

# 9594/9595

Variable Orifice Stainless Steel Balancing Ball Valve



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Variable orifice stainless steel balancing ball valve

Available on following versions:

- Fig. 9594, welding ends
- Fig. 9595, flanged according to EN1092-1 (PN40 for DN≤50, PN16 above)

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)

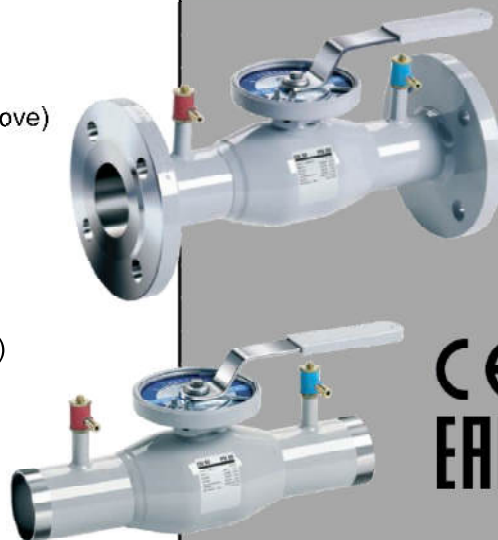
PN25 for Fig. 9594 DN≥65 (Max 25bar up to 131°C, max 0bar at 200°C)

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:

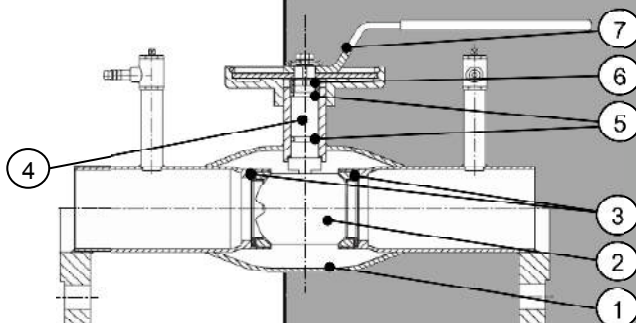
- Suitable for: water, -10°C to +200°C  
below 0°C only for water with added antifreeze fluids  
over 100°C only for water with added anti-boiling fluids
- Not suitable for: gases group 1 & 2, liquids group 1 (Dir. 2014/68/UE)



## 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 <sup>1</sup>	Stainless steel <sup>1</sup>	X2CrNiMo17-12-2

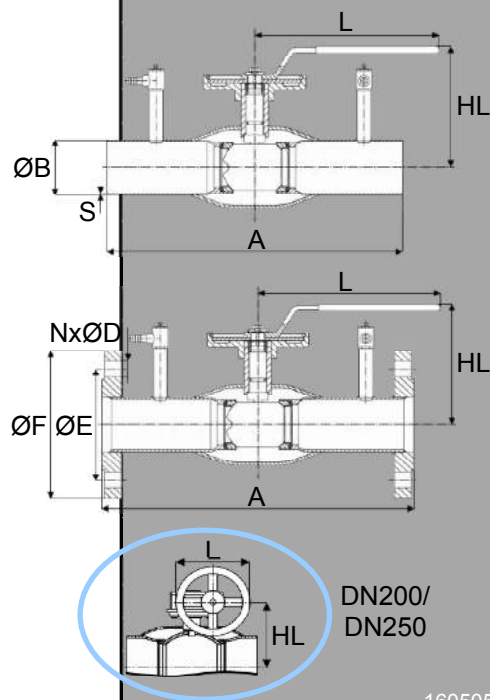
<sup>1</sup>Aluminum gear for DN200 and DN250



## DIMENSIONS

DN	ØB [mm]	S [mm]	ØF [mm]	ØE [mm]	NxØD [mm]	A <sup>1</sup> [mm]	L [mm]	HL [mm]	Weight <sup>1</sup> [kg]
015	21,3	2,0	95	65	4x14	230 / 250	140	100	0,9 / 2,2
020	26,9	2,0	105	75	4x14	230 / 250	140	100	0,9 / 2,6
025	33,7	2,0	115	85	4x14	230 / 250	150	100	1,1 / 3,1
032	42,4	2,0	140	100	4x18	260 / 280	150	100	1,3 / 4,7
040	48,3	2,5	150	110	4x18	260 / 280	190	105	2,1 / 5,9
050	60,3	2,0	165	125	4x18	300 / 320	190	110	2,6 / 7,6
065	76,1	3,0	185	145	4x18	300 / 320	280	165	4,3 / 9,8
080	88,9	3,0	200	160	8x18	300 / 320	280	175	5,2 / 11,3
100	114,3	3,0	220	180	8x18	325 / 350	280	190	7,2 / 15,0
125	139,7	3,0	250	210	8x18	325 / 350	420	210	11,5 / 22,0
150	168,3	3,0	285	240	8x22	350 / 370	600	230	16,4 / 30,4
200	219,1	4,0	340	295	12x22	400 / 425	250	244	36,0 / 51,0
250	273,0	4,0	405	355	12x26	530 / 550	300	295	71,0 / 100

