

Fig No 4218

Variable Orifice

Double Regulating Valve

Flow Data



In this flow data manual we have endeavoured to make the information as accurate as possible. We cannot accept any responsibility should it be found that in any respect the information is inaccurate or incomplete or becomes so as a result of further developments or otherwise.

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HERZ-Double Regulating Valve PN16

February 2013

Issue 1

Technical Data

The flow rate can be calculated using the K_{VS} value and a measured signal.

$$K_V = \frac{Q}{\sqrt{\Delta P}} \quad K_{VS} = \frac{Q}{\sqrt{\Delta P_s}}$$

where K_V & K_{VS} = flow coefficient (m³/hr at 1 bar differential)

Q = flow rate (m³/hr)

ΔP = headloss attributable to orifice plate (bar)

ΔP_s = differential press across tappings (signal) (bar)

Flow Coefficient

The pressure loss is the same as the flow measurement signal and can be measured using the pressure tapping points or calculated using the $K_V = K_{VS}$ value.

The double regulating valve shall not be used less than 25% open.

Pressure Loss

Under the Pressure Equipment Directive (PED) these double regulating valves have been specified for Group 2 Liquids i.e. non-hazardous

Sizes DN50 to DN300 are classified as SEP

PED Categorisation

Herz 4218 variable orifice double regulating valve (VODRV) can be installed independently or close coupled to a Herz 2740 orifice plate of the same nominal diameter.

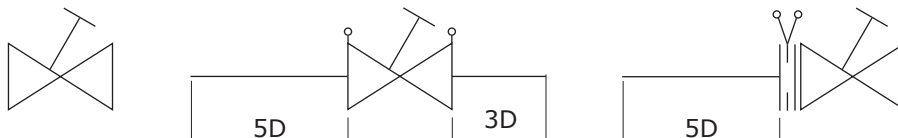
When used for flow measurement, regardless of installation there must always be a minimum of 5 pipe diameters of straight pipe without intrusion upstream and a minimum of 3 pipe diameters downstream of the valve.

When close coupled to a Herz 2740 orifice plate no straight pipe is required after the valve.

The valve can be used independently for pressure regulation in a bypass, without the need for lengths of straight pipe.

For more detailed instructions please refer to the Installation, Operation and Maintenance Instructions supplied with the valve or orifice plate.

Installation



Once the required flow rate has been calculated, the size of the valve can be determined from the flow charts.

Sizing

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Position Open	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
3				60.7				
3.5		20.6		69.1				
4	15.4	22.9	40.9	77.5	69.3	137		
4.5	17.3	25.0	45.3	86.1	77.8	169	195	
5	19.5	27.1	49.7	94.8	88.3	201	216	
5.5	21.0	30.7	55.0	104	96.3	233	239	272
6	22.8	34.4	60.3	113	106	266	263	302
6.5	24.2	39.9	67.5	124	118	302	290	324
7	25.5	45.5	74.7	136	130	339	317	346
7.5	27.7	52.7	82.3	152	150	376	358	367
8	30.0	59.9	90.0	168	170	413	400	389
8.5	32.8	66.3	97.0	178	194	442	456	455
9	35.6	72.7	104	189	218	472	513	521
9.5	38.9	77.4	110	201	237	501	555	586
10	42.1	82.1	116	212	256	531	597	664
11	47.7	90.2	126	229	288	561	697	785
12	51.6	96.7	135	243	315	591	781	907
13	56.5	101.4	143	256	340	621	846	1009
14	60.8	107	151		355	649	928	1111
15	64.2		158		371	676	972	1238
16	66.9		165		390		1014	1365
17			169				1065	1447
18							1083	1529
22								1785

