

APPLICATION

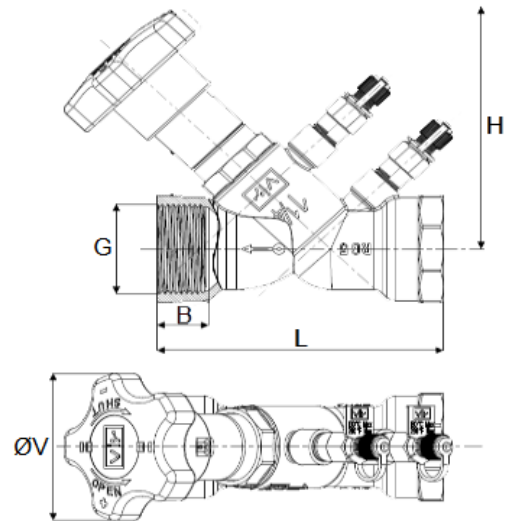
Suitable for: water, -10°C to +130°C below 0°C only for water with added antifreeze fluids over 100°C only for water with added anti-boiling fluids (Ethylene glycol or propylene glycol mixtures up to 50% may be used).

This data sheet covers the **9500** model, with plugged test points (¼" ISO 7/1Rp) and the **9505** model which includes test points. (N.B. The 9500 model does allow for later mounting of test points)

Design according to BS7350
Tolerance on nominal K, for completely open valve ±5%

SPECIFICATION

- Working Pressure: PN25 max up to 110°C
PN20 max above 110°C
- Working Temperature: -10°C to 130°C
<0°C only for water with added antifreeze fluids and >100°C only for water with added anti-boiling fluids
- Size Range: DN15-50 | ½" – 2"
- Connections: Threaded female/female
- WRAS-Approved: Yes



DIMENSIONS AND PRODUCT CODES

Product Code (9500)	Product Code (9505)	DN	G	H [mm]	L [mm]	B [mm]	ØV [mm]	Wgt [g]	Flow Range ¹ [l/s]
F9500B015.1092	F9505B015.946	15	½"	90.0	90.0	17.5	70	505	0.062–0.148
F9500B020.1092	F9505B020.946	20	¾"	90.0	102.0	18.0	70	565	0.138–0.325
F9500B025.1092	F9505B025.946	25	1"	90.0	110.0	19.0	70	705	0.258–0.603
F9500B032.1092	F9505B032.946	32	1¼"	116.0	121.0	22.0	70	1005	0.540–1.250
F9500B040.1092	F9505B040.946	40	1½"	116.0	142.0	24.0	70	1355	0.810–1.88
F9500B050.1092	F9505B050.946	50	2"	116.0	161.0	27.0	70	1925	1.52–3.51

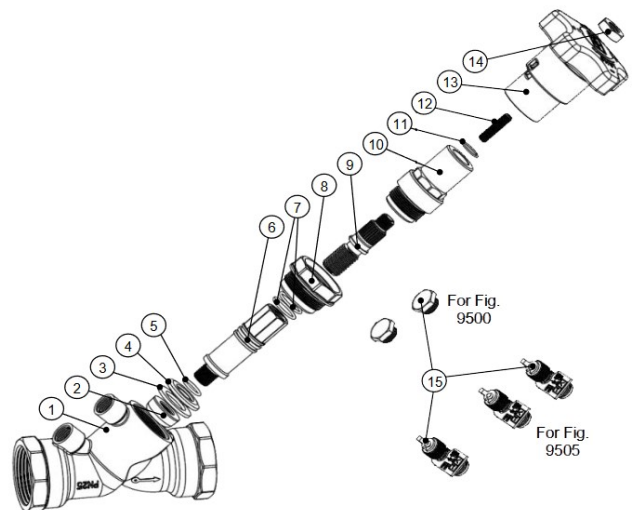
¹ Suggested flow range applicability (BS7350)

