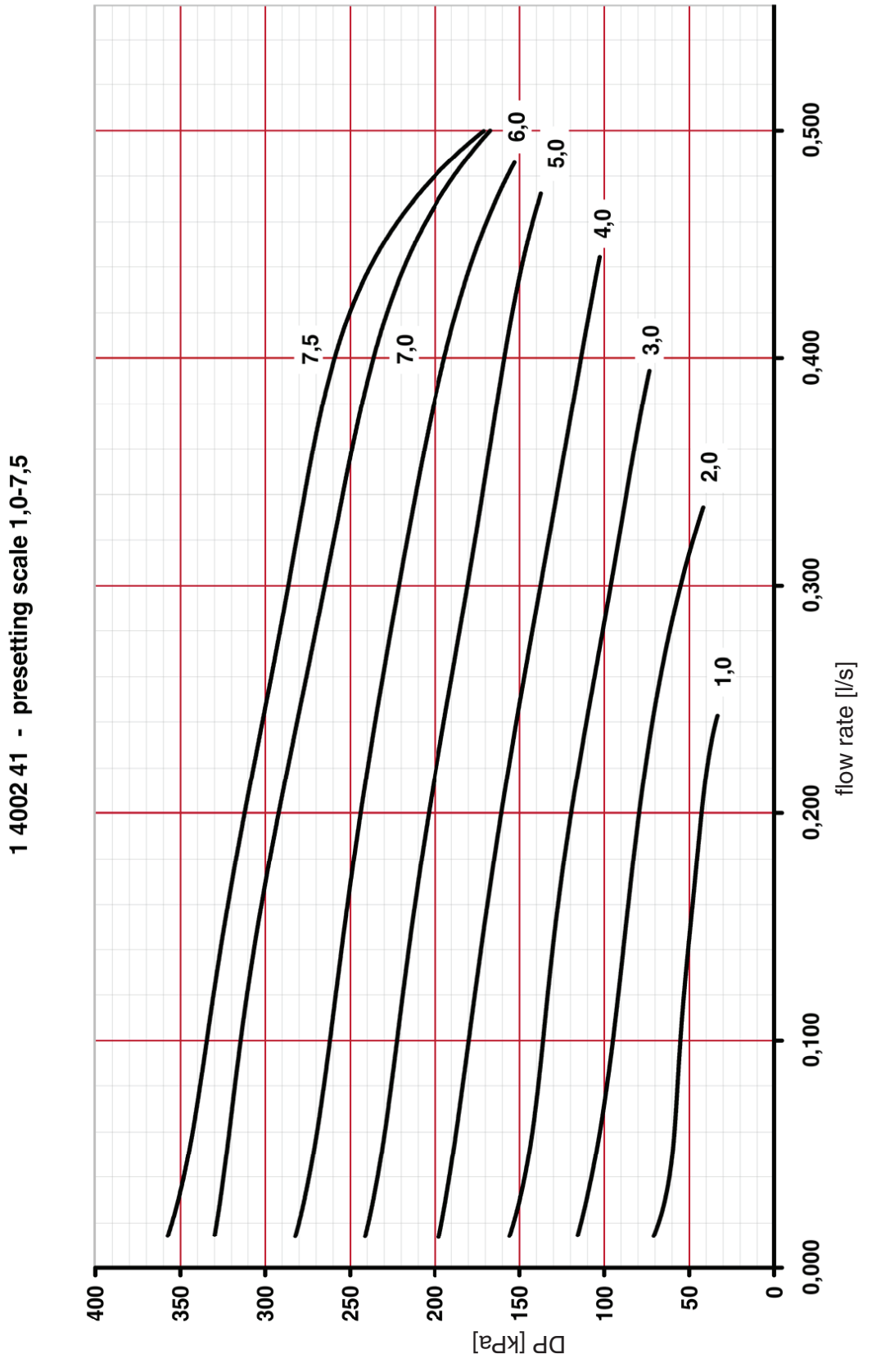
Order number	DN	A	B	C
1 **4095** 11	15	96	78,5	75
1 **4095** 12	20	110	82	83
1 **4095** 13	25	112	84	100
1 **4095** 14	32	152	120	110
1 **4095** 15	40	170	130	123
1 **4095** 16	50	179	130,5	147

Dimensioning

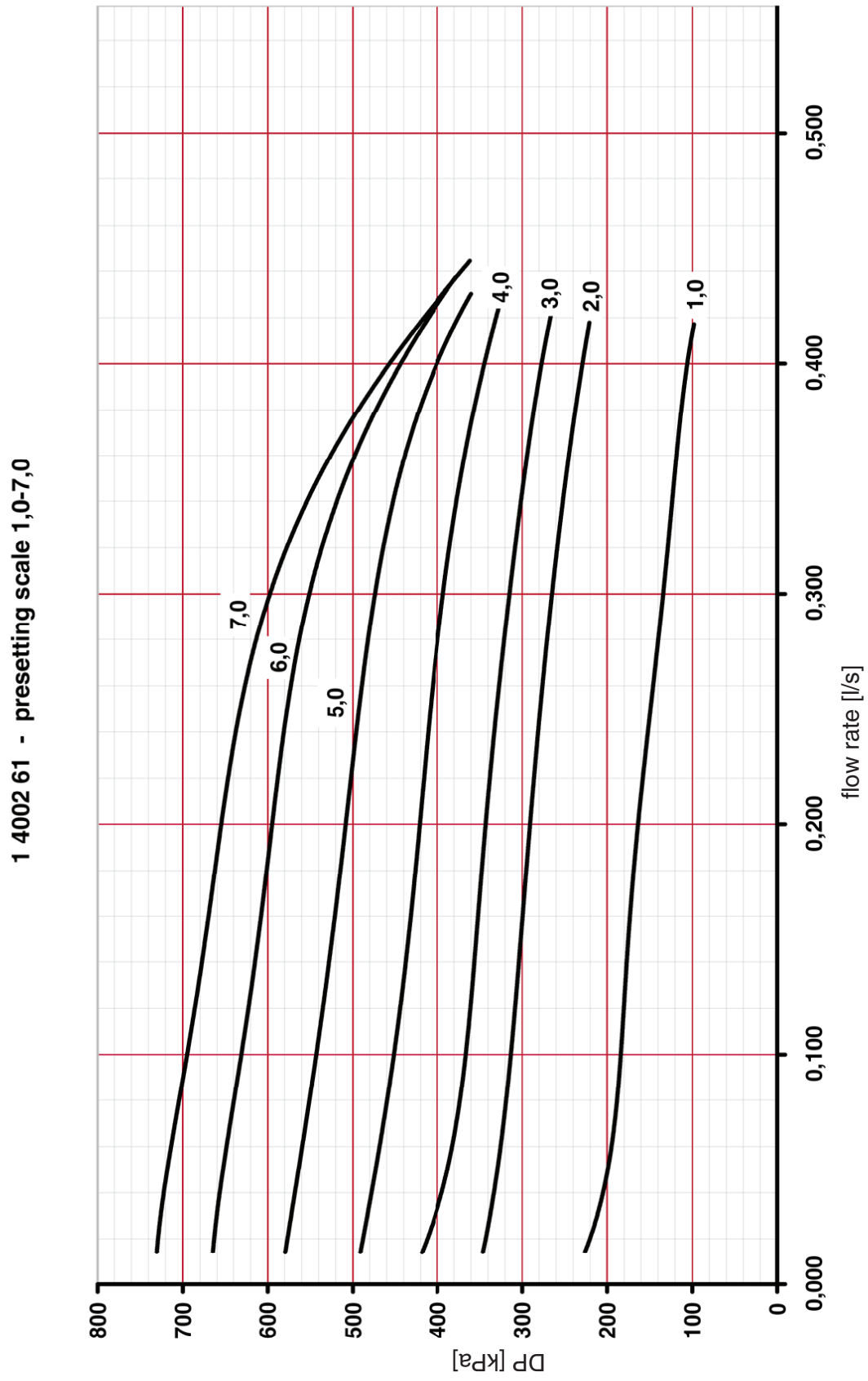
Example: required differential pressure 400 mbar
flow rate 1000 l/h
• preset at position 4
Use the flow chart to determine the preset position for the valve, in the example below it can be clearly seen that the preset position is 4.0



