

# 9525

DZR Brass ON/OFF Terminal Valve with Connection for Actuator



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DZR brass ON/OFF terminal valve

Threaded F/F (ISO 228/1 for DN15 and DN20, ISO 7/1 Rp above)

Olive and nut kit (O/N) for European copper tubing (EN1057) on request:

- DN15, kit for 15mm pipe
- DN20, kit for 22mm pipe

Tolerance on nominal  $K_v$  for fully open valve  $\pm 10\%$   
(test according to BS7350)

Provided with mounted test points

With threaded M30x1,5 connection for linear actuator

WRAS and TR CU 010 compliant

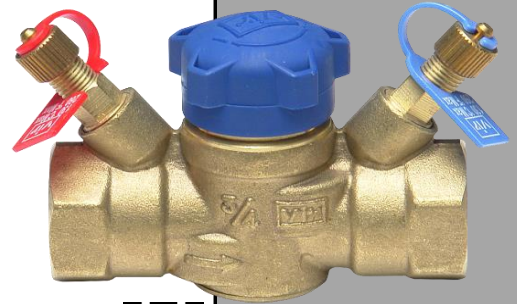
PN20 (Max 20bar up to 80°C, max 10bar at 130°C)

PN16 with O/N kit (Max 16bar up to 30°C, max 5bar at 120°C)

Free of CE marking (cat. according to Art. 4.3 Dir. 2014/68/EU)

Working conditions

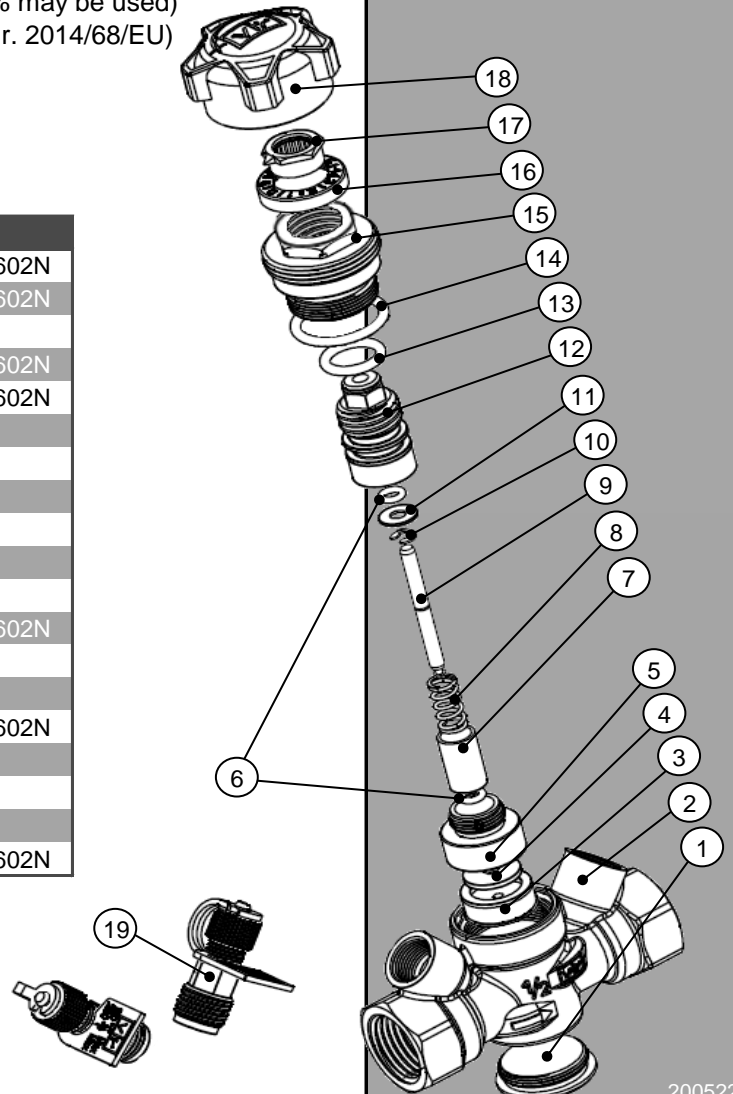
- Suitable for: water, -10°C to +130°C (120°C with O/N kit)  
below 0°C only for water with added antifreeze fluids  
over 100°C only for water with added anti-boiling fluids  
(ethylene glycol or propylene glycol mixtures up to 50% may be used)
- Not suitable for: gases group 1 & 2, liquids group 1 (Dir. 2014/68/EU)



