

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

July 2010

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 commissioning sets 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.

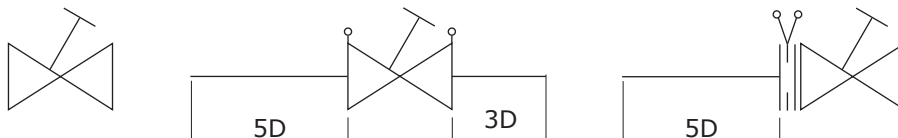
When used for flow measurement, regardless of installation there must always be a minimum of 5 pipe diameters of straight pipe without intrusion upstream and a minimum of 3 pipe diameters downstream of the valve.

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				31.6				
3.5		12.6		35.8				
4	11.2	13.0	14.2	40.2	60.5	137		
4.5	12.0	14.3	15.8	47.0	69.1	169	195	
5	13.9	15.5	17.6	53.8	77.6	201	216	
5.5	14.8	18.7	21.9	62.8	88.2	233	239	272
6	15.8	21.9	26.2	71.9	98.8	266	263	302
6.5	17.1	28.1	34.7	85.9	112	302	290	324
7	18.4	34.3	43.2	99.9	126	339	317	346
7.5	20.4	42.7	53.1	120	145	376	358	367
8	22.5	51.0	62.9	139	163	413	400	389
8.5	26.0	59.4	73.6	156	189	442	456	455
9	29.4	67.9	84.2	173	216	472	513	521
9.5	33.8	73.8	92.5	186	236	501	555	586
10	38.1	79.7	101	199	257	531	597	664
11	45.8	89.0	115	219	286	561	697	785
12	51.8	95.6	128	235	318	591	781	907
13	57.6	101	138		341	621	846	1009
14	62.2	106	147		359	649	928	1111
15	65.3		155		375	676	972	1238
16	68.2		161		392		1014	1365
17			166				1065	1447
18							1083	1529
22								1785

Kvs Values

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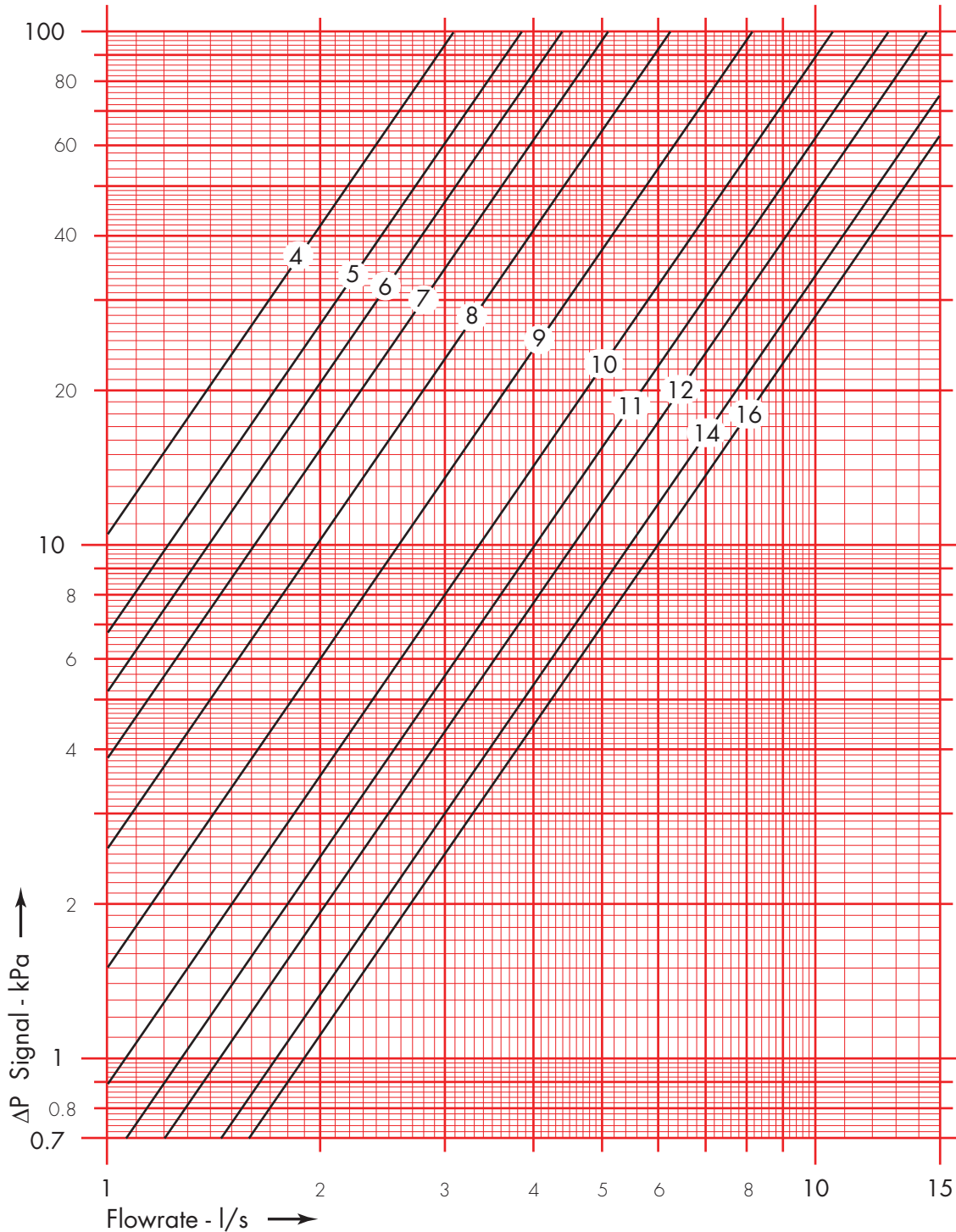
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 71

