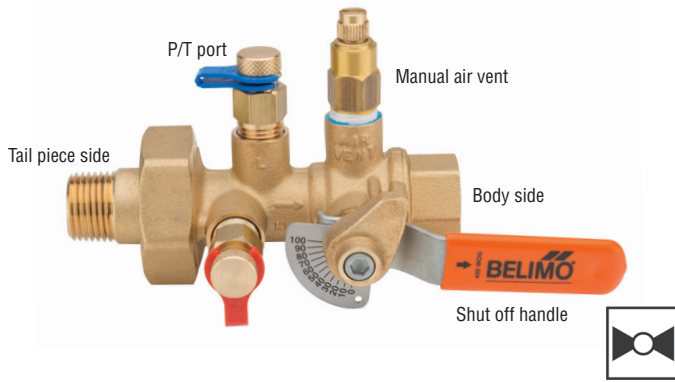


Manual Balance Valve

Integrated Manual Balancing Valve/Union/Isolation Valve



Technical Data	
Service	chilled or hot water, 60% glycol
Sizes	½", ¾", 1", 1¼", 1½", 2"
Materials:	
Body	forged brass
Ball	chrome plated/forged brass
Stem	extruded brass
Union	forged brass
Tailpiece	forged brass
Gland nut	extruded brass
Lever handle	Dacromet coated steel with PVC grip
Lever nut	Dacromet coated steel
Seals & packing	Virgin PTFE
O-rings	Viton
Venturi	extruded brass
Readout port body & cap	extruded brass
Readout port seal	Nordel
Memory stop	forged brass
Media temp. range	0°F to 212°F [-18°C to +100°C]
Leakage	0%

Application

The Manual Balance Valve combines the features of an isolation valve, union, and pressure/temperature readout ports, along with the added value of a low-loss, high-signal venturi readout device into a single unit. The addition of the venturi makes this product perfect for readout and setting flow of individual circuits accurate to +/- 2%. Also, the forged brass body of the Manual Balance Valve is favored by Engineers because it ensures reliable, leak-free performance.

The Manual Balance Valve greatly simplifies the Contractor's job by eliminating up to ten piping connections, thus saving time, money, and potential leak points. Finally, the Manual Balance Valve is available with female NPT, male NPT, or SWT, single and double nominal size reducer tailpiece connections making tough piping jobs a snap.

- All Manual Balance Valves come with a manual air vent.

Connection Availability

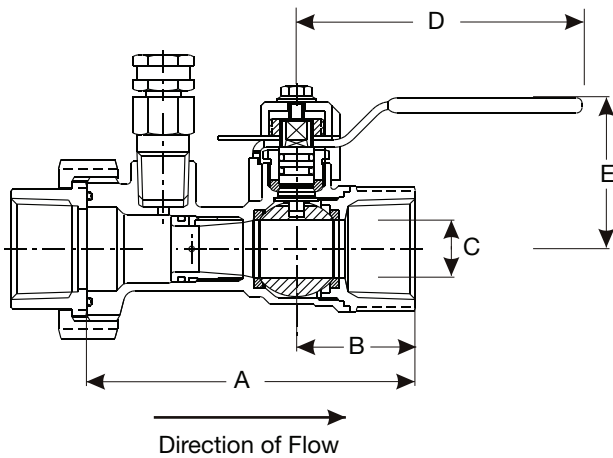
Body end	female NPT ½" thru 2" copper SWT ½" thru 2"
Tailpiece end	male NPT ½" thru 2"
Body end with one size reduction	female NPT ¾" thru 2" copper SWT ¾" thru 2"
Body end with two size reductions	female NPT 1" thru 2" copper SWT 1" thru 2"

