

^{* 3/8&}quot; Coil Size available in SWT ONLY.

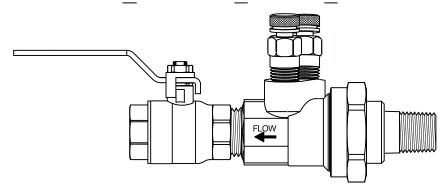
PRODUCT DESCRIPTION: The Manual Balancing Valve Kit is a packaged and partially preassembled grouping of components required to complete installation of a terminal unit. Temperature control valves, piping, and coils are supplied "by others". Mounting and testing of the customer supplied TCV is available at an additional charge.

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QUANTITY	GPM	TAGGIN	G INFORMATION	
JOB NAME		REPRESENTATIV	/E	
ENGINEER		REF/PO#		DATE
CONTRACT	OR	SUBMITTED BY		DATE

^{**} ProPress fittings supplied for additional fee.



CBV Series Specifications Combination Ball Valve/Venturi



PRODUCT DESCRIPTION: The CBV flow balancing brass venturi provides highly accurate flow measurement capabilities. The efficient low loss venturi design provides effective flow balancing with minimal system pressure loss. The CBV includes a brass ball valve with memory stop, and a venturi with an integral union. The CBV comes standard with two pressure/temperature ports for instrument readings. The union side incorporates an o-ring for maximum sealing protection. The union connection options include FNPT, MNPT, SWT, and a variety of reductions.

NOTE: If the same size male, female, sweat, or a reducing male tail piece is used, no extra pipe diameter is required.

REC	OMMENDE	D FLOW R	ANGES (GI	PM)	STANDARD MATERIAL SPECIFICATIONS		
Model	Size	Minimum	@ 100"	@ 200"	Venturi	Cast Brass ASTM B763-08A	
CBV050L	1/2"	0.3	1.2	1.8	Ball Valve	Forged Brass ASTM B283-06	
CBV050H	1/2"	0.8	2.9	4.2	O-ring Tail Piece	EPDM Brass ASTM B124-09, B228-06, or B763-08A	
CBV075UL	3/4"	0.3	1.2	1.8	Union Nut	Brass ASTM B455	
CBV075L	3/4"	0.8	2.9	4.2	PT Seal Handle	EPDM Dual Durometer Core Chrome Plated Steel	
CBV075H	3/4"	1.8	6.1	8.9	Memory Stop	302 Stainless Steel	
CBV100	1"	2.8	9.8	14.3	Stem Ball	Brass ASTM B124-09 - Blow-Out Proof Chrome Plated Brass	
CBV125	11⁄4"	4.8	16.4	24.0	Ball Seat	Teflon	
CBV150	1½"	7.5	24.4	35.5	Packing Nut Packing Gland	Brass ASTM B124-09, B228-06, or B763-08A Teflon	
CBV200	2"	12.0	40.8	69.3	T doming Olding	Tellott	

STANDARD OPERATING SPECIFICATIONS

Maximum Working Pressure: 600 WOG / CWP Maximum Operating Temperature: -22° F to 325° F

Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in design, materials, and/or specifications without notice or liability.

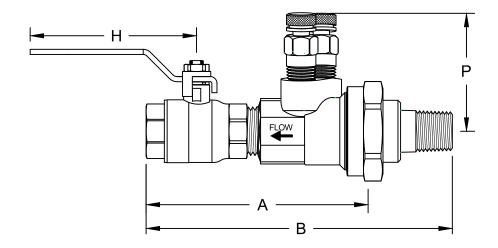
PRODUCT SPECIFICATIONS:

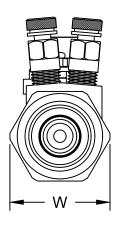
- Devices shall have a 15° regain chamber for optimal pressure regain and minimal permanent pressure drop
- Venturi tube shall be independent of the throttling valve
- Venturi tube shall include proper pipe diameters for optimal accuracy
- Valve shall be designed with memory stop to limit flow once balanced
- The Model CBV shall have an accuracy rating of:
 - •• ±1% between 10" W.C. and 70" W.C.
 - •• ±3% between 5" W.C. and 150" W.C.
 - •• ±5% less than 5" W.C. and over 150" W.C.