## PARTLIST

N.	Part	Material	Norm
1	Plug	DZR brass	EN12164 CW602N
2	Body	DZR brass	EN12165 CW602N
3	Disc gasket	EPDM Perox	-
4	Gasket washer	DZR brass	EN12164 CW602N
5	Balance disc	DZR brass	EN12164 CW602N
6	Stem O-ring	EPDM Perox	-
7	Spring cartridge	Brass	-
8	Spring	Stainless steel	-
9	Disc stem	Stainless steel	-
10	Stop ring	Stainless steel	-
11	Washer	Brass	-
12	Balancing stem	DZR brass	EN12164 CW602N
13	Bal. stem O-ring	EPDM Perox	-
14	Bonnet O-ring	EPDM Perox	-
15	Bonnet	DZR brass	EN12164 CW602N
16	Graduated scale	Blue polypropylene	-
17	Reg. indicator	Orange polyamide	-
18	ON/OFF cap	Blue polyamide	-
19	Test point / plug	DZR brass <sup>1</sup>	EN12164 CW602N

<sup>1</sup>Plug with copper gaskets, test points with EPDM Perox gaskets and polypropylene ties



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# DIMENSIONS

DN	T	L [mm]	B [mm]	HB [mm]	HC <sup>1</sup> [mm]	ØV [mm]	I [mm]	Valve wgt [g]	Act. wgt <sup>1</sup> [g]	Flow range [l/s]
L 015	½"	83	17,5	51	91 / 101	40	99	340	100 / 110	0,031-0,074
015	½"	83	17,5	51	91 / 101	40	99	340	100 / 110	0,062-0,148 <sup>2</sup>
020	¾"	90	19,2	51	91 / 101	40	105	450	100 / 110	0,138-0,325 <sup>2</sup>
025	1"	98	22,5	71	- / 117	40	109	620	- / 110	0,258-0,603 <sup>2</sup>

<sup>1</sup>100N VIR actuator version / 125N VIR actuator version

<sup>2</sup>Suggested flow range applicability (BS7350)

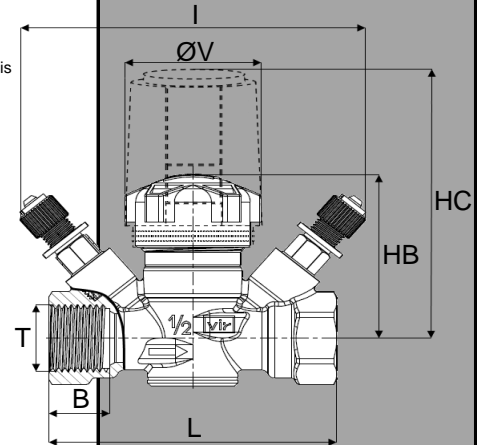
If used with measuring manometers different from those proposed by VIR please verify that sensibility of the measuring device is compatible with indicated minimum flow (see flow measurement paragraph)

DN	Max Δp [bar]	
	100N Ver. <sup>1</sup>	125N Ver. <sup>2</sup>
L 015	3,5	4,5
015	3,0	4,0
020	1,7	2,5
025	-	1,7

Maximum working Δp of the valve when used with VIR Vaurien actuators (for more details please refer to their specific technical sheet) is indicated on the table on the left.

