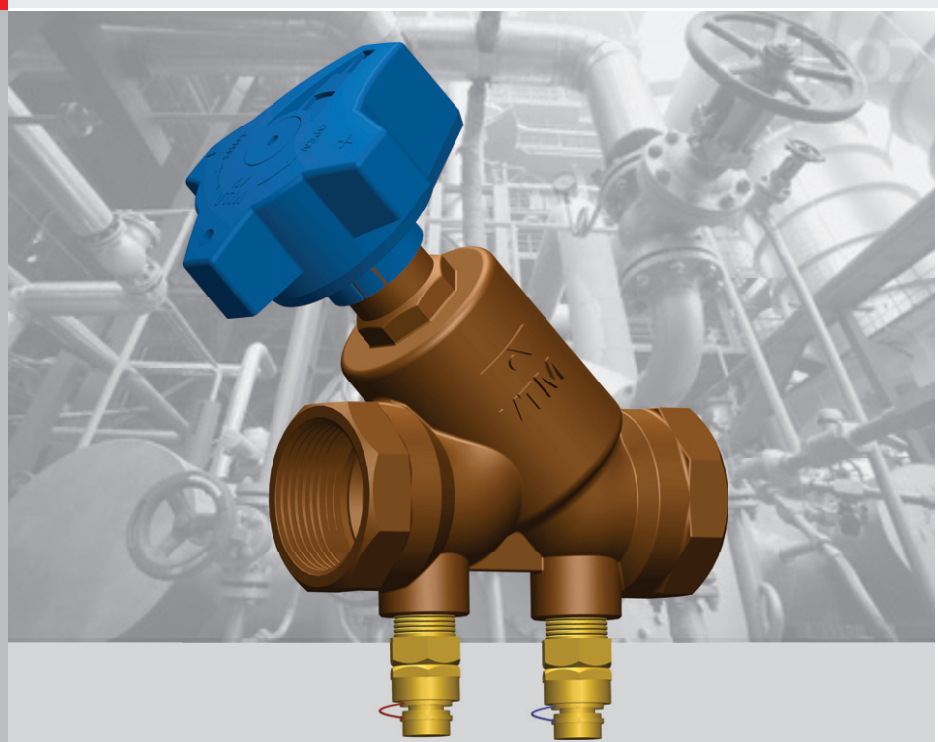
Balancing Valve

VA-30
VA-31



Design Features:

- Only one valve for 5 functions: Presetting, Measuring, Isolating, Filling & Draining.
- Oblique Valve Design enhances Higher Flow Rate & Minimizes Pressure Drop.
- Infinitely adjustable Hand Wheel with concealed Memory feature for Precise & temper proof balancing.
- Numeric Display of the Pre-setting depending upon the position of the Hand Wheel.
- Non Rising Stem with maintenance free stem seal due to double O-Ring.
- Special Seating of PTFE/EPDM to ensure Zero Leakage and Shut off; Safe & Reliable.
- Higher Rangeability of the Flow Rate.
- Near Linear Flow Characteristics allows for better Valve Authority.
- Pressure Test Points available for different flow testing equipments

Conformity to Standards and Codes:

Design: BS 7350

Face to Face: Screwed Ends – Mfg. Std.
Flanged Ends – BS 7350

End Connection: Screwed Ends to Suit BS 21BSP/BSPT, ASME B1.20.0 NPT, DN259/2999, ISO228
Flanged Ends to Suit BS4504 PN10/16, ASME B16.5 #150, BS10 Table D/E

Range :
Screwed Ends - 15mm (1/2'') to 50mm (2'')
Flanged Ends – 65mm (2.1/2'') to 400mm (16'')

Valve Testing: BS 6755-1

Typical Application:

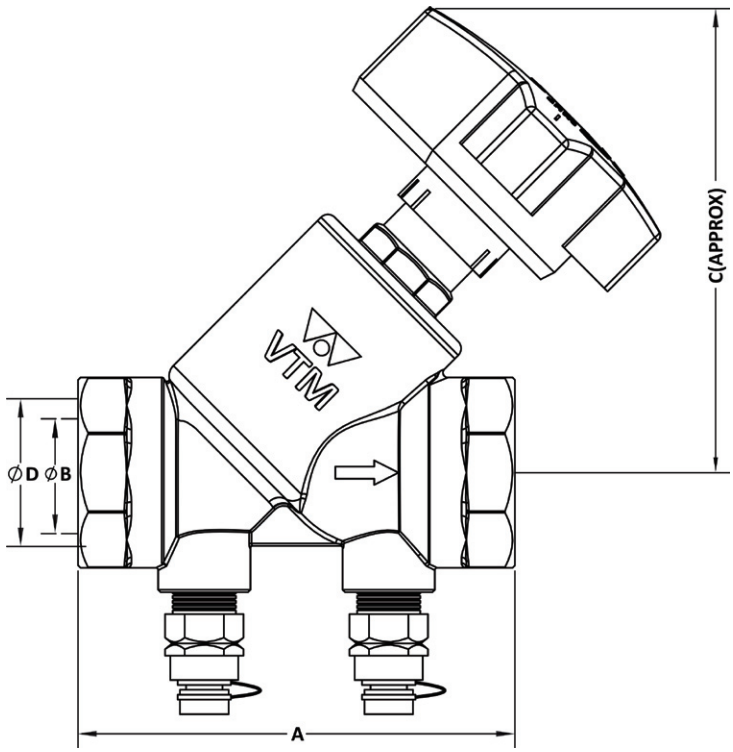
- Heating & Cooling Systems
- Tap Water Systems
- Water Supply & Distribution Systems
- Hydronic Balancing Systems

