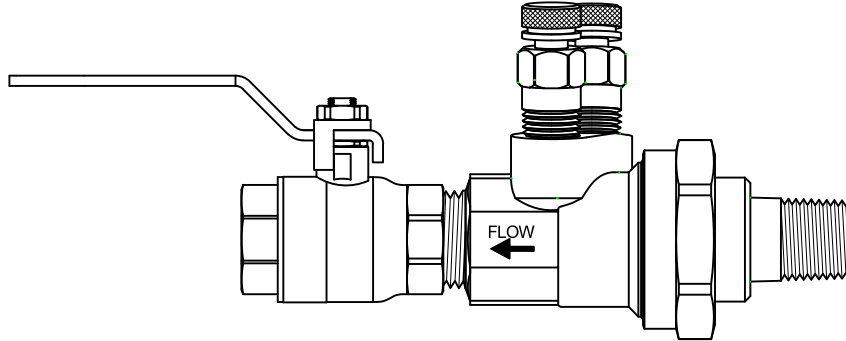




CBV Series Specifications

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.

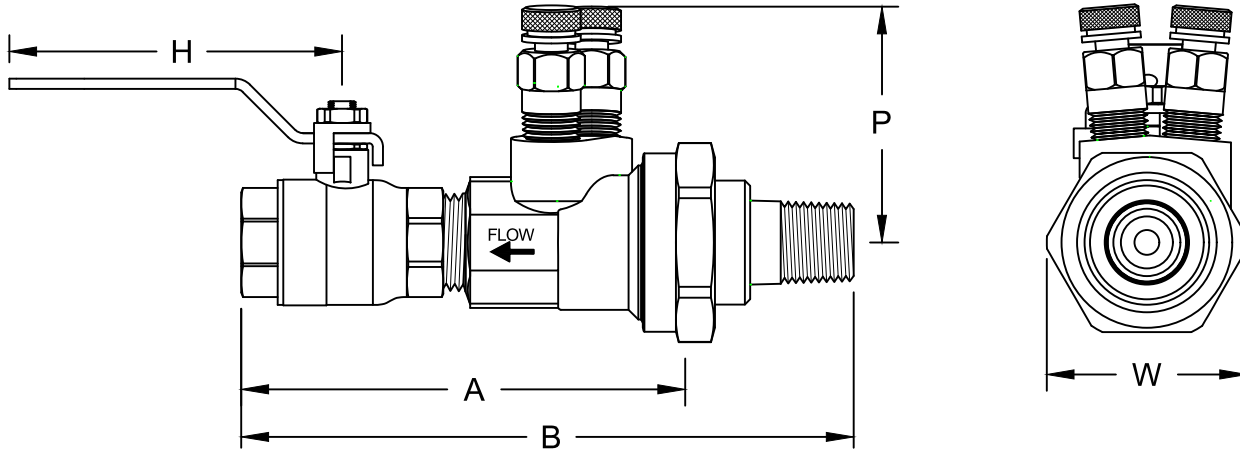
RECOMMENDED FLOW RANGES (GPM)					STANDARD MATERIAL SPECIFICATIONS	
Model	Size	Minimum	@ 100"	@ 200"		
CBV050L	½"	0.3	1.2	1.8	Venturi	Cast Brass ASTM B763-08A
CBV050H	½"	0.8	2.9	4.2	Ball Valve	Forged Brass ASTM B283-06
CBV075UL	¾"	0.3	1.2	1.8	O-ring	EPDM
CBV075L	¾"	0.8	2.9	4.2	Tail Piece	Brass ASTM B124-09, B228-06, or B763-08A
CBV075H	¾"	1.8	6.1	8.9	Union Nut	Brass ASTM B455
CBV100	1"	2.8	9.8	14.3	PT Seal	EPDM Dual Durometer Core
CBV125	1¼"	4.8	16.4	24.0	Handle	Chrome Plated Steel
CBV150	1½"	7.5	24.4	35.5	Memory Stop	302 Stainless Steel
CBV200	2"	12.0	40.8	69.3	Stem	Brass ASTM B124-09 - Blow-Out Proof
					Ball	Chrome Plated Brass
					Ball Seat	Teflon
					Packing Nut	Brass ASTM B124-09, B228-06, or B763-08A
					Packing Gland	Teflon
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.

