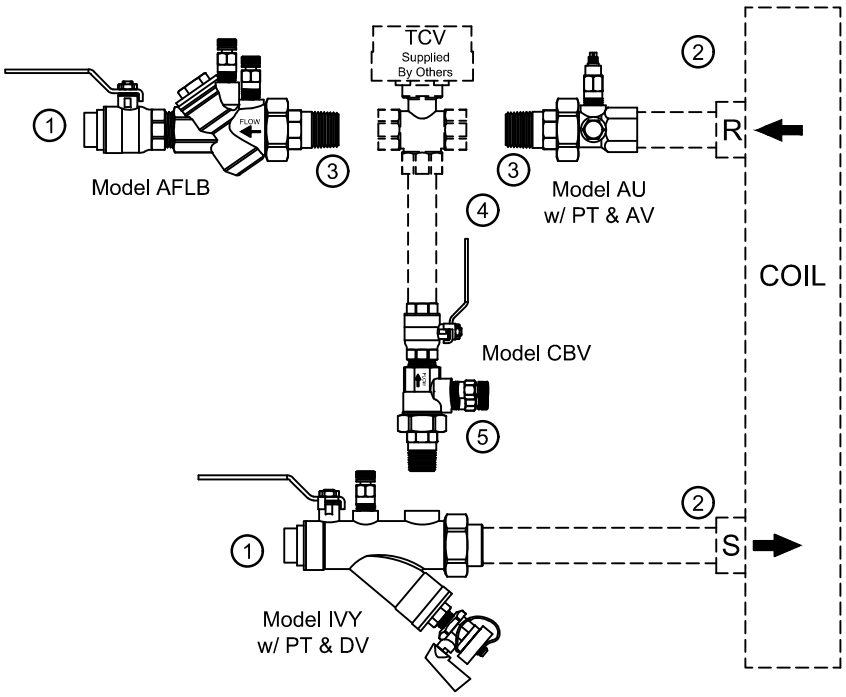
PRO Hydronic Specialties

Automatic Balancing 3-Way Kit - A3IV Submittal

	#	Size	Connection Type
Runout	1		
Coil	2		
TCV	3		MPT
Bypass Out	4		
Bypass In	5		
Services provided for additional fee:			
Extended Components	☐ Yes	☐ No	
Factory Mounted TCV	☐ Yes	☐ No	
Stainless Steel Trim	☐ Yes	☐ No	
Bag N Tag	☐ Yes	☐ No	

** 3/8" Coil Size available in SWT ONLY.*

*** ProPress fittings supplied for additional fee.*



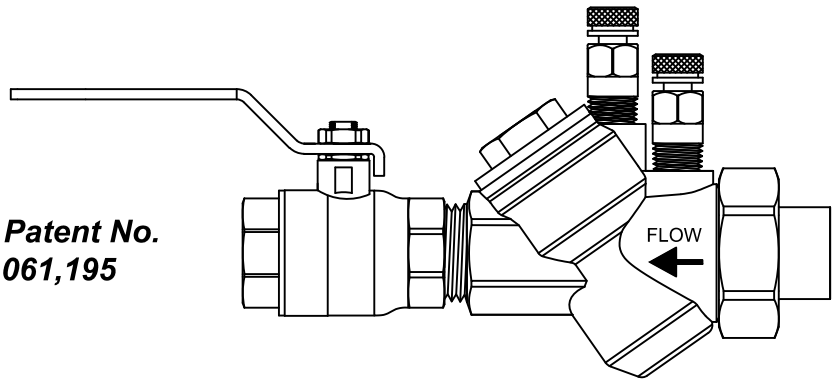
PRODUCT DESCRIPTION: The Automatic Balancing Valve Kit is a packaged and partially preassembled grouping of components required to complete installation of a terminal unit. Temperature control valves, piping, and coils are supplied "by others". Mounting and testing of the customer supplied TCV is available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

QUANTITY	GPM	TAGGING INFORMATION

JOB NAME		REPRESENTATIVE			
ENGINEER		REF/PO#		DATE	
CONTRACTOR		SUBMITTED BY		DATE	

AFLB Series Specifications
Automatic Pressure Independent Flow Limiter w/ Ball Valve

A: AFLB - ½" - 1" High
B: AFLB - 1" High - 1½" Low
C: AFLB - 1½" High - 2"



U.S. Patent No. 8,061,195

PRODUCT DESCRIPTION: The AFLB is an Automatic Pressure Independent Flow Limiting device, male ended by union with a brass ball valve attached, rated at 600 WOG / CWP @ 250° F. The AFLB is supplied with a stainless steel flow limiting cartridge that can be removed for cartridge exchange, if necessary. The AFLB comes standard with two pressure/temperature ports and a hanging identification tag. The ball valve end, or run-out side, is available in FNPT or SWT. The union side connections available include MNPT, FNPT, SWT, and a variety of reductions.

STANDARD MATERIAL SPECIFICATIONS	
Body	Forged Brass ASTM B283-06 or Cast Brass ASTM B763-08A
O-Ring	EPDM
Tail Piece, Packing Nut	Brass ASTM B124-09, B228-06, or B763-08A
Union Nut	Brass ASTM B455
Flow Cartridge	ASTM A582 Type 303 Stainless Steel
Diaphragm	EPDM
Spring	302 Stainless Steel
PT Port	EPDM Dual Durometer Core
Ball Valve	Forged Brass ASTM B283-06
Stem	Brass ASTM B124-09 - Blow-Out Proof
Ball	Chrome Plated Brass
Ball Seat, Packing Gland	Teflon
Handle	Chrome Plated Steel w/ Vinyl Cover

STANDARD OPERATING SPECIFICATIONS	
Control Range:	2 psi - 60+ psi
Accuracy:	±5%
Max Working Pressure:	600 WOG / CWP
Max Operating Temperature:	40°F to 250°F
Start-Up Head Loss:	5 Feet of H_2O

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.