VTM®
PIONEERING FLUID CONTROLS

DOC. NO. : VAV-C-1019; REV. NO. : 01; REV. DATE: 12-09-2015

SCREWED END BALANCING VALVE

VA-30



PART LIST

S.NO	PART NAME	MATERIAL	SPECIFICATION	QTY.
1.	BODY	BRONZE	BS1400 GR. LG2	1
2.	BONNET	BRASS	BS 2874 GR. CZ 114	1
3.	DISC	BRASS	BS 2874 GR. CZ 114	1
4.	BALANCING CONE	BRASS	BS 2874 GR. CZ 114	1
5.	STEM	BRASS	BS 2874 GR. CZ 114	1
6.	MEMORY DEVICE	BRASS	BS 2874 GR. CZ 114	1
7.	TEST POINT	BRASS	BS 2874 GR. CZ 114	2
8.	BODY/BONNET O-RING	RUBBER	EPDM	1
9.	BONNET/STEM O-RING	RUBBER	EPDM	2
10.	STEM/MEMORY DEVICE O-RING	RUBBER	EPDM	2
11.	SEAT RING	PTFE	BS 6564	1
12.	HAND WHEEL	PLASTIC	NYLON	1

Note: Contact Factory for other Technical Detail/Special Grade Material.

TEST PRESSURE

RATING	HYDROULIC	
	SHELL (Kg/cm²)	SEAT (Kg/cm²)
PN 16	24.0	17.6
PN 25	38.0	28.0

DIMENSIONS

SIZE		SCREWED ENDS			
NPS	DN	A	B	C	D
1/2''	15MM	65	15	77	BSP-1/2''
3/4''	20MM	75	20	90	BSP-3/4''
1''	25MM	90	25	94	BSP-1''
1.1/4''	32MM	110	32	108	BSP-1.1/4''
1.1/2''	40MM	120	40	118	BSP-1.1/2''
2''	50MM	150	50	125	BSP-2''

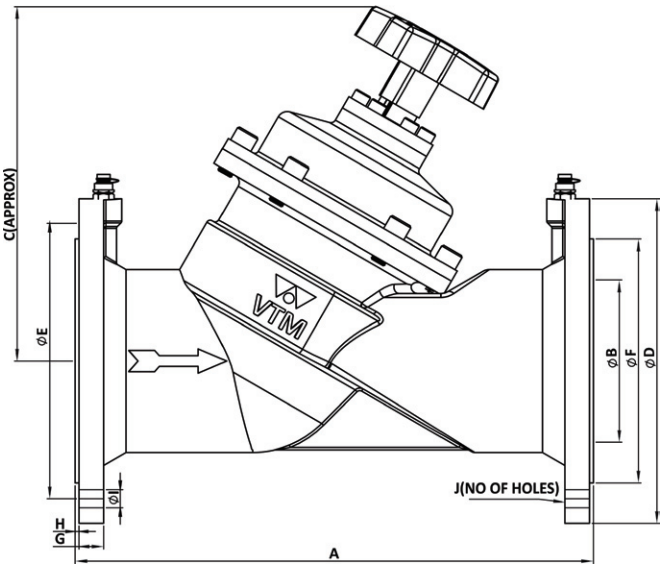
Note: 1.Dimensions are in mm unless otherwise specified.