Dim. DN65

Position	4	5	6	7	8	9	10	12	14	16
Kvs	11.2	13.9	15.8	18.4	22.5	29.4	38.1	51.8	62.2	68.2



We reserve the right to make design modifications

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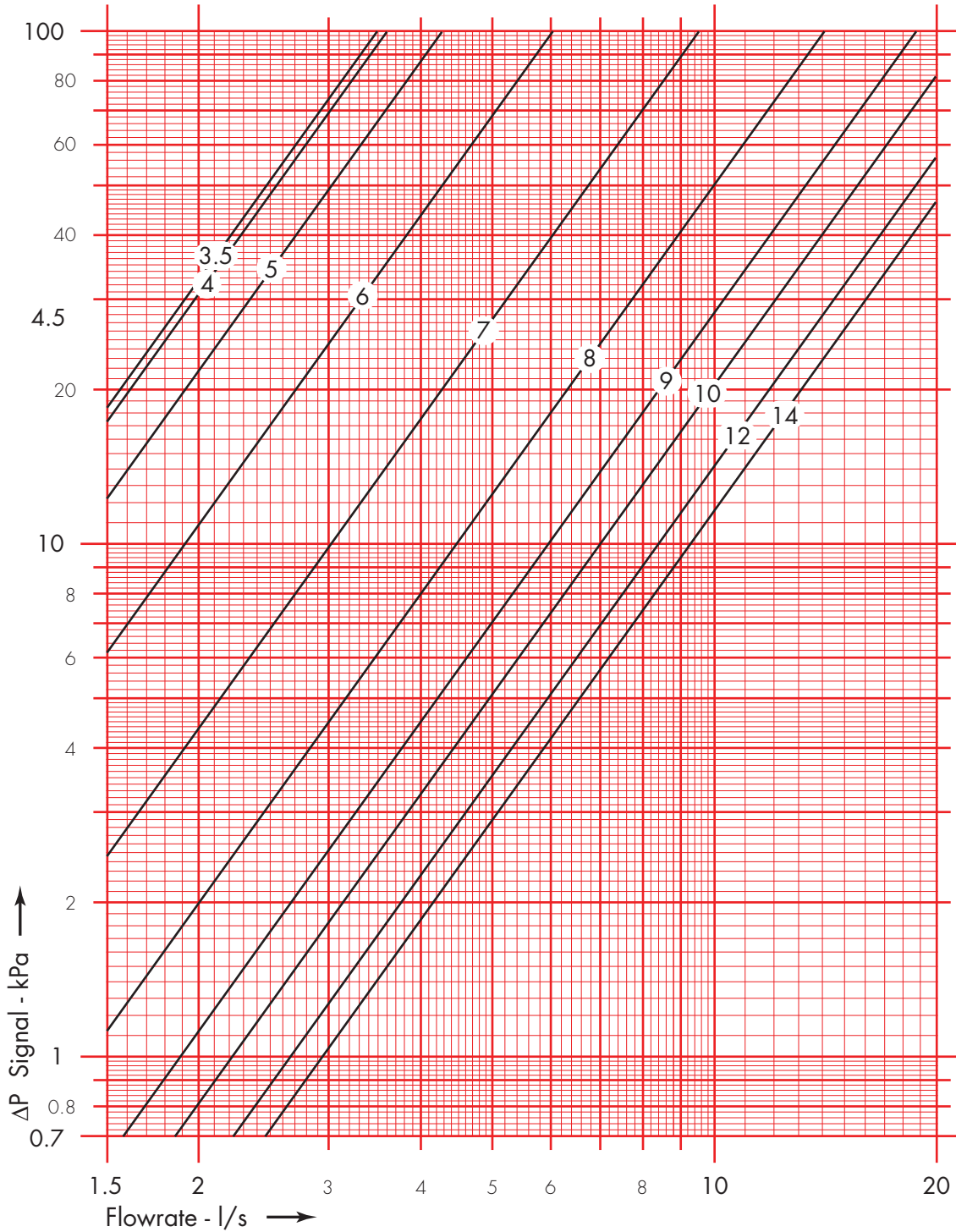
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Double Regulating Valve