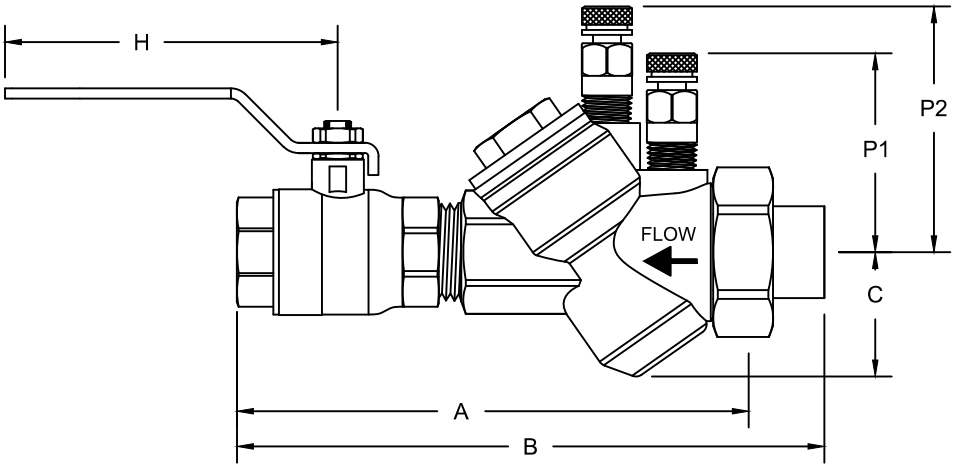
Valve Size		FLOW RATES (GPM) * CONTROL RANGE 2 - 60+ PSID **																									
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**	**W**	**X**	**Y**	**Z**
A	½" - 1" L	.33	.50	.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	9	10	11	12
B	1" H - 1½" L	5	5.5	6	6.5	7	8	9	10	12	13	14	15	16	18	20	22	24	26	28	30	32	34	36	38	40	42
C	1½" H - 2"	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160	170	180

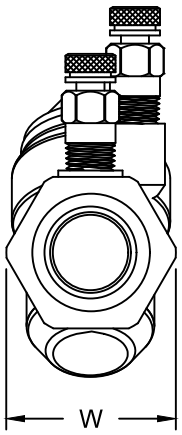
** Custom flow rates can be calibrated at the factory for an additional charge.*
Unless confirmed as special, flow rates will default to standard flow rate.

PRODUCT SPECIFICATIONS:

- The Automatic Flow Limiter with Ball Valve (AFLB) shall have flow measurement capability
- The AFLB shall have a static orifice to control flow
- The AFLB Cartridge shall be permanently marked with the letter that corresponds to the factory preset GPM
- All flow cartridge wear surfaces shall be stainless steel
- The AFLB shall have a 2 PSID start up rating
- The AFLB Cartridge shall have a large operational differential range
- The AFLB Cartridge shall provide continual flow at differential pressures above design limits
- The AFLB Cartridge shall be removable for cleaning or exchange if required

AFLB Series Dimensions
Automatic Pressure Independent Flow Limiter w/ Ball Valve
A: AFLB - ½" - 1" L

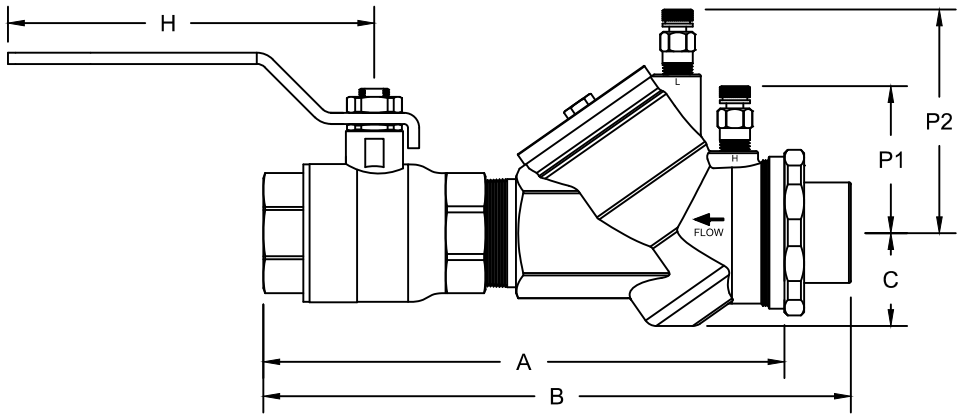




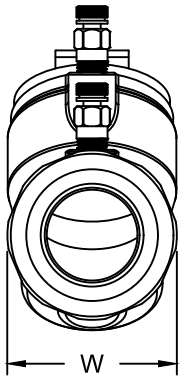
BALL VALVE SIZE AND TYPE	A	TAIL PIECE	B	WEIGHT (lbs)	C	H	P1	P2	W
½" SWT	5.7	- M	7.3	1.8	1.3	3.7	2.3	2.8	1.7
		½" - F	6.4	1.8					
		- S	6.4	1.7					
½" FPT	5.4	- M	7.0	1.8	1.3	3.7	2.3	2.8	1.7
		½" - F	6.0	1.8					
		- S	6.0	1.7					
¾" SWT	6.6	- M	8.1	2.4	1.4	3.8	2.0	2.6	1.8
		½" - F	7.3	2.4					
		- S	7.3	2.4					
		- M	8.3	2.5					
		¾" - F	7.2	2.4					
		- S	7.2	2.4					
¾" FPT	6.1	- M	7.5	2.4	1.4	3.8	2.0	2.6	1.8
		½" - F	7.2	2.5					
		- S	6.8	2.4					
		- M	7.8	2.5					
		¾" - F	7.0	2.4					
		- S	6.8	2.4					
1" SWT	7.3	½" - M	9.5	3.5	1.2	5.0	2.0	2.5	2.1
		- M	9.5	3.5					
		¾" - S	8.2	3.3					
		- M	9.5	3.6					
		1" - F	8.5	3.4					
		- S	8.5	3.3					
1" FPT	6.7	½" - M	8.7	3.5	1.2	5.0	2.0	2.5	2.1
		- M	8.7	3.5					
		¾" - S	7.5	3.3					
		- M	8.7	3.6					
		1" - F	7.6	3.4					
		- S	7.6	3.3					

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 and material specifications. Sweat size listed is nominal and will differ from the actual, measurable size.