PRO Hydronic Specialties

CBV Series Dimensions Combination Ball Valve/Venturi



Model	Size	A		H	P	W	Cv **
		FPT	SWT				
CBV050L	½"	4.5	4.8	3.7	2.1	1.6	1.1
CBV050H	½"	4.5	4.8	3.7	2.1	1.6	3.8
CBV075UL*	¾"	4.7	5.2	3.8	2.1	1.6	1.1
CBV075L	¾"	4.7	5.2	3.8	2.1	1.8	2.3
CBV075H	¾"	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	1¼"	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.

* CBV075UL Tailpiece size is ½"

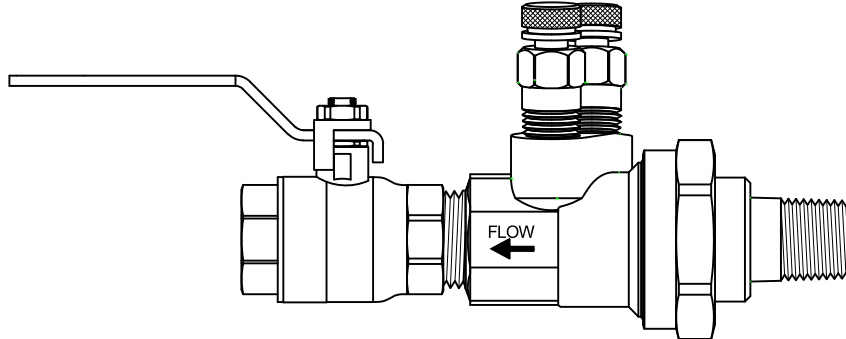
** Cv = Estimated with Union connection same as inlet, no reductions.

Size	Tail Piece	B	Weight	Size	Tail Piece	B	Weight
½" SWT	- M	6.2	1.4	½" FPT	- M	6.0	1.4
	½" - F	5.5	1.3		½" - F	5.1	1.3
	- S	5.5	1.3		- S	5.1	1.3
¾" SWT	- M	6.7	1.8	¾" FPT	- M	6.5	1.8
	½" - F	6.3	1.8		½" - F	5.8	1.8
	- S	6.0	1.7		- S	5.5	1.7
	- M	6.8	1.8		- M	6.5	1.8
	¾" - F	6.0	1.7		¾" - F	5.5	1.8
	- S	6.0	1.7		- S	5.5	1.7
1" SWT	½" - M	7.7	2.7	1" FPT	½" - M	7.1	2.7
	¾" - M	7.7	2.7		¾" - M	7.1	2.7
	- M	7.7	2.7		- M	7.0	2.7
	1" - F	6.7	2.5		1" - F	6.0	2.5
- S	6.7	2.5	- S	6.0	2.5		
1¼" SWT	½" - M	8.1	3.9	1¼" FPT	½" - M	7.5	3.9
	¾" - M	8.3	4.0		¾" - M	7.7	4.0
	1" - M	8.3	4.1		1" - M	7.7	4.1
	- M	8.5	4.2		- M	7.7	4.1
	1¼" - F	7.5	3.9		1¼" - F	6.7	3.8
	- S	7.5	3.7		- S	7.0	3.7
1½" SWT	¾" - M	9.7	5.6	1½" FPT	¾" - M	9.3	5.7
	1" - M	10.7	6.1		1" - M	9.5	6.0
	1¼" - M	10.7	6.2		1¼" - M	9.5	6.1
	- M	10.5	6.0		- M	9.5	6.0
	1½" - F	9.1	5.8		1½" - F	8.2	5.7
	- S	9.1	5.6		- S	8.2	5.6
2" SWT	1" - M	11.7	9.3	2" FPT	1" - M	10.5	9.1
	1¼" - M	11.7	8.9		1¼" - M	10.5	8.6
	1½" - M	11.7	8.9		1½" - M	10.5	8.7
	- M	11.7	9.0		- M	10.5	8.8
	2" - F	9.8	8.3		2" - F	8.7	8.1
	- S	10.1	8.0		- S	9.0	7.8

