9594

Variable Orifice Stainless Steel Balancing Ball Valve

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Welding ends variable orifice stainless steel balancing ball valve
Flanged according to EN1092-1 (PN40 for DN≤50, PN16 above)
With knob for DN15 up to DN50 and flanged from DN65 to DN250
With 7mm diameter test points for plastic hose
TR CU 010 compliant

PN40 for DN≤50 (Max 40bar up to 90°C, max 0bar at 200°C)
PN25 for Fig. 9594 DN≥65 (Max 25bar up to 131°C, max 0bar at 200°C)
PN16 for Fig. 9595 DN≥65 (Max 16bar up to 156°C, max 0bar at 200°C)
Free of CE marking for DN≤32 (cat. according to Art. 4.3 Dir. 2014/68/EU)

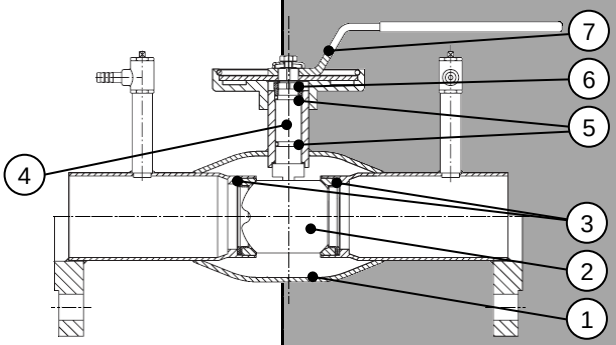
Working conditions:

- Suitable for: water, -10°C to +200°C
  below 0°C only for water with added antifreeze fluids
  over 100°C only for water with added anti-boiling fluids
- Not suitable for: gases group 1 & 2, liquids group 1 (Dir. 2014/68/UE)

PARTLIST

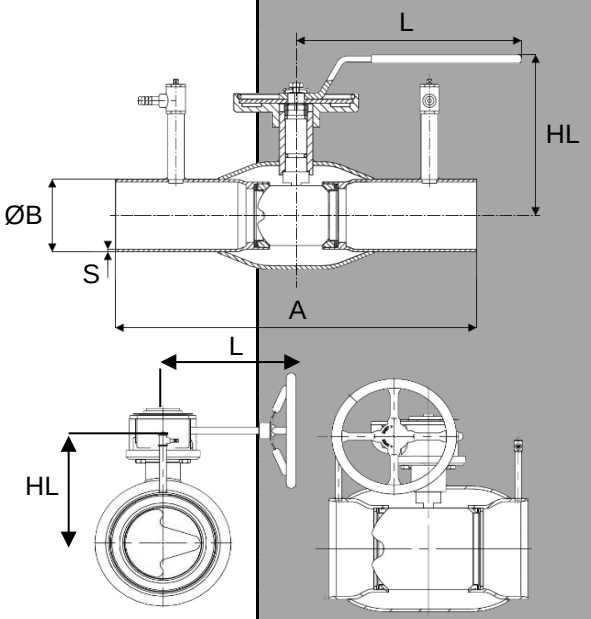
N.	Part	Material	Norm
1	Body	Stainless steel	X2CrNiMo17-12-2
2	Ball	Stainless steel	X2CrNiMo17-12-2
3	Seat	PTFE+graphite	-
4	Stem	Stainless steel	X2CrNiMo17-12-2
5	O-ring	FPM/NBR	-
6	Gasket	PTFE	-
7	Handle[1]	Stainless steel[1]	X2CrNiMo17-12-2

[1]Aluminum gear for DN200 and DN250



DIMENSIONS

DN	ØB [mm]	S [mm]	A [mm]	L [mm]	HL [mm]	Peso [kg]
015	21,3	2,0	230	140	101	0,7
020	26,9	2,0	230	140	105	0,8
025	33,7	2,0	230	150	107	1,0
032	42,4	2,0	260	150	111	1,4
040	48,3	2,6	260	190	116	1,9
050	60,3	2,6	300	190	123	2,6
065	76,1	3,0	300	280	154	4,4
080	88,9	3,0	300	280	166	5,4
100	114,3	3,0	325	280	173	7,7
125	139,7	4,0	325	420	221	15,5
150	168,3	4,0	350	600	240	16,1
200	219,1	4,0	400	250	269	32
250	273,0	4,0	530	300	301	74