AFLB Series Dimensions
Automatic Pressure Independent Flow Limiter w/ Ball Valve
B: AFLB - 1" H - 1½" L



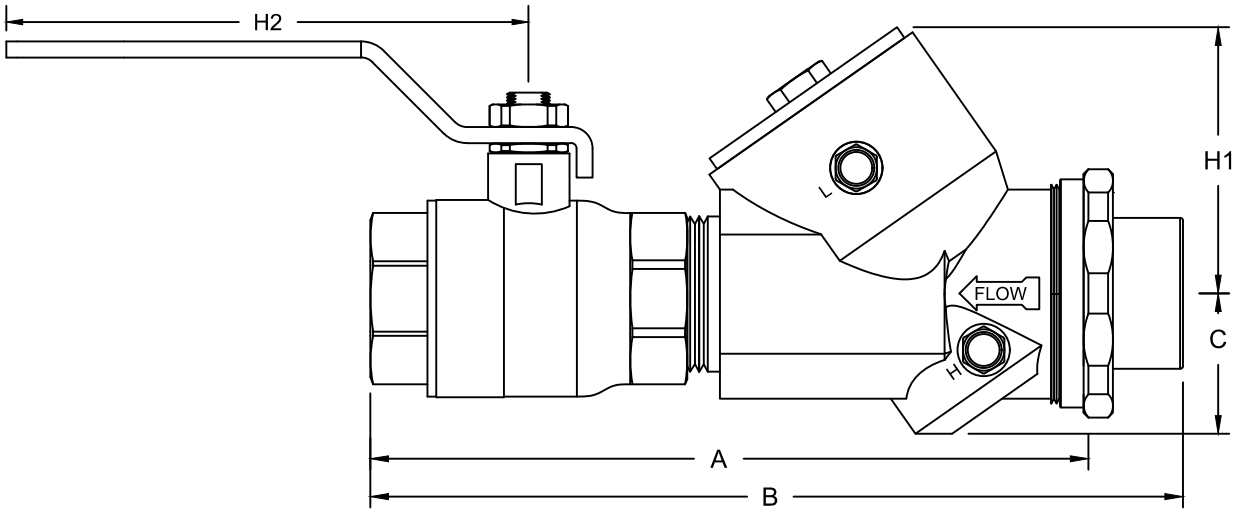
BALL VALVE SIZE AND TYPE	A	TAIL PIECE	B	WEIGHT (lbs)	C	H	P1	P2	W
1" SWT	8.6	- M 1" - F - S	10.6 9.5 9.5	5.3 5.2 5.1	1.4	5.0	2.3	2.6	3.9
1" FPT	8.0	- M 1" - F - S	10.0 8.8 9.0	5.3 5.2 5.1	1.4	5.0	2.3	2.6	3.9
1¼" SWT	9.1	- M 1" - F - S	11.0 11.1 10.5	6.2 6.3 5.9	1.4	5.0	2.3	2.6	3.9
		- M 1¼" - F - S	11.1 10.1 10.2	6.3 6.0 5.9					
1¼" FPT	8.3	- M 1" - F - S	10.3 9.3 9.6	6.2 6.0 5.9	1.4	5.0	2.3	2.6	3.9
		- M 1¼" - F - S	10.3 9.0 9.5	6.3 5.8 5.9					
1½" SWT	9.4	- M 1¼" - F - S	11.9 11.9 10.9	6.5 6.6 5.9	1.4	6.3	2.5	3.4	3.2
		- M 1½" - F - S	11.9 10.6 10.6	6.4 6.1 5.9					
1½" FPT	9.0	- M 1¼" - F - S	11.0 11.0 10.0	6.4 6.5 5.8	1.4	6.3	2.5	3.4	3.2
		- M 1½" - F - S	11.0 9.7 9.7	6.3 6.0 5.8					



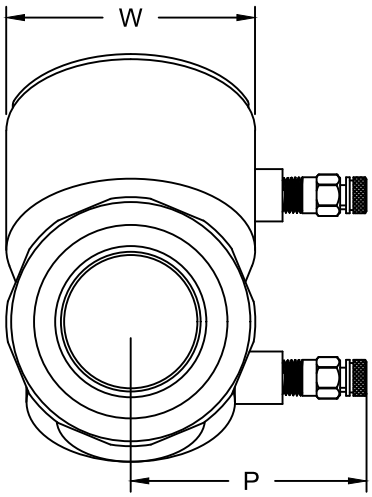
Note: Dimensions listed above do not include ProPress or any other special fittings or adapters. All dimensions, weights, and materials are subject to minor variations. Consult with factory for confirmation of dimensions and material specifications. Sweat size listed is nominal and will differ from the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

PRO Hydronic Specialties

AFLB Series Dimensions
Automatic Pressure Independent Flow Limiter w/ Ball Valve
C: AFLB - 1½" H - 2"