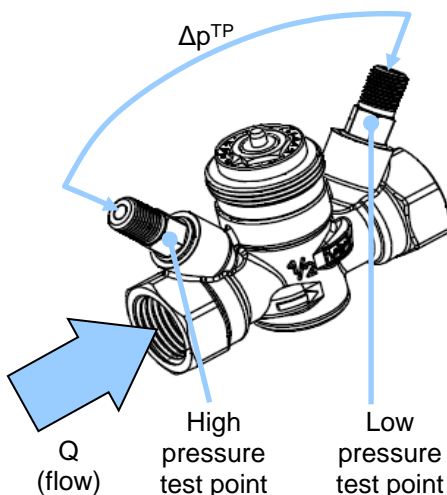
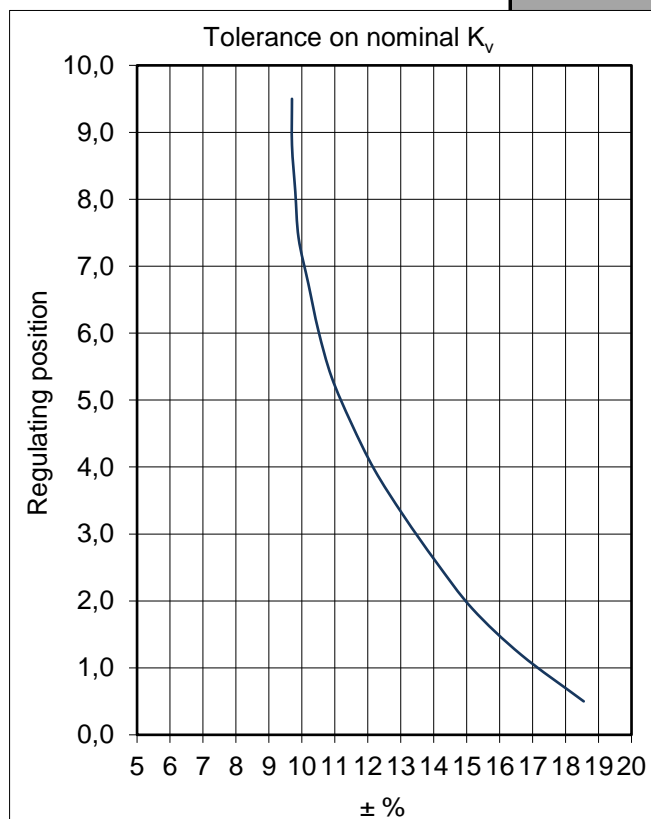
<sup>1</sup>VIR actuators KA952AT00.800, KA952AT02.800, KA952AT50.800 and KA952AT52.800

<sup>2</sup>VIR actuators KA952AT05.800 e KA952AT07.800



# FLOW MEASUREMENT

Regulating position	K <sub>v</sub> [m <sup>3</sup> /h @ 1bar]			
	L 015	015	020	025
0,5	0,11	0,50	0,69	1,33
1,0	0,15	0,76	1,07	2,08
1,5	0,19	0,95	1,37	2,70
2,0	0,22	1,09	1,64	3,17
2,5	0,25	1,21	1,90	3,60
3,0	0,29	1,31	2,12	3,90
3,5	0,33	1,39	2,31	4,19
4,0	0,37	1,47	2,47	4,52
4,5	0,42	1,53	2,61	4,75
5,0	0,47	1,59	2,75	4,95
5,5	0,52	1,63	2,86	5,14
6,0	0,57	1,67	2,96	5,30
6,5	0,62	1,70	3,05	5,46
7,0	0,67	1,73	3,13	5,67
7,5	0,72	1,76	3,20	5,83
8,0	0,76	1,78	3,28	6,00
8,5	0,80	1,80	3,35	6,13
9,0	0,83	1,82	3,41	6,18
9,5	0,86	1,83	3,47	6,30