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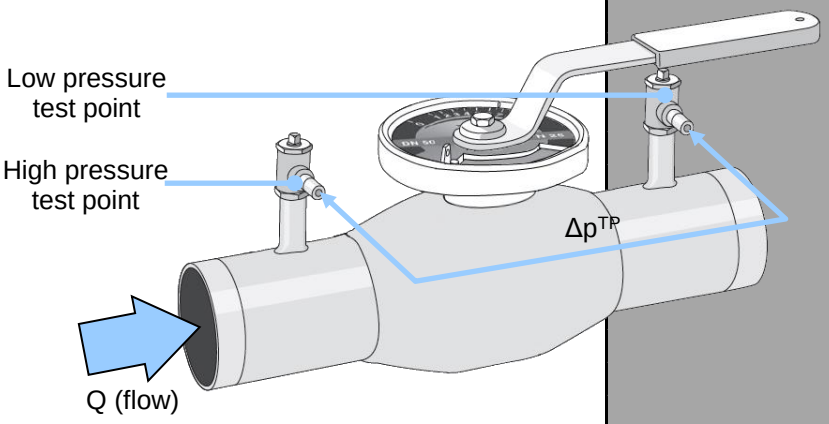
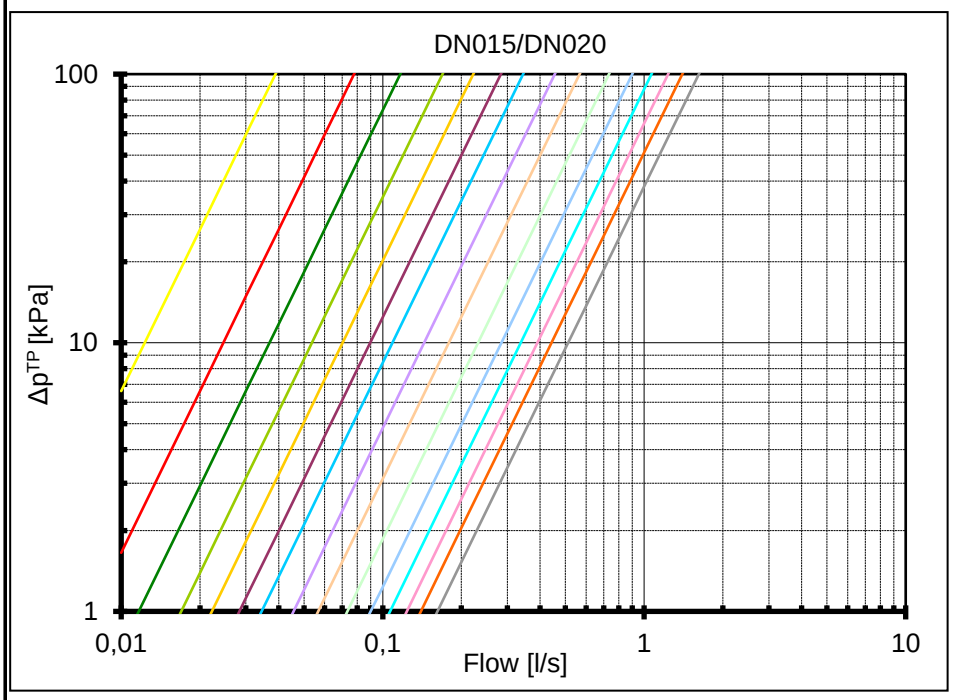
FLOW MEASUREMENT

Valve regulation	K_v [m³/h @ 1bar]											
	015/020	025	032	040	050	065	080	100	125	150	200	250
1,0	-	-	0,39	0,60	1,26	2,52	3,42	6,48	8,60	13,68	19,70	35,00
1,5	-	0,35	0,57	1,01	1,80	3,64	5,37	9,47	13,32	20,16	29,00	51,20
2,0	0,14	0,49	0,83	1,48	2,70	4,75	7,31	12,46	18,00	26,64	38,40	66,50
2,5	0,28	0,99	1,08	2,02	3,55	6,34	10,23	16,28	24,30	35,46	51,10	90,00
3,0	0,42	1,36	1,44	2,70	4,39	7,92	13,14	20,09	30,60	44,28	63,80	110,0
3,5	0,61	1,66	1,80	3,24	5,61	9,78	16,11	24,45	37,80	55,08	79,30	140,0
4,0	0,80	2,00	2,30	3,96	6,84	11,63	19,08	28,84	45,00	65,88	95,00	165,0
4,5	1,02	2,40	2,74	4,86	8,34	14,15	23,31	35,82	55,26	84,06	121,0	215,0
5,0	1,24	3,00	3,42	5,98	9,83	16,67	27,54	42,84	65,52	102,2	147,0	260,0
5,5	1,64	3,50	4,21	7,18	11,94	20,94	33,21	51,84	81,72	127,1	183,0	325,0
6,0	2,04	4,50	5,11	8,57	14,04	25,20	38,88	60,84	97,92	151,9	219,0	380,0
6,5	2,64	5,10	5,97	10,15	16,92	29,52	46,26	75,42	121,9	196,6	282,0	500,0
7,0	3,24	6,70	7,27	12,31	19,80	33,84	53,64	90,00	145,8	241,2	325,0	576,0
7,5	3,84	7,30	8,64	14,40	23,40	39,78	64,62	113,4	177,3	289,8	417,0	740,0
8,0	4,45	9,30	10,08	17,64	27,00	45,72	75,60	136,8	208,8	338,4	486,0	866,0
8,5	5,04	10,00	11,52	20,88	30,60	53,46	91,80	169,2	251,3	399,8	576,0	1020
9,0	5,83	12,65	13,14	22,57	34,20	61,20	108,0	216,0	293,8	460,8	660,0	1170

$$Q = \frac{K_v \cdot \sqrt{\Delta p^{TP}}}{36}$$

Formula linking flow Q (in l/s) and Δp measured at test points (in kPa). K_v depends on handle / gear regulation as indicated on table.
Minimum flow that can be measured for each diameter may be calculated by using in the formula minimum Δp that can be measured by used manometer.