Cv VALUE (AT 1PSI PRESSURE DROP & FLOW RATE IN GPM)

NO. OF TURNS	½"	¾"	1"	1.1/4"	1.1/2"	2"
	15MM	20MM	25MM	32MM	40MM	50MM
0.5	0.13	0.60	0.68	1.28	1.98	2.92
1.0	0.22	0.90	1.15	2.10	3.85	4.85
1.5	0.32	1.45	2.19	3.58	5.32	8.45
2.0	0.68	2.25	3.05	5.45	7.05	15.00
2.5	1.04	3.40	4.86	8.20	10.30	19.05
3.0	1.68	4.45	6.52	11.10	14.70	26.60
3.5	2.20	5.55	8.50	13.60	18.80	31.70
4.0	2.94	6.65	10.10	16.60	22.28	37.14

Note: 1. $Cv = Q/\sqrt{\Delta p}$ where Q is discharge in GPM & Δp is Pressure Drop in PSI
2. Flow Rate tolerance is ±5%.
3. Contact Factory for Pressure Drop Curves.

FLANGED END BALANCING VALVE



DIMENSIONS

SIZE		FLANGED ENDS									
NPS	DN	A	B	C	D	E	F	G	H	I	J
2.1/2''	65MM	290	65	220	185	145	122	15	3	18	4
3''	80MM	310	80	290	200	160	138	17	3	18	8
4''	100MM	350	100	410	220	180	158	17	3	18	8
5''	125MM	400	125	450	250	210	188	19	3	18	8
6''	150MM	480	150	490	285	240	212	19	3	22	8
8''	200MM	600	200	590	340	295	268	21	3	22	12
10''	250MM	730	250	760	405	355	320	23	3	26	12
12''	300MM	850	300	820	460	410	378	24	4	26	12
14''	350MM	980	350	880	520	470	438	26	4	26	16
16''	400MM	1100	400	940	580	525	490	28	4	30	16

Note: 1. All Dimensions are in mm unless otherwise specified.
2. Flange dimensions in BS4504 PN16 in table. Same are available in other standard on request.

PART LIST

S.NO.	PART NAME	MATERIAL	SPECIFICATION	QTY.
1.	BODY	CAST IRON / DUCTILE IRON	BS 1452 GR.220 / ASTM A536 GR. 65-45-12	1
2.	BONNET	CAST IRON / DUCTILE IRON	BS 1452 GR.220 / ASTM A536 GR. 65-45-12	1
3.	BALANCING CONE CUM DISC	CAST CARBON STEEL	ASTM A 216 GR. WCB	1
4.	STEM	BRASS	BS 2874 GR. CZ 114	1
5.	BONNET COVER	BRASS	BS 2874 GR. CZ 114	1
6.	MEMORY DEVICE	BRASS	BS 2874 GR. CZ 114	1
7.	STOP PIN	STAINLESS STEEL	ASTM A276 GR. 410	1
8.	STEM SCREW	BRASS	BS 2874 GR. CZ 114	1
9.	BODY/DISC O-RING	RUBBER	EPDM	1
10.	BODY/BONNET FLAT-RING	RUBBER	EPDM	1
11.	BONNET/STEM O-RING	RUBBER	EPDM	2
12.	STEM/MEMORY DEVICE O-RING	RUBBER	EPDM	2
13.	SEAT	RUBBER	EPDM	1
14.	TEST POINT	BRASS	BS 2874 GR. CZ 114	2
15.	HAND WHEEL	PLASTIC & ALUMINIUM	NYLON & BS1490	1

Note: 1. Optional Material is for PN25 Rating of the Balancing Valve.
2. Contact Factory for other Technical Detail/Special Grade Material.

TEST PRESSURE

RATING	HYDROULIC	
	SHELL (Kg/cm²)	SEAT (Kg/cm²)
PN 16	24.0	17.6
PN 25	38.0	28.0

Cv VALUE (AT 1 PSI PRESSURE DROP & FLOW RATE IN GPM)