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

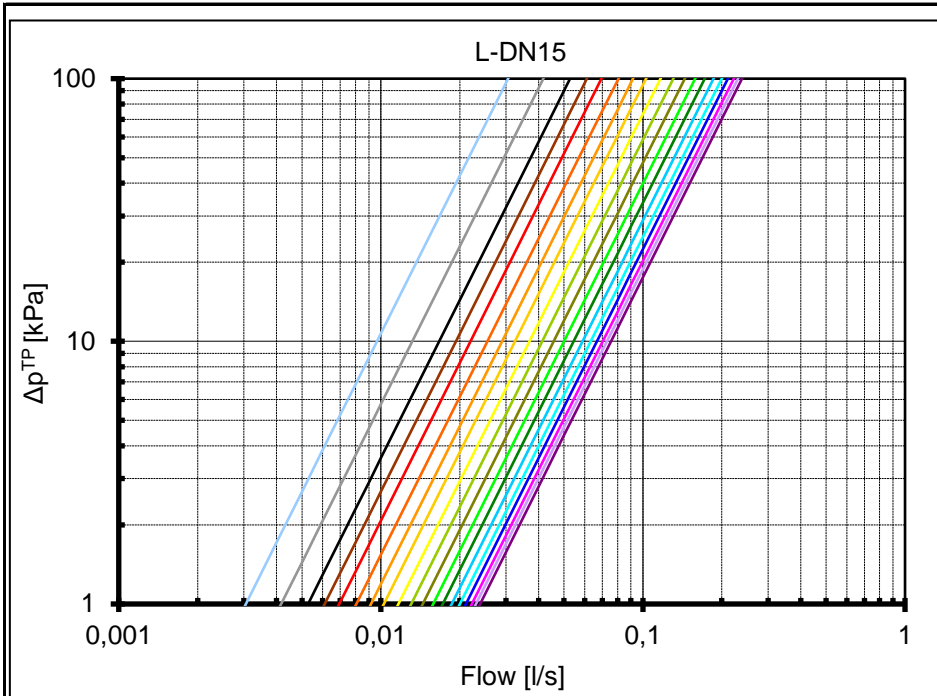
Formula linking flow Q (in l/s) and Δp measured at test points (in kPa). K<sub>v</sub> depends on regulating position as indicated on table.

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.

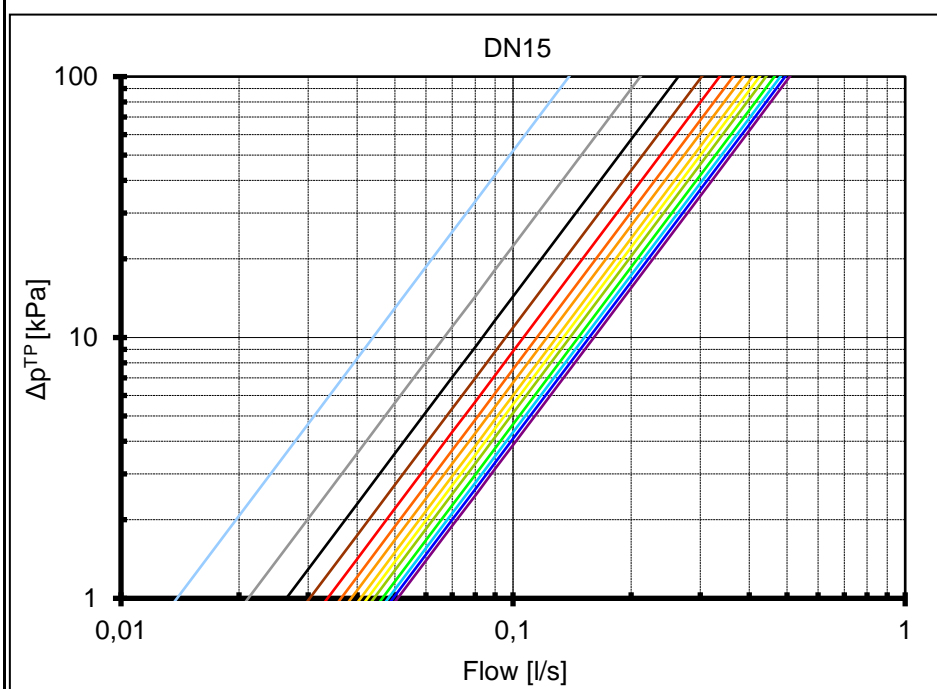
Valves are anyway designed for best performances when used on range previously suggested and as indicated by BS7350.



