

VPS-N

VPS Static Balancing Valve



VPS-N Static Balancing Valve

Designed for various applications, especially for flow rate balancing in HVAC system, with good flow characteristics.

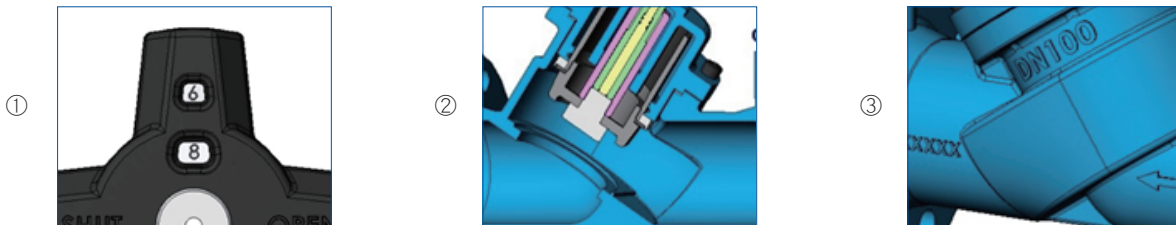


DN15-DN50



DN65-DN500

Feature



① Digit Indication Hand-wheel

Accurate and clear indication of the scale, enabling operators of easy and correct commissioning.

② Full Closing Design

Balancing design enables easy closing of valve with zero leakage.

③ High-grade Materials for DN65-DN500

QT450-10 High-grade ductile iron for valve body. High-grade stainless steel for balancing disc and stem with sound anti-corrosion performance.

Specification

Application	HVAC system
Function	Balancing, pre-setting, measuring, closing
PN	PN16
Connection Standard	DN15~DN50: ISO7/1 DN65~DN500: ISO7005-2
Temperature	-25° C ~150° C
Valve Body	DN15~DN50: Brass Hpb59-1 DN65~DN500: Ductile iron QT450-10
Stem	DN15~DN50: Brass DN65~DN500: Stainless Steel
Balancing disc	DN15~DN50: Brass DN65~DN500: Stainless Steel
Hand-wheel	DN15~DN50: PA DN65~DN500: AI

Parameter

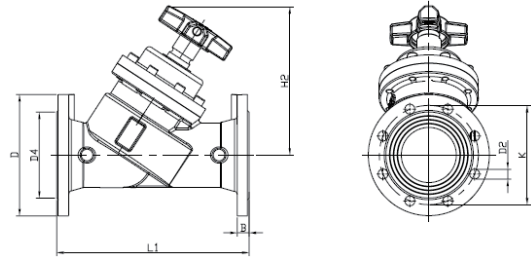
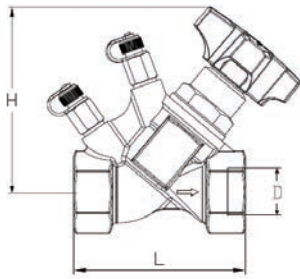
Model	Size (in.)	DN (mm)	Kvs	Temp (°C)
VPS015N-C	1/2"	15	5.8	-25~150
VPS020N-C	3/4"	20	8	
VPS025N-C	1"	25	11	
VPS032N-C	1-1/4"	32	17	
VPS040N-C	1-1/2"	40	25	
VPS050N-C	2"	50	34	

Model	Size (in.)	DN (mm)	Kvs	Temp (°C)
VPS065N-C	2-1/2"	65	107	-25~150
VPS080N-C	3"	80	145	
VPS100N-C	4"	100	259	
VPS125N-C	5"	125	430	
VPS150N-C	6"	150	647	
VPS200N-C	8"	200	1085	
VPS250N-C	10"	250	1630	
VPS300N-C	12"	300	2495	
VPS350N-C	14"	350	3229	
VPS400N-C	16"	400	3880	
VPS450N-C	18"	450	4550	
VPS500N-C	20"	500	5010	