<sup>1</sup>Fig. 9594 / Fig. 9595



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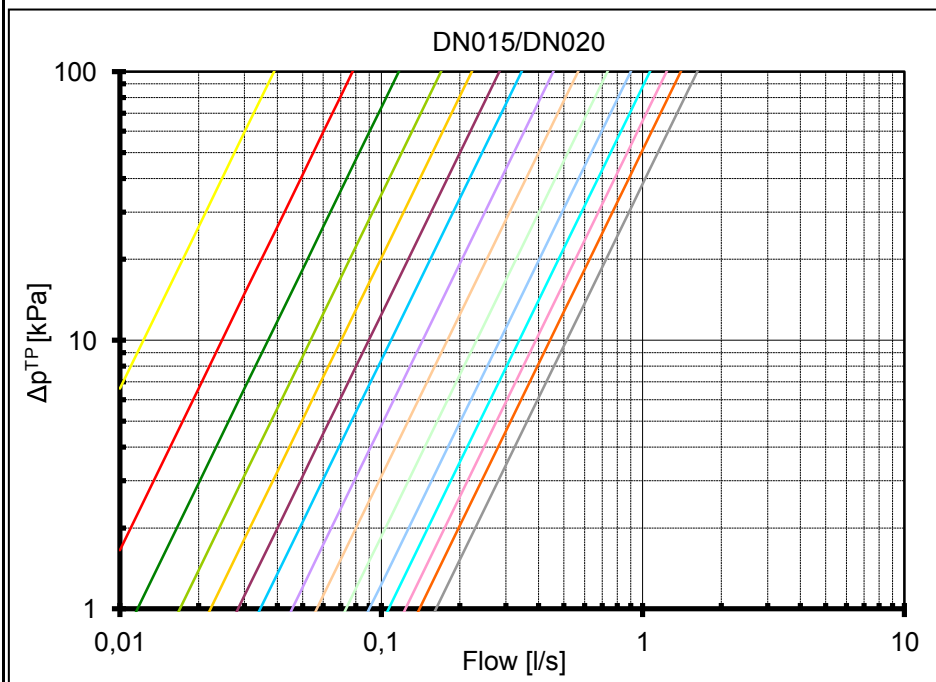
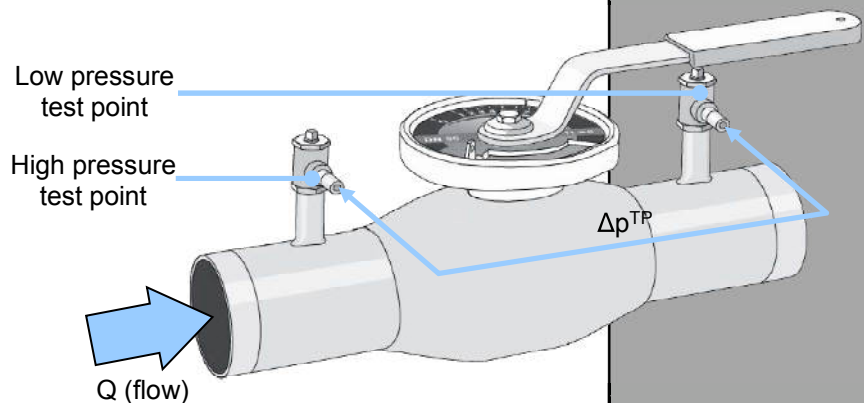
# FLOW MEASUREMENT

Valve regulation	K <sub>v</sub> [m <sup>3</sup> /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<sub>v</sub> 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.