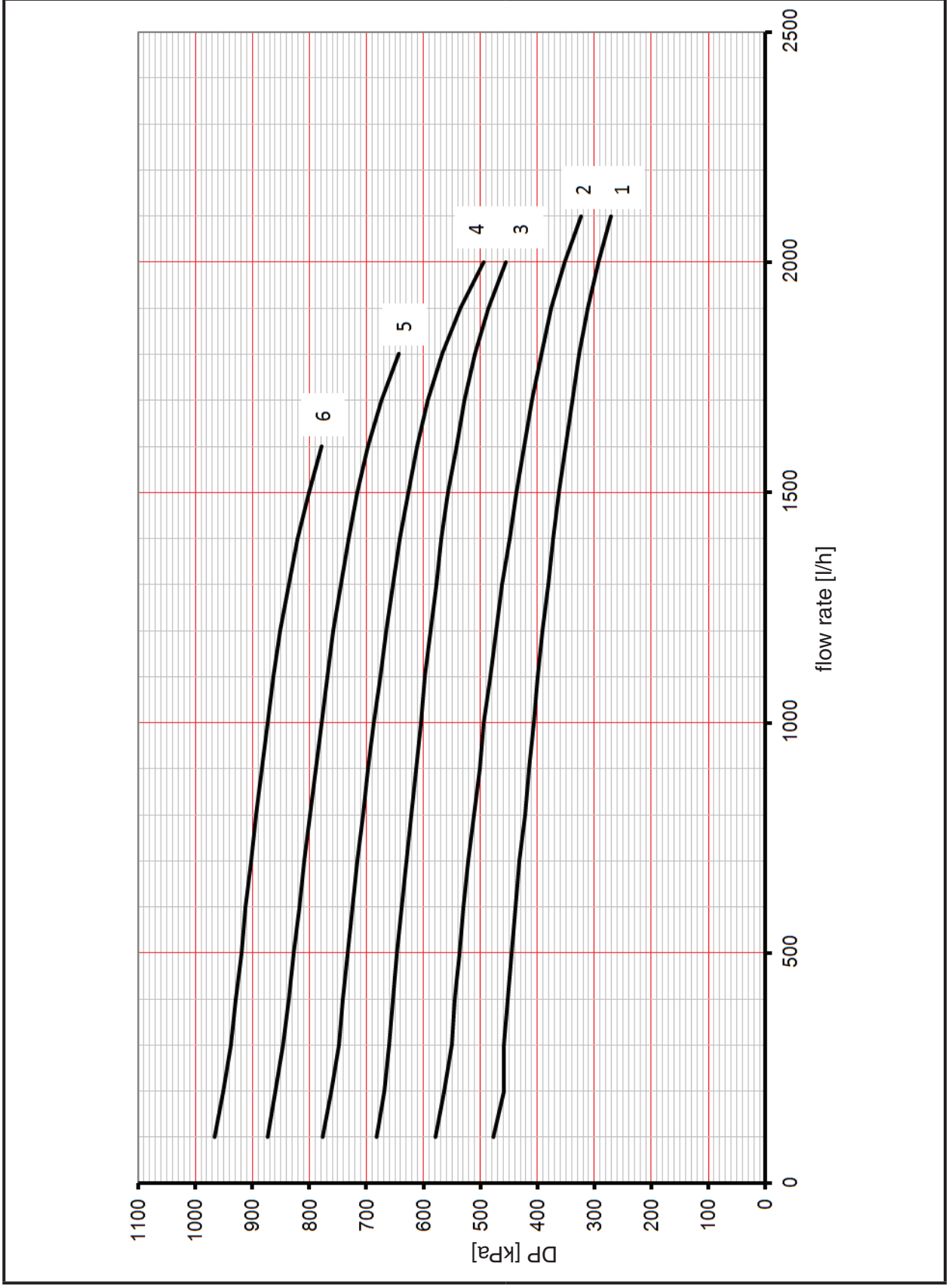
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 41	Dim. DN 15



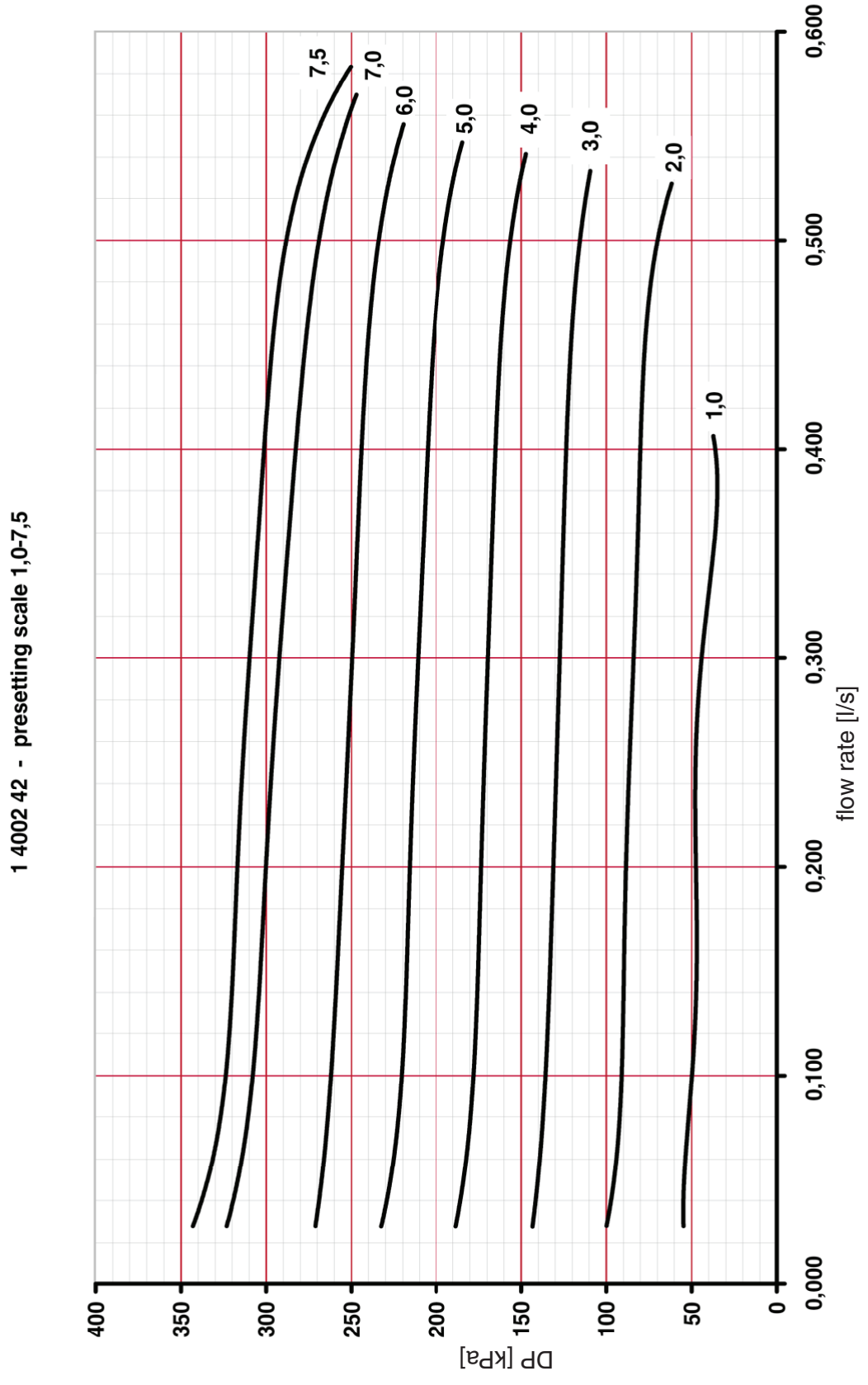
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 61	Dim. DN 15