COMPONENTS

#	Part	Material	Norm
1	Body	Bronze	EN1982 CB491K
2	Balancing Cone	DZR Brass	EN12164 CW602N
3	Gasket disc	PTFE	-
4	Disc	DZR Brass	EN12164 CW602N
5	Disc O-Ring ¹	EPDM Perox	-
6	Disc Stem	DZR Brass	EN12164 CW602N
7	Stem O-Ring	EPDM Perox	-
8	Union ¹	DZR Brass	EN12165 CW602N
9	Stem	Brass	EN12164 CW617N
10	Bonnet	DZR Brass	EN12164 CW602N
11	Stop spring ring	Spring steel	-
12	Screw	Steel	-
13	Handwheel	ABS (blue)	-
14	Nut	Zinc plated steel	EN10025 Fe42
15	Test Point/Plug	DZR Brass ²	EN12164 CW602N

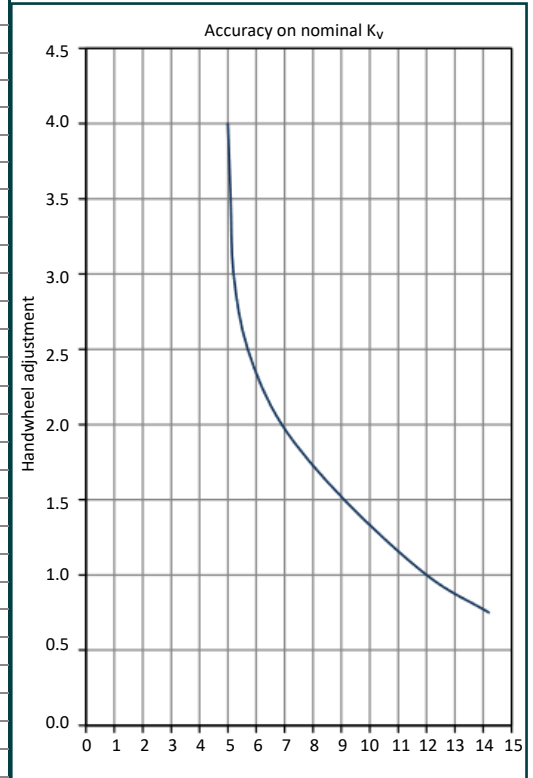
¹ Only on DN32, DN40 and DN50

² Test points with EPDM gaskets and polypropylene ties



HEADLOSS CALCULATION

Handwheel	K _v [m³/h @ 1 bar]					
	015	020	025	032	040	050
0.5	0.37	0.40	1.40	1.40	2.70	3.90
0.6	0.40	0.44	1.58	2.12	2.85	4.23
0.7	0.44	0.50	1.70	2.60	3.00	5.00
0.8	0.47	0.57	1.80	2.92	3.16	5.97
0.9	0.52	0.64	1.89	3.13	3.32	6.94
1.0	0.55	0.70	2.00	3.30	3.50	7.80
1.1	0.60	0.75	2.12	3.42	3.69	8.47
1.2	0.64	0.77	2.26	3.56	3.94	8.89
1.3	0.68	0.80	2.40	3.70	4.10	9.40
1.4	0.71	0.84	2.50	3.90	4.23	9.98
1.5	0.75	0.90	2.60	4.10	4.50	10.60
1.6	0.78	0.95	2.74	4.23	4.68	11.32
1.7	0.81	1.00	2.90	4.40	4.90	12.10
1.8	0.87	1.07	3.06	4.61	5.23	12.94
1.9	0.91	1.14	3.27	4.86	5.62	13.84
2.0	0.94	1.20	3.50	5.10	6.10	14.80
2.1	0.97	1.25	3.76	5.53	6.67	15.80
2.2	1.00	1.29	4.03	5.95	7.37	16.84
2.3	1.06	1.30	4.30	6.50	8.20	17.90
2.4	1.10	1.39	4.56	6.97	9.05	18.92
2.5	1.18	1.50	4.80	7.60	10.00	19.90
2.6	1.26	1.57	4.96	8.13	10.78	20.81
2.7	1.35	1.70	5.10	8.60	11.60	21.70
2.8	1.49	1.85	5.24	9.32	12.53	22.45
2.9	1.63	2.02	5.37	9.86	13.38	23.20
3.0	1.75	2.20	5.50	10.40	14.10	23.90
3.1	1.93	2.43	5.60	10.66	15.00	24.62
3.2	2.08	2.67	5.71	10.86	15.74	25.29
3.3	2.25	2.90	5.80	10.90	16.60	25.90
3.4	2.35	3.15	5.91	11.06	17.06	26.56
3.5	2.44	3.40	6.00	11.20	17.60	27.20
3.6	2.46	3.61	6.10	11.25	18.13	27.74
3.7	2.50	3.80	6.48	11.31	18.57	28.30
3.8	2.55	3.96	6.26	11.47	18.94	28.83
3.9	2.60	4.06	6.34	11.69	19.27	29.34
4.0	2.67	4.10	6.40	12.00	19.50	29.80