Art. **4218** - 72

Dim. DN80

Position	3.5	4	5	6	7	8	9	10	12	14
Kvs	12.6	13.0	15.5	21.9	34.3	51.0	67.9	79.7	95.6	106



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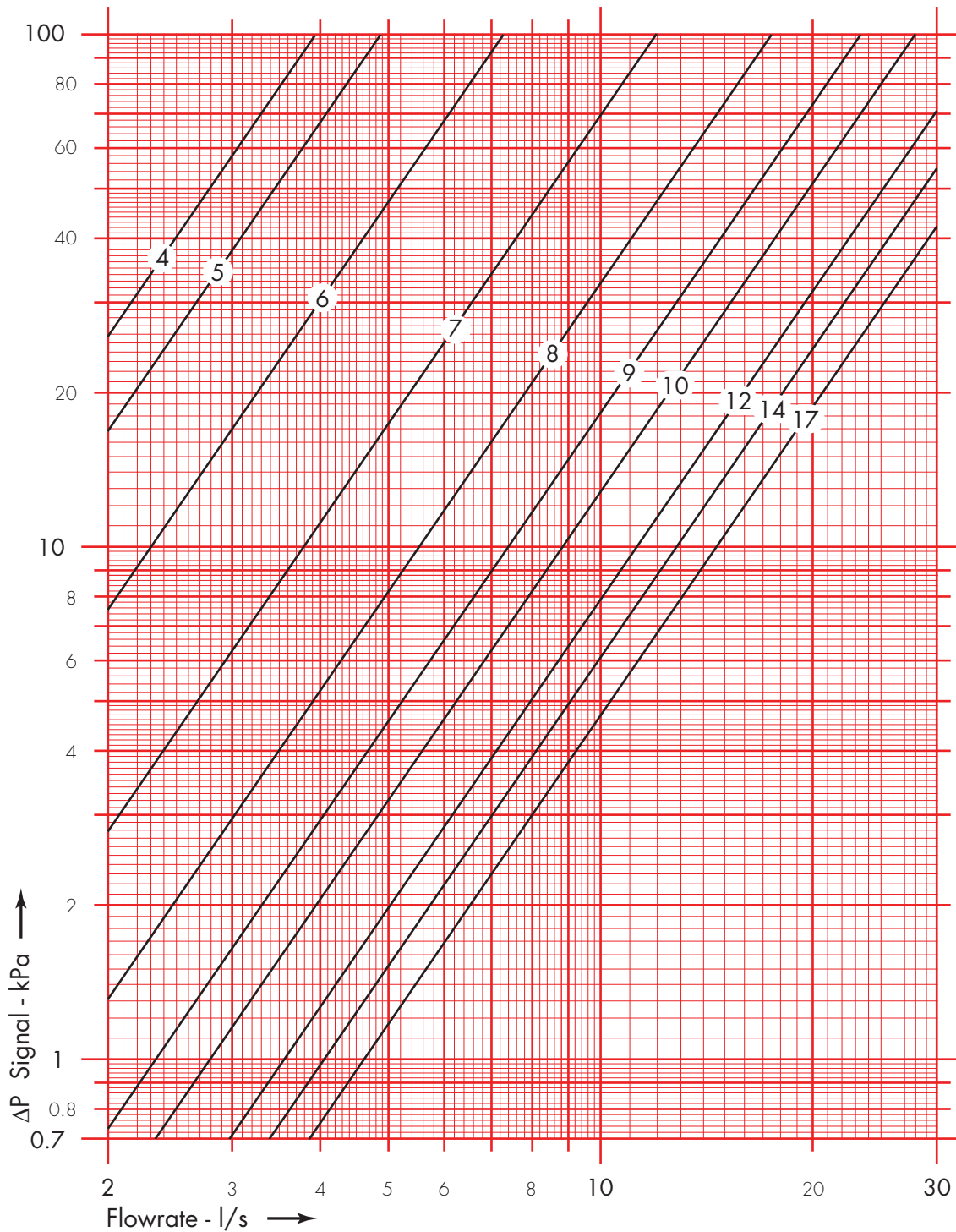
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Double Regulating Valve