BALL VALVE SIZE AND TYPE	A	TAIL PIECE	B	WEIGHT (lbs)	C	H1	H2	P	W
1½" SWT	12.3	- M	15.3	14.7	2.2	4.2	6.3	3.2	3.7
		1¼" - F	15.3	14.6					
		- S	14.0	13.8					
		- M	15.0	15.1					
		1½" - F	15.3	14.8					
		- S	13.8	13.8					
1½" FPT	11.5	- M	14.5	14.7	2.2	4.2	6.3	3.2	3.7
		1¼" - F	14.5	14.6					
		- S	13.0	13.8					
		- M	14.5	15.1					
		1½" - F	14.5	14.8					
		- S	13.1	13.8					
2" SWT	11.7	- M	14.7	15.5	2.2	4.2	6.2	3.2	3.7
		1½" - F	14.7	15.5					
		- S	13.3	14.6					
		- M	14.7	15.5					
		2" - F	12.8	14.9					
		- S	13.2	14.5					
2" FPT	10.6	- M	13.6	15.4	2.2	4.2	6.2	3.2	3.7
		1½" - F	13.6	15.4					
		- S	12.2	14.5					
		- M	13.6	15.4					
		2" - F	11.8	14.8					
		- S	12.0	14.4					

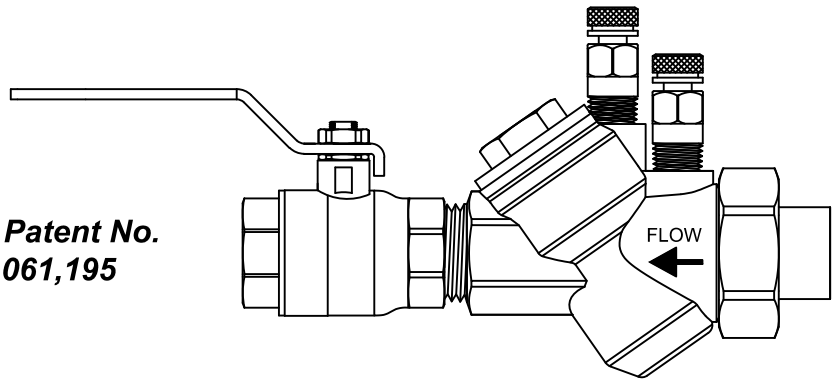


Note: Dimensions listed above do not include ProPress or any other special fittings or adapters. All dimensions, weights, and materials are subject to minor variations. Consult with factory for confirmation of dimensions and material specifications. Sweat size listed is nominal and will differ from the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

AFLB Series Submittal

Automatic Pressure Independent Flow Limiter w/ Ball Valve

A: AFLB - ½" - 1" L
B: AFLB - 1" H - 1½" L
C: AFLB - 1½" H - 2"



U.S. Patent No. 8,061,195

AFLB - X - X - X - X - X - X - XX,

MODEL DESIGNATION	VALVE SIZE	FIXED END LINE SIZE	FIXED END CONNECTION	TAIL PIECE SIZE	TAIL PIECE CONNECTION	FLOW RATE CODE	OPTIONS separate w/ comma
AFLB - Automatic Flow Limiter w/ Ball Valve	A B C	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT M - MPT	*Use chart below for code or specify special rate.*	XH - Extended Handle XP - Extended PT FM - Flow Measurement

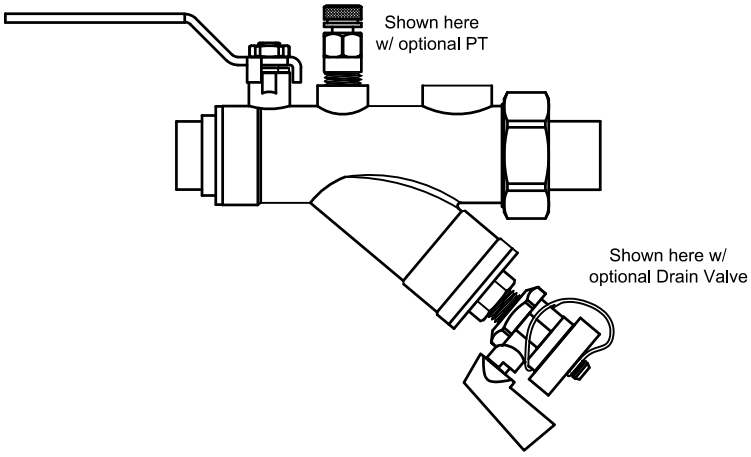
Valve Size		FLOW RATE CODES (GPM)* CONTROL RANGE 2 - 60+ PSID **																								
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**	**W**	**X**	**Y**	**Z**
A	½" - 1" L	.33	.50	.75	1	1.25	1.5	1.75	2	2.25	2.5	2.75	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	9	10	11	12
B	1" H - 1½" L	5	5.5	6	6.5	7	8	9	10	12	13	14	15	16	18	20	22	24	26	28	30	32	34	36	38	40	42
C	1½" H - 2"	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160	170	180

** Custom flow rates can be calibrated at the factory for an additional charge.*
Unless confirmed as special, flow rates will default to standard flow rate.