Kvs Values

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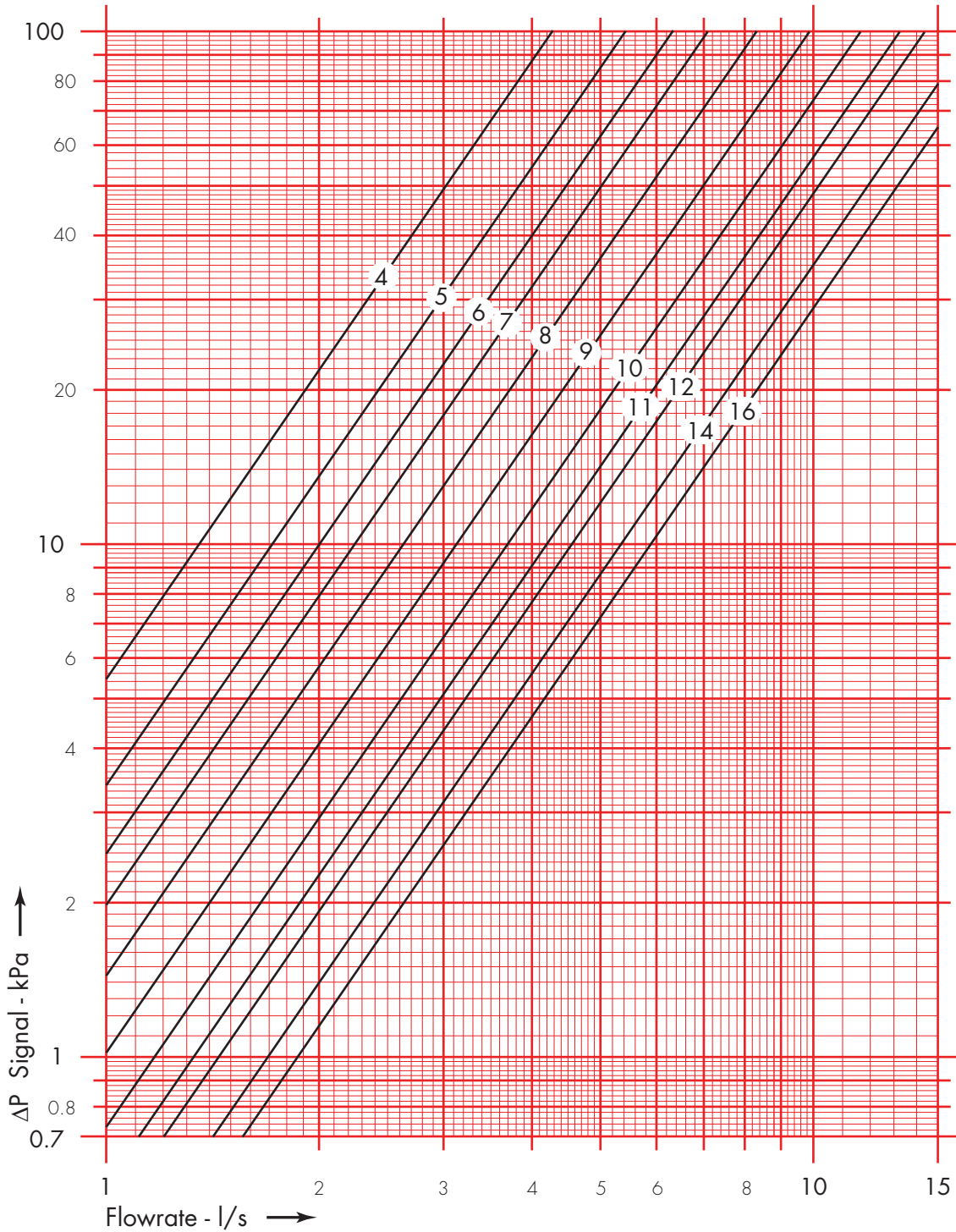
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 81

Dim. DN65

Position	4	5	6	7	8	9	10	12	14	16
Kvs	15.4	19.5	22.8	25.5	30.0	35.6	42.1	51.6	60.8	66.9