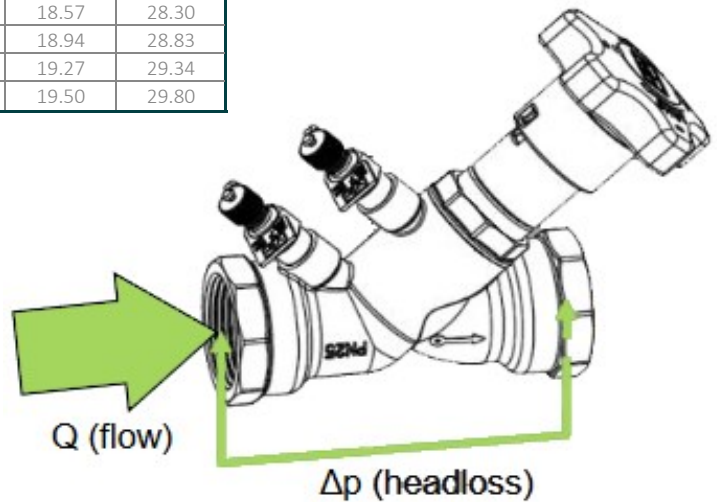


HEADLOSS EQUATION

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

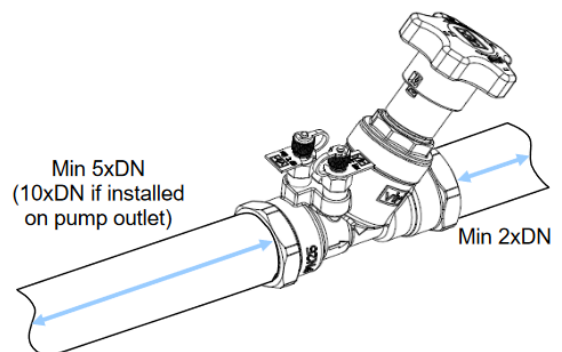
The above formula links the flow Q (in l/s) and theoretical valve headloss Δp (in kPa).

K_v depends on handwheel position as indicated on the table above.