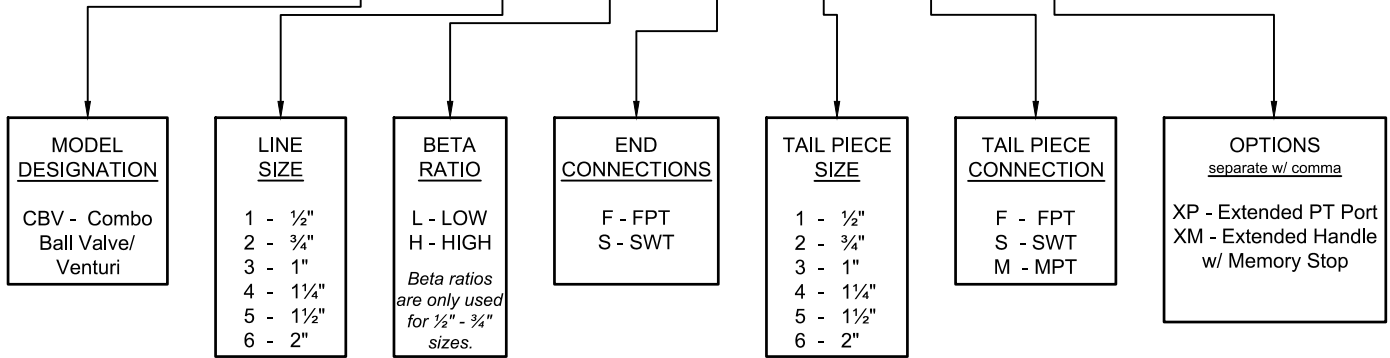
Note: Sweat size listed is nominal and will differ from the actual, measurable size. Not all available tailpiece connections are listed, please consult with factory for additional information.



CBV Series Submittal
Combination Ball Valve/Venturi



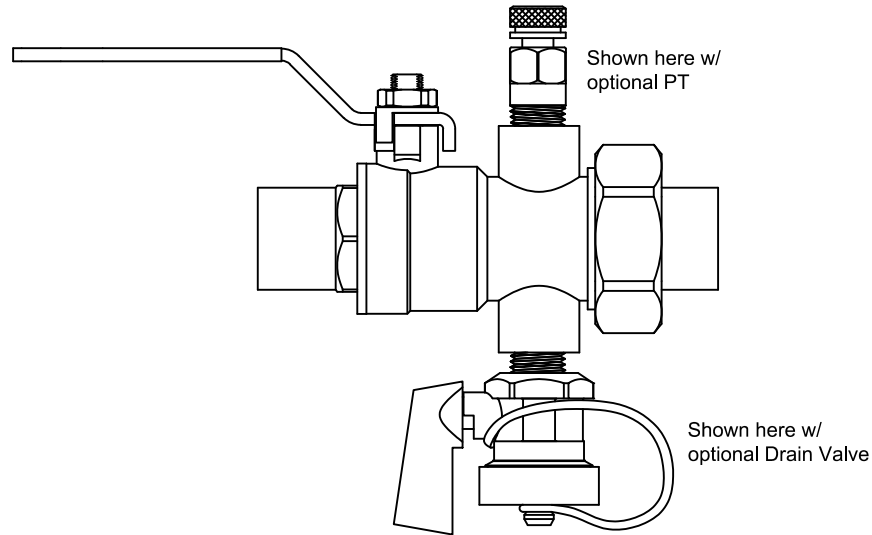
CBV - X - X - X - X - X - XX,



JOB NAME:		REPRESENTATIVE:	
ENGINEER:		REF/PO#:	DATE:
CONTRACTOR:		SUBMITTED BY:	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) ¼" 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.