JOB NAME: REPRESENTATIVE:
ENGINEER: REF/PO#: DATE:
CONTRACTOR: SUBMITTED BY: DATE:

PART # (See table above)	TAGGING/JOB INFORMATION	GPM	QUANTITY

IVY Series Specifications
Integral Ball Valve/Wye Strainer/Union

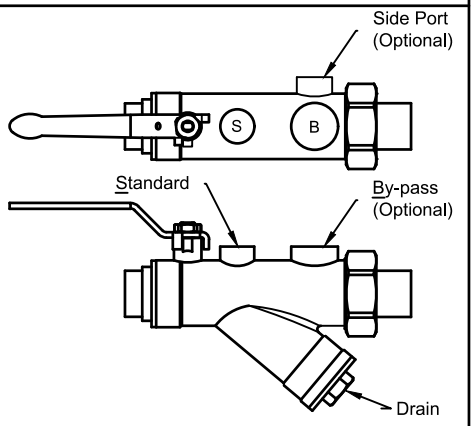


PRODUCT DESCRIPTION: The IVY is an integral ball valve, wye-strainer and union. The IVY uses a full-port ball valve for positive shut-off and offers two (2) predrilled ¼" taps for accessories to be installed. A ¼" standard port and by-pass tap are provided at the forward 12:00 position. The bypass port comes tapped and plugged for 2-way control valve configurations. The bypass port remains open on 3-way control valve configurations to install a bypass valve. *(See IVY Series Dimensions page for bypass valve sizes.)* An additional side port is available for factory drilling and tapping a ¼" port. The strainer has a 20-mesh stainless steel screen to aid in debris removal. The strainer cap has a ¼" tap for a hose-end drain valve. The ball valve has a PTFE packing gland, brass packing nut, and blow-out proof double o-ring stem seal. The fixed end connections may be FNPT or SWT. The union side connections Include MNPT, FNPT, SWT, and a variety of reductions.

STANDARD MATERIAL SPECIFICATIONS	
Body	Forged Brass ASTM B283-06, or cast Brass ASTM B763-08A
O-Ring	EPDM
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08a
Union Nut	Brass ASTM B455
PT Seal	EPDM Dual Durometer Core
Handle	Chrome Plated Steel
Stem	Brass ASTM B124-09 - Blow-Out Proof
Ball	Crome Plated Brass - Full Port
Ball Seat	Teflon
Packing Gland	Teflon
Packing Nut	Brass ASTM B124-09, B228-06, or B763-08a

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

PORT LOCATIONS

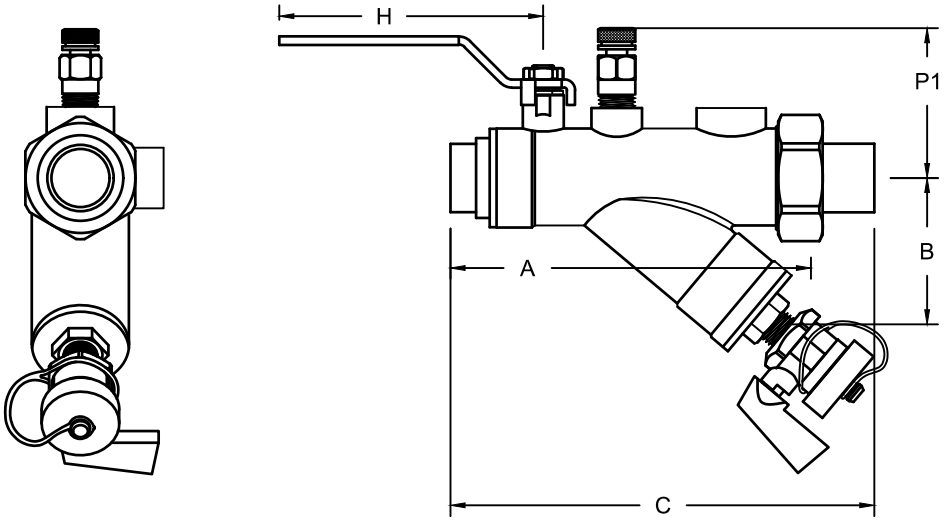


Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in design, materials, and/or specifications without notice or liability.

PRODUCT SPECIFICATIONS:

- Device shall have a full port isolation valve
- Device shall have a 20 mesh accessible strainer sleeve(0standard) or a 40 mesh accessible strainer sleeve (optional)
- Device shall have a blow down for debris removal
- Device shall have a functional by-pass
- The strainer screen shall have a minimum 8:1 ratio of total area against the internal pipe diameter

IVY Series Dimensions
Integral Ball Valve/Wye Strainer/Union



Model	Size	Bypass Size	A	B	H	P1	* R	** Cv
IVY1-SWT	½	½	4.4	2.3	4.1	2.0	11 : 1	8
IVY2-SWT	¾	½	5.4	2.2	3.8	2.1	8 : 1	9
IVY3-SWT	1	½	6.1	2.7	3.9	2.3	11 : 1	20
IVY4-SWT	1 ¼"	¾"	7.0	3.2	3.8	2.7	9 : 1	23
IVY5-SWT	1 ½"	¾"	8.6	3.2	6.3	3.0	13 : 1	44
IVY6-SWT	2	1"	9.2	3.5	6.5	3.1	9 : 1	46
IVY1-FPT	½	½	4.2	2.3	4.1	2.0	11 : 1	7
IVY2-FPT	¾	½	4.9	2.2	3.8	2.1	8 : 1	8
IVY3-FPT	1	½	5.4	2.7	3.9	2.3	11 : 1	19
IVY4-FPT	1 ¼"	¾"	6.3	3.2	3.8	2.7	9 : 1	21
IVY5-FPT	1 ½"	¾"	7.5	3.2	6.3	3.0	13 : 1	45
IVY6-FPT	2"	1"	8.1	3.5	6.5	3.1	9 : 1	47

Note: Dimensions 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.