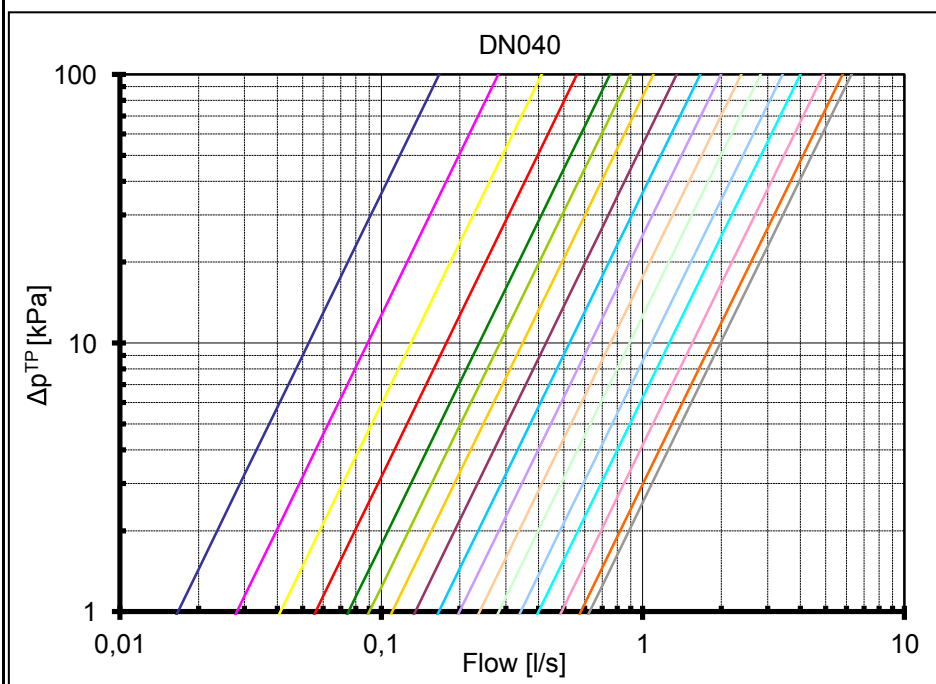
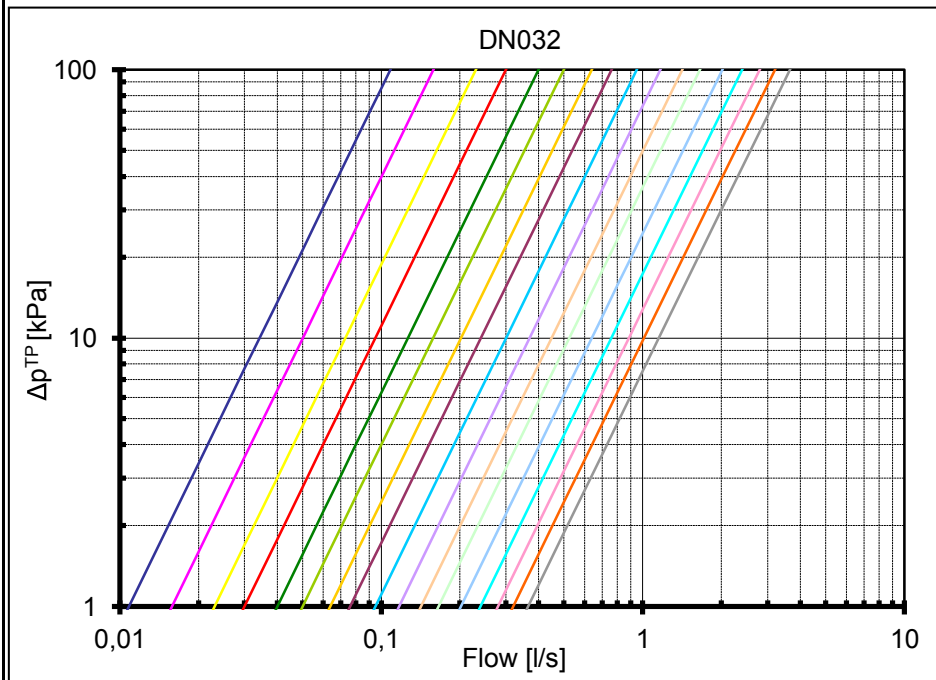
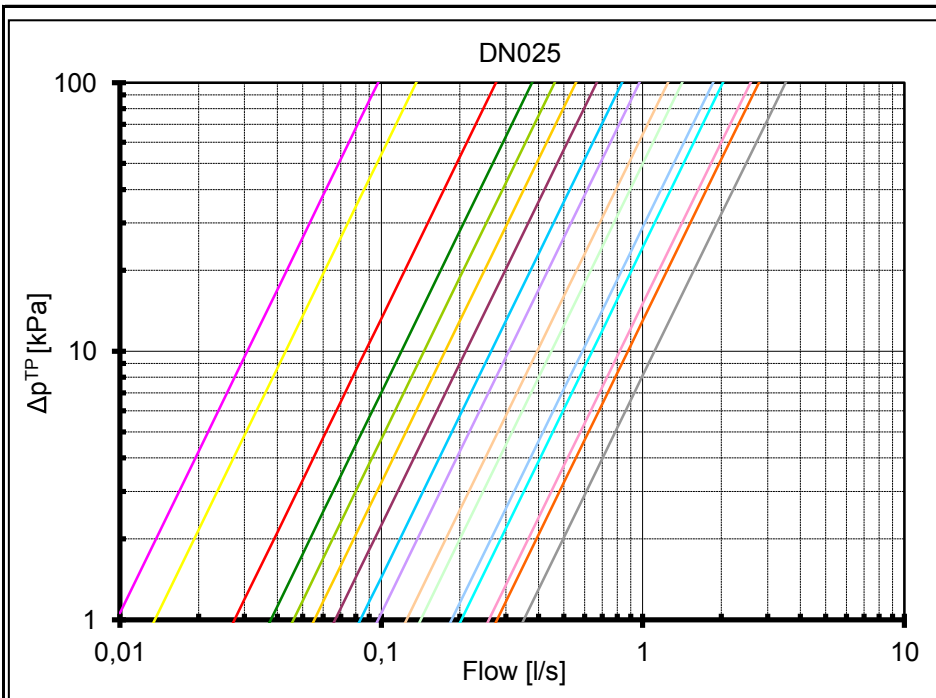