We reserve the right to make design modifications

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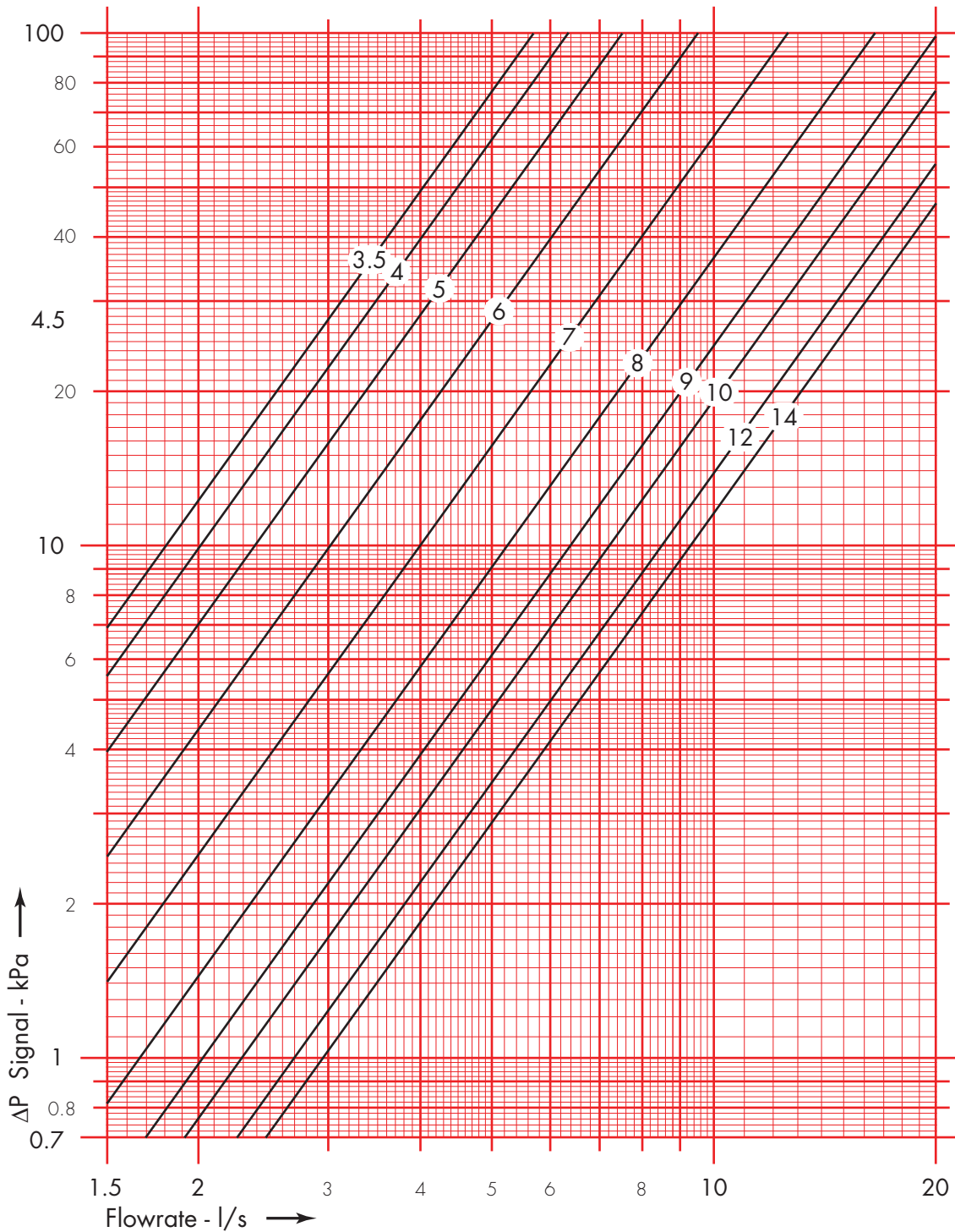
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Double Regulating Valve

Art. **4218** - 82

Dim. DN80

Position	3.5	4	5	6	7	8	9	10	12	14
Kvs	20.6	22.9	27.1	34.4	45.5	59.9	72.7	82.1	96.7	107