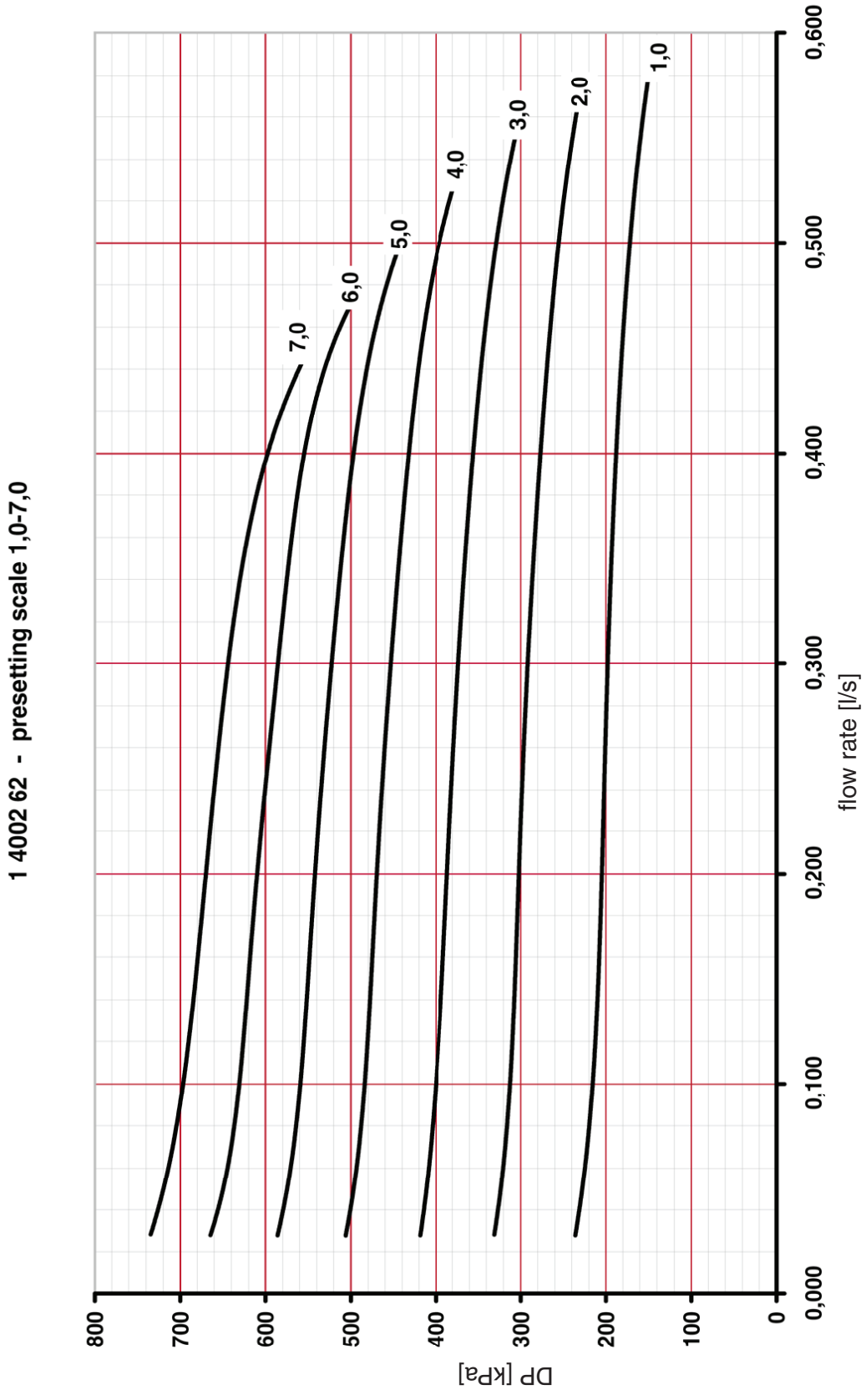
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 71	Dim. DN 15



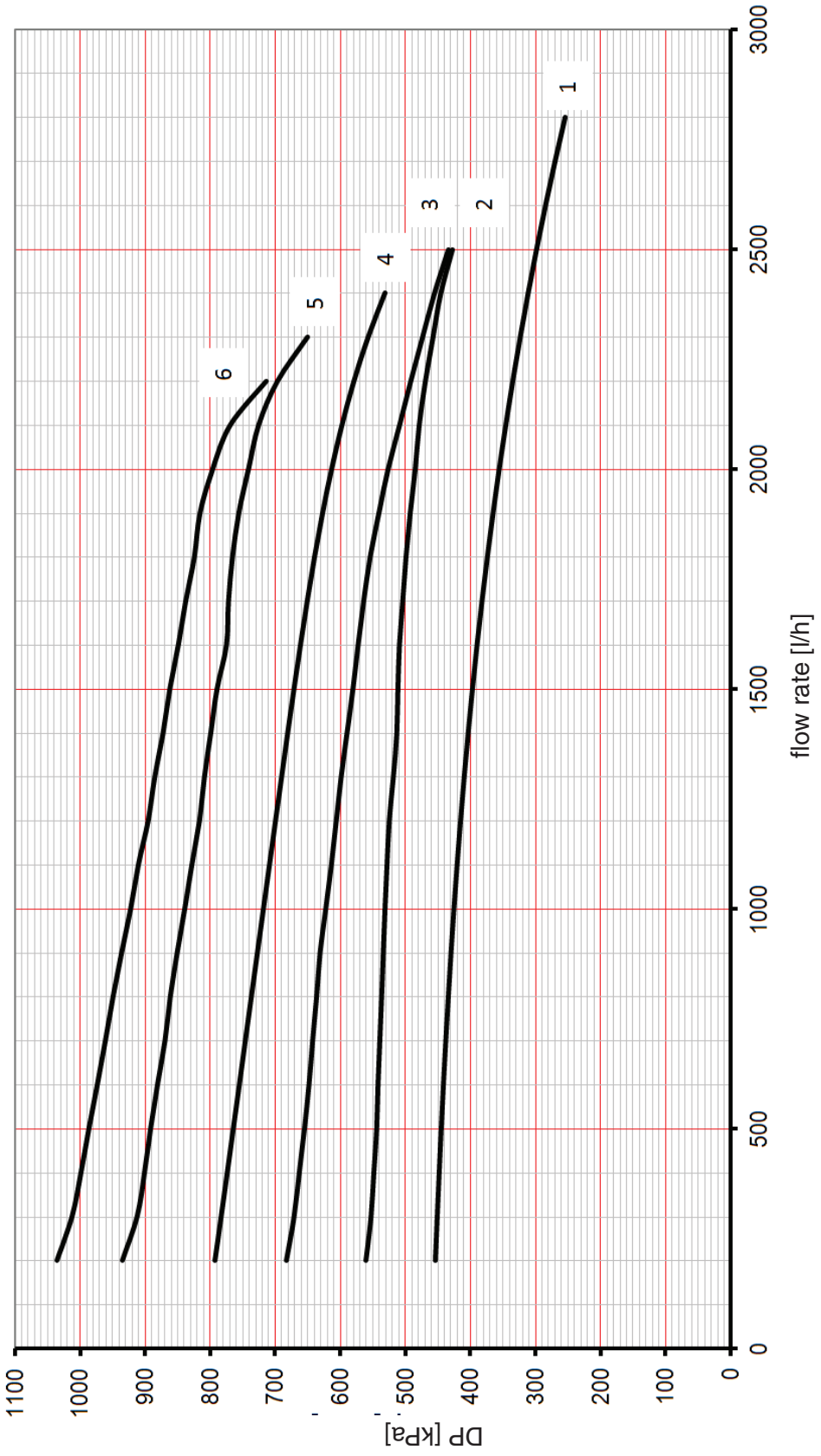
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 42	Dim. DN 20