Valve regulation

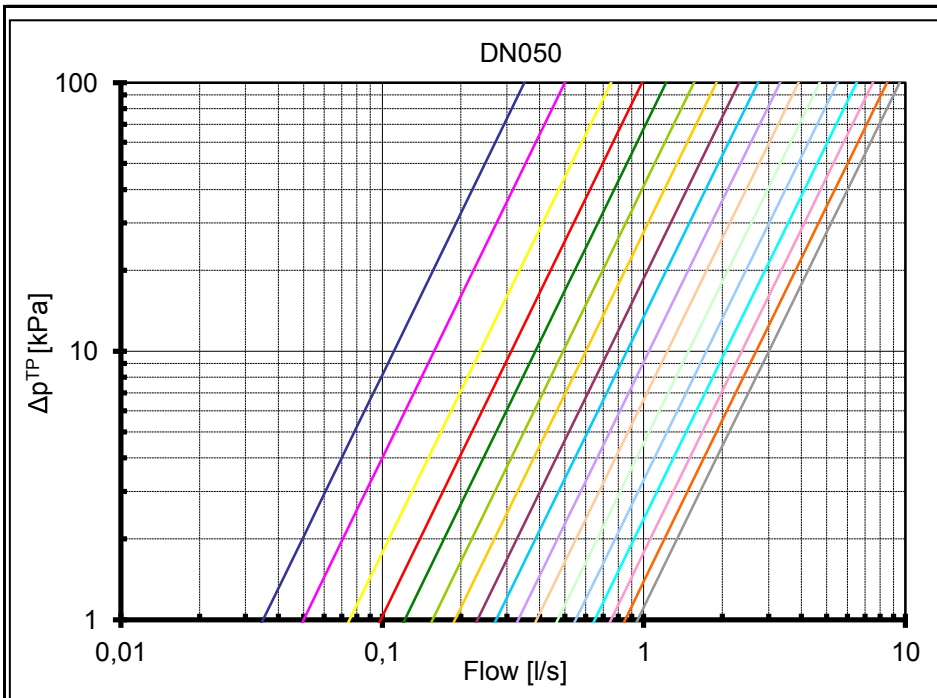
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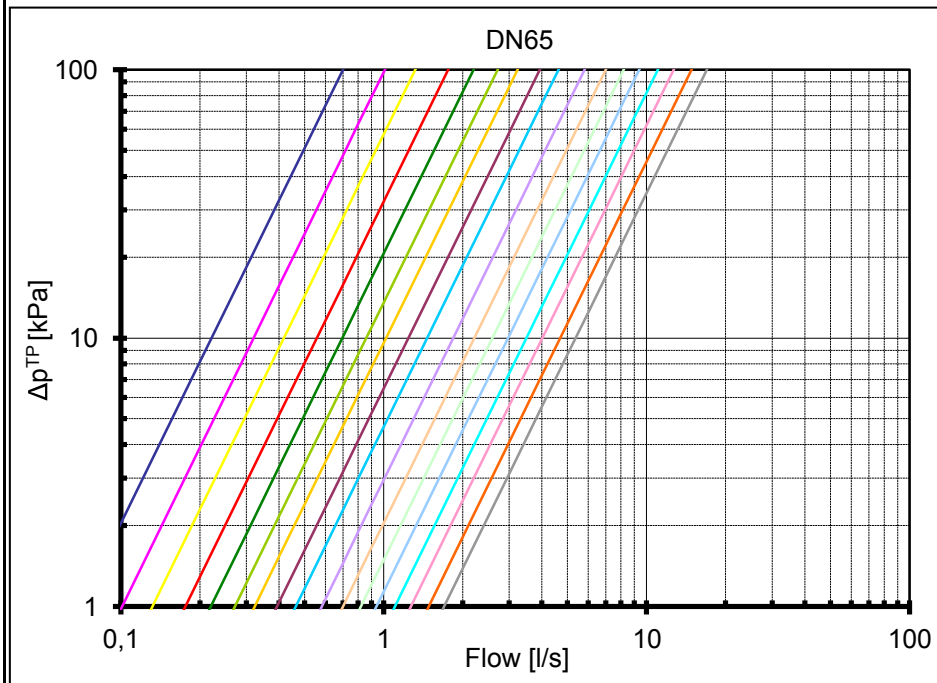
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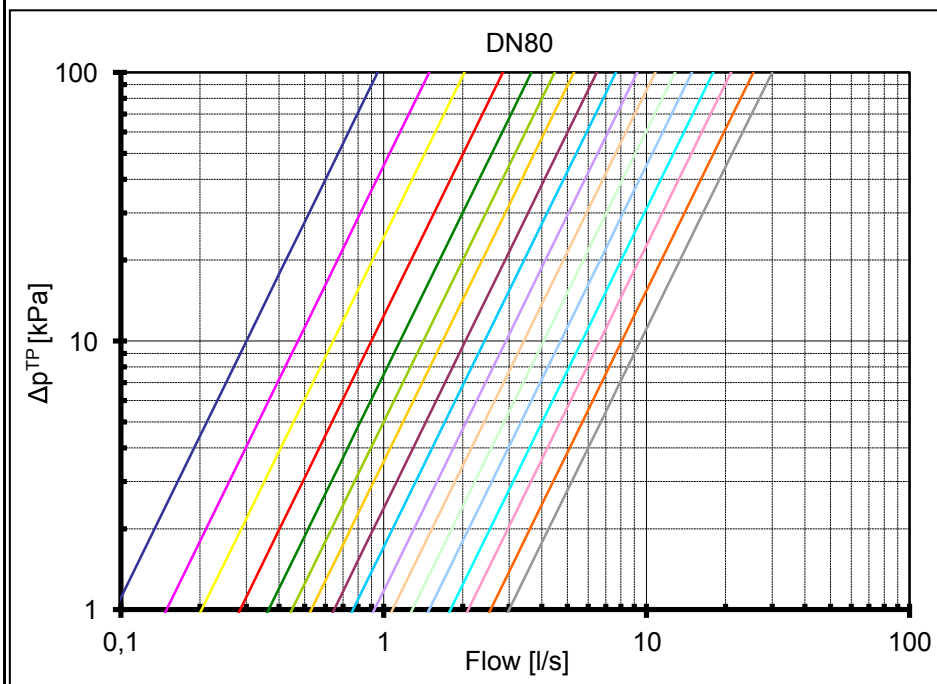