Valve regulation
2,0
2,5
3,0
3,5
4,0
4,5
5,0
5,5
6,0
6,5
7,0
7,5
8,0
8,5
9,0

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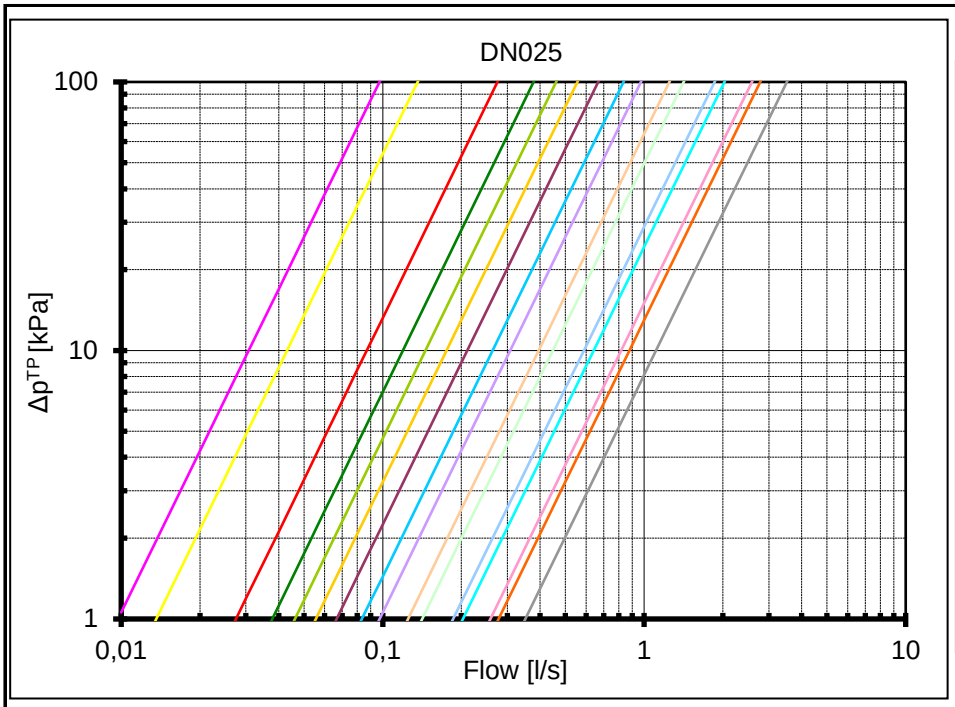