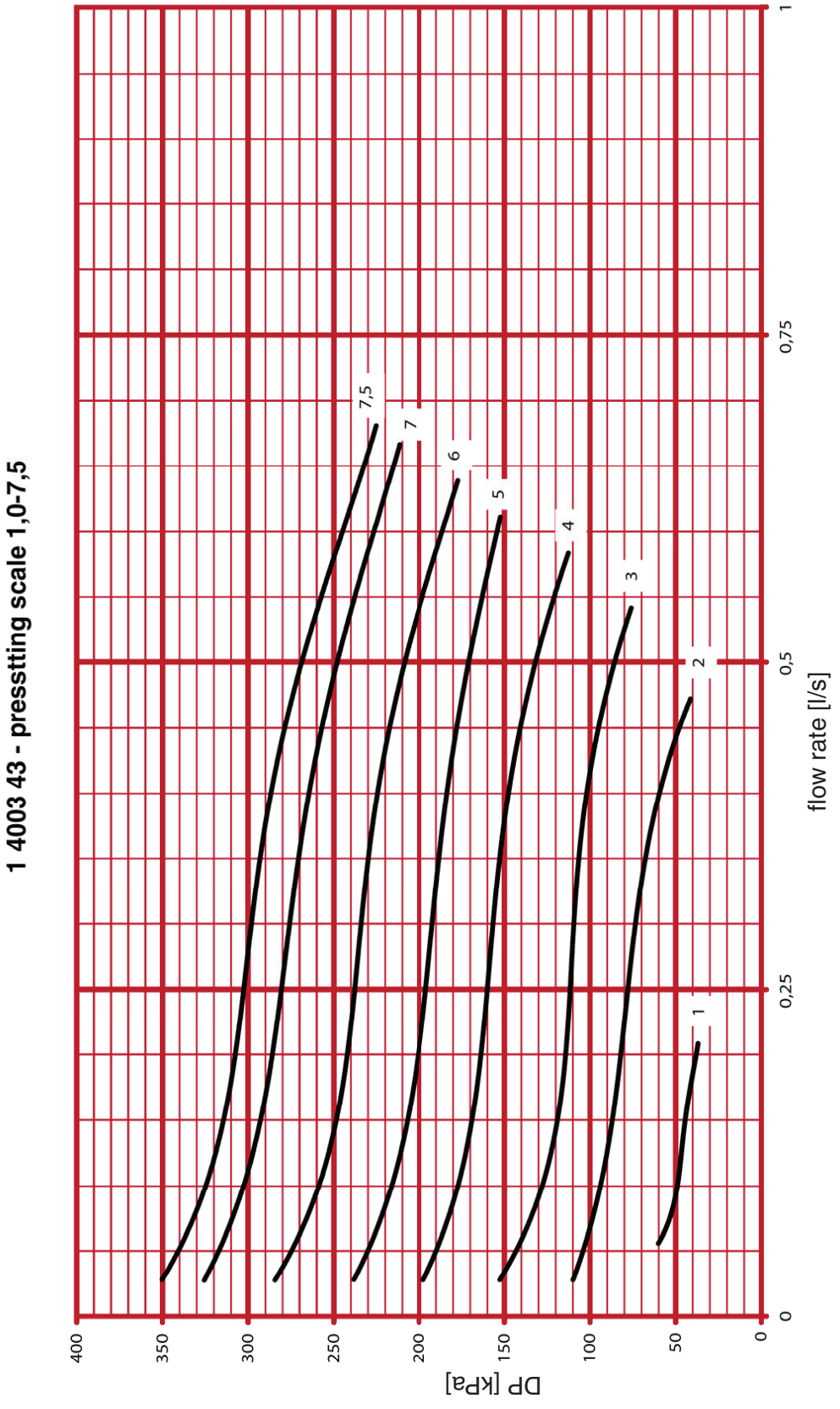
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 62	Dim. DN 20



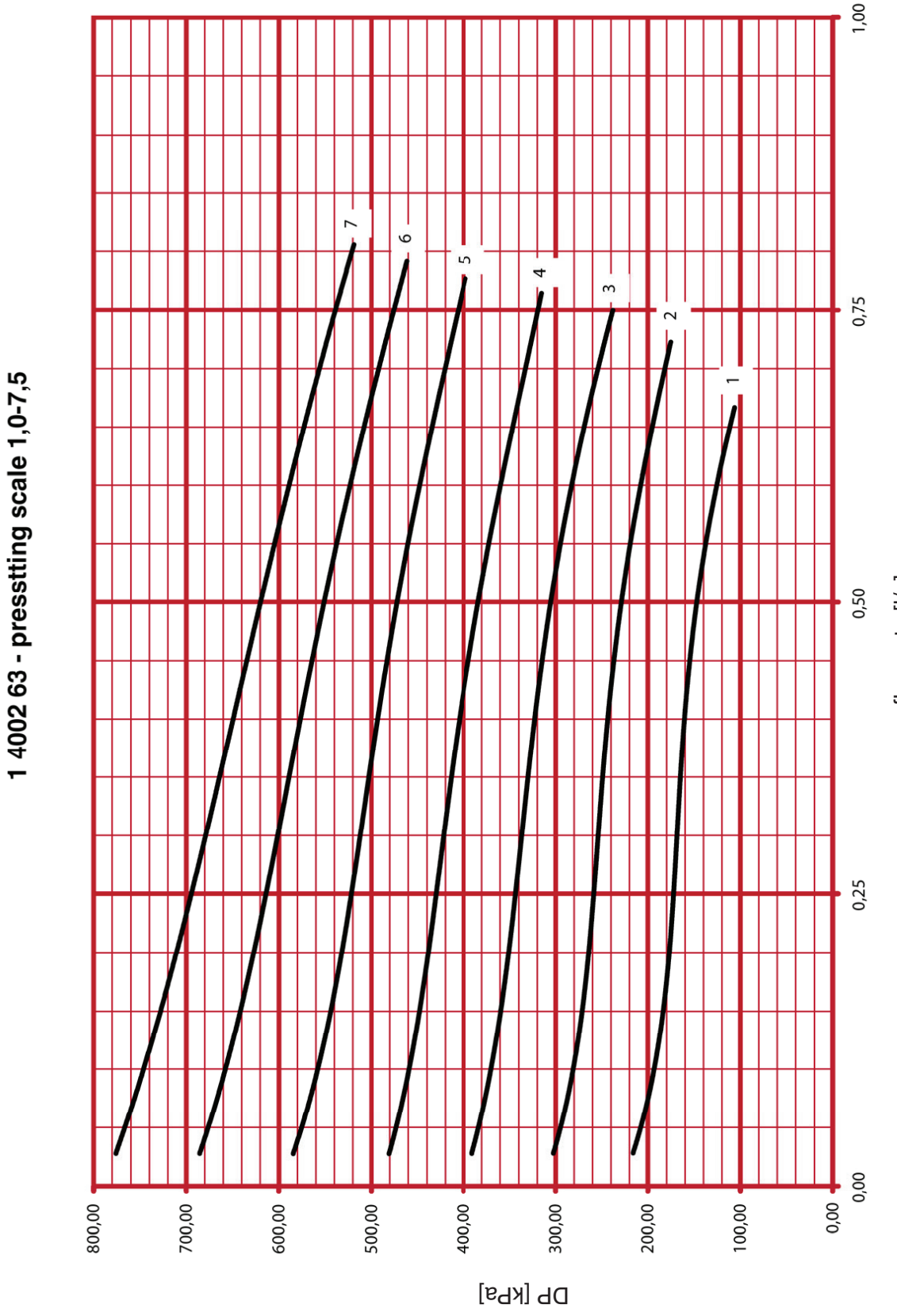
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 72	Dim. DN 20