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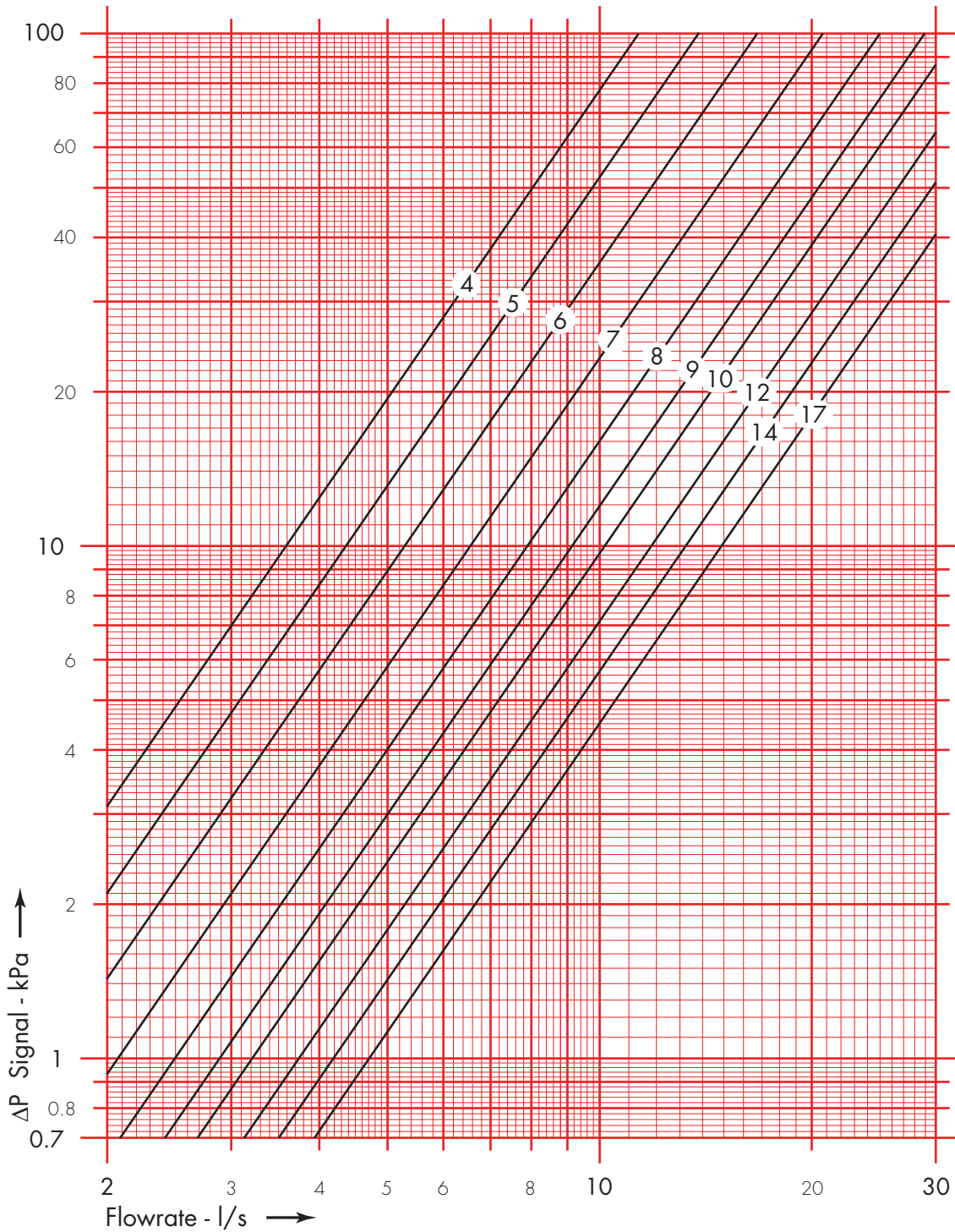
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Double Regulating Valve

Art. **4218** - 83

Dim. DN100

Position	4	5	6	7	8	9	10	12	14	17
Kvs	40.9	49.7	60.3	74.7	90.0	104	116	135	151	169



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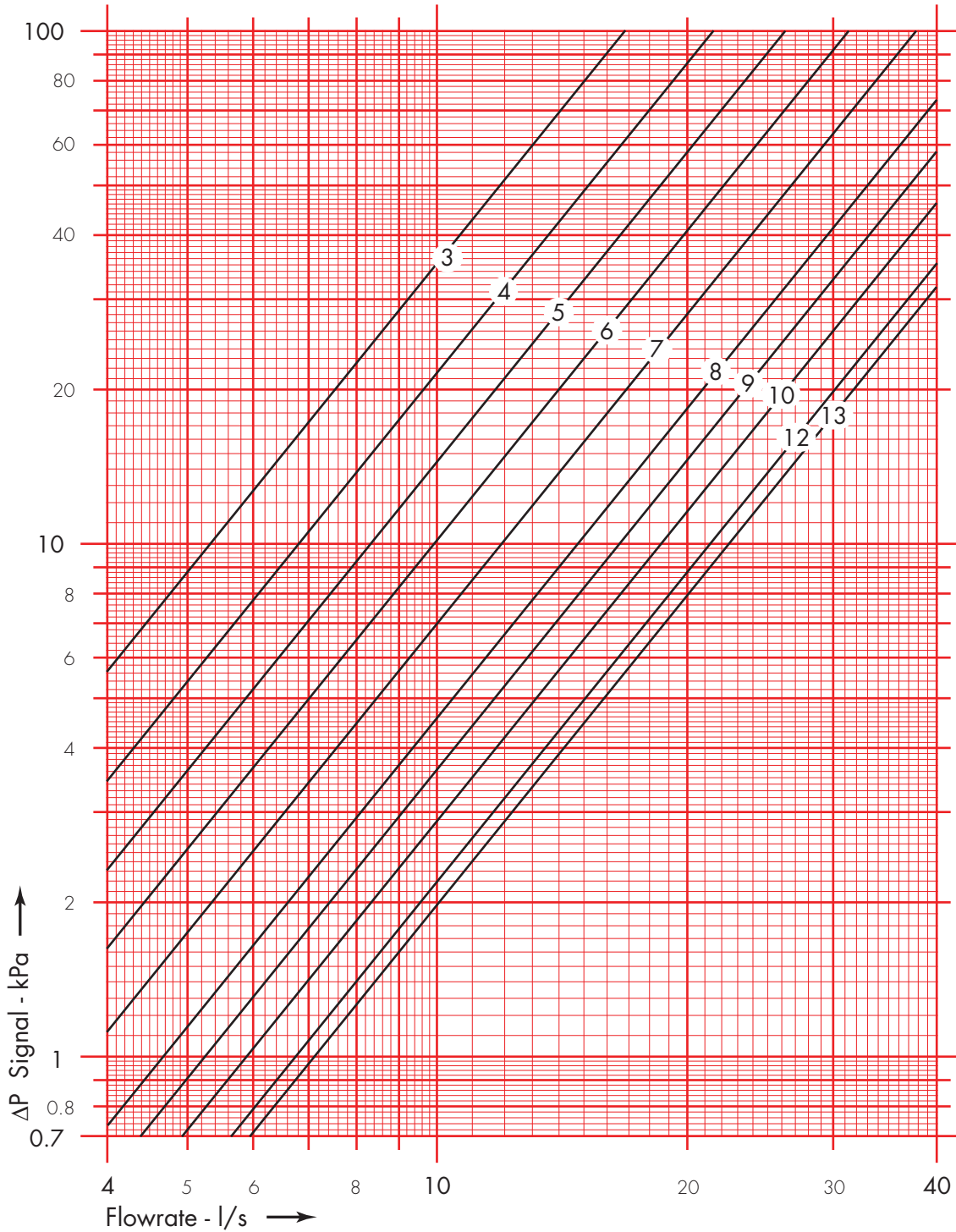
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Double Regulating Valve