NO. OF TURN	2.1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
	65	80	100	125	150	200	250	300	350	400
0.5	2.1	2.9	2.9	6.3	7.3	-	-	-	-	-
1.0	3.9	4.7	6.7	12.1	13.6	-	-	-	-	-
1.5	5.8	6.9	10.6	17.9	25.4	-	-	-	-	-
2.0	7.6	9.4	12.9	24.8	46.2	46.1	103.0	-	-	-
2.5	10.8	12.9	18.5	31.4	74.9	57.5	129.0	-	-	-
3.0	18.9	16.8	29.9	41.9	115.9	75.0	162.5	175.0	123.9	143.1
3.5	29.8	22.6	52.2	63.7	158.0	115.8	227.0	267.5	146.8	169.0
4.0	40.9	33.6	74.1	96.2	199.0	138.5	292.5	347.5	168.8	195.6
4.5	51.6	47.6	92.9	132.4	242.0	192.0	372.0	429.0	194.8	238.0
5.0	60.3	63.8	115.0	164.5	280.8	261.2	448.0	523.0	237.2	302.0
5.5	70.3	78.9	132.9	194.5	325.0	331.4	517.0	622.0	291.5	373.4
6.0	78.9	92.8	154.0	229.5	361.5	393.4	581.0	720.8	346.0	442.0
6.5	84.7	107.1	167.9	255.7	393.6	464.2	633.0	798.2	403.9	514.2
7.0	89.4	119.2	185.0	288.9	425.0	506.0	684.5	870.0	462.0	589.9
7.5	93.4	131.2	203.3	321.5	455.0	545.3	766.8	946.0	539.5	675.9
8.0	98.7	138.9	219.9	349.5	488.0	596.9	842.0	1033	637.0	779.0
9.0	-	-	-	-		691.0	952.4	1124	898.0	1024.2
10.0	-	-	-	-	-	755.0	1092	1207	1097	1306.0
11.0	-	-	-	-	-	824.3	1217	1298	1260.8	1432.0
12.0	-	-	-	-	-	886.5	1376	1393	1443.8	1603.9
13.0	-	-	-	-	-	-	-	1532	1625.8	1787.0
14.0	-	-	-	-	-	-	-	1588	1845.8	1981.2
15.0	-	-	-	-	-	-	-	1624	2015.7	2222.6
16.0	-	-	-	-	-	-	-	1683	2142.0	2451.6
17.0	-	-	-	-	-	-	-	-	2246.0	2612.1
18.0	-	-	-	-	-	-	-	-	2336.9	2760.9
19.0	-	-	-	-	-	-	-	-	2440.0	2898.4
20.0	-	-	-	-	-	-	-	-	2520.4	3012.9
21.0	-	-	-	-	-	-	-	-	-	3104.5
22.0	-	-	-	-	-	-	-	-	-	3184.7

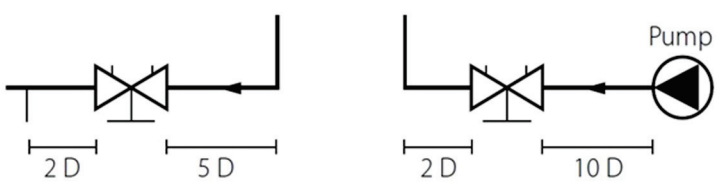
Note: 1. Cv=Q/√Δp where Q is discharge in GPM & Δp is Pressure Drop in PSI
2. Flow Rate tolerance is ±5%.
3. Contact Factory for Pressure Drop Curves.

VALVE SELECTION GUIDE

Nominal Size Inches mm	Actual Outside Dia. Inches mm	Absolute Min Flow GPM@3kpa	Nominal Range of Flow GPM@6kpa	Absolute Max. Flow GPM@60kpa
½ 15	0.760 19.3	0.9	0.55 - 2.6	8.7
¾ 20	0.933 23.7	0.42	2.2 - 6.2	21.0
1 25	1.20 30.60	0.55	3.95 - 10.2	30.3
1 ¼ 32	1.45 37.0	0.88	5.3 - 15.3	47.8
1 ½ 40	1.75 44.6	1.32	6.65 - 20.3	67.0
2 50	2.24 57.0	2.2	12.5 - 36.4	110.3
2 ½ 65	3.09 78.50	1.5	38.4 – 99.8	291.0
3" 80	3.74 95.0	1.55	31.3 - 131.0	411.0
4" 100	4.567 116.0	2.0	67.0 - 202.0	652.0
5" 125	5.55 141.0	4.25	90.0 - 325.0	1025.0
6" 150	6.78 172.4	5.30	182.0 - 452.0	1432.0
8" 200	8.78 223.2	30.2	368.0 - 822.0	2602.0
10" 250	10.88 276.4	70.8	541.0 - 1302.0	4042.0
12" 300	12.750 324.0	116.0	963.0 - 1505.0	4955.0
14" 350	14.00 355.6	85.0	1028.0 - 2700.0	7416.0
16" 400	16.00 406.4	96.0	1335.0 - 3402.0	9376.0

Note: Sizing Balancing Valve based on the minimum or maximum flow rates is not recommended. Valve should be sized using nominal Flow Rate only.

PREFERRED INSTALLATION POSITIONS:



GUARANTEE

All valves are guaranteed against any manufacturing defects for a period of 12 months from date of supply, provided the valves have not been misused, damaged or installed for services they are not recommended. The company shall be liable to furnish part / parts thereof or full valve as the company may deem fit.

V.A. VALVES

ISO 9001-2008 Certified

Regd. Office & Works: Udyog Nagar, Gadaipur, Jalandhar City -144 004

Phone: +91-181-2601540, 2601541 Fax: +91-181-2601741

E-mail : marketing@vk-utam.com, info@vtm-valves.com

Website : www.vtm-utam.com, www.vtm-valves.com

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