CBV Series Dimensions

Combination Ball Valve/Venturi





Model	Size	FPT /	SWT	Н	Р	W	Cv **
CBV050L	1/2	4.5	4.8	3.7	2.1	1.6	1.1
CBV050H	1/2	4.5	4.8	3.7	2.1	1.6	3.8
CBV075UL*	3/4	4.7	5.2	3.8	2.1	1.6	1.1
CBV075L	3/4	4.7	5.2	3.8	2.1	1.8	2.3
CBV075H	3/4	4.7	5.2	3.8	2.1	1.8	8.0
CBV100	1	5.1	5.7	5.0	2.2	2.1	13.4
CBV125	11⁄4	5.8	6.5	5.0	2.4	2.8	25
CBV150	1½	7.0	8.0	6.3	2.7	3.1	31
CBV200	2	7.6	8.7	6.2	3.0	3.8	87

Note: Dimensions listed do not include ProPress or any other special fittings or adapters. All dimensions, weights, and materials are subject to minor variations. Consult with factory for confirmation of dimensions, weights, and material specifications.

^{**} Cv = Estimated with Union connection same as inlet, no reductions.

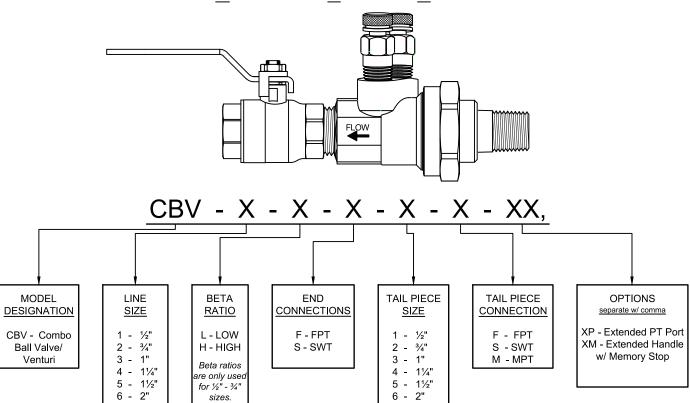
½" SWT ½" - F 5.5 1.3 ½" FPT ½" - F 5.1 1.3 - S 5.5 1.3 ½" FPT ½" - F 5.1 1.3 - S 5.5 1.3 - S 5.1 1.3 - M 6.7 1.8 - S 5.1 1.3 - W" - F 6.3 1.8 - M 6.5 1.3 - S 6.0 1.7 - S 5.5 1.3 - M 6.8 1.8 - S 5.5 1.3 - S 6.0 1.7 - S 5.5 1.3 - S 6.7 2.7	size	Size Tai	Piece	В	Weight	Size	Tail Piece	В	Weight
-S 5.5 1.3 -S 5.1 1. -M 6.7 1.8 -M 6.5 1.8 -S 6.0 1.7 -S 5.5 1. -M 6.8 1.8 -S 6.0 1.7 -S 5.5 1. -M 6.5 1.8 -S 6.0 1.7 -S 5.5 1. -M 6.5 1.8 -S 6.0 1.7 -S 5.5 1. -M 6.5 1.8 -S 5.5 1. -M 7.7 2.7 -M 7.7 2.7 -M 7.7 2.7 -M 7.7 2.7 -M 7.7 2.5 -S 6.7 2.5 -S 6.7 2.5 -S 6.0 2. -S 6.0			- M	6.2	1.4		- M	6.0	1.4
- M 6.7 1.8	SWT	'SWT ½	' -F	5.5	1.3	½" FPT	½" - F	5.1	1.3
3/4" SWT 1/2" - F 6.3 1.8 - S 6.0 1.7 - M 6.8 1.8 3/4" - F 6.0 1.7 - S 6.5 1.8 - S 5.5 1.8 - S 6.0 1.8 - S 6.7 2.5 - S 6.0 2.8 - S 6.0 2.8 - S			- S	5.5	1.3		- S	5.1	1.3
- S 6.0 1.7 3/4" FPT - S 5.5 1.5 1.5 3/4" - F 6.0 1.7 3/4" - F 5.5 1.5 3/4" - F 7.5 3/4" - F 7.5 3/5 3/5 3/5 3/5" - F 7.5 3/5" - 7.5 3/5 3/5" - F 7.5 3/5" - F 3/5 3/5" - F 3/5 3/5" - F 3/5" - F 3/5 3/5" - F 3/5" - F 3/5 3/5" - F 3/5 3/5" - F 3/5" - F 3/5 3/5" - F 3/5" - F 3/5 3/5" - F 3/5" -									1.8