Part Number

PPL1111	½" female NPT with manual vent and P/T port (1.75 GPM) Venturi 4
PPL1112	½" female NPT with manual vent and P/T port (3.50 GPM) Venturi 6
PPL1113	½" female NPT with manual vent and P/T port (9.00 GPM) Venturi 9
PPL1211	½" female NPT sweat with manual vent and P/T port (1.75 GPM) Venturi 4
PPL1212	½" sweat with manual vent and P/T port (3.50 GPM) Venturi 6
PPL1213	½" sweat with manual vent and P/T port (9.00 GPM) Venturi 9
PPL2111	¾" female NPT with manual vent and P/T port (1.75 GPM) Venturi 4
PPL2112	¾" female NPT with manual vent and P/T port (3.50 GPM) Venturi 6
PPL2113	¾" female NPT with manual vent and P/T port (9.00 GPM) Venturi 9
PPL2211	¾" sweat with manual vent and P/T port (1.75 GPM) Venturi 4
PPL2212	¾" sweat with manual vent and P/T port (3.50 GPM) Venturi 6
PPL2213	¾" sweat with manual vent and P/T port (9.00 GPM) Venturi 9
PPL3114	1" female NPT with manual vent and P/T port (10.00 GPM) Venturi 10
PPL3115	1" female NPT with manual vent and P/T port (20.00 GPM) Venturi 14.5
PPL3214	1" sweat with manual vent and P/T port (10.00 GPM) Venturi 10
PPL3215	1" sweat with manual vent and P/T port (20.00 GPM) Venturi 14.5
PPL4114	1"-¾" female NPT with manual vent and PT port (10.00 GPM) Venturi 10
PPL4115	1"-¾" female NPT with manual vent and PT port (20.00 GPM) Venturi 14.5
PPL4214	1"-¾" sweat with manual vent and PT port (10.00 GPM) Venturi 10
PPL4215	1"-¾" sweat with manual vent and PT port (20.00 GPM) Venturi 14.5
PPL5111	¾"-½" female NPT with manual vent and P/T port(1.75 GPM) Venturi 4
PPL5112	¾"-½" female NPT with manual vent and P/T port(3.50 GPM) Venturi 6
PPL5113	¾"-½" female NPT with manual vent and P/T port(9.00 GPM) Venturi 9
PPL5211	¾"-½" sweat with manual vent and P/T port(1.75 GPM) Venturi 4
PPL5212	¾"-½" sweat with manual vent and P/T port(3.50 GPM) Venturi 6
PPL5213	¾"-½" sweat with manual vent and P/T port(9.00 GPM) Venturi 9

Note: All reductions are on the tail piece side.

Only standard sizes are shown, consult factory for sizes 1¼" to 2" inch sizes.