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- Valve regulation
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- Valve regulation
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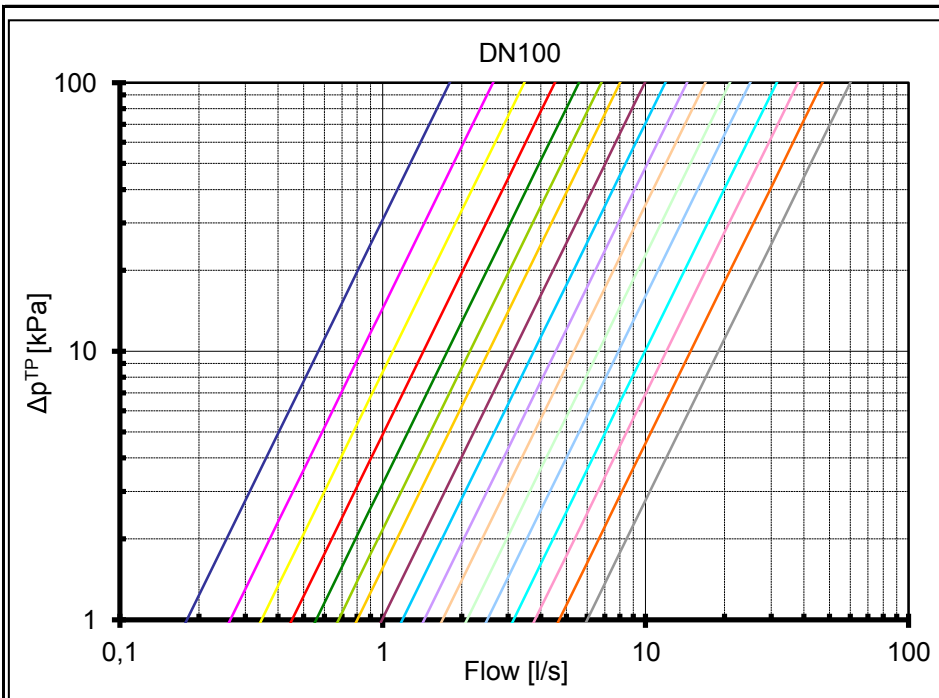