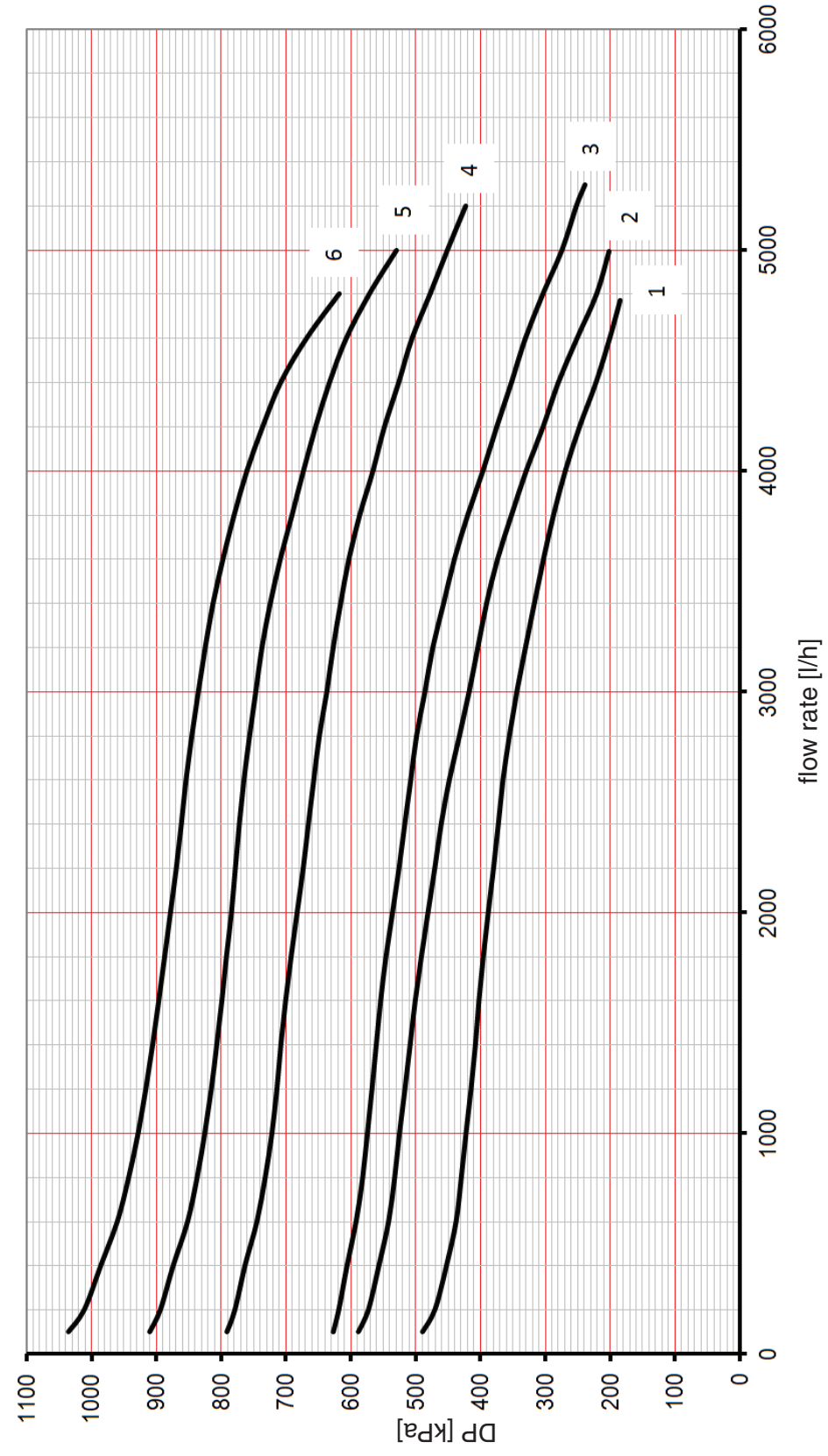
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 43	Dim. DN 25



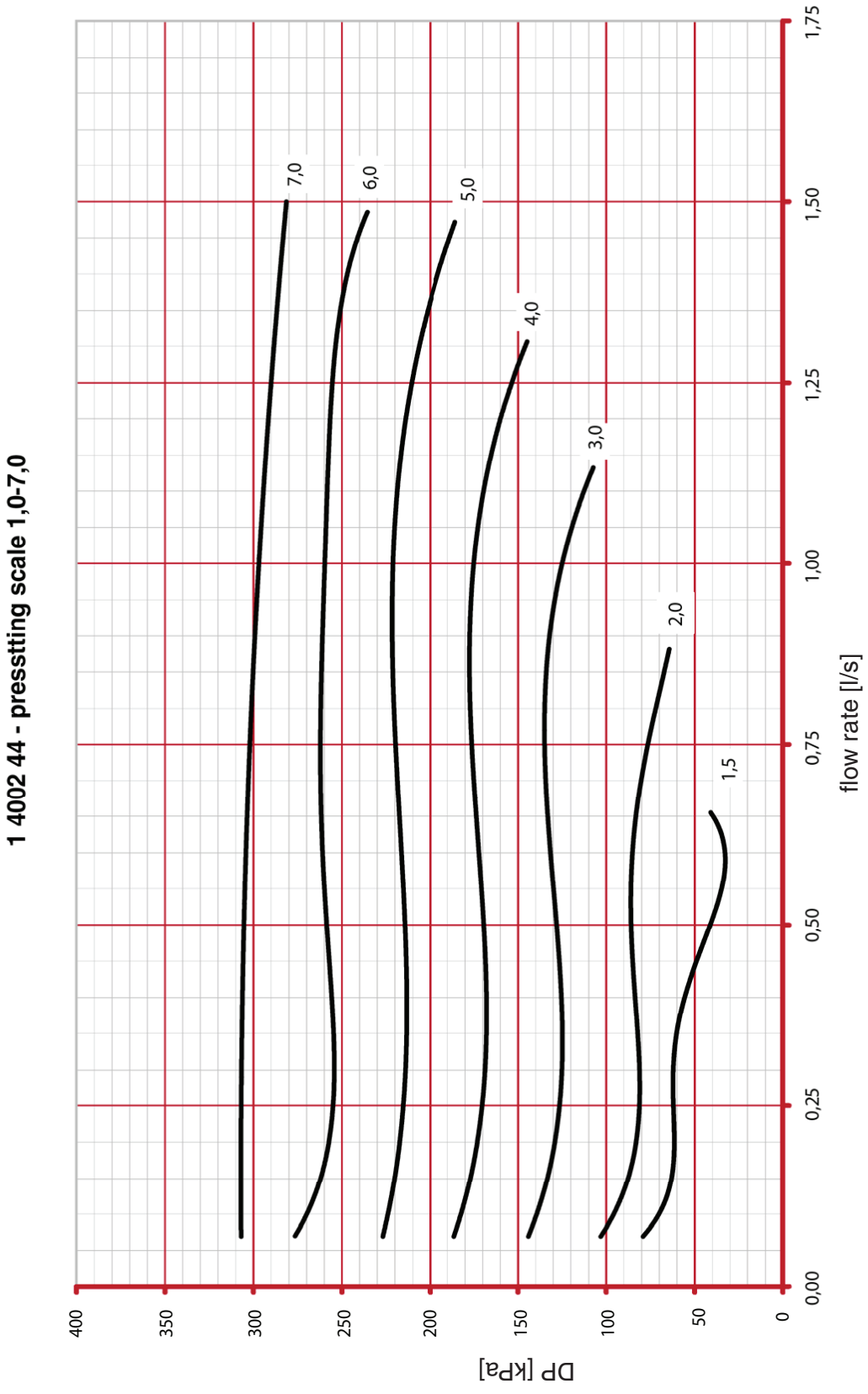
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 63	Dim. DN 25



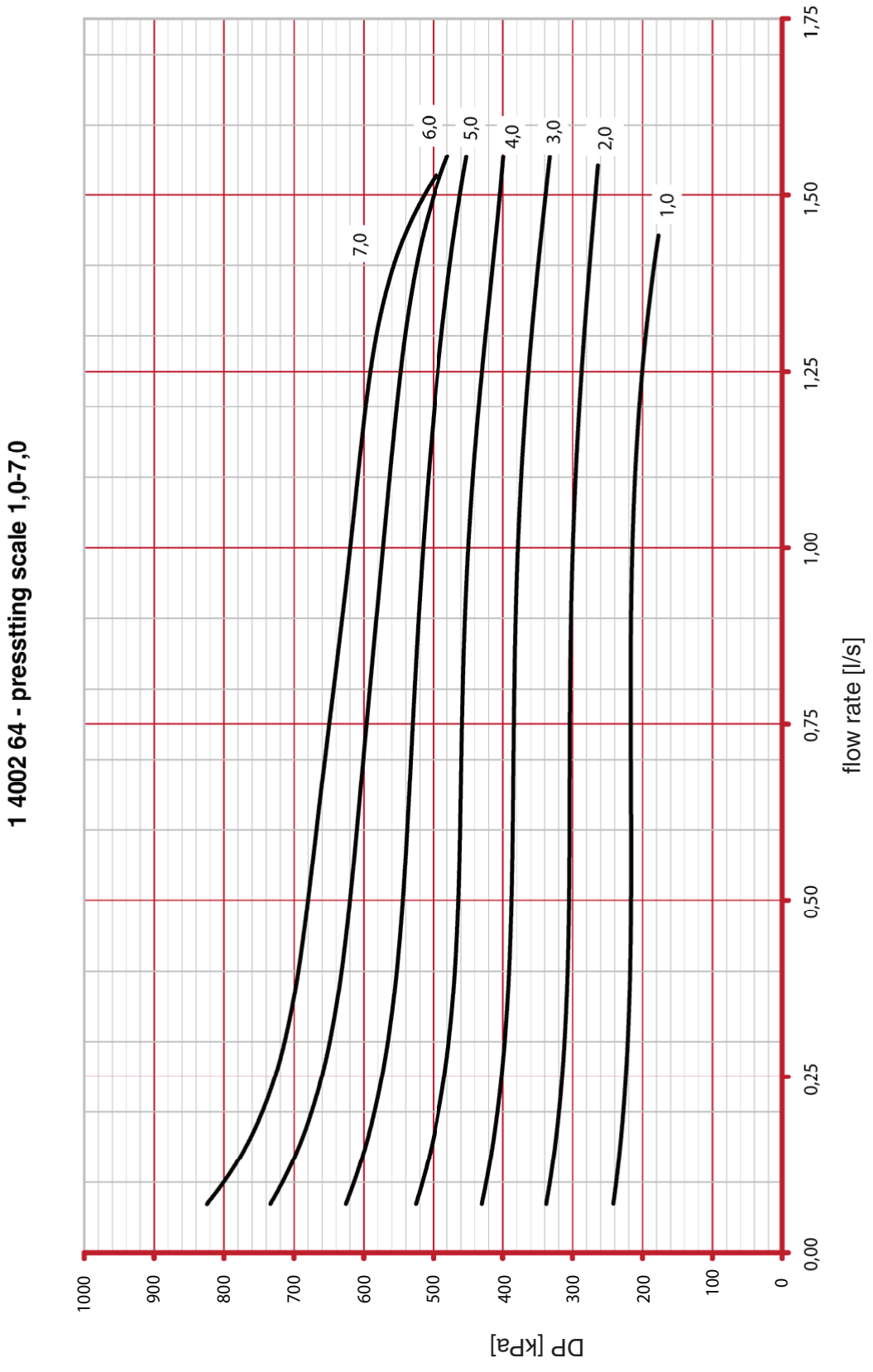
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 73	Dim. DN 25