Art. **4218** - 84

Dim. DN125

Position	3	4	5	6	7	8	9	10	13
Kvs	60.7	77.5	94.8	113	136	168	189	212	256



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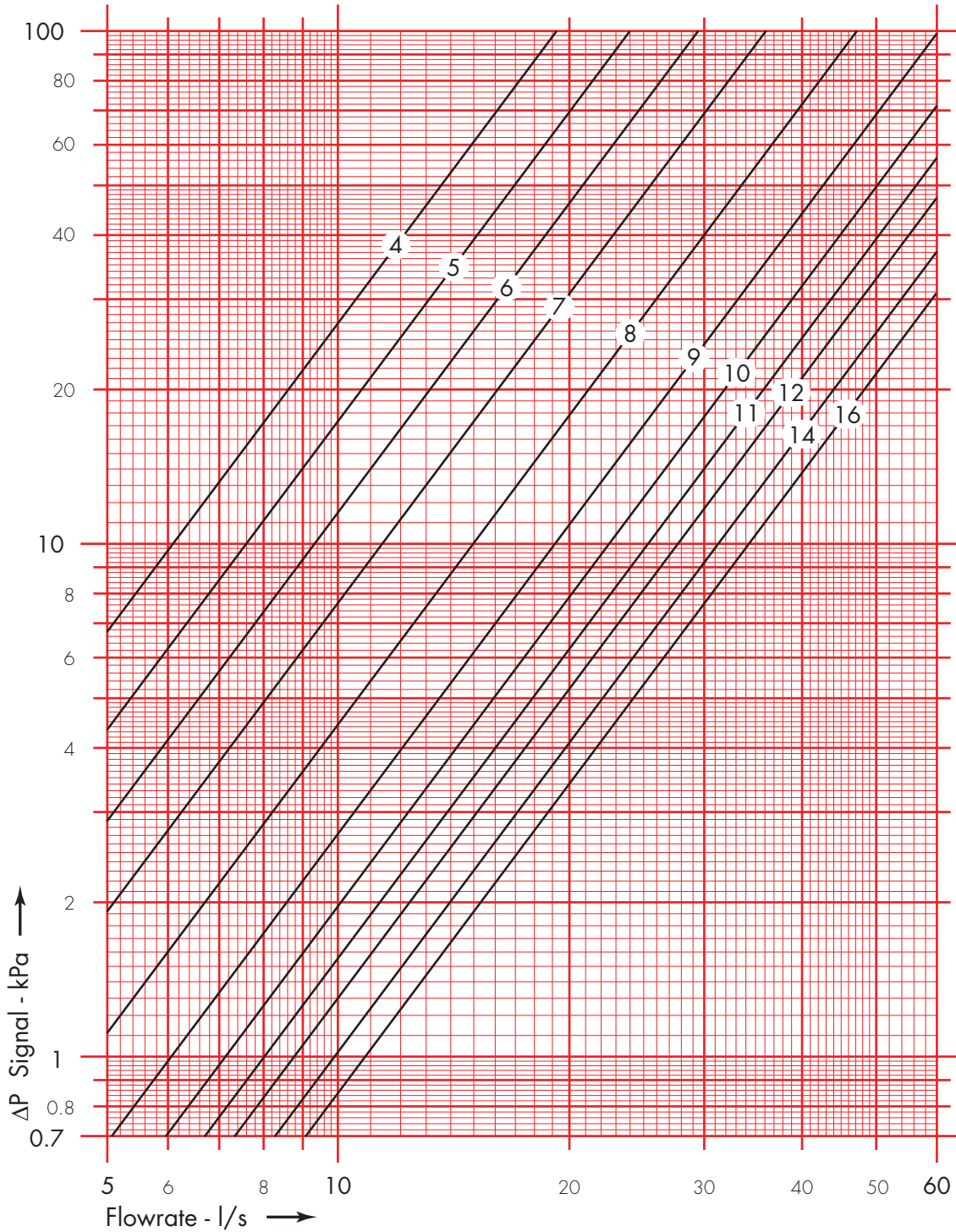
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 85