- Valve regulation
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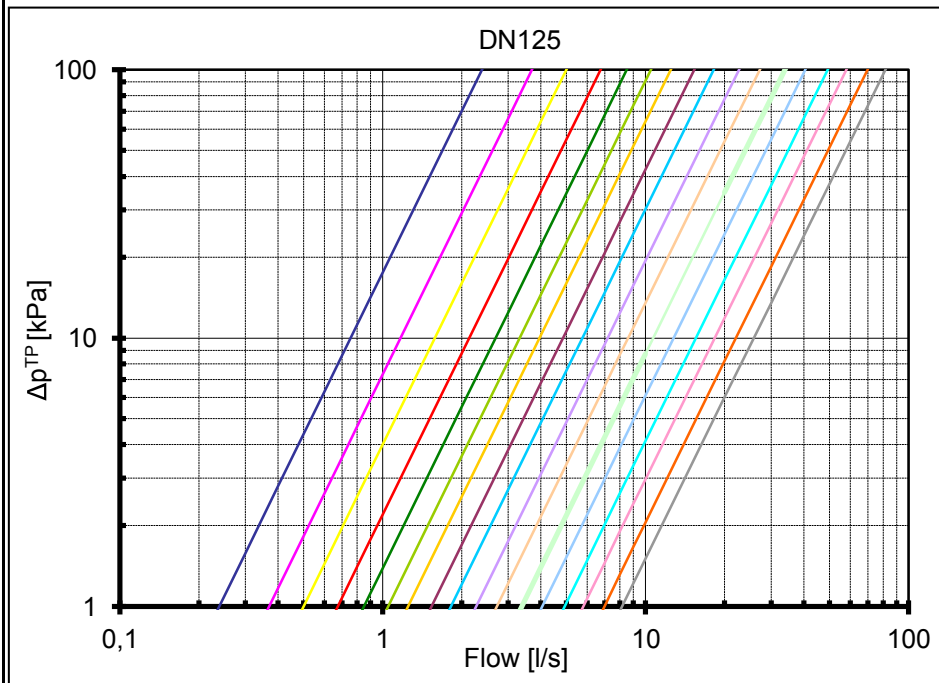