Art. **4218** - 73

Dim. DN100

Position	4	5	6	7	8	9	10	12	14	17
Kvs	14.2	17.6	26.2	43.2	62.9	84.2	101	128	147	166



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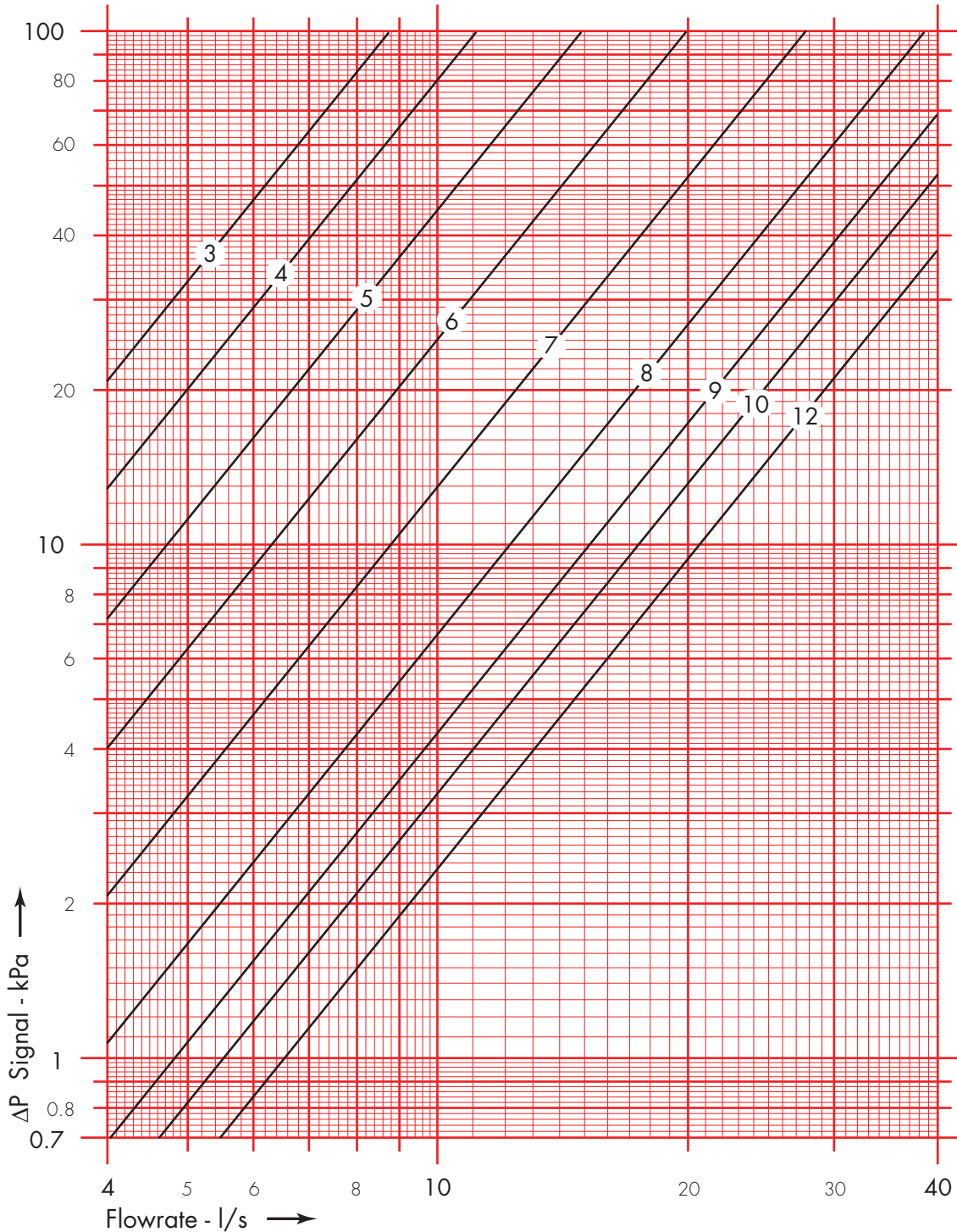
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Double Regulating Valve