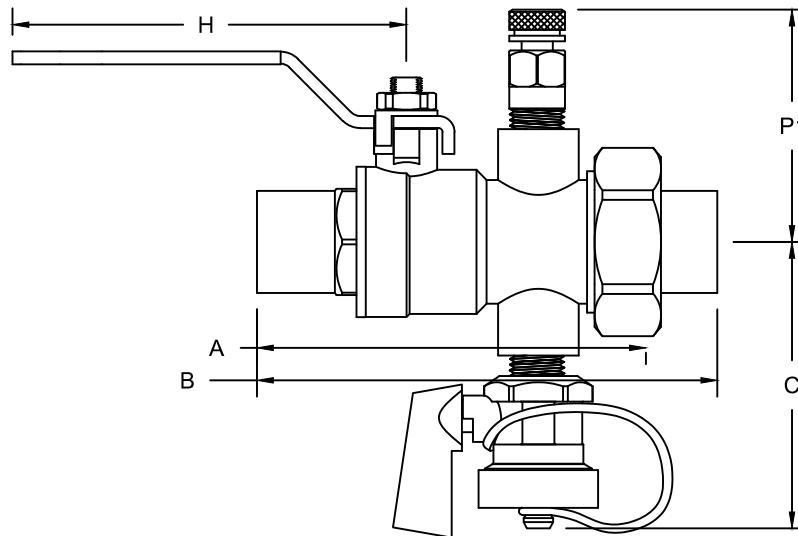
STANDARD MATERIAL SPECIFICATIONS	
Body	Forged Brass ASTM B283-06 or ASTM B763-08A
O-Ring	EPDM
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08A
Union Nut	Brass ASTM B455
Handle	Chrome Plated Steel
Stem	Brass ASTM B124-09 - Blow-Out Proof
Ball	Chrome Plated Brass - Full Port
Ball Seat	Teflon
STANDARD 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 in design, materials, and/or specifications without notice or liability.	

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



IBU Series Dimensions Integral Ball Valve/Union



MODEL	SIZE	A	TAIL PIECE	B	Lbs	C	H	P1	* Cv
IBU1	½" - SWT	3.5	- M	5.1	1.2	2.5	3.8	2.0	19
			½" - F	4.2	1.2				
			- S	4.2	1.1				
	½" - FPT	3.2	½" - M	4.7	1.2				
IBU2	¾" - SWT	3.8	½" - F	3.8	1.2	2.7	3.8	2.2	35
			- S	3.8	1.1				
			- M	5.3	1.5				
			½" - F	4.9	1.6				
			- S	4.5	1.4				
			¾" - F	4.6	1.5				
	¾" - FPT	3.3	- S	4.6	1.4				
			- M	4.8	1.5				
			½" - F	4.4	1.6				
			- S	4.1	1.4				
			¾" - F	4.1	1.5				
			- S	4.1	1.4				
IBU3	1" - SWT	4.1	½" - M	6.5	2.1	2.7	5.0	2.2	49
			¾" - M	6.5	2.1				
			- S	5.2	1.9				
			- M	6.5	2.2				
			1" - F	5.3	2.0				
			- S	5.4	1.9				
	1" - FPT	3.7	½" - M	5.7	2.1				
			¾" - M	5.7	2.1				
			- S	4.5	1.9				
			- M	5.7	2.2				
			1" - F	4.6	2.0				
			- S	4.7	1.9				