3/4" SWT - M 6.8 1.8 3/4" - F 6.0 1.7 - S 6.0 1.7 - S 6.0 1.7 - S 5.5 1.1 3/4" - F 5.5 1.3 3/4" - F 5.5 1.3 3/4" - M 7.7 2.7 3/4" - M 7.7 2.7 1" - F 6.7 2.5 - S 6.7 2.5 - S 6.0 2.5 <td< td=""><td></td><td>1/2</td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.8</td></td<>		1/2							1.8
- M 6.8 1.8 34" - F 6.0 1.7 34" - F 5.5 1.8 34" - F 5.5 1.8 34" - F 5.5 1.8 35" - S 6.0 1.7 34" - F 5.5 1.8 35" - S 6.0 1.7 34" - M 7.7 2.7 34" - M 7.7 2.7 1" - F 6.7 2.5 - S 6.7 2.5 - S 6.0 2.5 34" - M 8.1 3.9 34" - M 8.3 4.0 114" SWT 1" - M 8.3 4.0 114" SWT 1" - M 8.3 4.1 - M 8.5 4.2 114" FPT 1" - M 7.7 4.1 114" FPT 1	SWT L	. SWT		6.0		3/" EDT		5.5	1.7
1" SWT	3W1					/4			1.8
1" SWT		3/4							1.8
1" SWT									1.7
1" SWT									2.7
1" - F 6.7 2.5 1" - F 6.0 2.5	L								2.7
S 6.7 2.5 S 6.0 2.5 S 5.5 S	SWT					1" FPT			2.7
½" - M 8.1 3.9 ¾" - M 8.3 4.0 11¼" SWT 1" - M 8.3 4.1 - M 8.5 4.2 1¼" FPT 1" - M 7.7 4. - M 7.7 4. - M 7.7 4.		1'		6.7 2.5 1" - F 6.0 2 6.7 2.5 - S 6.0 2 1 8.1 3.9 1½" - M 7.5 3 1 8.3 4.0 3¾" - M 7.7 4	2.5				
11/4" SWT									2.5
11/4" SWT 1" - M 8.3 4.1 11/4" FPT 1" - M 7.7 4 M 7.7 4.	L								3.9
- M 8.5 4.2 11/4" FPT - M 7.7 4.	L								4.0
	" swt L	" SWT 1				1¼" FPT		1 7.7 1 7.7	4.1
						.,,			4.1
		1½		7.5	3.9		11⁄4" - F	6.7	3.8
									3.7
	L	3/4	' - M	9.7	5.6			9.3	5.7
	L								6.0
11%" SW FP FP FP FP FP FP FP F	" SWT L	" SWT 11/2	" - M			11/4" FPT	1¼" - M		6.1
-M 10.5 6.0 -M 9.5 6.0	١					1/2 11 1			6.0
		1½							5.7
							- S		5.6
	L								9.1
	L								8.6
1 Z SWI L FPI L FPI L F	SWT L	SWT 1½	" - M			2" FPT			8.7
-M 11.7 9.0 -M 10.5 8.8	···								8.8
		2'							8.1
-S 10.1 8.0 -S 9.0 7.8			- S	10.1	8.0		- S	9.0	7.8

Note: Sweat size listed is nominal and will differ from the actual, measurable size. Not all available tailpiece connections are listed, please consult with factory for additional information.