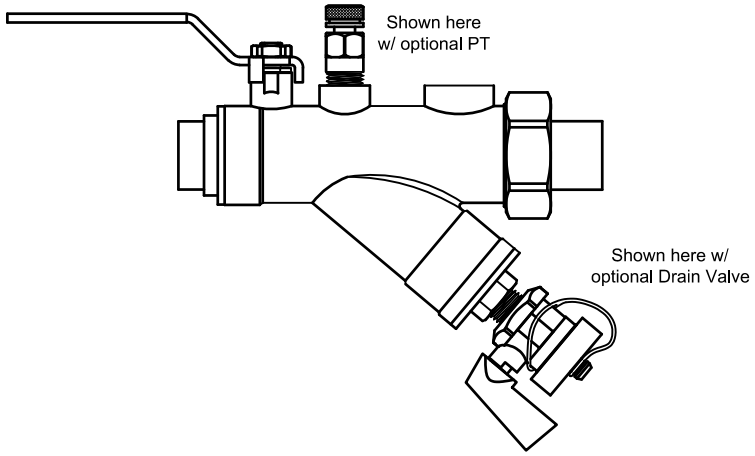
* R = Ratio of screen surface area to cross-sectional pipe diameter

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

Size	Tail Piece	C	Weight	Size	Tail Piece	C	Weight
½" SWT	- M	6.0	1.8	½" FPT	- M	6.5	1.8
	½" - F	5.1	1.8		½" - F	4.8	1.8
	- S	5.1	1.8		- S	4.8	1.8
¾" SWT	- M	7.0	2.2	¾" FPT	- M	6.5	2.5
	½" - F	6.3	2.3		½" - F	6.0	2.5
	- S	6.1	2.2		- S	5.7	2.1
	- M	7.0	2.3		- M	6.5	2.3
	¾" - F	6.1	2.2		¾" - F	5.7	2.2
	- S	6.2	2.2		- S	5.7	2.2
1" SWT	½" - M	8.1	3.2	1" FPT	½" - M	7.2	3.2
	¾" - M	8.1	3.7		¾" - M	7.2	3.2
	- S	7.0	3.4		- S	6.1	3.0
	- M	8.1	3.5		- M	7.2	3.3
	1" - F	7.1	3.1		1" - F	6.2	3.1
	- S	7.1	3.0		- S	6.2	3.1
1 ¼" SWT	¾" - M	9.0	5.0	1 ¼" FPT	¾" - M	8.2	5.0
	1" - M	9.0	5.0		1" - M	8.2	5.1
	- S	8.2	4.6		- S	7.7	4.7
	- M	9.0	5.1		- M	8.2	5.1
	1 ¼" - F	8.0	4.8		1 ¼" - F	7.3	4.8
	- S	8.1	4.7		- S	7.5	4.7
1 ½" SWT	1" - M	11.0	7.6	1 ½" FPT	1" - M	10.1	7.4
	1 ¼" - M	11.0	7.7		1 ¼" - M	10.0	7.6
	- S	10.0	7.1		- S	9.0	7.0
	- M	11.0	7.6		- M	10.1	7.4
	1 ½" - F	9.8	7.3		1 ½" - F	9.0	7.2
	- S	9.7	7.1		- S	8.8	7.0
2" SWT	1 ¼" - M	12.2	10.0	2" FPT	1 ¼" - M	11.1	9.7
	1 ½" - M	12.2	8.6		1 ½" - M	11.1	9.7
	- S	11.0	9.0		- S	9.7	8.8
	- M	12.2	10.0		- M	11.1	9.8
	2" - F	10.5	9.4		2" - F	9.2	9.1
	- S	10.7	9.0		- S	9.5	8.8

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

IVY Series Submittal
Integral Ball Valve/Wye Strainer/Union



IVY - X - X - X - X - XX - XX - X

MODEL DESIGNATION	LINE SIZE	END CONNECTION	TAIL PIECE SIZE	TAIL PIECE CONNECTION	FIRST ACCESSORY OPTION	SECOND ACCESSORY OPTION	BYPASS OPTION
IVY - Integral Strainer Valve	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT M - MPT	XH - Extended Handle PT - Press/Temp Port XP - Extended PT AV - Manual Air Vent AX - Extended AV H1 - ¼" Hose-end Drain Valve	XH - Extended Handle PT - Press/Temp Port XP - Extended PT AV - Manual Air Vent AX - Extended AV H1 - ¼" Hose-end Drain Valve	B = Bypass *Bypass tap size provided on IVY Dimensions Form : SUBIVY2*

JOB NAME: CUSTOMER:

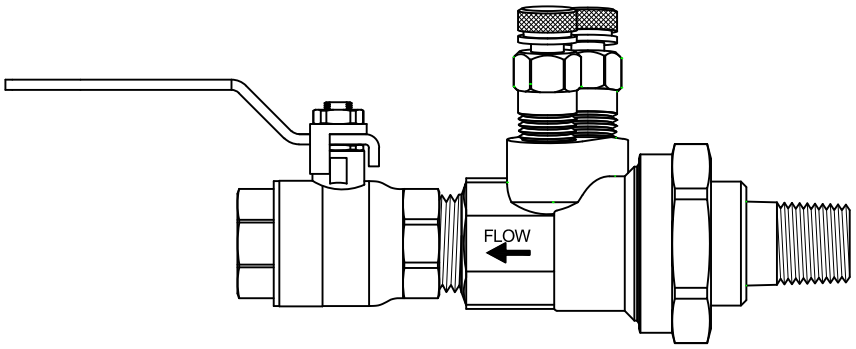
ENGINEER: REF/PO#: DATE:

CONTRACTOR: SUBMITTED BY: DATE:

PART # (See table above)	TAGGING/JOB INFORMATION	QUANTITY

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)				
Model	Size	Minimum	@ 100"	@ 200"
CBV050L	½"	0.3	1.2	1.8
CBV050H	½"	0.8	2.9	4.2
CBV075UL	¾"	0.3	1.2	1.8
CBV075L	¾"	0.8	2.9	4.2
CBV075H	¾"	1.8	6.1	8.9
CBV100	1"	2.8	9.8	14.3
CBV125	1¼"	4.8	16.4	24.0
CBV150	1½"	7.5	24.4	35.5
CBV200	2"	12.0	40.8	69.3