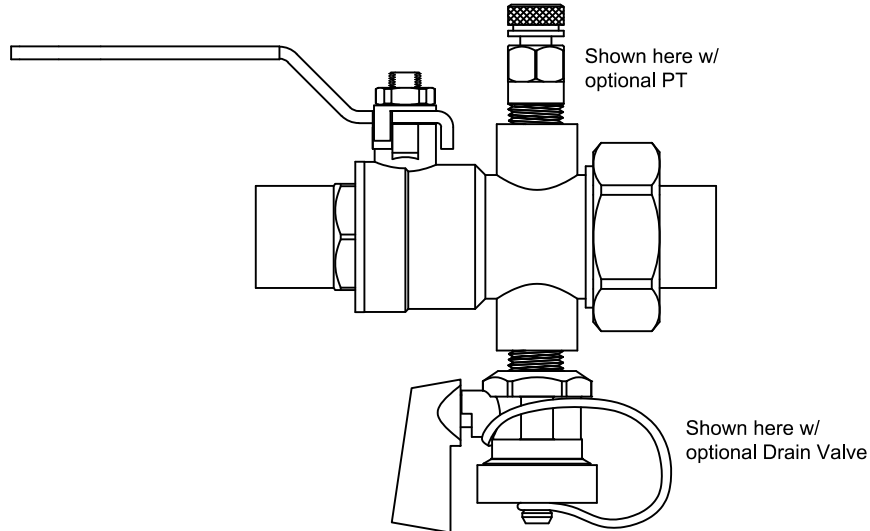
MODEL	SIZE	A	TAIL PIECE	B	Lbs	C	H	P1	* Cv
IBU4	1¼" - SWT	5.2	½" - M	7.0	3.6	3.2	4.6	2.5	102
			¾" - M	7.0	3.8				
			1" - M	7.0	3.8				
			- M	7.0	3.9				
			1¼" - F	6.0	3.6				
			- S	6.2	3.4				
	1¼" - FPT	4.5	½" - M	6.2	3.2				
			¾" - M	6.5	3.3				
			1" - M	6.5	3.4				
			- M	6.5	3.4				
			1¼" - F	5.6	3.1				
			- S	5.7	3.0				
IBU5	1½" - SWT	5.8	¾" - M	7.5	4.6	3.5	5.5	2.7	266
			1" - M	8.0	4.9				
			1¼" - M	8.1	5.0				
			- M	8.1	4.9				
			1½" - F	7.0	4.6				
			- S	7.0	4.4				
	1½" - FPT	5.2	¾" - M	7.1	4.4				
			1" - M	7.5	4.8				
			1¼" - M	7.5	4.8				
			- M	7.5	4.7				
			1½" - F	6.5	4.4				
			- S	6.3	4.2				
IBU6	2" - SWT	7.1	1" - M	10.1	8.0	3.5	6.3	3.0	297
			1¼" - M	10.0	7.7				
			1½" - M	10.0	7.7				
			- M	10.0	7.7				
			2" - F	8.2	7.1				
			- S	8.5	6.7				
	2" - FPT	6.0	1" - M	8.9	7.8				
			1¼" - M	8.9	7.4				
			1½" - M	8.9	7.4				
			- M	8.9	7.4				
			2" - F	7.0	6.8				
			- S	7.2	6.4				

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.

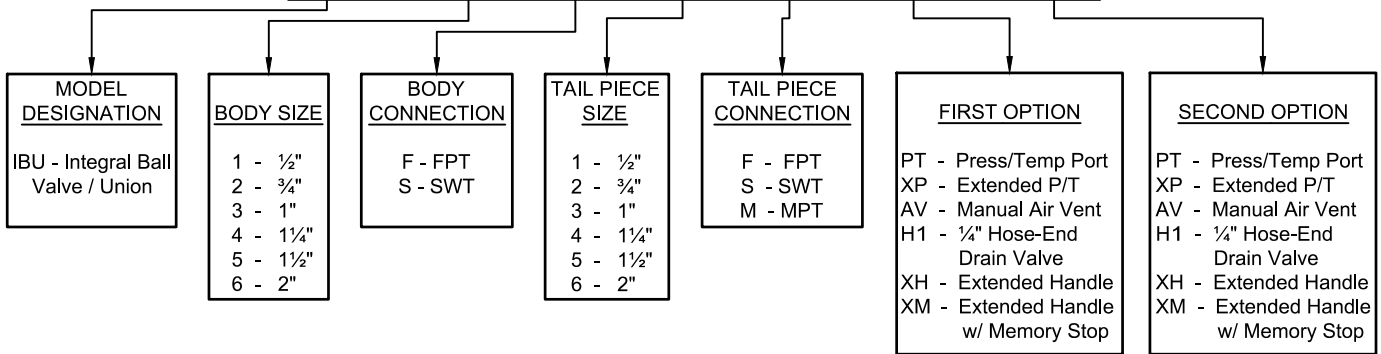
* Cv = Estimated with union connection same as inlet, no reductions.