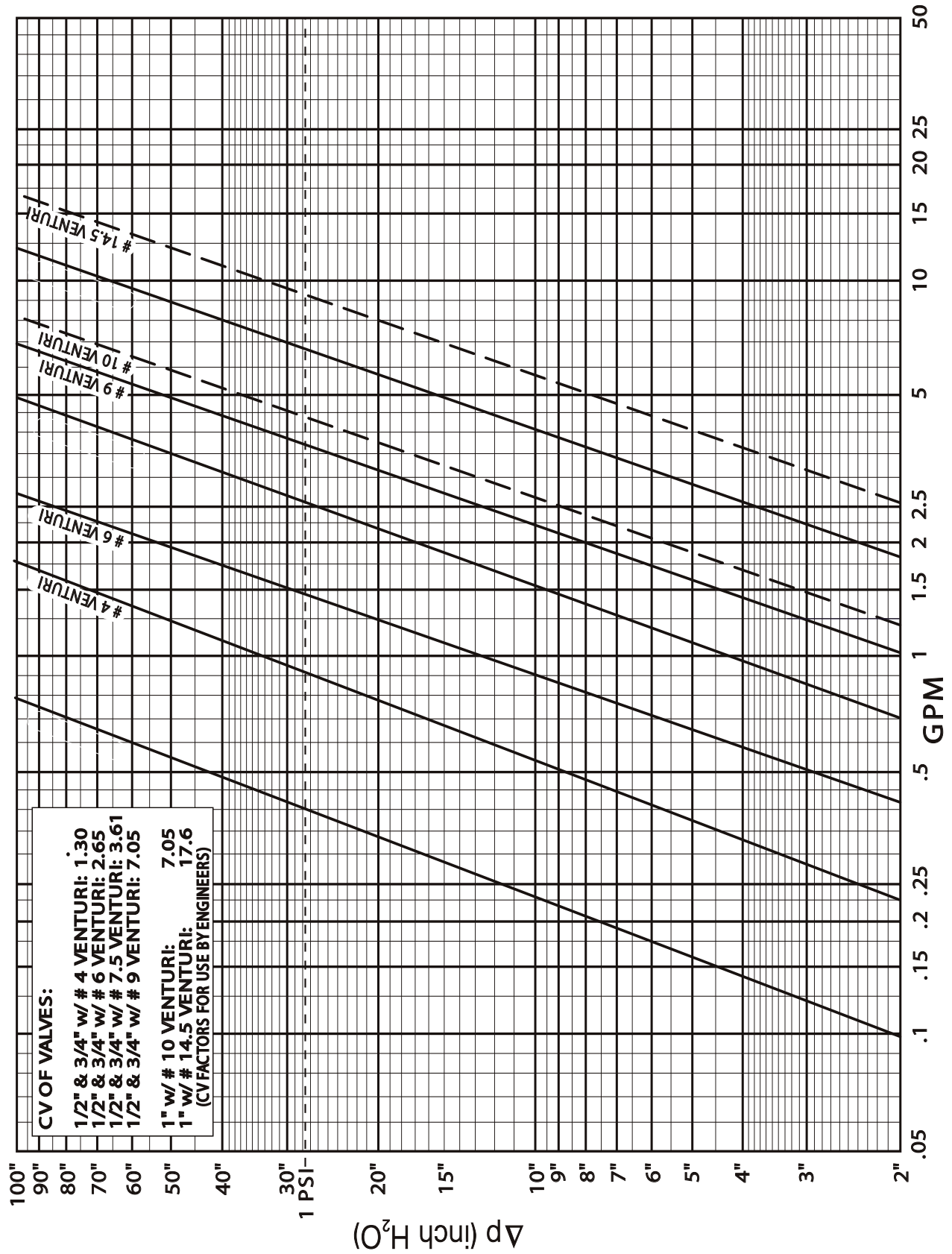
Dimensions

Valve Nominal Size		Dimensions Inches [mm]				
Inches	DN [mm]	A	B	C	D	E
½"	[12.70]	3.39" [86.11]	1.22" [30.99]	0.59" [14.99]	2.95" [74.93]	1.57" [39.88]
¾"	[19.05]	3.39" [86.11]	1.23" [31.24]	0.59" [14.99]	2.95" [74.93]	1.57" [39.88]
1"	[25.40]	3.91" [99.31]	1.53" [38.86]	0.79" [20.07]	3.74" [95.00]	1.93" [49.02]
1¼"	[31.75]	4.65" [118.1]	1.69" [42.93]	0.98" [24.89]	4.72" [119.9]	2.44" [61.98]
1½"	[38.10]	5.04" [128.0]	1.83" [46.48]	1.26" [32.00]	4.72" [119.9]	2.64" [67.06]
2"	[50.80]	5.83" [148.1]	2.05" [52.07]	1.58" [40.13]	5.91" [150.1]	3.29" [83.57]

*For calculated press drop across the Manual Balance Valve calculate $P = \left(\frac{GPM}{C_v}\right)^2$ Cv rating is based on Venturi size and Cv noted in graph on page 10 (i.e. Venturi 4 has a Cv rating of 1.30)