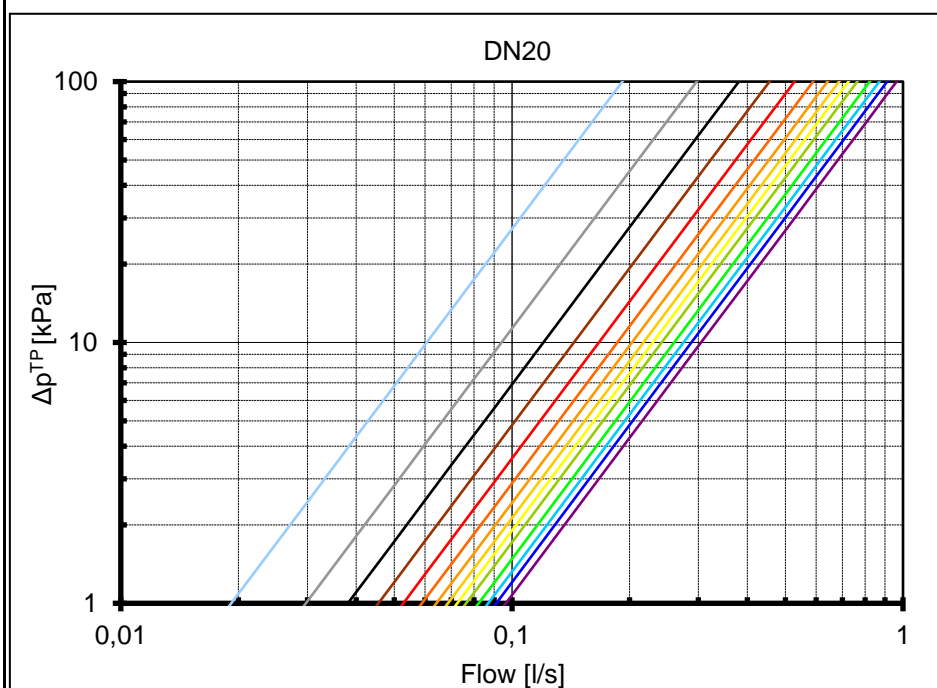
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- Regulating position
- 0,5
  - 1,0
  - 1,5
  - 2,0
  - 2,5
  - 3,0
  - 3,5
  - 4,0
  - 4,5
  - 5,0
  - 5,5
  - 6,0
  - 6,5
  - 7,0
  - 7,5
  - 8,0
  - 8,5
  - 9,0
  - 9,5



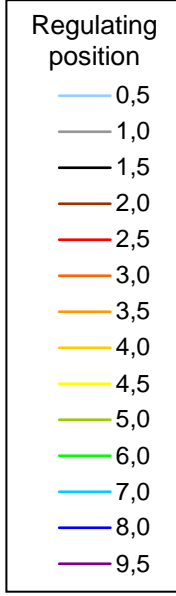
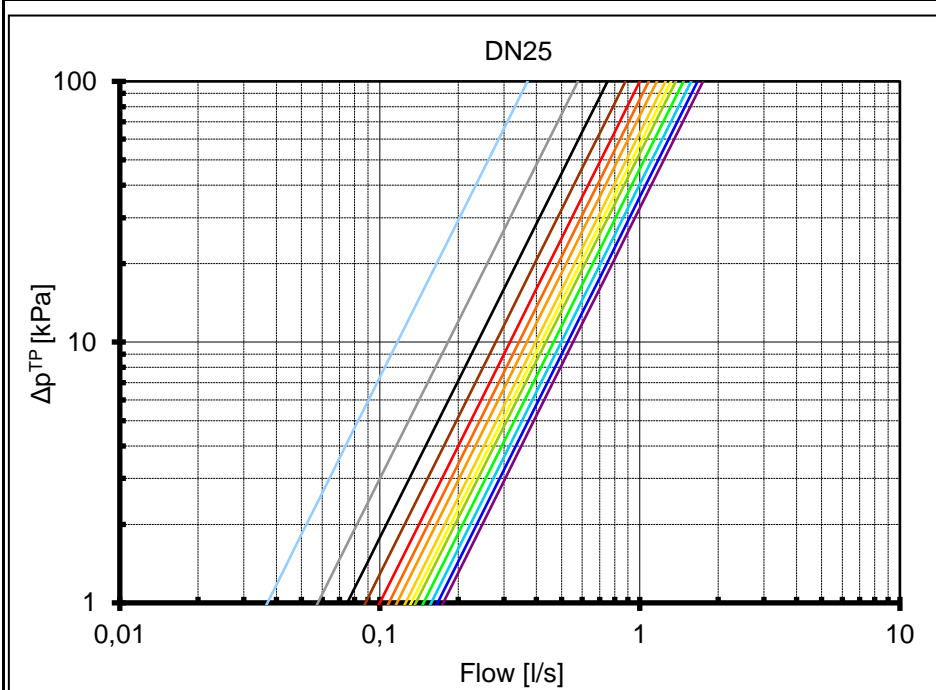
- Regulating position
- 0,5
  - 1,0
  - 1,5
  - 2,0
  - 2,5
  - 3,0
  - 3,5
  - 4,0
  - 4,5
  - 5,0
  - 6,0
  - 7,0
  - 8,0
  - 9,5