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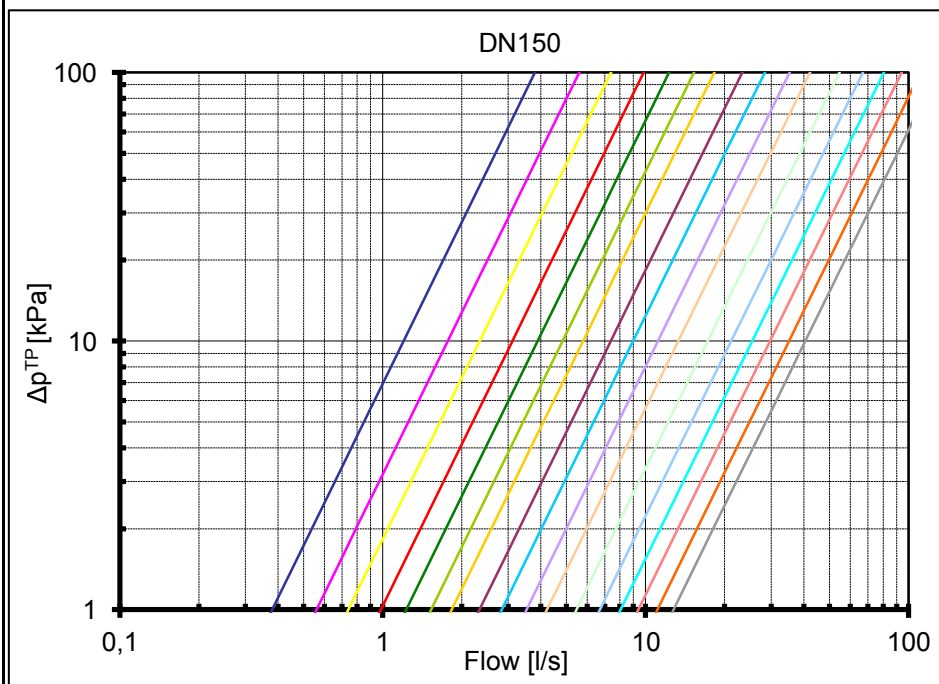




- Valve regulation
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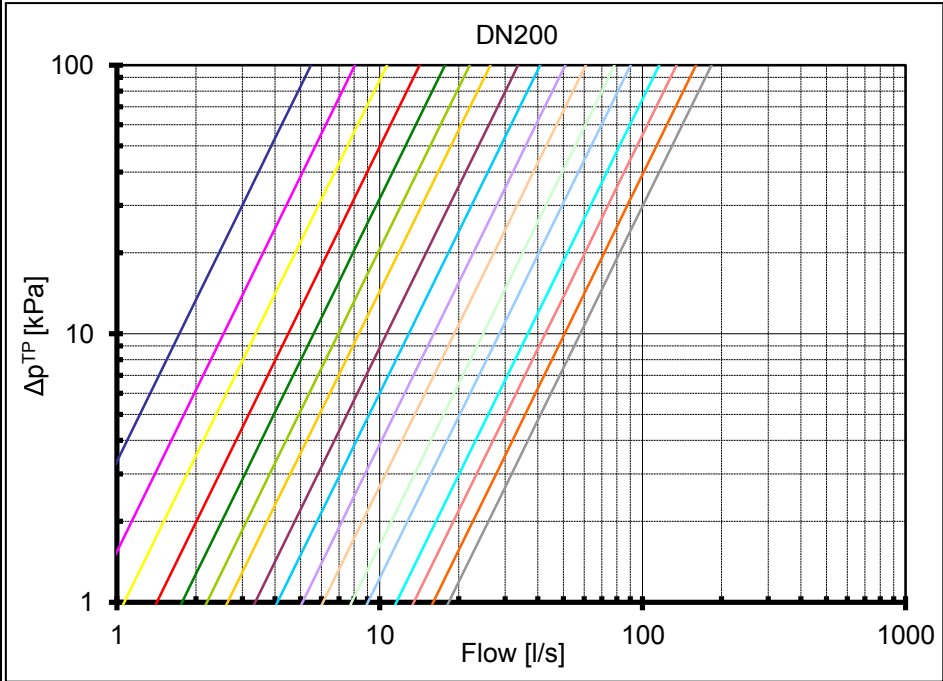
- Valve regulation
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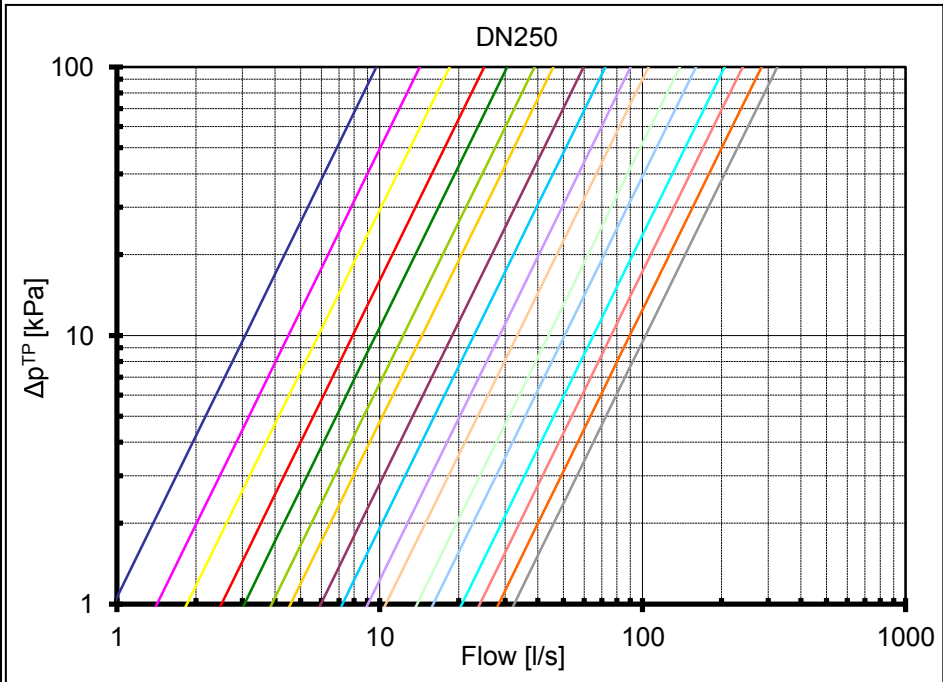
- Valve regulation
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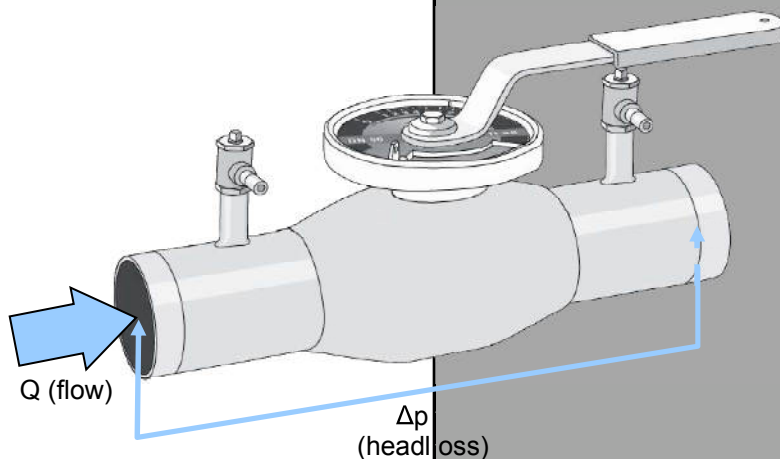
# HEADLOSS CALCULATION