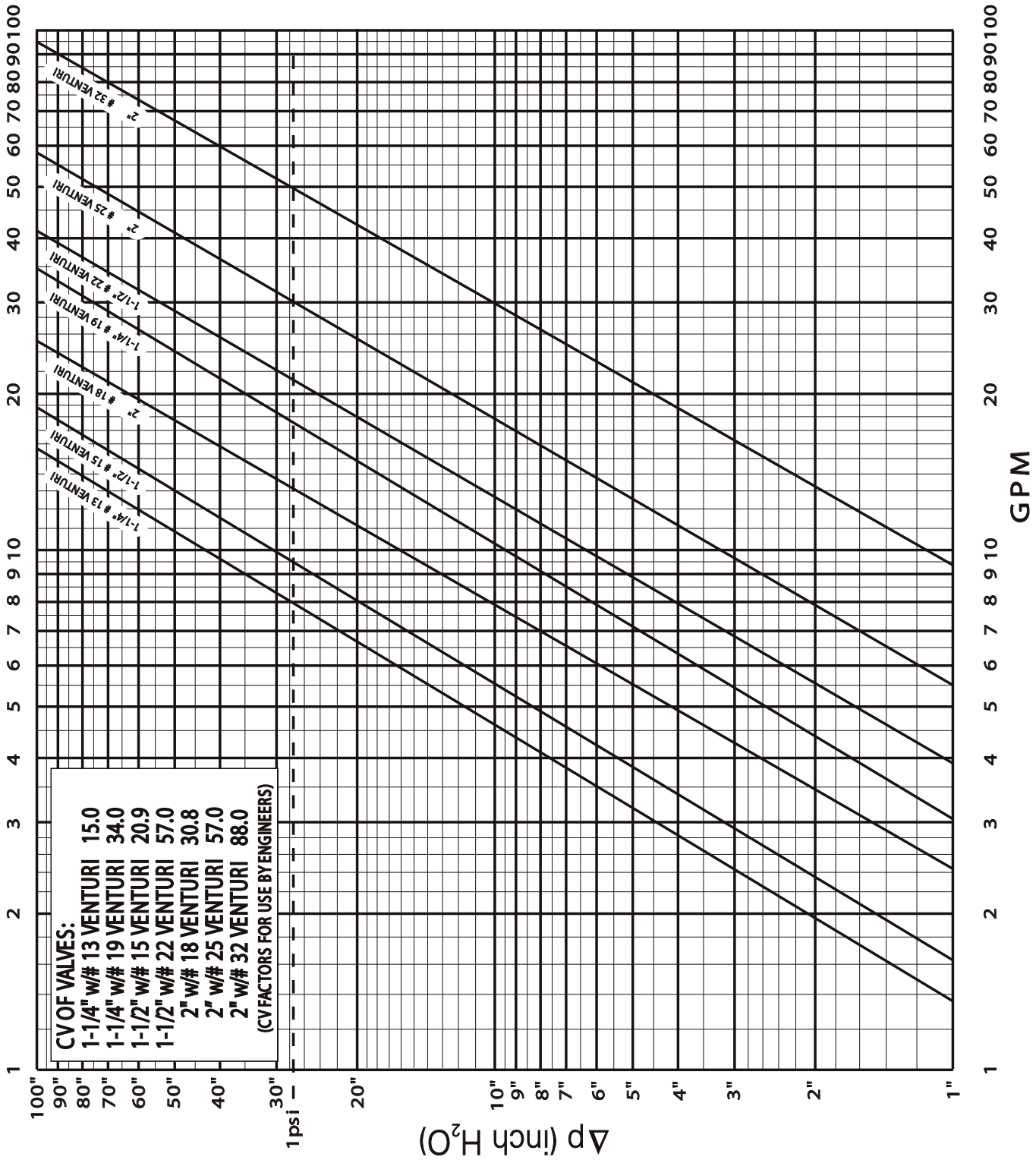
Custom Option: The Manual Balance Valve is available in a body side press option for sizes ½" through 2". The Manual Balance Valve press greatly simplifies the Contractor's job by eliminating up to ten piping connections, thus saving time, money and potential leak points. The Manual Balance Valve press is designed for direct mechanical connection to ASTM-Type K, L and M copper tubing in the hard drawn condition.

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Balancer can utilize graph to indicate flow based on Venturi size and ΔP (inches H₂O).

Manual Balance Valve Pressure Drop Diagram



Balancer can utilize graph to indicate flow based on Venturi size and ΔP (inches H₂O).

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