- Regulating position
- 0,5
  - 1,0
  - 1,5
  - 2,0
  - 2,5
  - 3,0
  - 3,5
  - 4,0
  - 4,5
  - 5,0
  - 6,0
  - 7,0
  - 8,0
  - 9,5



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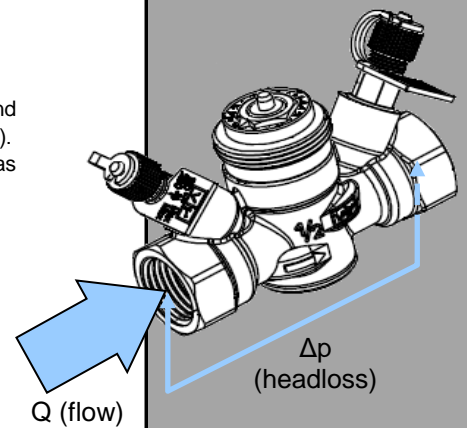


## HEADLOSS CALCULATION

Regulating position	K <sub>v</sub> [m <sup>3</sup> /h @ 1bar]			
	L 015	015	020	025
0,5	0,11	0,50	0,69	1,33
1,0	0,15	0,76	1,07	2,08
1,5	0,19	0,95	1,37	2,70
2,0	0,22	1,09	1,64	3,17
2,5	0,25	1,21	1,90	3,60
3,0	0,29	1,31	2,12	3,90
3,5	0,33	1,39	2,31	4,19
4,0	0,37	1,47	2,47	4,52
4,5	0,42	1,53	2,61	4,75
5,0	0,47	1,59	2,75	4,95
5,5	0,52	1,63	2,86	5,14
6,0	0,57	1,67	2,96	5,30
6,5	0,62	1,70	3,05	5,46
7,0	0,67	1,73	3,13	5,67
7,5	0,72	1,76	3,20	5,83
8,0	0,76	1,78	3,28	6,00
8,5	0,80	1,80	3,35	6,13
9,0	0,83	1,82	3,41	6,18
9,5	0,86	1,83	3,47	6,30

Formula linking flow Q (in l/s) and theoretical valve headloss Δp (in kPa). K<sub>v</sub> depends on regulating position as indicated on table.

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



Copy of the table presented in flow measurement paragraph  
 Δp (headloss) approximately equal to Δp<sup>TP</sup>