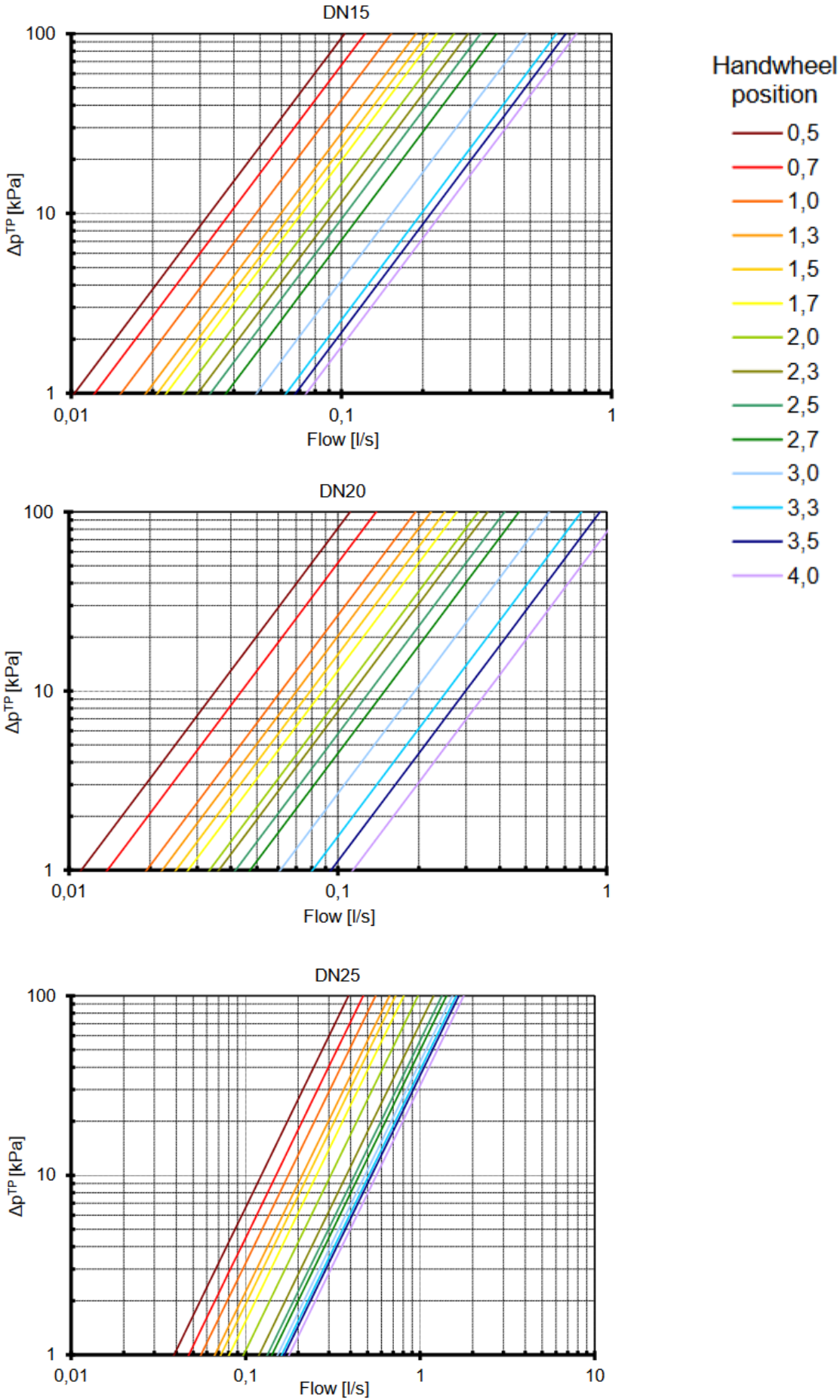


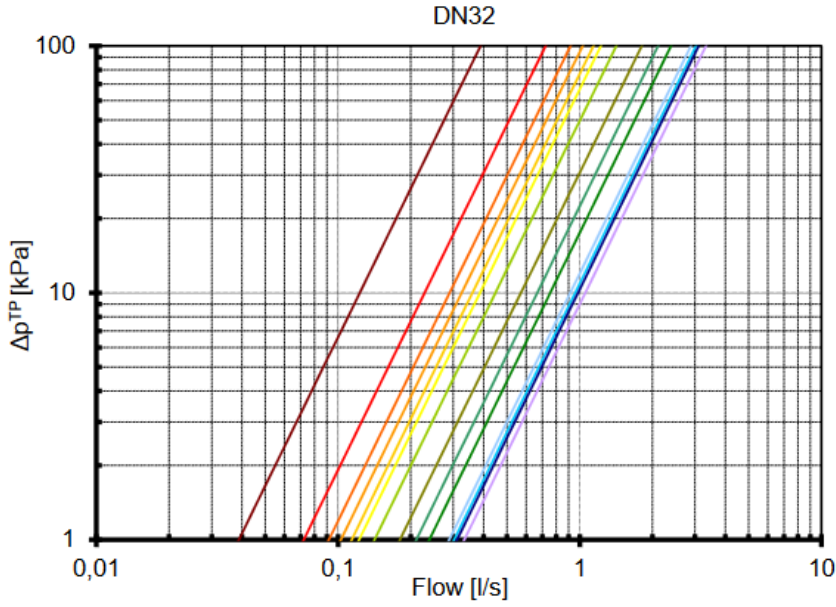
INSTALLATION

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.