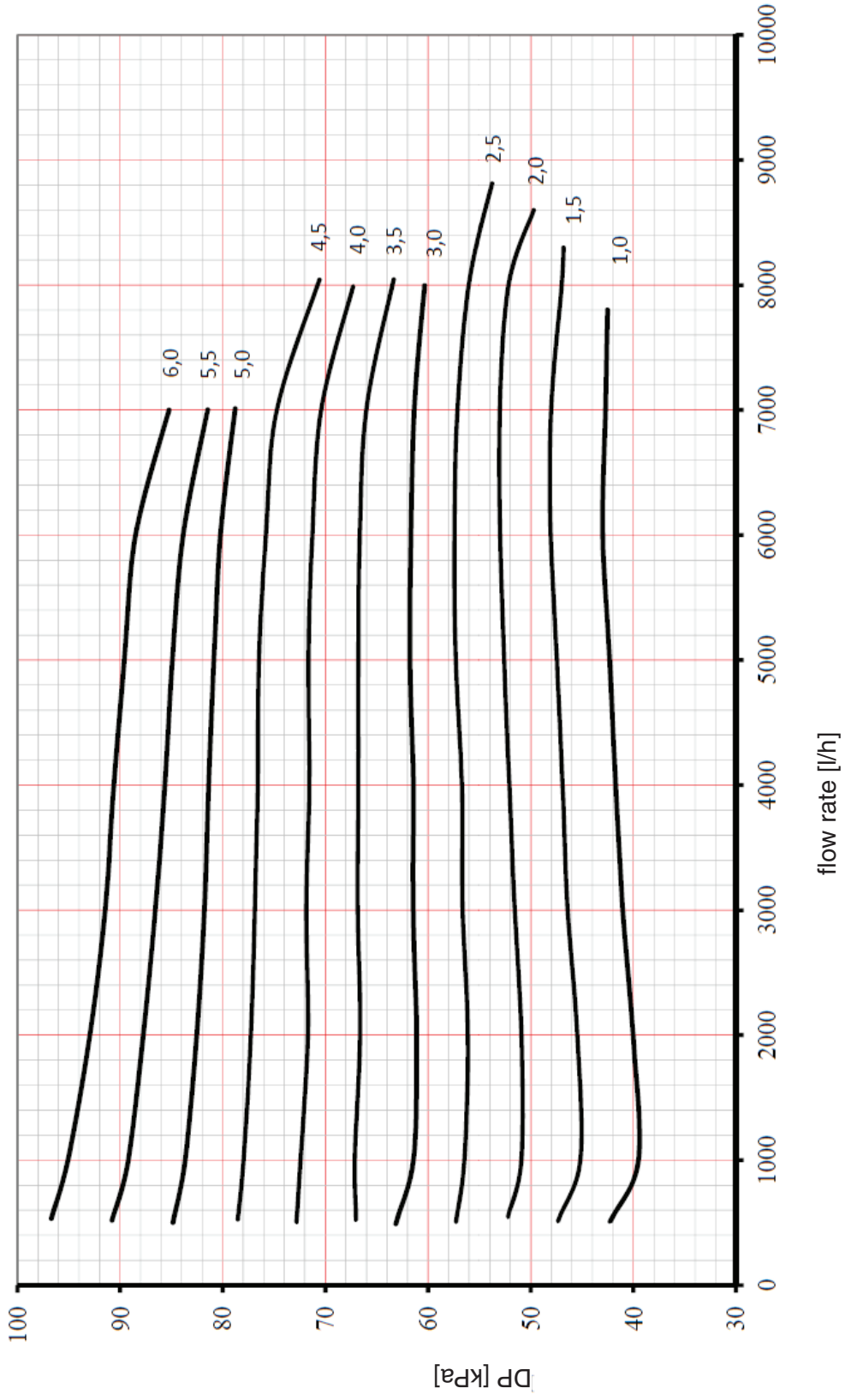
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 44	Dim. DN 32



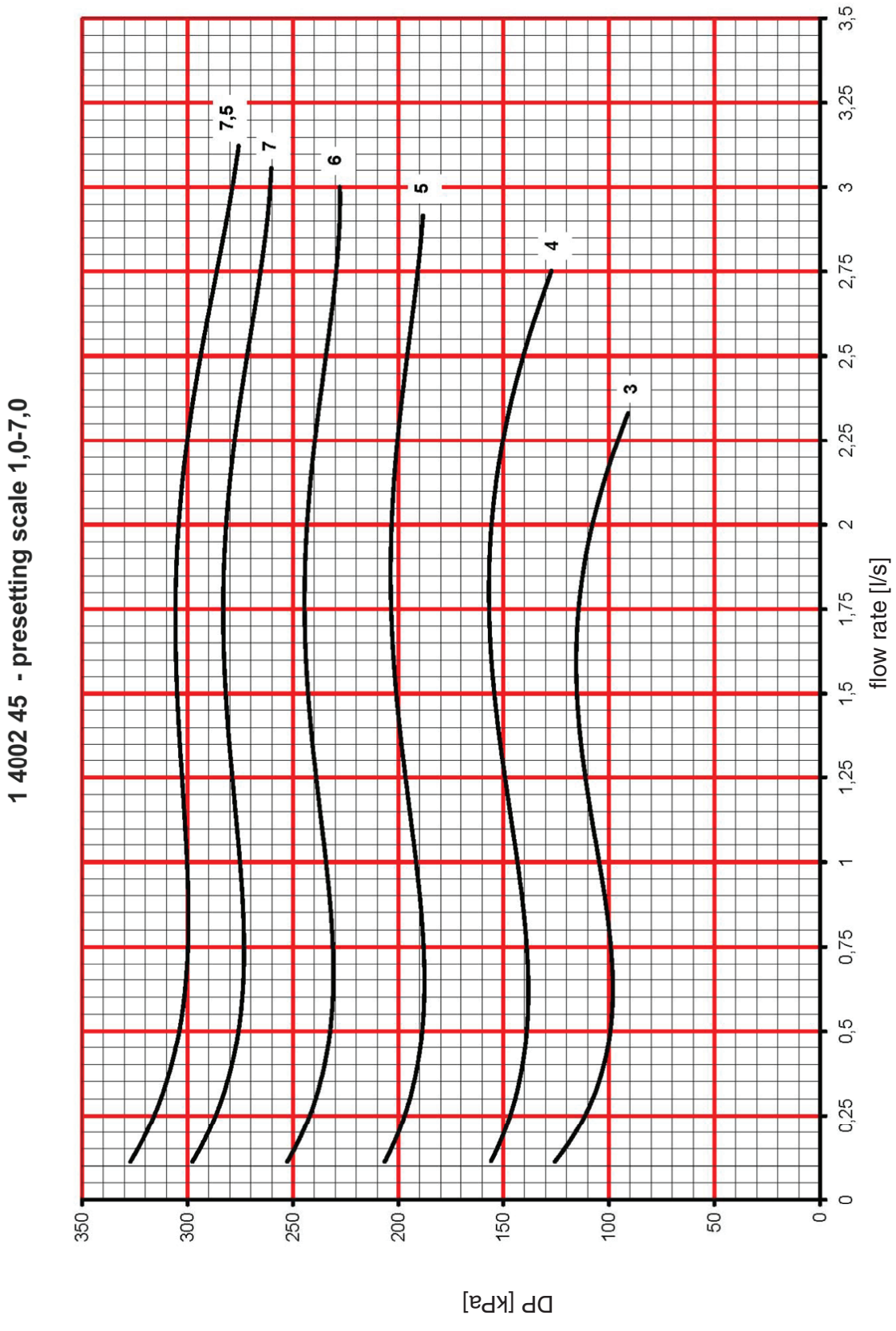
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002 64**	Dim. DN 32