Valve regulation	$K_v$ [m <sup>3</sup> /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  
 $\Delta p$  (headloss) approximately equal to  $\Delta p^{TP}$

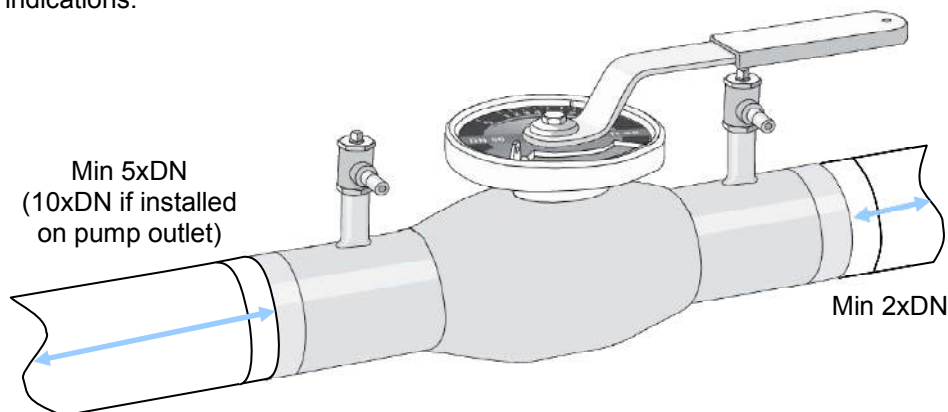
$$\Delta p = \left( \frac{36 \cdot Q}{K_v} \right)^2$$

Formula linking flow Q (in l/s) and theoretical valve headloss  $\Delta p$  (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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