Dim. DN150

Position	4	5	6	7	8	9	10	12	14	16
Kvs	69.3	88.3	106	130	170	218	256	315	355	390



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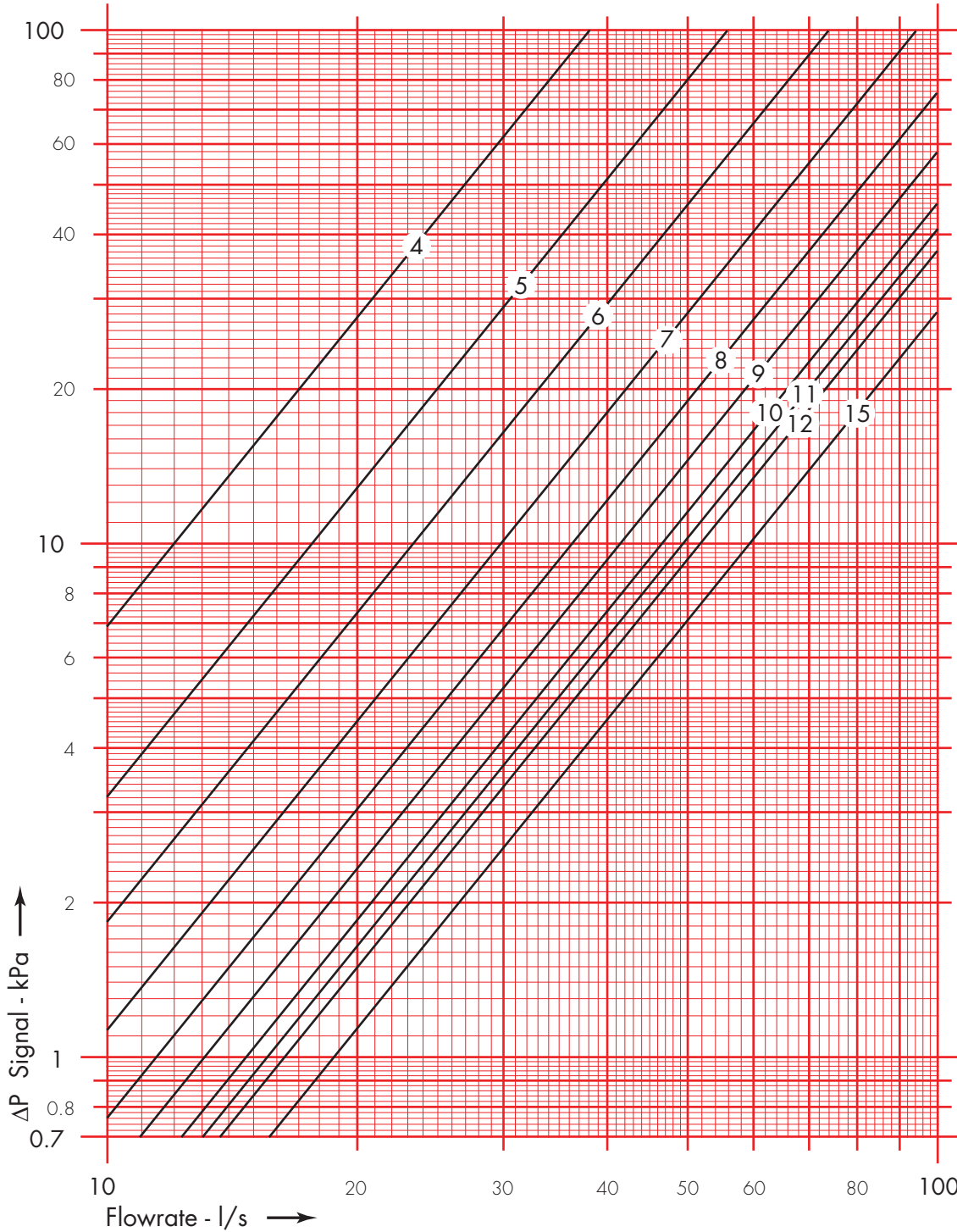
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 86