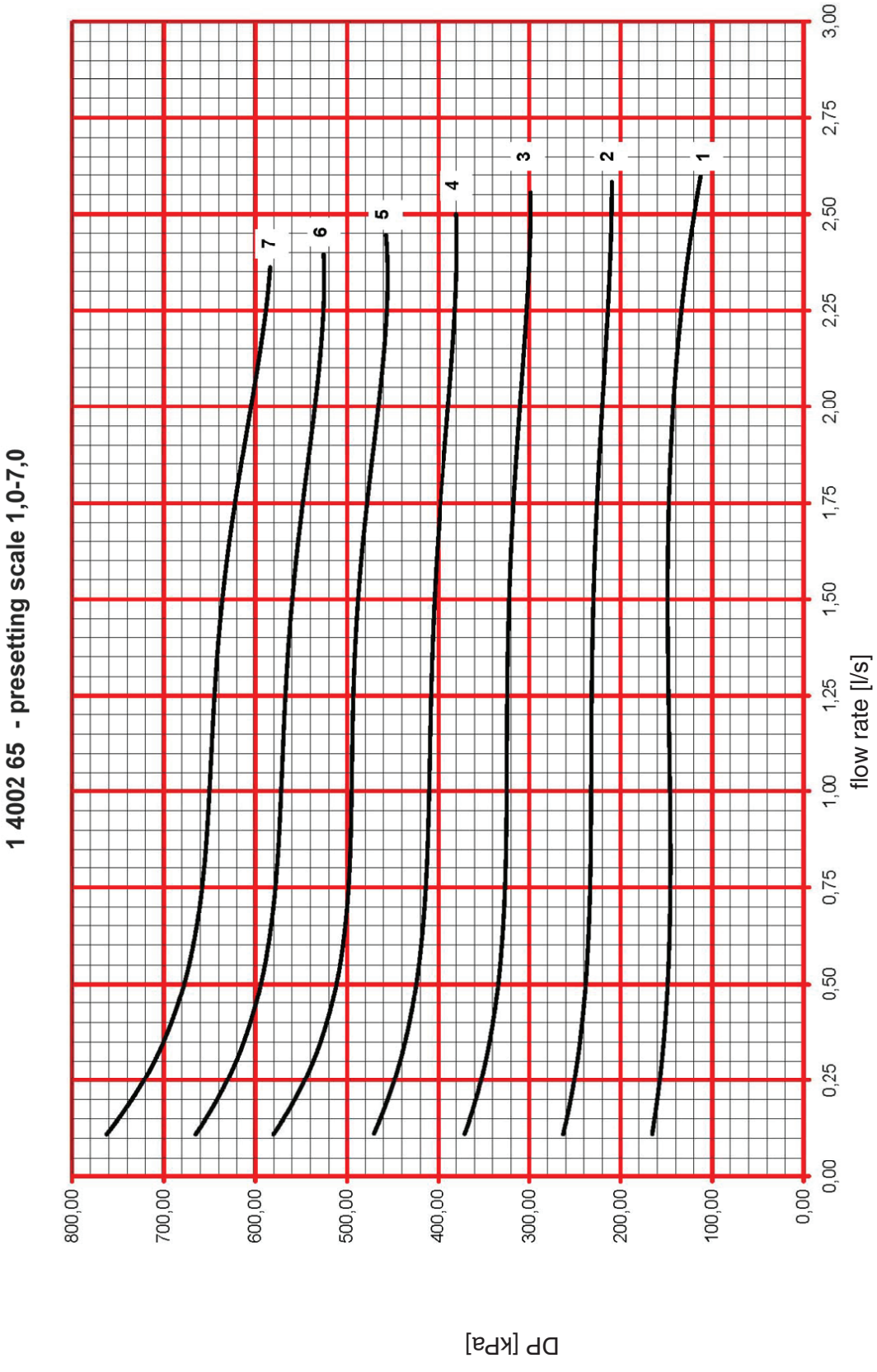
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 74	Dim. DN 32



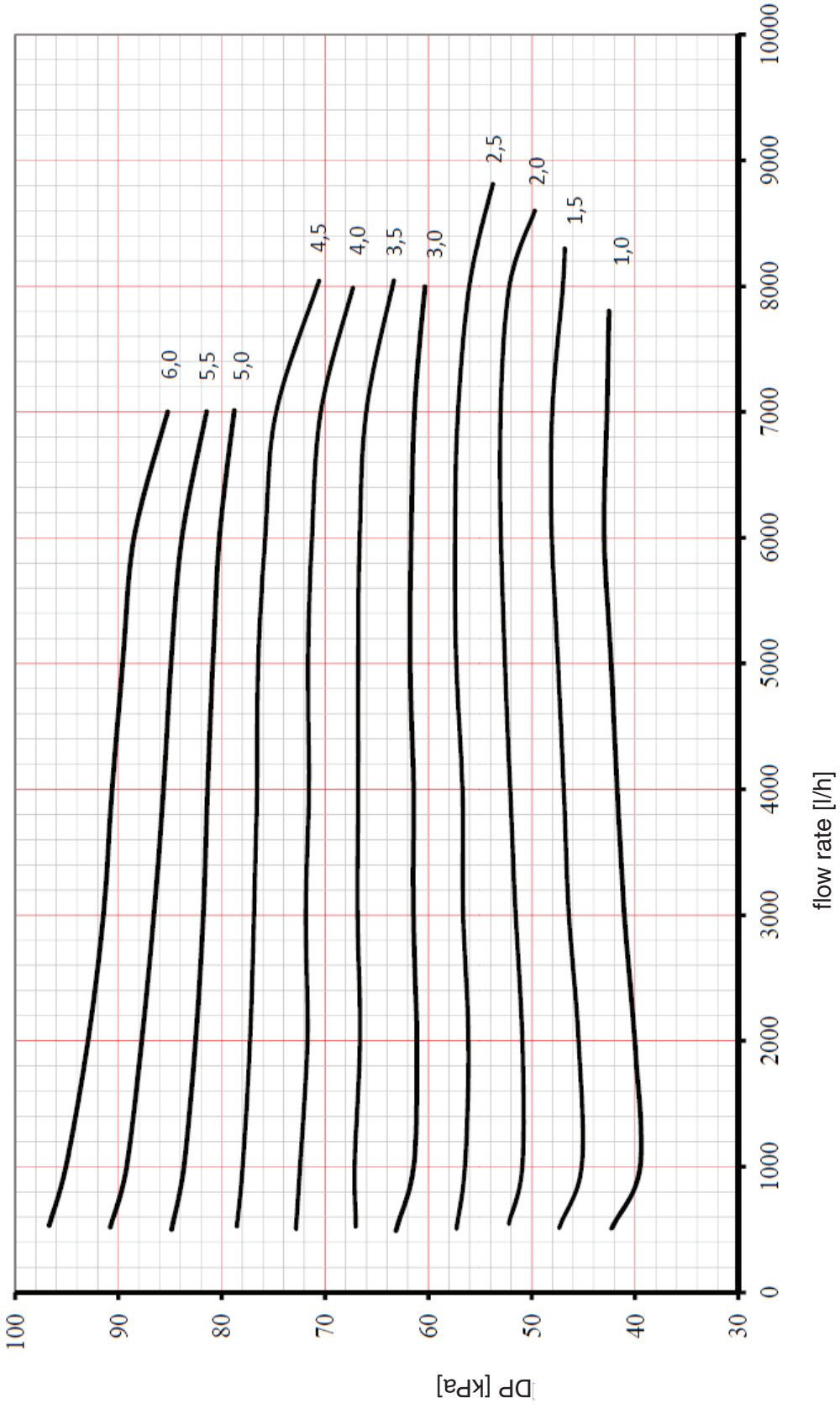
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 45	Dim. DN 40