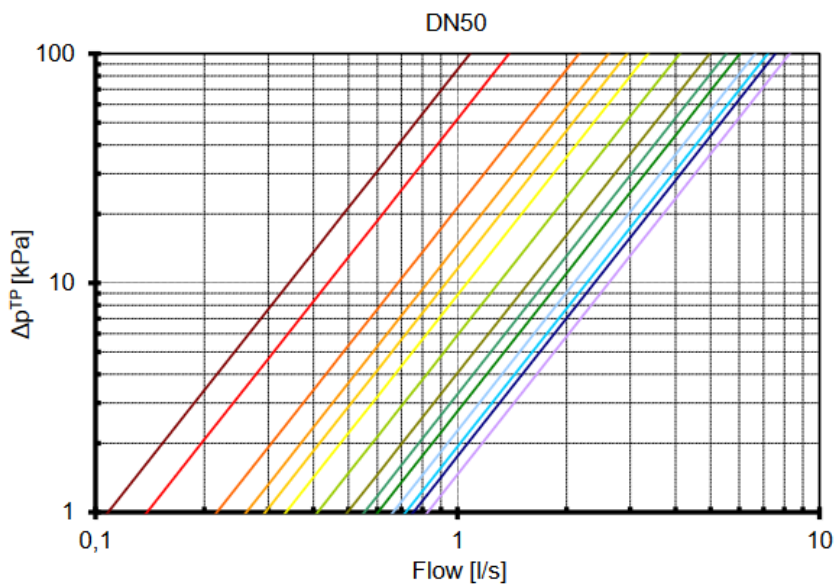
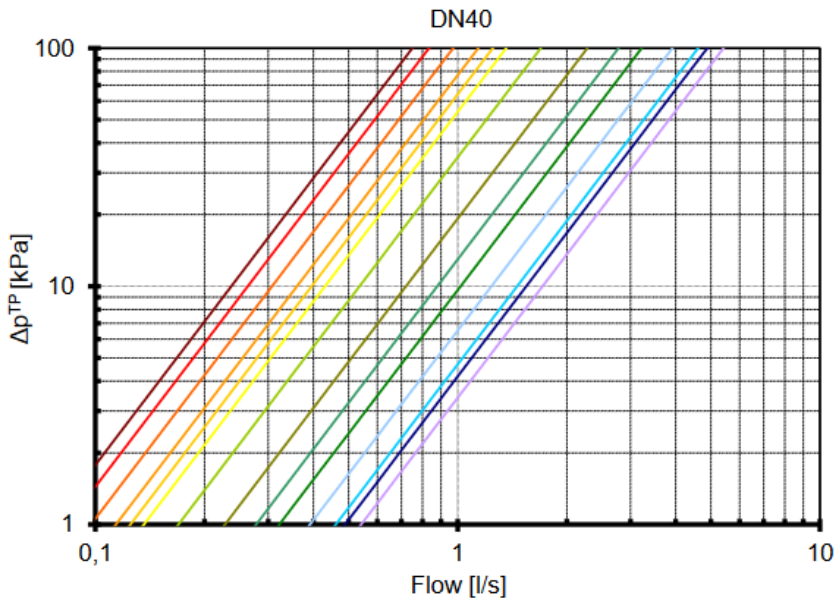
FLOW MEASUREMENT