STANDARD MATERIAL SPECIFICATIONS	
Venturi	Cast Brass ASTM B763-08A
Ball Valve	Forged Brass ASTM B283-06
O-ring	EPDM
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08A
Union Nut	Brass ASTM B455
PT Seal	EPDM Dual Durometer Core
Handle	Chrome Plated Steel
Memory Stop	302 Stainless Steel
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

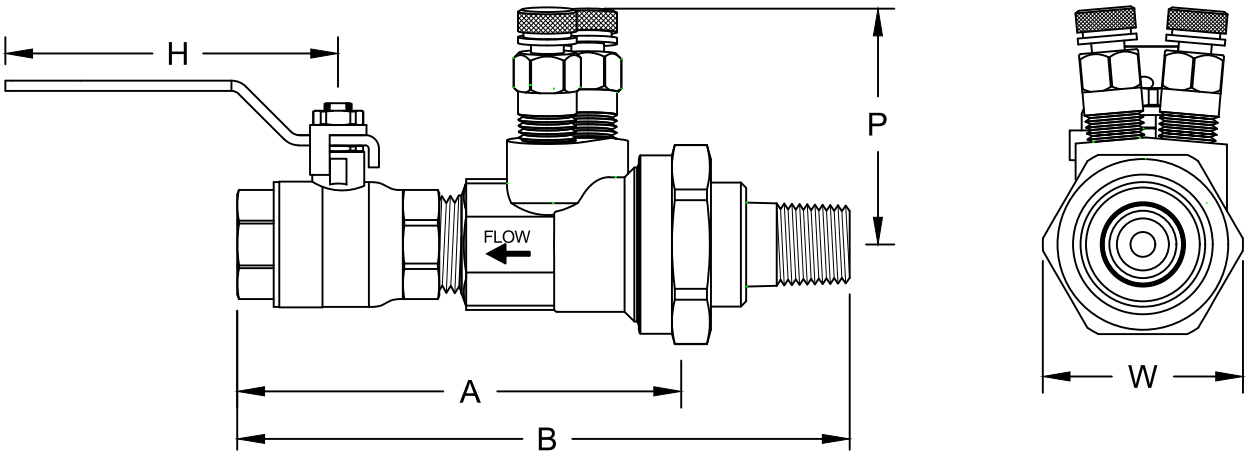
Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in design, materials, and/or specifications without notice or liability.

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.

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"

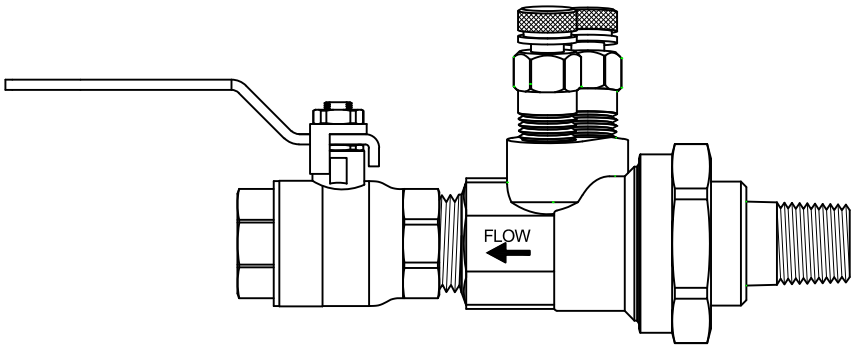
** Cv = Estimated with Union connection same as inlet, no reductions.

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,

MODEL DESIGNATION	LINE SIZE	BETA RATIO	END CONNECTIONS	TAIL PIECE SIZE	TAIL PIECE CONNECTION	OPTIONS (separate w/ comma)
CBV - Combo Ball Valve/ Venturi	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	L - LOW H - HIGH *Beta ratios are only used for ½" - ¾" sizes.*	F - FPT S - SWT	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT M - MPT	XP - Extended PT Port XM - Extended Handle w/ Memory Stop

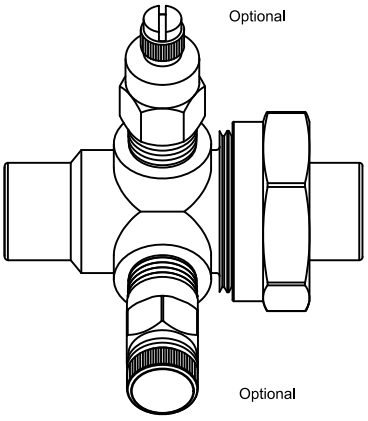
JOB NAME: REPRESENTATIVE:

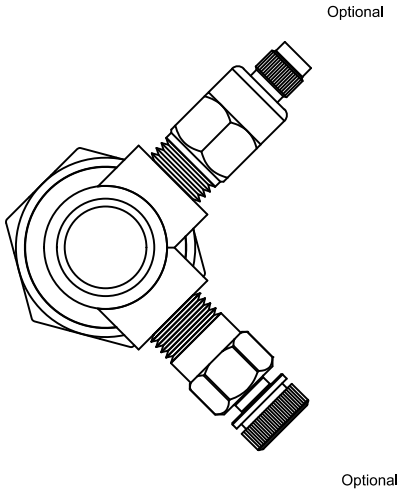
ENGINEER: REF/PO#: DATE:

CONTRACTOR: SUBMITTED BY: DATE:

PART # (See table above)	TAGGING/JOB INFORMATION	GPM	QUANTITY

AU Series Specifications
Accessory Union





Product Description: The AU brass accessory union provides for component isolation. Port section contains two ¼" 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 ¼" 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.