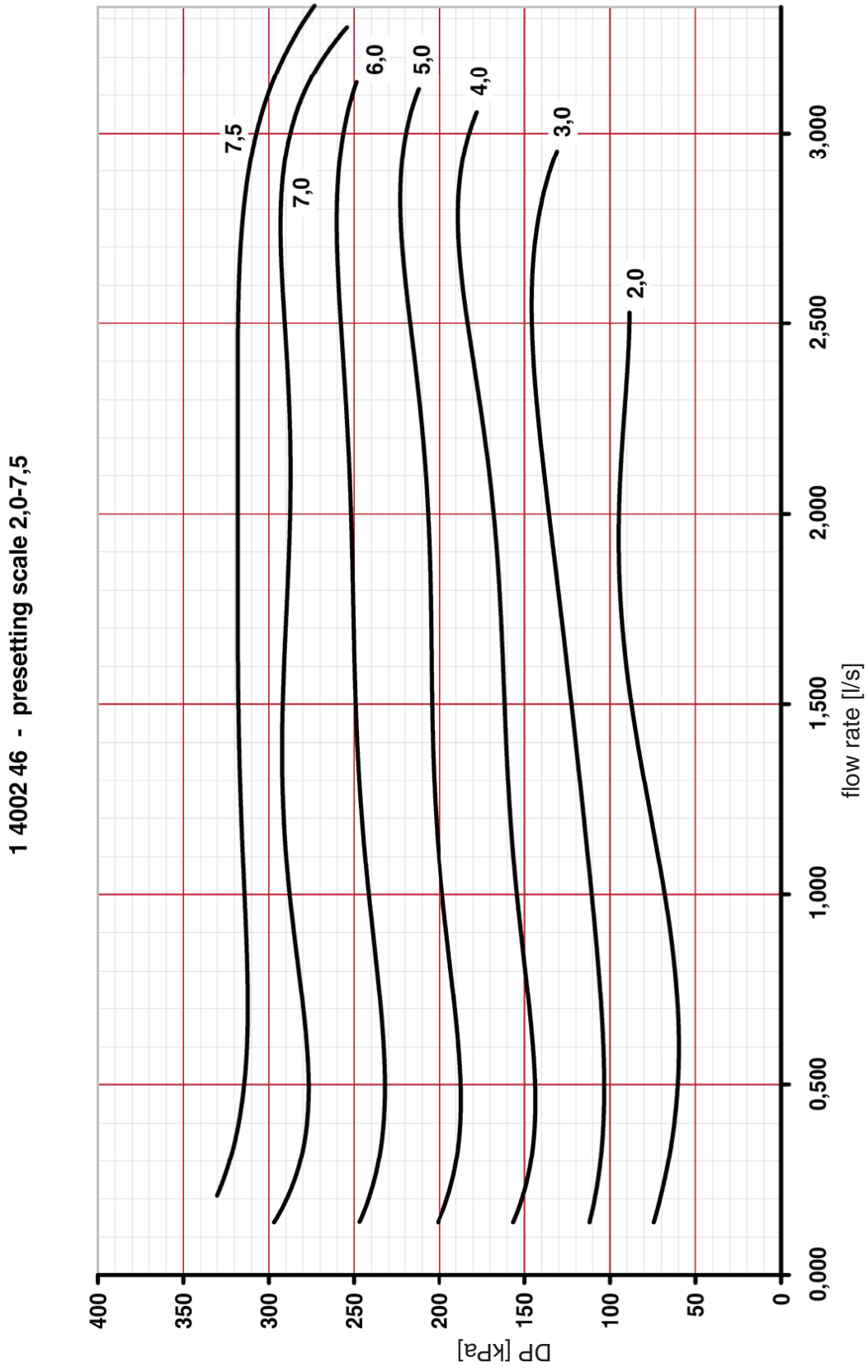
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 65	Dim. DN 40



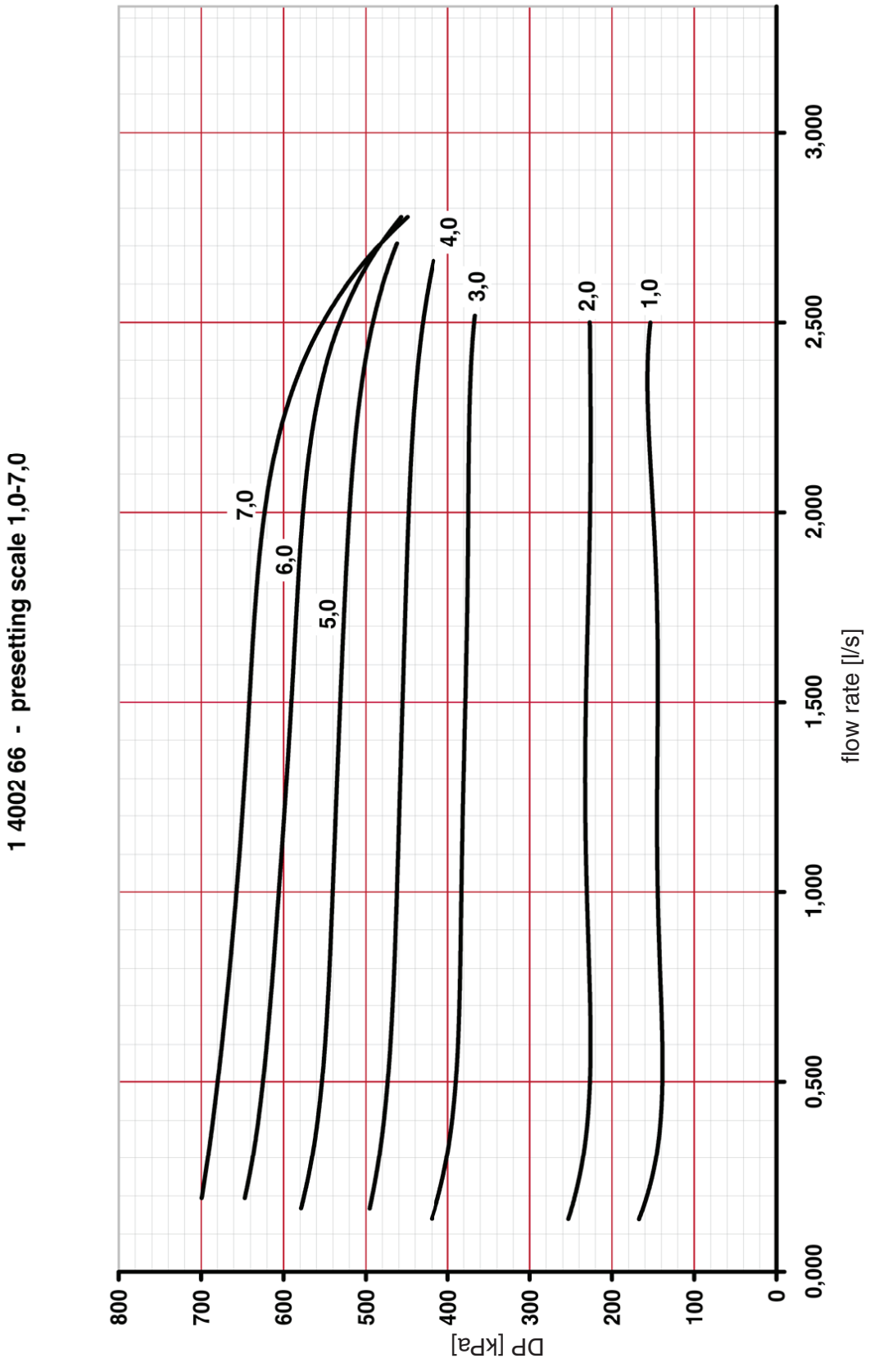
HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 75	Dim. DN 40



HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 46	Dim. DN 50



HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 66	Dim. DN 50



HERZ- standard diagram	Differential pressure controller
Art. Nr. 1 **4002** 76	Dim. DN 50