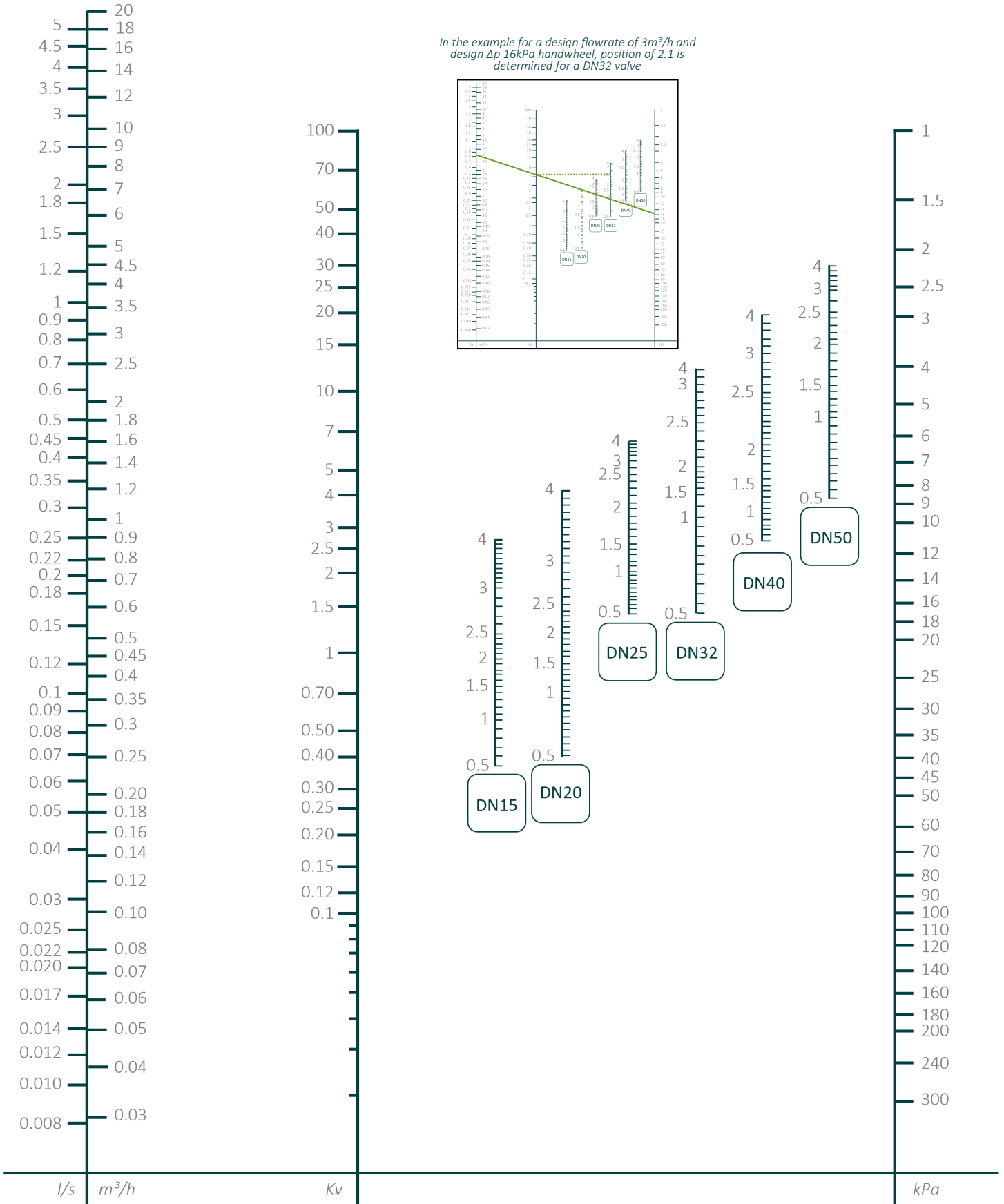
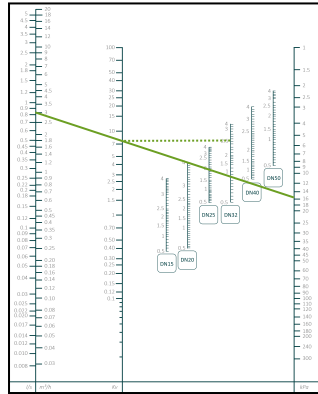
Handwheel position

- 0,5
- 0,7
- 1,0
- 1,3
- 1,5
- 1,7
- 2,0
- 2,3
- 2,5
- 2,7
- 3,0
- 3,3
- 3,5
- 4,0



PRESETTING

In the example for a design flowrate of 3m³/h and design Δp 16kPa handwheel, position of 2.1 is determined for a DN32 valve



- Using the diagram above, it is possible to establish the presetting position of the valve with given design flowrate and headloss:
- 1) Draw a straight line connecting the design flowrate and design headloss
 - 2) Determine design Kv value as intersection of drawn line and Kv axis
 - 3) Draw a straight horizontal line from intersection previously identified, and the specific valve DN axis
 - 4) The intersection determines the handwheel position to use for presetting. See inset diagram for example.