Dim. DN200

Position	4	5	6	7	8	9	10	11	12	15
Kvs	137	201	266	339	413	472	531	561	591	676



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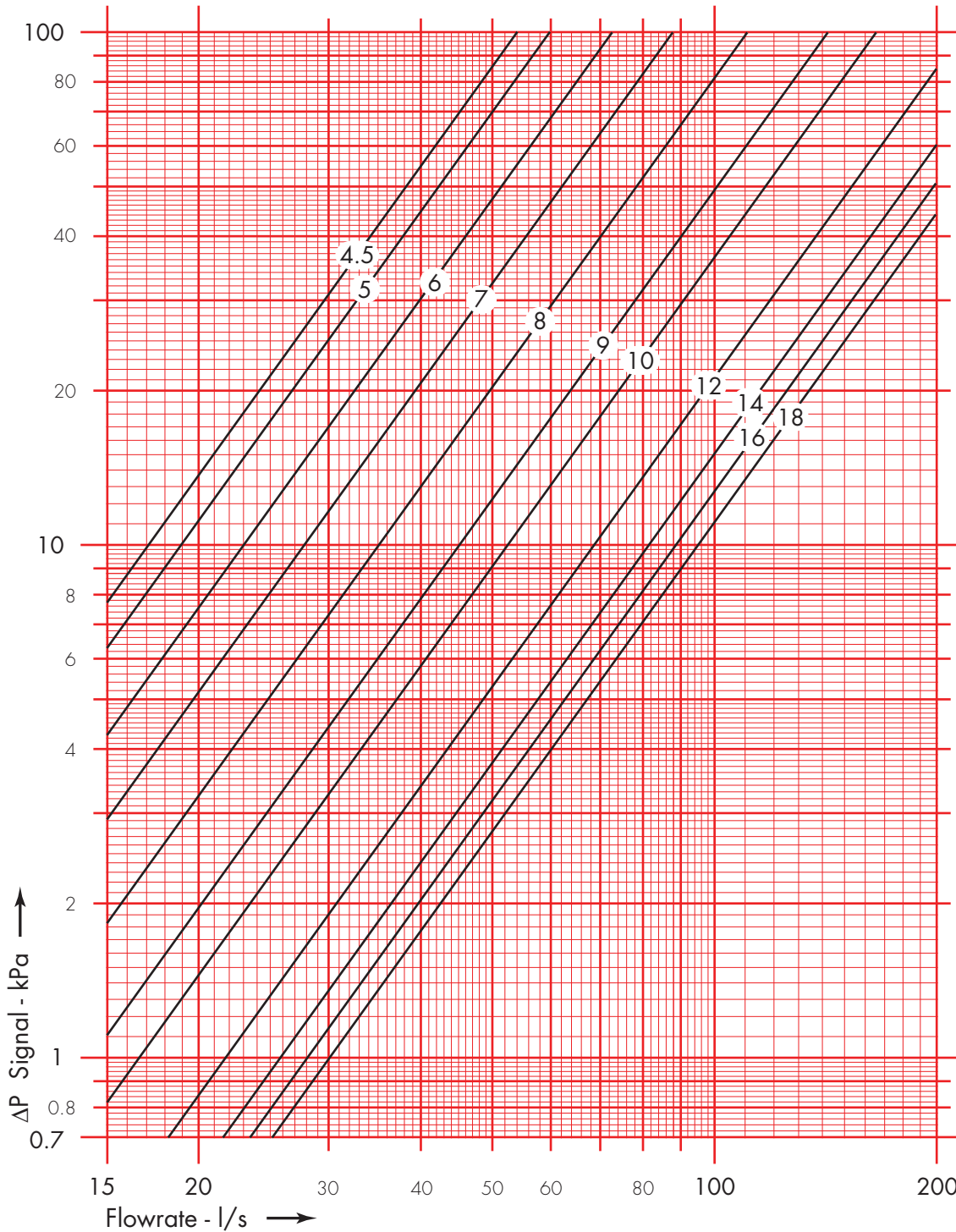
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 87