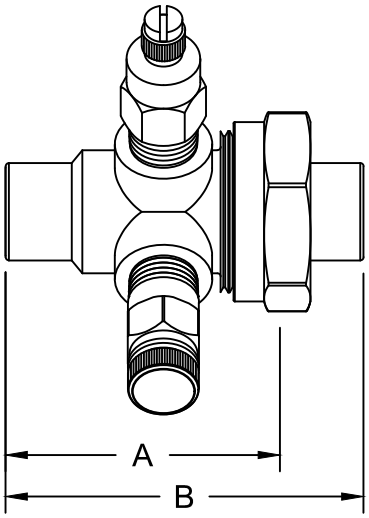
STANDARD MATERIAL SPECIFICATIONS	
Accessory Union O-Ring Tail Piece	Forged Brass ASTM B283-06 EPDM Brass ASTM B124-09, B228-06, or B763-08A
Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in design, materials,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

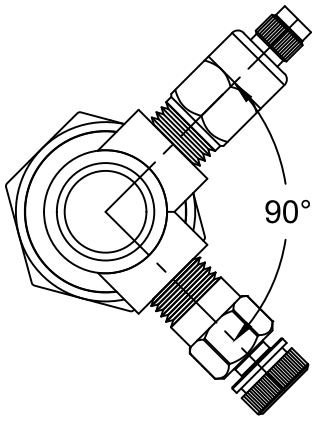
PRODUCT SPECIFICATIONS:

- ¼" ports shall be located 90° distal on a rotational axis
- Integrated ports shall provide functionality for numerous options

PRO Hydronic Specialties

AU Series Dimensions
Accessory Union



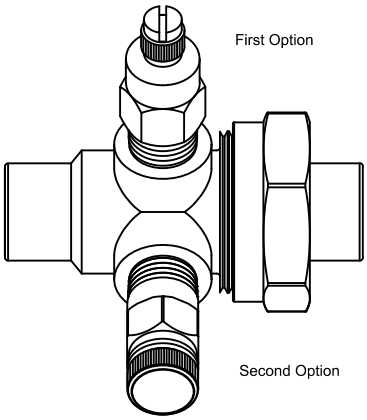


MODEL	SIZE	A	LENGTH "B" / WEIGHT OF *PRO*-AU AND TAIL PIECE CONNECTION											
			½" M	lbs	½" S	lbs	½" F	lbs						
AU1M	½"	2.7	4.2	0.6	3.3	0.6	3.3	0.6						
AU1S		2.1	3.7	0.5	2.8	0.4	2.8	0.5						
AU1F		2.0	3.6	0.6	2.7	0.5	2.7	0.5						
			½" M	lbs	½" S	lbs	½" F	lbs	¾" M	lbs	¾" S	lbs	¾" F	lbs
AU2M	¾"	2.5	4.0	0.7	3.2	0.6	3.6	0.8	4.2	0.7	3.2	0.6	3.3	0.7
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
			½" M	lbs	¾" M	lbs	¾" S	lbs	1" M	lbs	1" S	lbs	1" F	lbs
AU3M	1"	2.6	4.6	1.1	4.6	1.1	3.4	0.9	4.6	1.2	3.6	0.9	3.5	1.0
AU3S		2.4	4.5	1.0	4.5	1.0	3.3	0.7	4.5	1.0	3.5	0.8	3.4	0.8
AU3F		2.1	4.1	1.0	4.1	1.1	3.0	0.8	4.1	1.1	3.3	0.9	3.1	0.9
			½" M	lbs	¾" M	lbs	1" M	lbs	1¼" M	lbs	1¼" S	lbs	1¼" F	lbs
AU4M	1¼"	3.0	4.7	1.7	5.0	1.8	5.0	1.9	5.0	1.9	4.1	1.5	4.0	1.6
AU4S		3.0	4.7	1.5	4.9	1.7	4.9	1.7	5.0	1.8	4.1	1.4	4.0	1.5
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
			¾" M	lbs	1" M	lbs	1¼" M	lbs	1½" M	lbs	1½" S	lbs	1½" F	lbs
AU5M	1½"	3.0	4.9	2.3	5.5	2.6	5.5	2.7	5.5	2.5	4.2	2.1	4.3	2.3
AU5S		3.0	4.9	2.2	5.5	2.6	5.5	2.6	5.5	2.5	4.2	2.0	4.2	2.2
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
			1" M	lbs	1¼" M	lbs	1½" M	lbs	2" M	lbs	2" S	lbs	2" F	lbs
AU6M	2"	3.4	6.2	4.3	6.2	4.0	6.2	4.0	6.2	4.1	4.8	3.1	4.6	3.4
AU6S		2.8	5.8	4.0	5.8	3.6	5.8	3.6	5.8	3.7	4.2	2.7	4.0	3.0
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.

PRO Hydronic Specialties

AU Series Submittal
Accessory Union



AU - X - X - X - X - XX - XX

MODEL DESIGNATION	BODY SIZE	BODY CONNECTIONS	TAIL PIECE SIZE	TAIL PIECE CONNECTION	FIRST OPTION	SECOND OPTION
AU - Accessory Union	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT M - MPT	1 - ½" 2 - ¾" 3 - 1" 4 - 1¼" 5 - 1½" 6 - 2"	F - FPT S - SWT M - MPT	PT - Press/Temp Port XP - Extended PT AV - Manual Air Vent AX - Extended AV H1 - ¼" Hose-end Drain Valve	PT - Press/Temp Port XP - Extended PT AV - Manual Air Vent AX - Extended AV H1 - ¼" Hose-end Drain Valve

JOB NAME:	REPRESENTATIVE:	
ENGINEER:	REF/PO#:	DATE:
CONTRACTOR:	SUBMITTED BY:	DATE:

PART # (See table above)	TAGGING/JOB INFORMATION	QUANTITY