IBU Series Submittal
Integral Ball Valve/Union



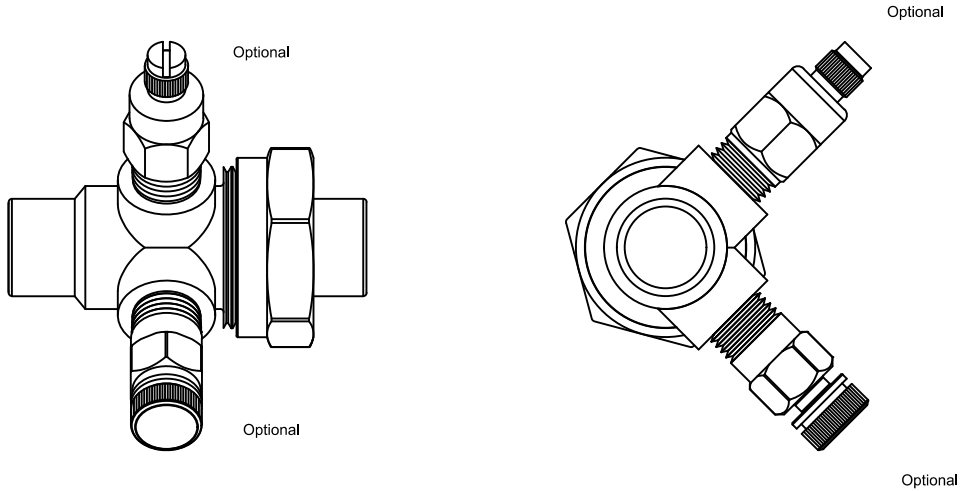
IBU - X - X - X - X - XX - XX



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



AU Series Specifications Accessory Union



Product Description: The AU brass accessory union provides for component isolation. Port section contains two 1/4" ports that come predrilled from the factory and are positioned 90° apart. The union side incorporates an o-ring for maximum sealing protection. Accessory union comes standard with 1/4" plugs installed in the ports. Union side and port side connections available in NPTM, NPTF, and SWT. Rated at 600 WOG @ -22°F to 325°F.

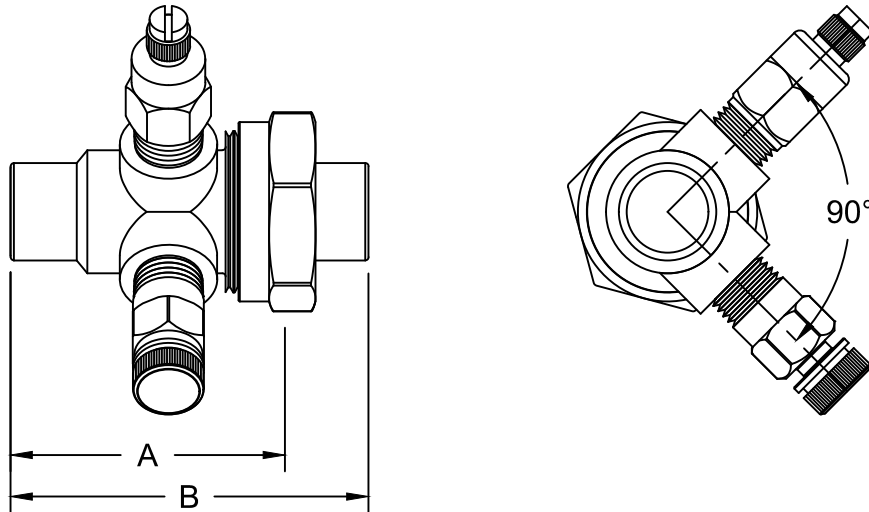
STANDARD MATERIAL SPECIFICATIONS	
Accessory Union	Forged Brass ASTM B283-06
O-Ring	EPDM
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08A
<p>Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in design, materials, and/or specifications without notice or liability.</p>	