Art. **4218** - 74

Dim. DN125

Position	3	4	5	6	7	8	9	10	12
Kvs	31.6	40.2	53.8	71.9	99.9	139	173	199	235



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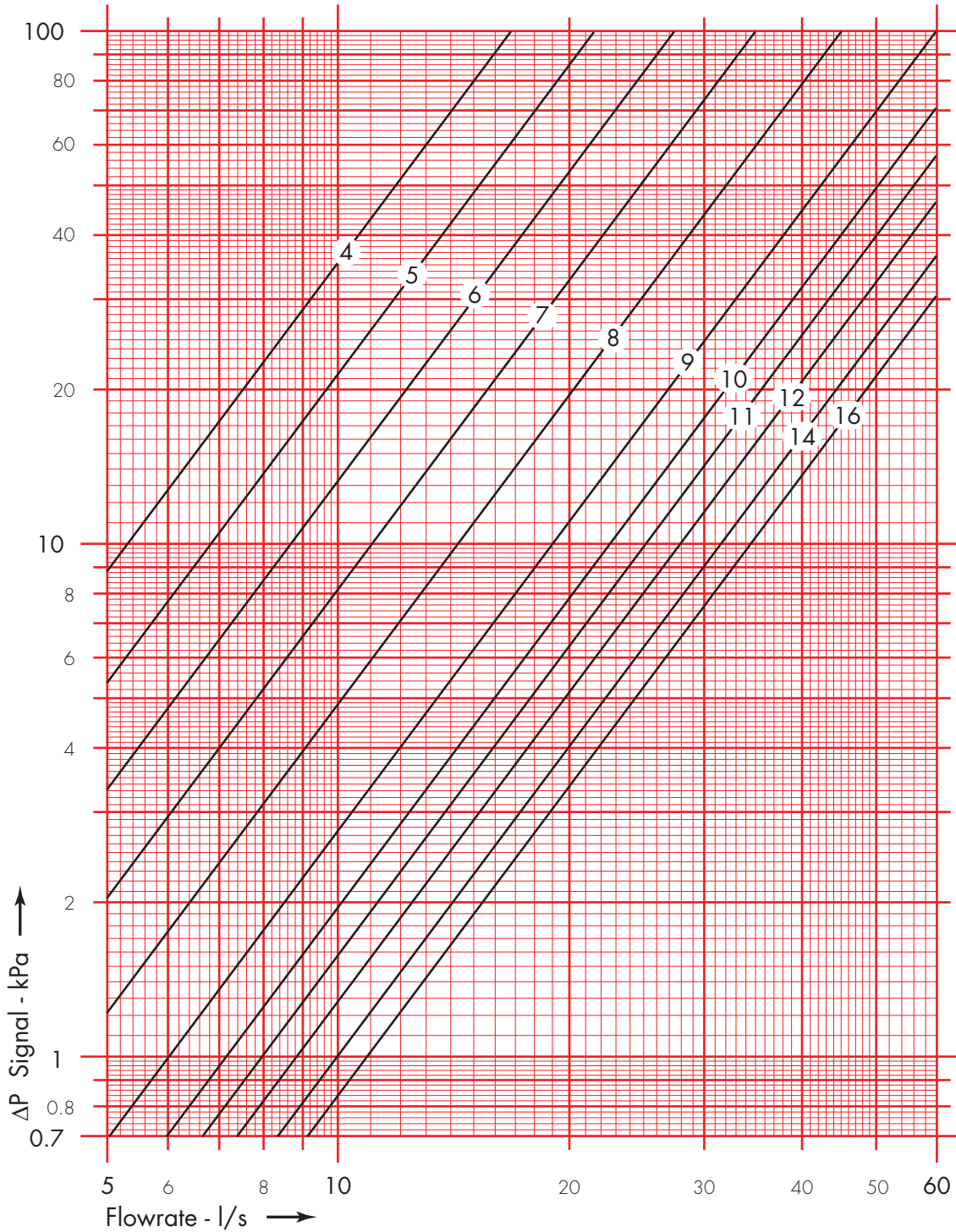
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 75