^{*} CBV075UL Tailpiece size is 1/2"



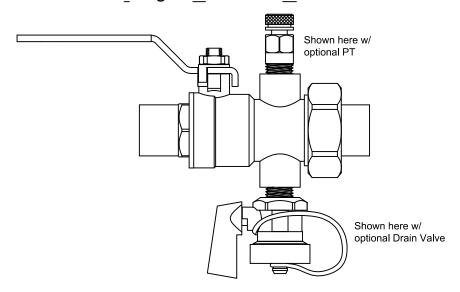
CBV Series Submittal Combination Ball Valve/Venturi



JOB NAME: ENGINEER: CONTRACTOR:	REPRESENTATIVE: REF/PO#: SUBMITTED BY:	DATE: DATE:	
PART # (See table above)	TAGGING/JOB INFORMATION	GPM	QUANTITY



IBU Series Specifications Integral Ball Valve/Union



PRODUCT DESCRIPTION: The IBU is an integral ball valve and union. The IBU uses a full-port ball valve with a union ended brass body that provides two (2) 1/4" taps for accessories to be installed. All taps are plugged unless otherwise specified. Memory stops are available upon request. Fixed end connections may be SWT or FNPT. Union side connections available include MNPT, FNPT, and SWT, and a variety of reductions.

STANDARD MATERIAL SPECIFICATIONS						
Body O-Ring Tail Piece Union Nut Handle Stem Ball Ball Seat	Forged Brass ASTM B283-06 or ASTM B763-08A EPDM Brass ASTM B124-09, B228-06, or B763-08A Brass ASTM B455 Chrome Plated Steel Brass ASTM B124-09 - Blow-Out Proof Chrome Plated Brass - Full Port Teflon					
STANDARD OPERATING SPECIFICATIONS						
Maximum Working Pressure: 600 WOG / CWP Maximum Operating Temperature: 250° F						
Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes						

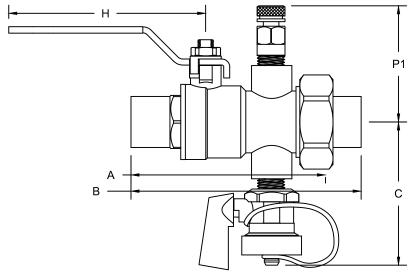
PRODUCT SPECIFICATIONS:

- Devices shall have a full port isolation valve to provide unrestricted flow
- Devices shall be designed to accept a memory stop
- Devices shall have a union end which allows for quick and convenient connection

in design, materials, and/or specifications without notice or liability.



IBU Series Dimensions Integral Ball Valve/Union



MODEL	SIZE	А	TAIL PIECE	В	Lbs	С	Н	P1	* Cv
IBU1	½" - SWT	3.5	- M ½" - F - S	5.1 4.2 4.2	1.2 1.2 1.1				
IBUT	½" - FPT	3.2	- M ½" - F - S	4.7 3.8 3.8	1.2 1.2 1.1	2.5	3.8	2.0	19
IBU2 —	¾" - SWT	3,8	- M ½" - F - S	5.3 4.9 4.5	1.5 1.6 1.4			2.2	35
	74 - 3001	5.0	- M ¾" - F - S	5.5 4.6 4.6	1.5 1.5 1.4	2.7	3.8		
	¾" - FPT	3.3	- M ½" - F - S	4.8 4.4 4.1	1.5 1.6 1.4	2.7	3.0		
			- M 3⁄4" - F - S	5.0 4.1 4.1	1.6 1.5 1.4				
	1" - SWT	4.1	½" - M 3/4" - M	6.5 6.5	2.1				
IBU3			- S - M 1" - F - S	5.2 6.5 5.3 5.4	1.9 2.2 2.0 1.9				
		3.7	-3 1/2" - M 3/4" - M	5.7 5.7 4.5	21 21 19	2.7	5.0	2.2	49
	1" - FPT		- M 1" - F - S	5.7 4.6 4.7	2.2 2.0 1.9				