Valve opening vs Kv

Size Turn	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300	DN350	DN400	DN450	DN500
0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.5	0.62	0.57	1.59	2.19	3.00	3.92	8.73	10.8	21.3	28.8	63.3	21.5	31.3	30.2	84.0	96.5	111.2	156.7
1.0	0.98	0.97	2.31	3.47	4.66	5.96	9.88	20.4	27.2	41.8	84.8	22.6	32.2	34.0	116.4	132.4	196.4	255.6
1.5	1.88	2.23	3.02	4.91	5.95	7.87	13.0	25.3	31.6	49.5	111.2	23.8	33.3	41.4	145.6	172.8	234.5	298.5
2.0	2.92	3.77	3.78	8.46	7.94	12.0	16.7	26.9	37.3	60.0	132.0	27.7	41.6	61.1	167.5	198.6	267.8	337.8
2.5	3.89	5.00	6.16	11.9	12.3	20.7	18.0	29.7	43.8	76.0	154.0	40.9	65.8	93.5	199.1	245.2	307.4	372.4
3.0	4.88	6.26	8.45	14.3	19.5	28.1	22.0	33.9	53.0	110.3	194.4	60.7	97.5	126.0	224.5	290.3	334.2	399.7
3.5	5.54	7.63	10.2	16.0	22.2	32.1	29.8	40.7	74.8	169.8	247.4	95.1	151.1	161.3	250.6	321.1	362.5	425.7
4.0	5.78	8.04	10.9	16.9	25.1	34.2	41.0	49.5	109.0	215.6	310.0	161.8	266.3	246.9	334.7	373.8	389.7	455.3
4.5	—	—	—	—	—	—	53.3	61.9	136.1	260.5	363.5	250.5	401.6	387.7	482.5	522.6	402.5	488.1
5.0	—	—	—	—	—	—	63.1	79.1	159.1	298.3	416.5	353.5	537.5	557.3	628.3	699.1	425.6	521.7
5.5	—	—	—	—	—	—	71.3	90.2	179.1	327.9	471.3	447.1	665.6	739.7	832.9	878.5	455.2	584.3
6.0	—	—	—	—	—	—	76.6	103.5	199.2	354.8	512.8	522.0	768.5	902.8	1061.7	1152.4	488.0	656.8
6.5	—	—	—	—	—	—	82.0	118.5	216.1	376.7	533.9	591.7	870.7	1032.6	1242.4	1303.3	521.4	726.8
7.0	—	—	—	—	—	—	88.4	128.3	228.9	382.7	559.5	649.3	942.1	1156.7	1411.5	1508.3	584.2	805.3
7.5	—	—	—	—	—	—	94.5	137.7	237.9	392.5	591.0	708.4	1032.5	1268.7	1539.5	1621.8	656.8	887.4
8.0	—	—	—	—	—	—	98.9	145.1	246.4	404.4	610.3	762.9	1110.8	1375.6	1684.6	1723.2	724.6	963.1
8.5	—	—	—	—	—	—	102.3	—	253.6	418.8	633.1	820.3	1200.0	1473.3	1772.1	1876.1	809.5	1056.0
9.0	—	—	—	—	—	—	106.6	—	259.5	430.8	647.5	845.0	1266.8	1583.1	1896.6	1971.7	885.4	1168.3
9.5	—	—	—	—	—	—	—	—	—	—	—	889.9	1314.5	1676.5	2011.1	2100.7	967.1	1284.9
10.0	—	—	—	—	—	—	—	—	—	—	—	919.6	1376.7	1771.2	2109.4	2196.2	1059.1	1412.3
10.5	—	—	—	—	—	—	—	—	—	—	—	953.9	1435.4	1853.0	2214.8	2323.7	1162.8	1548.4
11.0	—	—	—	—	—	—	—	—	—	—	—	979.3	1485.1	1927.8	2333.3	2466.0	1287.5	1659.5
11.5	—	—	—	—	—	—	—	—	—	—	—	1013.7	1515.5	2010.0	2413.0	2572.3	1409.2	1803.9
12.0	—	—	—	—	—	—	—	—	—	—	—	1028.9	1559.0	2069.0	2510.7	2662.4	1518.4	1924.8
12.5	—	—	—	—	—	—	—	—	—	—	—	1060.0	1585.4	2117.0	2581.2	2793.8	1629.6	2132.6
13.0	—	—	—	—	—	—	—	—	—	—	—	1084.8	1630.0	2193.3	2685.2	2887.6	1753.1	2293.6
13.5	—	—	—	—	—	—	—	—	—	—	—	—	—	2257.3	2755.3	2957.2	1894.8	2459.7
14.0	—	—	—	—	—	—	—	—	—	—	—	—	—	2308.7	2771.6	3061.1	2012.5	2637.1
14.5	—	—	—	—	—	—	—	—	—	—	—	—	—	2342.9	2800.2	3124.4	2163.7	2800.6
15.0	—	—	—	—	—	—	—	—	—	—	—	—	—	2388.8	2858.8	3197.8	2349.7	2994.2
15.5	—	—	—	—	—	—	—	—	—	—	—	—	—	2446.0	2949.8	3265.6	2527.1	3208.7
16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	2495.2	2955.5	3310.6	2680.5	3387.4
16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2993.0	3352.8	2874.6	3577.1
17.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3028.8	3394.8	3108.8	3756.2
17.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3078.1	3481.7	3287.5	3911.8
18.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3136.4	3552.6	3457.1	4085.4
18.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3183.6	3580.6	3596.3	4209.2
19.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3228.9	3664.8	3711.6	4326.7
19.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3711.7	3885.4	4434.8
20.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3741.4	3997.2	4528.5
20.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3824.8	4112.8	4572.3
21.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3880.0	4237.1	4633.5
21.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4314.6	4682.6
22.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4422.5	4721.6
22.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4491.2	4774.4
23.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4550.0	4821.7
23.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4881.3
24.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4928.2
24.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4971.8
25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5010.0