Dim. DN150

Position	4	5	6	7	8	9	10	12	14	17
Kvs	60.5	77.6	98.8	126	163	216	257	318	359	392



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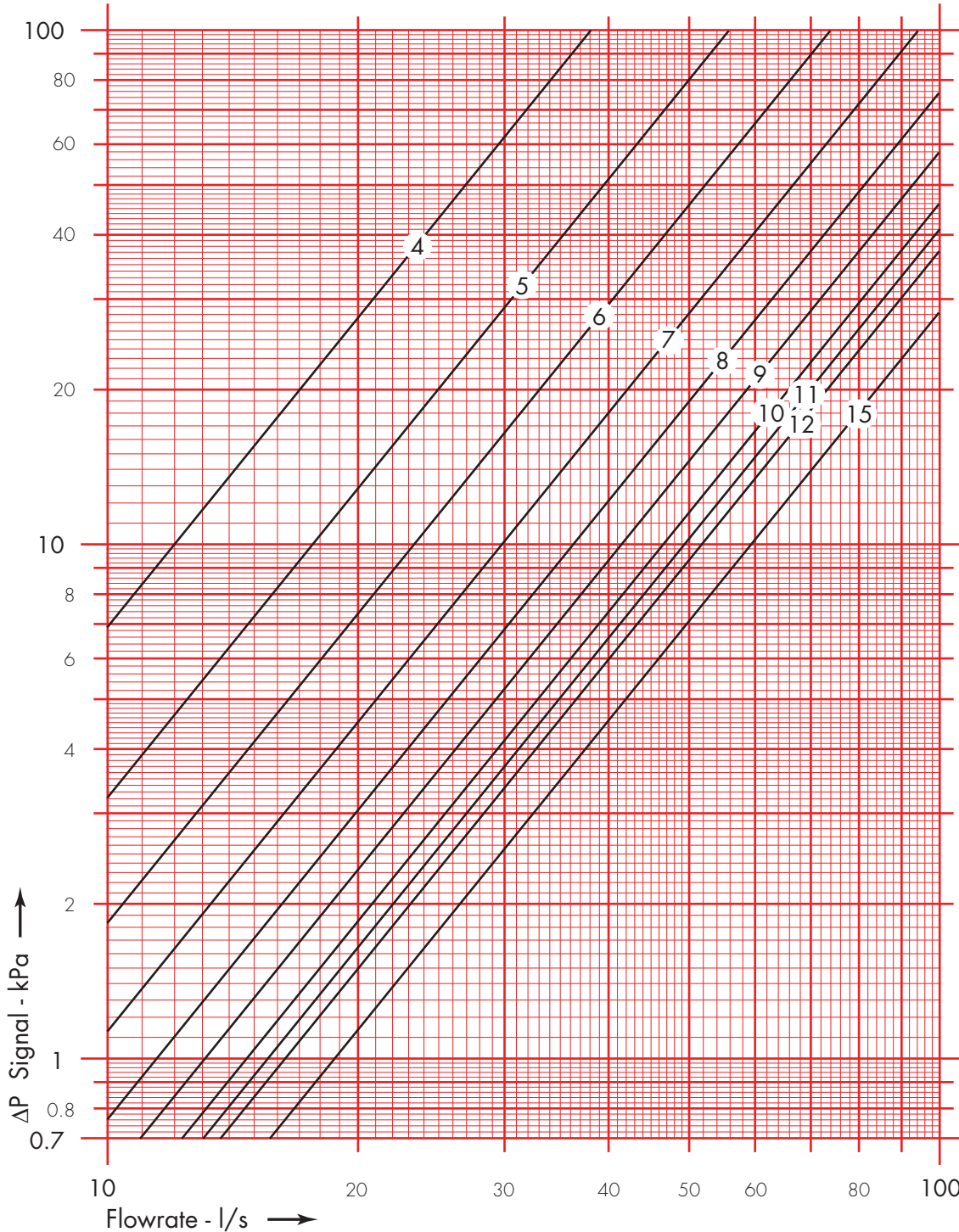
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218** - 76