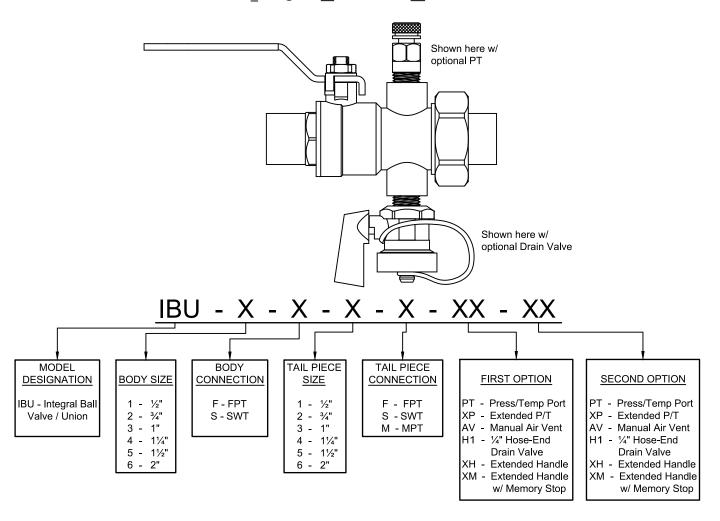
Note: Dimensions listed do not include ProPress or any other special fittings or adapters. All dimensions and materials are subject to minor variations. Consult with factory for confirmation of dimensions and material specifications at the time of order. Sweat size listed is nominal and will differ from the actual, measurable size.

MODEL	SIZE	Α	TAIL PIECE	В	Lbs	С	Н	P1	* Cv
			½" - M	7.0	3.6				
			3⁄4" - M	7.0	3.8	1			
	41/1 0\4/1	F 0	1" - M	7.0	3.8				
	1¼" - SWT	5.2	- M	7.0	3.9				
			11⁄4" - F	6.0	3.6				
IBU4			- S	6.2	3.4	3.2	4.6	2.5	102
1004			½" - M	6.2	3.2	3.2	4.0	2.5	102
			3⁄4" - M	6.5	3.3				
	1¼" - FPT	4.5	1" - M	6.5	3.4				
	174 - FPT	4.5	- M	6.5	3.4				
			11⁄4" - F	5.6	3.1				
			- S	5.7	3.0				
			3⁄4" - M	7.5	4.6		5.5	2.7	
			1" - M	8.0	4.9	3.5			266
	1½" - SWT	5.8	11⁄4" - M	8.1	5.0				
			- M	8.1	4.9				
			1½" - F	7.0	4.6				
			- S	7.0	4.4				
IBU5	44/II EDT	5.2	3⁄4" - M	7.1	4.4				
			1" - M	7.5	4.8				
			11⁄4" - M	7.5	4.8				
	1½" - FPT		- M	7.5	4.7	1			
			1½" - F	6.5	4.4				
			- s	6.3	4.2				
			1" - M	10.1	8.0				
			1¼" - M	10.0	7.7	1			
			1½" - M	10.0	7.7	1			
	2" - SWT	7.1	- M	10.0	7.7	1			
			2" - F	8.2	7.1				
			- s	8.5	6.7				
IBU6			1" - M	8.9	7.8	3.5	6.3	3.0	297
			1¼" - M	8.9	7.4				
	O" EDT	0.0	1½" - M	8.9	7.4				
	2" - FPT	6.0	- M	8.9	7.4				
			2" - F	7.0	6.8				
			- S	7.2	6.4				

^{*} Cv = Estimated with union connection same as inlet, no reductions.



IBU Series Submittal Integral Ball Valve/Union



JOB NAME: ENGINEER:	CUSTOMER: REF/PO#:	DATE:	
CONTRACTOR:	SUBMITTED BY:	DATE:	
PART # (See table above)	TAGGING/JOB INFORMATION		QUANTITY