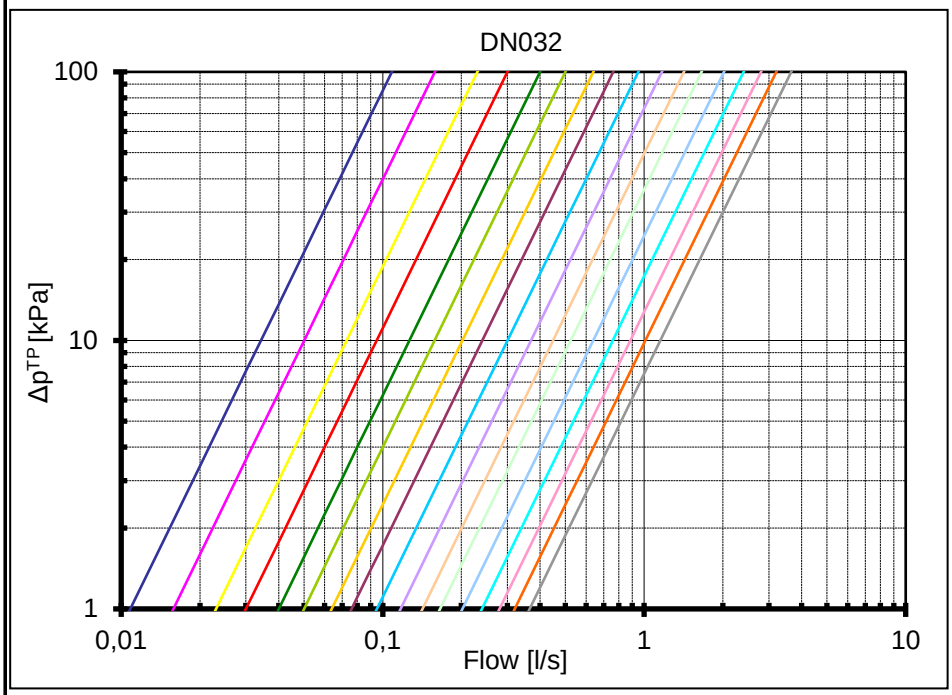

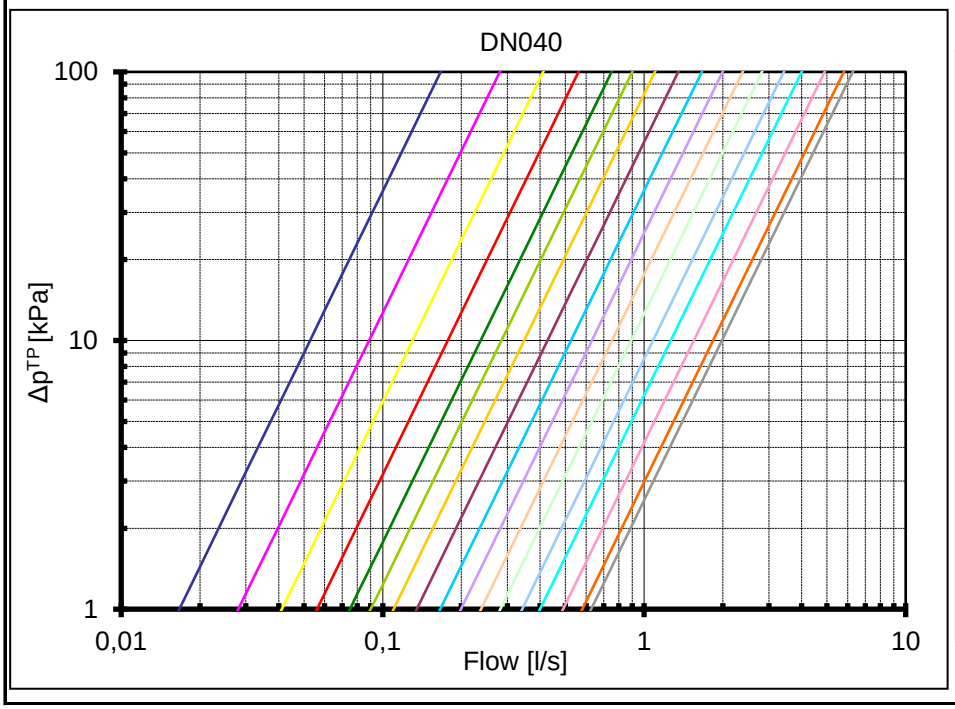

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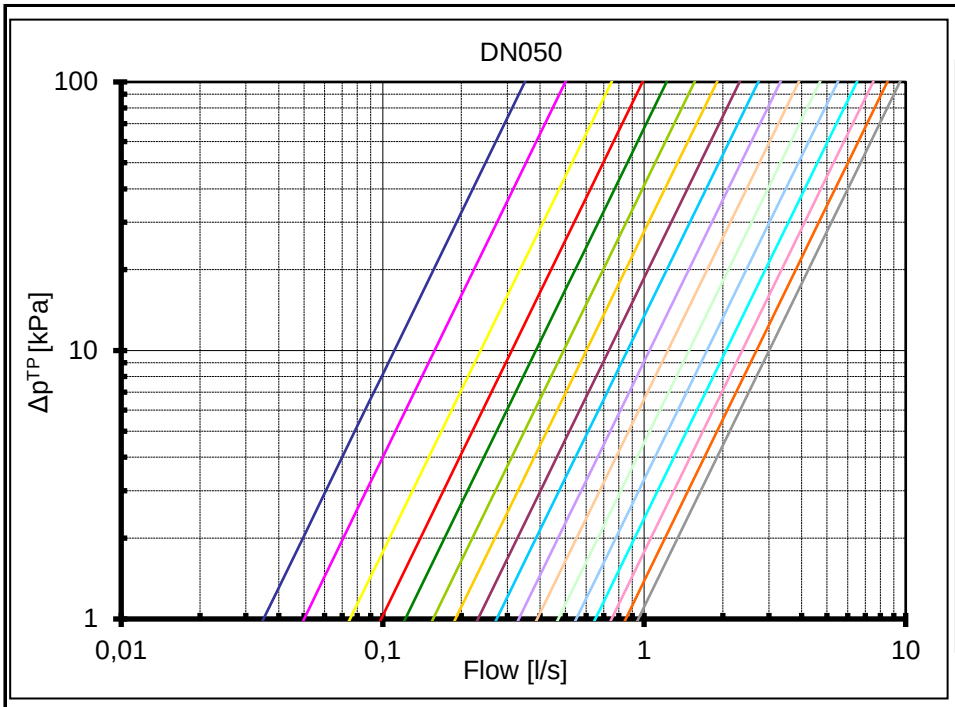