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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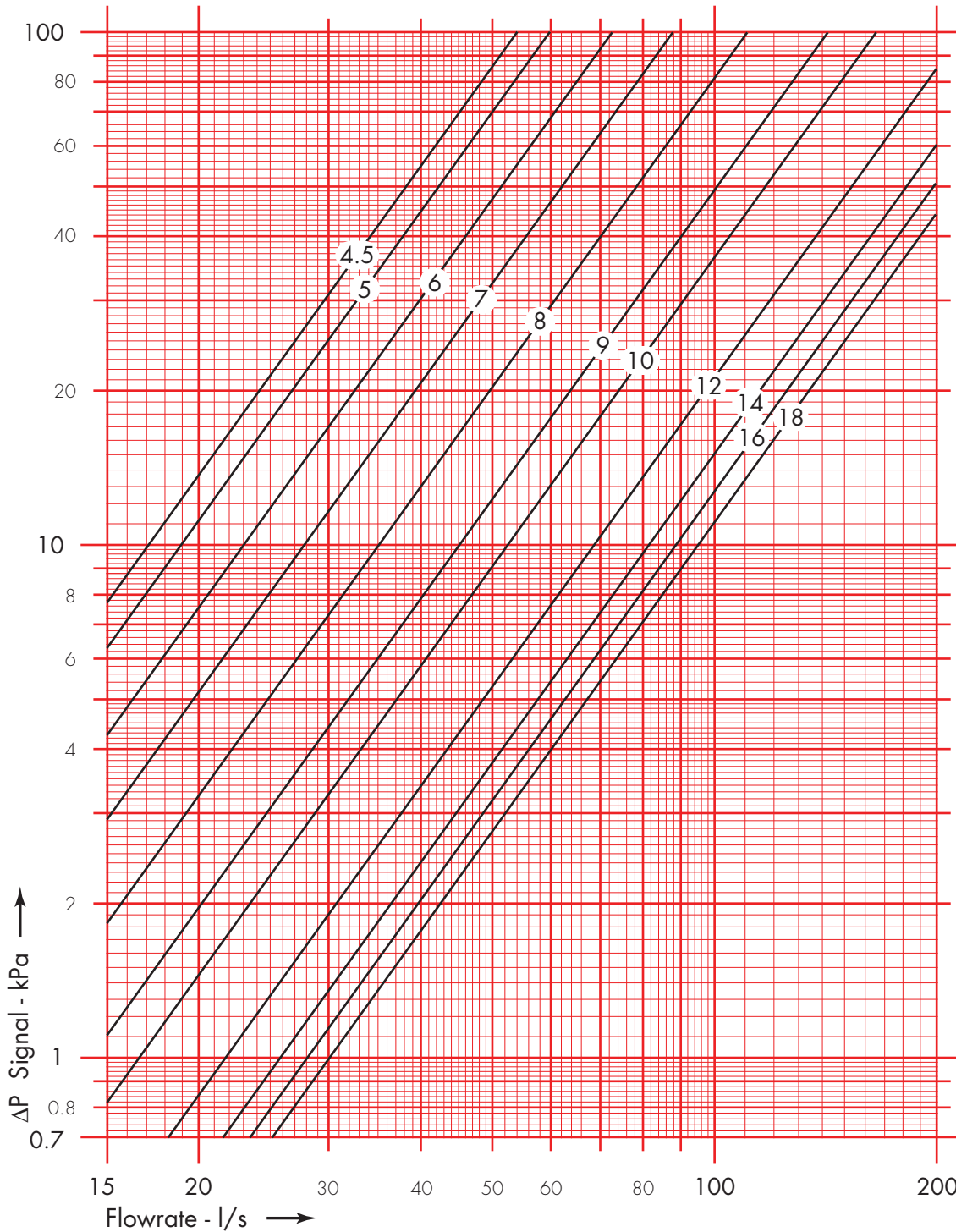
HERZ - Flow data - flow signal