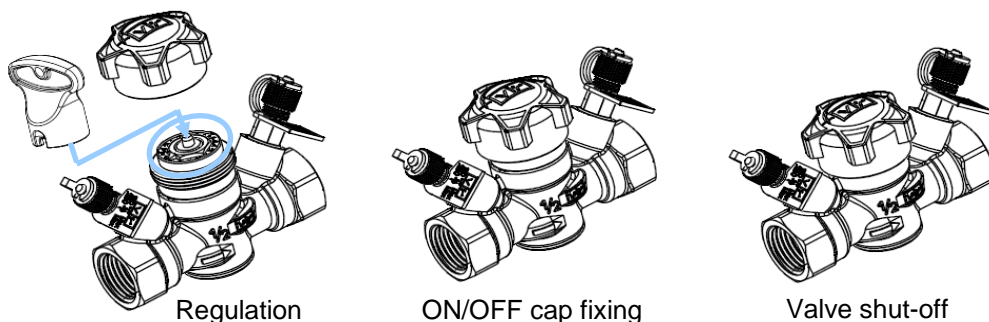


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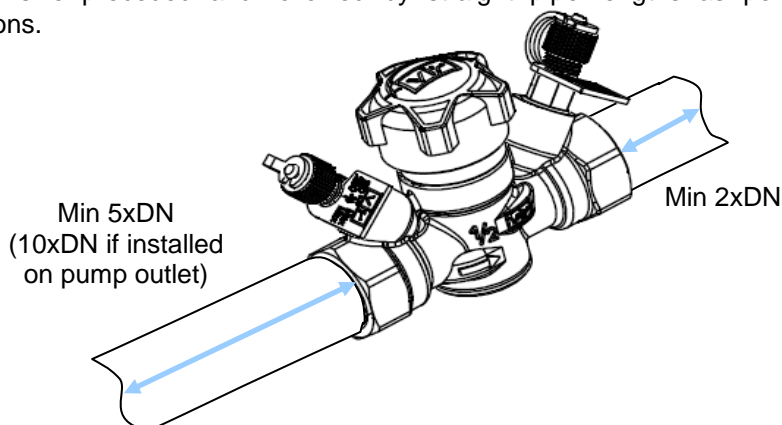
# INSTALLATION

Regulation is done by removing the ON/OFF cap and acting on regulation indicator with the provided regulating key. Once desired regulation is obtained screw on the cap (gently with the only aim to fix it to the valve, do not apply force!).

It's possible at any time to act on the ON/OFF cap to completely close the valve, independently from regulation. To do so act on the cap screwing it on at full stroke.



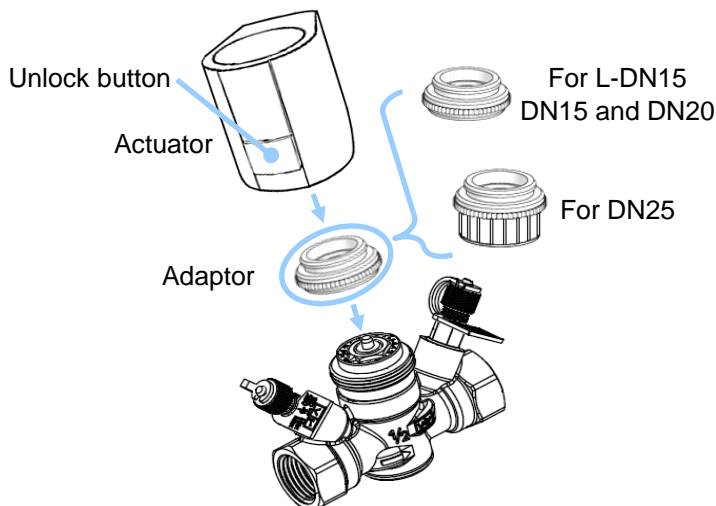
To obtain the best performances valve must be installed on a pipe with its same nominal size preceded and followed by straight pipe lengths as per figure indications.



It is possible, at any time and even after the installation of the valve onto the line, to install onto the 9520 valve series a linear Vaurien actuator (for more information please refer to its specific technical sheet).