Dim. DN250

Position	4.5	5	6	7	8	9	10	12	14	18
Kvs	195	216	263	317	400	513	597	781	928	1083



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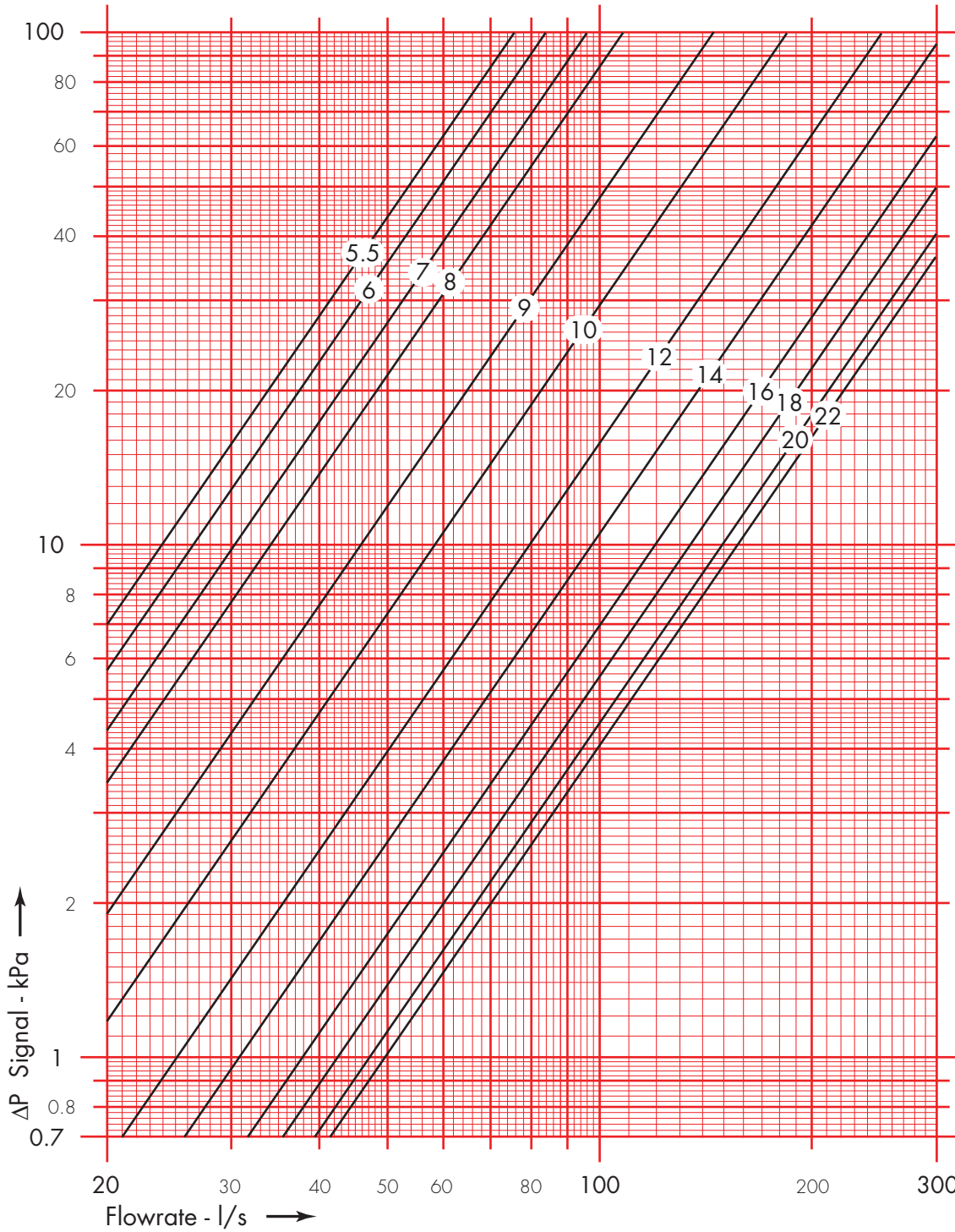
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Double Regulating Valve

Art. **4218** - 88

Dim. DN300

Position	5.5	6	7	8	9	10	12	14	18	22
Kvs	272	302	346	389	521	664	907	1111	1529	1785



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