Dimension



DN	D	L	H	Weight (Kg)
15	1/2"	80	102	0.8
20	3/4"	85	104	0.9
25	1"	98	105	1.2
32	1-1/4"	110	115	1.6
40	1-1/2"	120	122	2.0
50	2"	150	135	3.7

DN	B mm	D4 mm	D2 mm	D mm	L1 mm	H2 mm	Weight (Kg)
65	20	118	4-19	185	290	222	15
80	20	132	8-19	200	310	257	21
100	22	156	8-19	220	350	275	30
125	22	184	8-19	250	400	332	45
150	24	211	8-23	285	480	396	65
200	24	266	12-23	340	600	498	123
250	26	319	12-28	405	730	555	195
300	28	370	12-28	460	850	630	320
350	30	429	16-28	520	980	733	440
400	32	480	16-31	580	1100	800	630
450	40	548	20-31	640	1200	810	885
500	44	609	20-34	715	1250	900	1125

Valve pre-setting

DN15-DN50

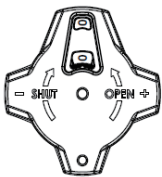


Fig 1

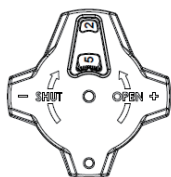


Fig 2

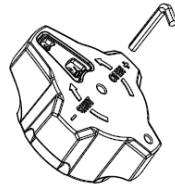


Fig 3

Fig 1: Status of closing

Fig 2: Pre-setting as 2.5 turns, indicated by two numbers. External one shows the integer while the internal one shows decimal.

Fig 3: A 3mm hexagon wrench can be used to rotate clockwise until fully closed. The pre-setting is the maximum valve opening.

DN65-DN500

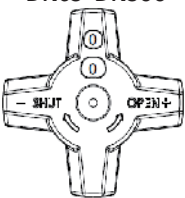


Fig 1

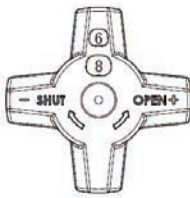


Fig 2

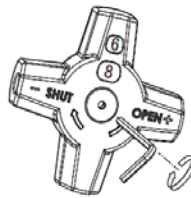


Fig 3

Fig 1: Status of closing

Fig 2: Pre-setting as 6.8 turns, indicated by two numbers. External one shows the integer while the internal one shows decimal.

Fig 3: A 5mm or 8mm hexagon wrench (for DN65-DN150 or DN200-DN500) can be used to rotate clockwise until fully closed. The pre-setting is the maximum valve opening.

Commissioning Meter (Optional)

Digital ΔP Meter

Model: 490-6

Universal, hand-held battery-type pressure meter with high accuracy

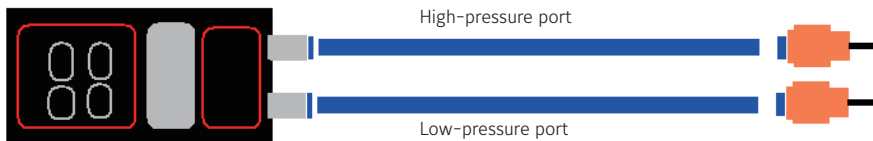
Specification

- Media: Gas and liquid
- Accuracy: For 15.6~25.6°C, $\pm 0.5\%$ F.S.
For 0~15.6°C and 25.6~40°C, $\pm 1.5\%$ F.S.
- Measuring range: 0~200psi (13.78bar)
- Pressure hysteresis: $\pm 0.1\%$ F.S.
- Storage temperature: -20~80°C
- Battery: 9V alkaline battery

Operation

Simply connect two measuring ends to related ports of valve.

Red for high pressure and blue for low.



Johnson Controls is a global diversified technology and industrial leader serving customers in more than 150 countries. Our 168,000 employees create quality products, services and solutions to optimize energy and operational efficiencies of buildings; lead-acid automotive batteries and advanced batteries for hybrid and electric vehicles; and interior systems for automobiles. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. Through our growth strategies and by increasing market share we are committed to delivering value to shareholders and making our customers successful. In 2013, Corporate Responsibility Magazine recognized Johnson Controls as the #14 company in its annual "100 Best Corporate Citizens" list. For additional information, please visit <http://www.johnsoncontrols.com>.

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Shanghai Distribution Center: Shanghai, China

Asia Centre of Excellence in Engineering (CoEE): Beijing, China · Mumbai & Pune, India

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