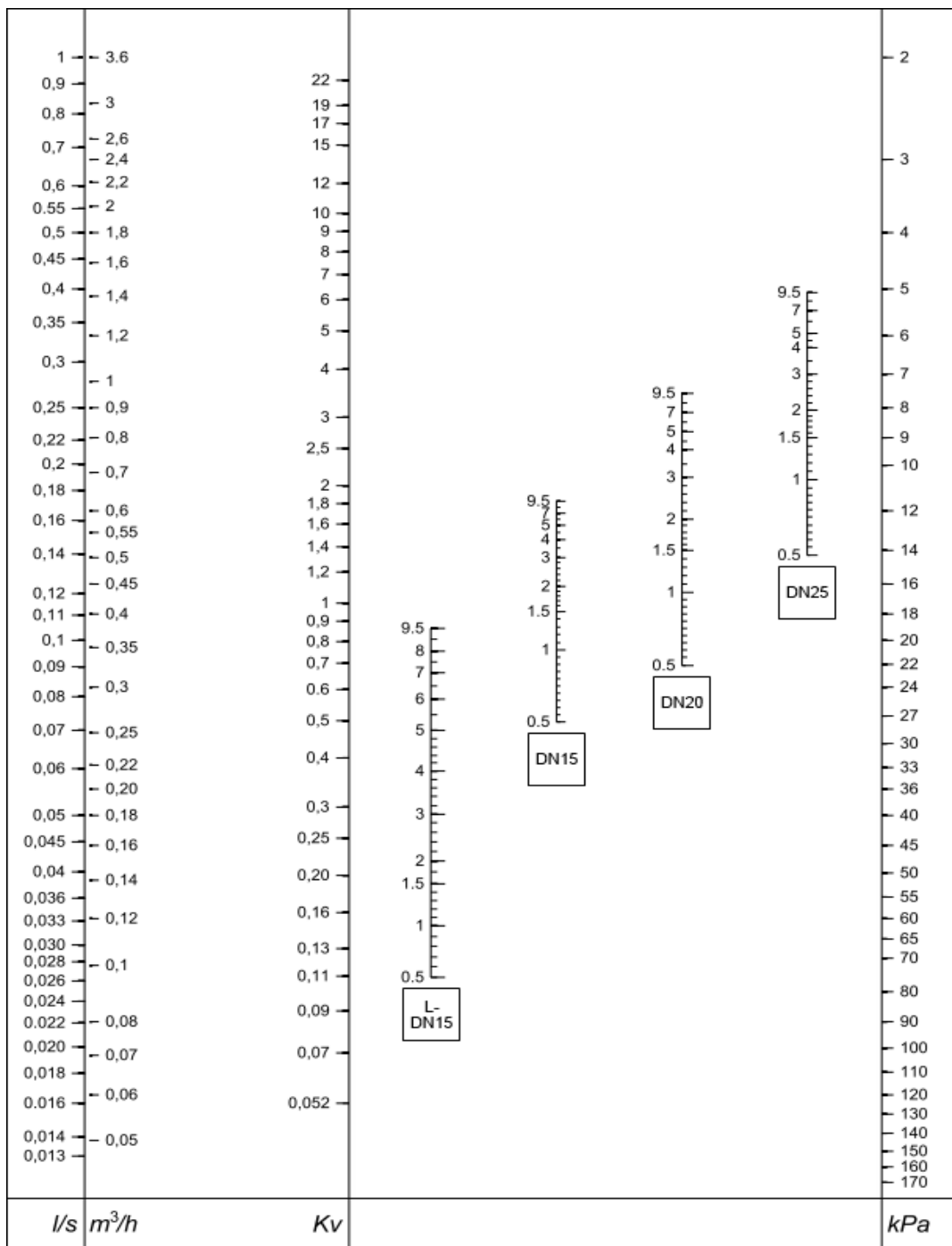
Remove the ON/OFF cap and fix the adaptor onto the valve (making sure you select the appropriate one for the valve diameter as per figure below), tighten by hand in a clock-wise direction thus avoiding the use of any additional tools. Fix the actuator onto the adaptor by simply pressing the two parts together.

Should it be necessary to remove the actuator, for example to set a new regulation on the graduated scale, press the unblock button and simply pull the actuator off without unscrewing the adaptor from the valve.



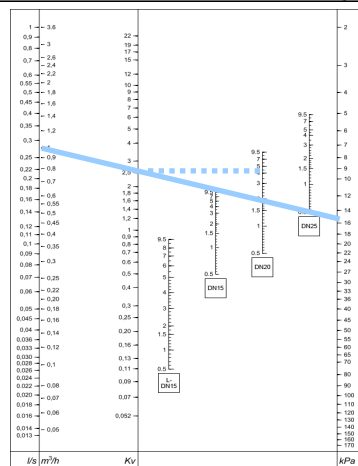
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# PRESETTING



By using diagram above is possible to evaluate the presetting position of the valve with given design flowrate and headloss:

- 1) draw a straight line joining 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) intersection determines handwheel position to use for presetting.



In the example for a design flowrate of 1m<sup>3</sup>/h and design Δp of 15kPa regulating position of 4,4 is determined for a DN20 valve



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