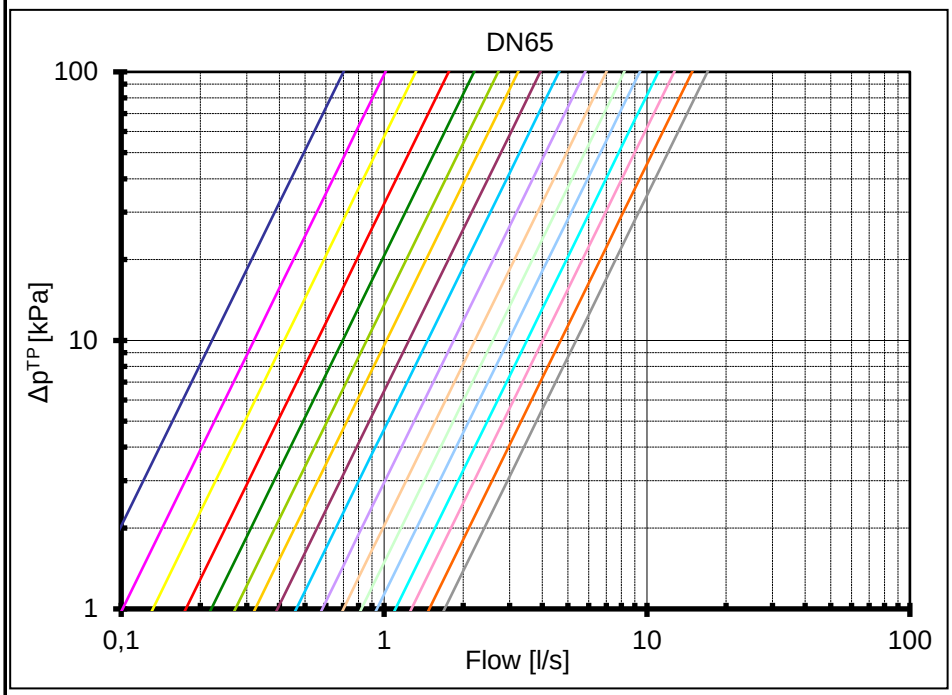

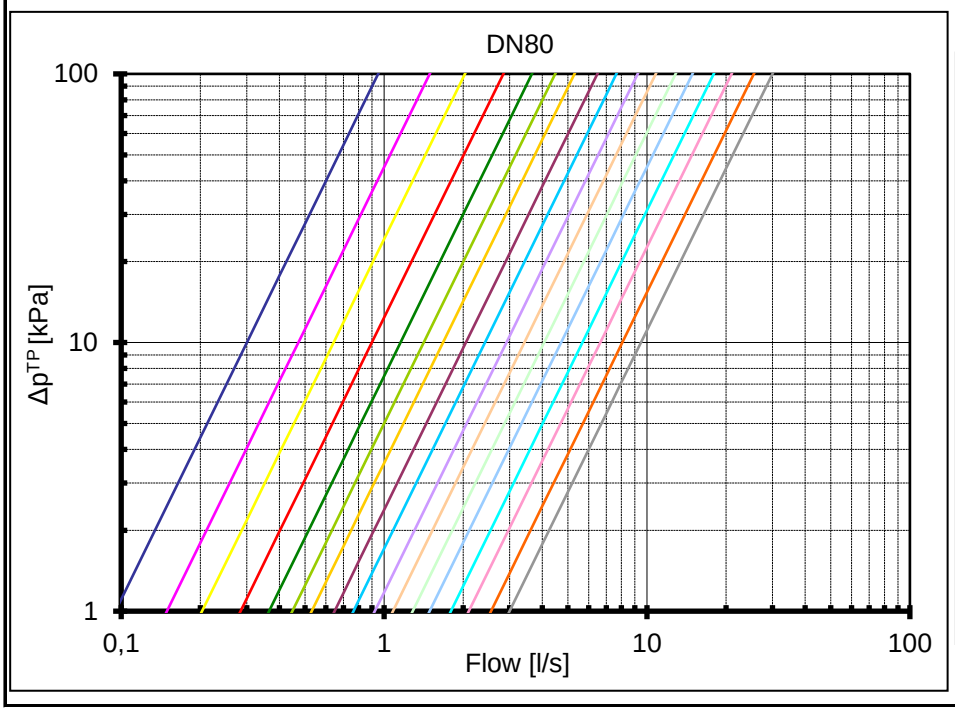

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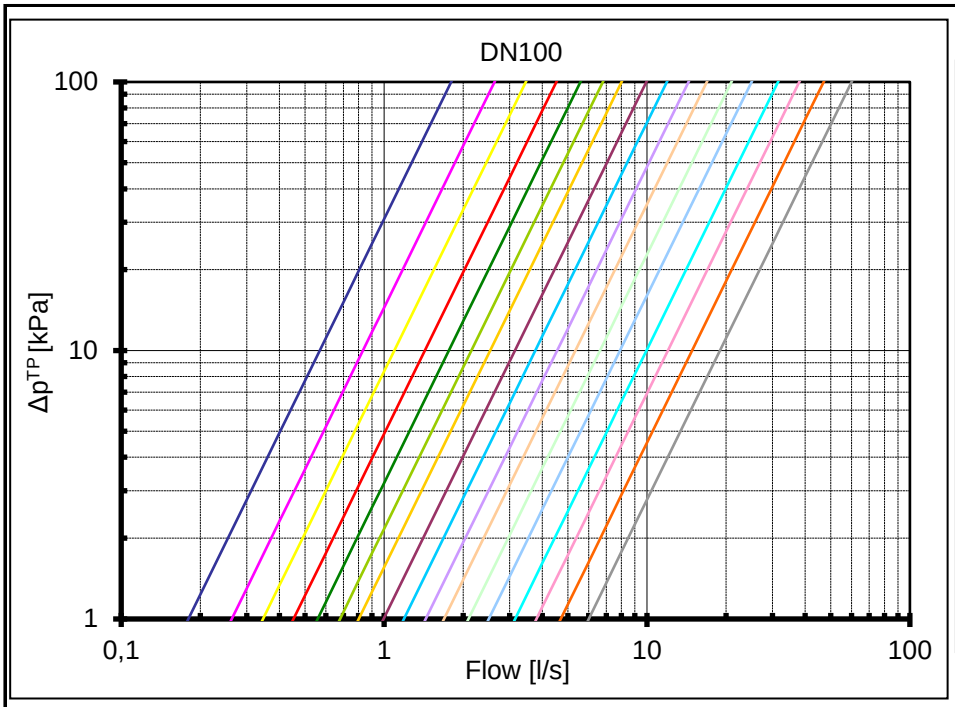