PRODUCT SPECIFICATIONS:

- 1/4" ports shall be located 90° distal on a rotational axis
- Integrated ports shall provide functionality for numerous options



AU Series Dimensions Accessory Union



MODEL	SIZE	A	LENGTH "B" / WEIGHT OF PRO-AU AND TAIL PIECE CONNECTION											
			$\frac{1}{2}$ " M	lbs	$\frac{1}{2}$ " S	lbs	$\frac{1}{2}$ " F	lbs						
AU1M	$\frac{1}{2}$ "	2.7	4.2	0.6	3.3	0.6	3.3	0.6						
AU1S		2.1	3.7	0.5	2.8	0.4	2.8	0.5						
AU1F		2.0	3.6	0.6	2.7	0.5	2.7	0.5						
AU2M	$\frac{3}{4}$ "	2.5	4.0	0.7	3.2	0.6	3.6	0.8	$\frac{3}{4}$ " M	lbs	$\frac{3}{4}$ " S	lbs	$\frac{3}{4}$ " F	lbs
AU2S		2.1	3.7	0.6	2.9	0.5	3.3	0.6	3.8	0.6	2.9	0.5	2.9	0.6
AU2F		2.1	3.6	0.7	2.8	0.6	3.2	0.8	3.8	0.7	2.8	0.6	2.9	0.7
AU3M	1"	2.6	4.6	1.1	4.6	1.1	3.4	0.9	1" M	lbs	1" S	lbs	1" F	lbs
AU3S		2.4	4.5	1.0	4.5	1.0	3.3	0.7	4.6	1.2	3.6	0.9	3.5	1.0
AU3F		2.1	4.1	1.0	4.1	1.1	3.0	0.8	4.5	1.0	3.5	0.8	3.4	0.8
AU4M	1 $\frac{1}{4}$ "	3.0	4.7	1.7	5.0	1.8	5.0	1.9	1 $\frac{1}{4}$ " M	lbs	1 $\frac{1}{4}$ " S	lbs	1 $\frac{1}{4}$ " F	lbs
AU4S		3.0	4.7	1.5	4.9	1.7	4.9	1.7	5.0	1.8	4.1	1.5	4.0	1.6
AU4F		2.3	4.1	1.6	4.3	1.8	4.3	1.8	4.4	1.9	3.4	1.5	3.3	1.6
AU5M	1 $\frac{1}{2}$ "	3.0	4.9	2.3	5.5	2.6	5.5	2.7	1 $\frac{1}{2}$ " M	lbs	1 $\frac{1}{2}$ " S	lbs	1 $\frac{1}{2}$ " F	lbs
AU5S		3.0	4.9	2.2	5.5	2.6	5.5	2.6	5.5	2.5	4.2	2.1	4.3	2.3
AU5F		2.7	4.6	2.3	5.1	2.7	5.1	2.7	5.1	2.6	3.9	2.2	3.9	2.3
AU6M	2"	3.4	6.2	4.3	6.2	4.0	6.2	4.0	2" M	lbs	2" S	lbs	2" F	lbs
AU6S		2.8	5.8	4.0	5.8	3.6	5.8	3.6	6.2	4.1	4.8	3.1	4.6	3.4
AU6F		2.8	5.8	4.5	5.7	4.2	5.7	4.1	5.8	4.2	4.2	3.2	3.9	3.5

Note: Dimensions listed above 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. Sweat size listed is nominal and will differ from the actual, measurable size.