Double Regulating Valve

Art. **4218 - 77**

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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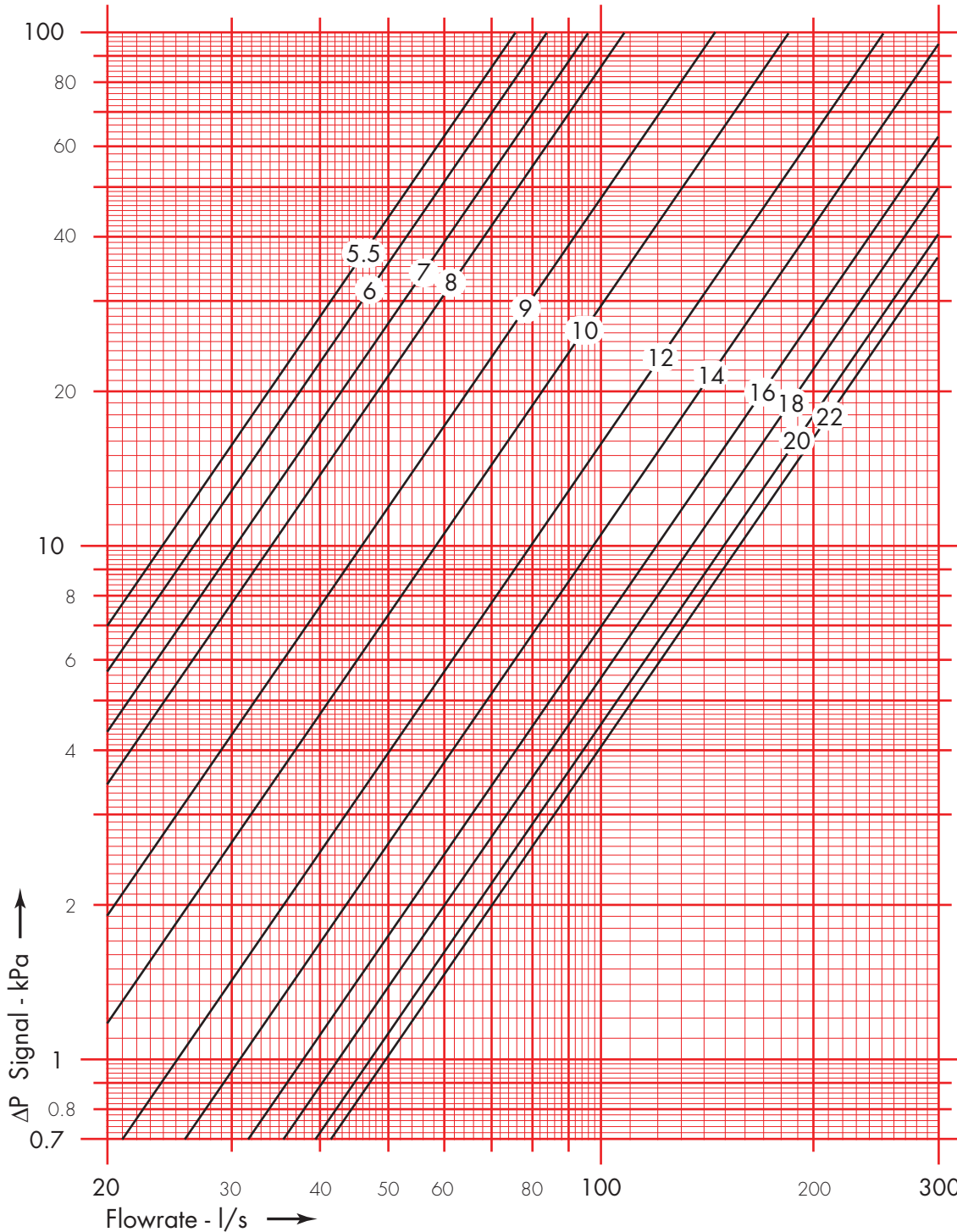
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Double Regulating Valve

Art. **4218** - 78

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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