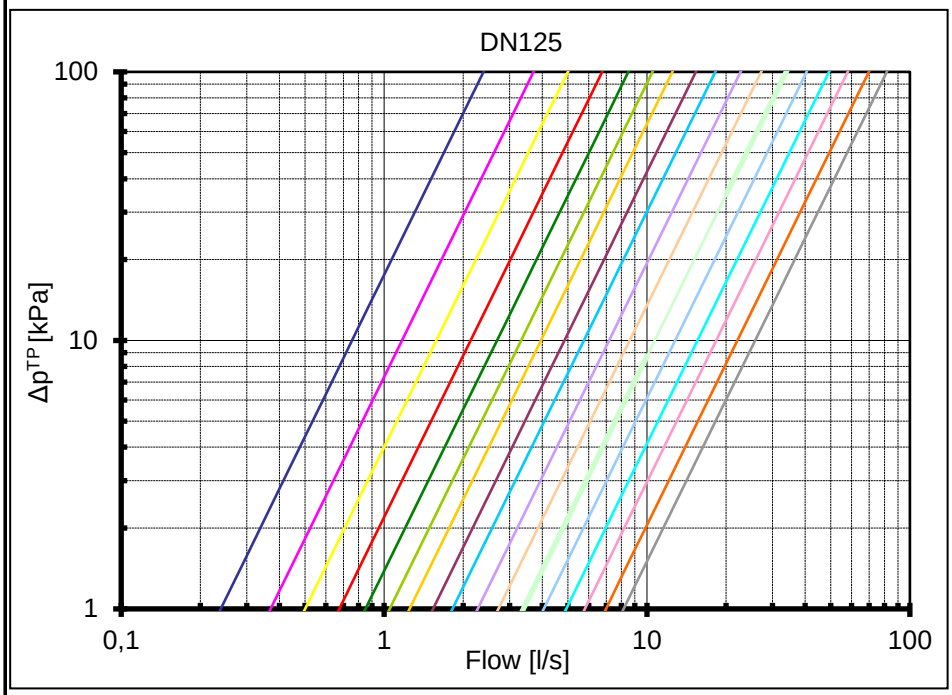

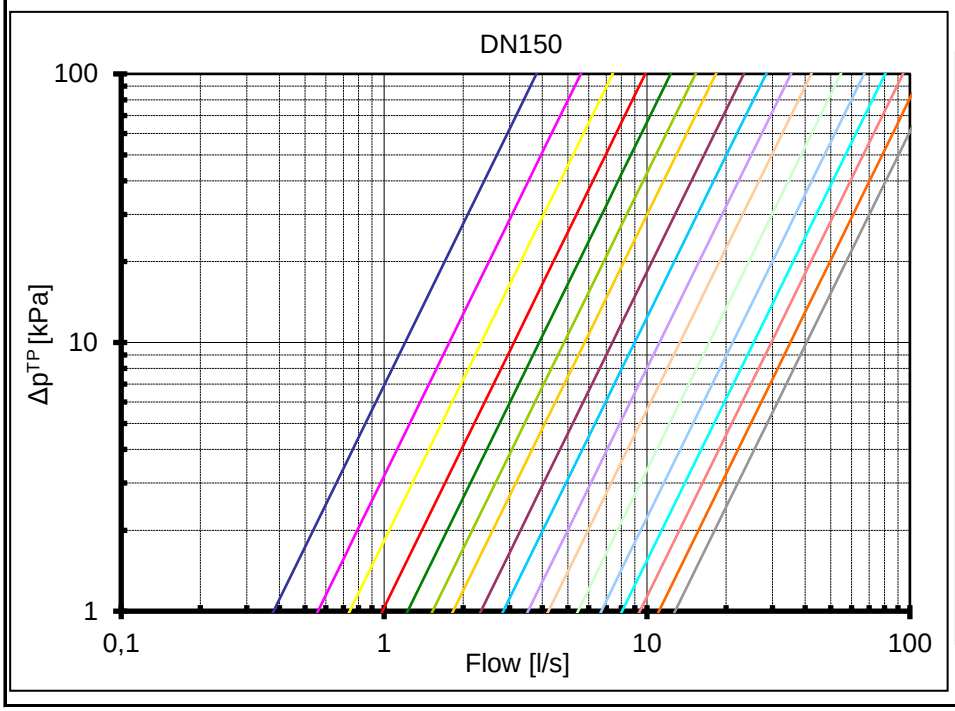

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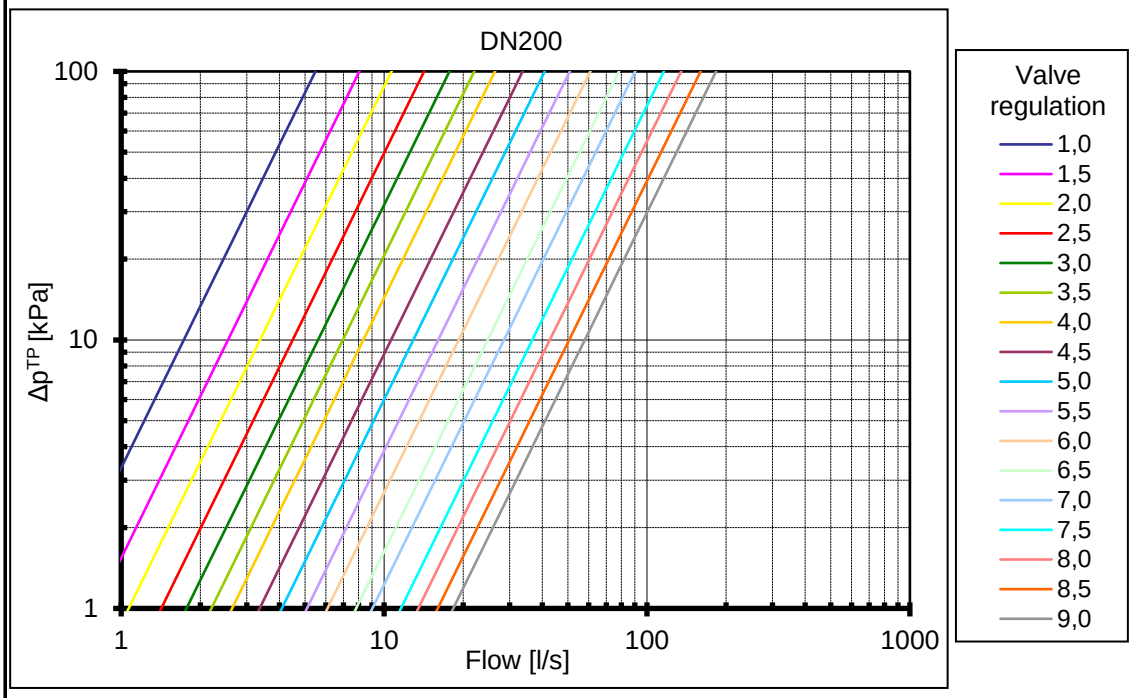

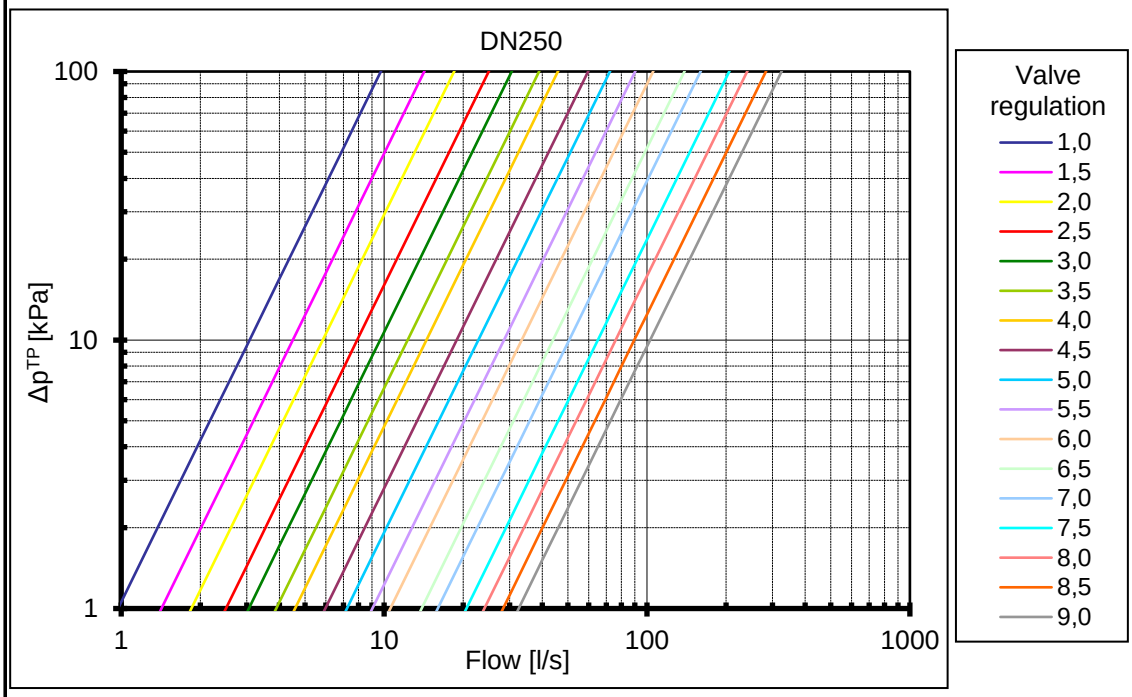

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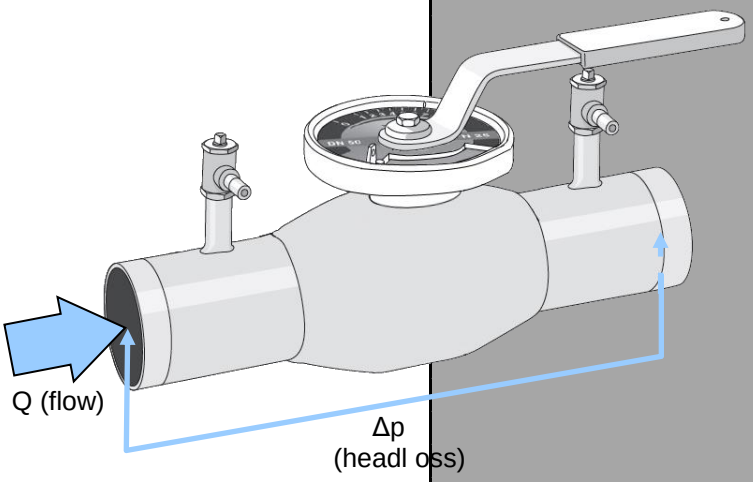
HEADLOSS CALCULATION

Valve regulation	K_v [m³/h @ 1bar]											
	015/020	025	032	040	050	065	080	100	125	150	200	250
1,0	-	-	0,39	0,60	1,26	2,52	3,42	6,48	8,60	13,68	19,70	35,00
1,5	-	0,35	0,57	1,01	1,80	3,64	5,37	9,47	13,32	20,16	29,00	51,20
2,0	0,14	0,49	0,83	1,48	2,70	4,75	7,31	12,46	18,00	26,64	38,40	66,50
2,5	0,28	0,99	1,08	2,02	3,55	6,34	10,23	16,28	24,30	35,46	51,10	90,00
3,0	0,42	1,36	1,44	2,70	4,39	7,92	13,14	20,09	30,60	44,28	63,80	110,0
3,5	0,61	1,66	1,80	3,24	5,61	9,78	16,11	24,45	37,80	55,08	79,30	140,0
4,0	0,80	2,00	2,30	3,96	6,84	11,63	19,08	28,84	45,00	65,88	95,00	165,0
4,5	1,02	2,40	2,74	4,86	8,34	14,15	23,31	35,82	55,26	84,06	121,0	215,0
5,0	1,24	3,00	3,42	5,98	9,83	16,67	27,54	42,84	65,52	102,2	147,0	260,0
5,5	1,64	3,50	4,21	7,18	11,94	20,94	33,21	51,84	81,72	127,1	183,0	325,0
6,0	2,04	4,50	5,11	8,57	14,04	25,20	38,88	60,84	97,92	151,9	219,0	380,0
6,5	2,64	5,10	5,97	10,15	16,92	29,52	46,26	75,42	121,9	196,6	282,0	500,0
7,0	3,24	6,70	7,27	12,31	19,80	33,84	53,64	90,00	145,8	241,2	325,0	576,0
7,5	3,84	7,30	8,64	14,40	23,40	39,78	64,62	113,4	177,3	289,8	417,0	740,0
8,0	4,45	9,30	10,08	17,64	27,00	45,72	75,60	136,8	208,8	338,4	486,0	866,0
8,5	5,04	10,00	11,52	20,88	30,60	53,46	91,80	169,2	251,3	399,8	576,0	1020
9,0	5,83	12,65	13,14	22,57	34,20	61,20	108,0	216,0	293,8	460,8	660,0	1170

Copy of the table presented in flow measurement paragraph
Δp (headloss) approximately equal to Δp^{TP}

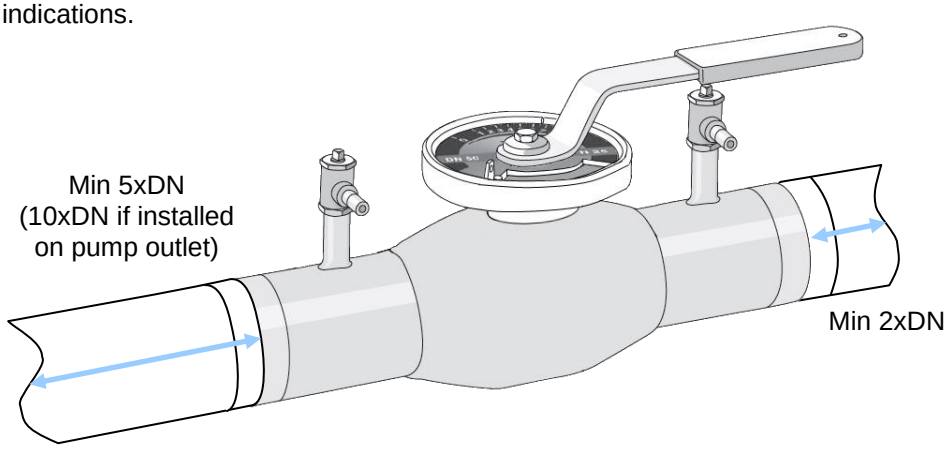
$$\Delta p = \left(\frac{36 \cdot Q}{K_V} \right)^2$$

Formula linking flow Q (in l/s) and theoretical valve headloss Δp (in kPa).
K_v depends on handle / gear regulation as indicated on table.



INSTALLATION

To obtain the best performances valve must be installed on a pipe with its same nominal size preceded and followed by straight pipe lengths as per figure indications.



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