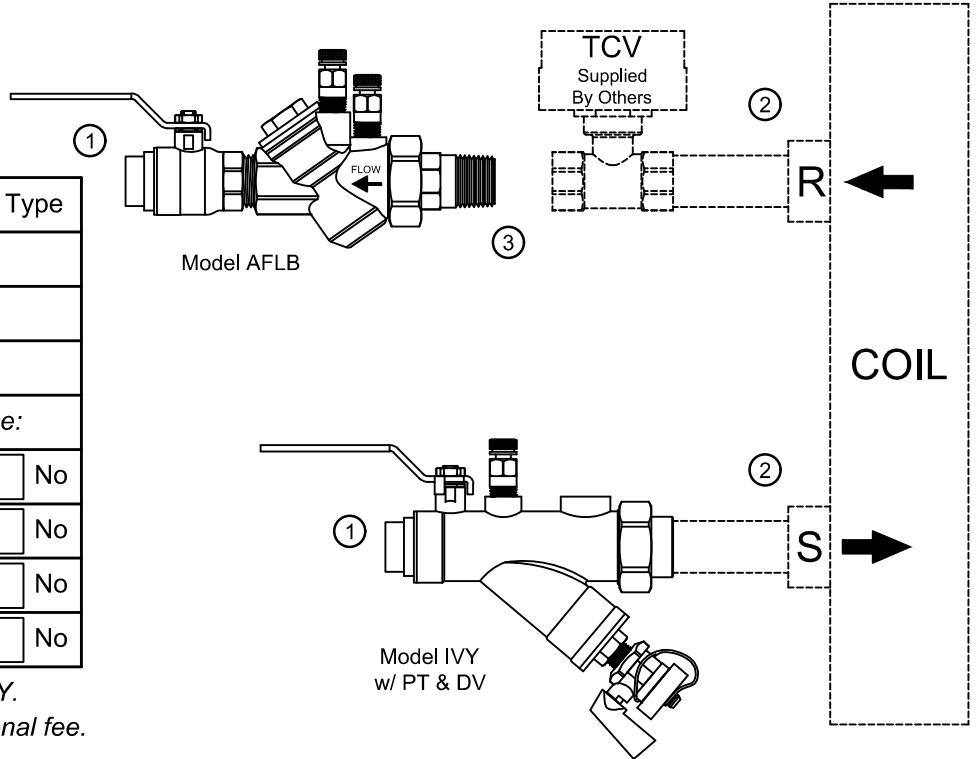


PRO Hydronic Specialties

Automatic Balancing Kit - ANI Submittal

	#	Size	Connection Type
Runout	1		
Coil	2		
If w/ TCV	3		MPT
<i>Services provided for additional fee:</i>			
Extended Components	<input type="checkbox"/>	Yes	<input type="checkbox"/> No
Factory Mounted TCV	<input type="checkbox"/>	Yes	<input type="checkbox"/> No
Stainless Steel Trim	<input type="checkbox"/>	Yes	<input type="checkbox"/> No
Bag N Tag	<input type="checkbox"/>	Yes	<input type="checkbox"/> 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

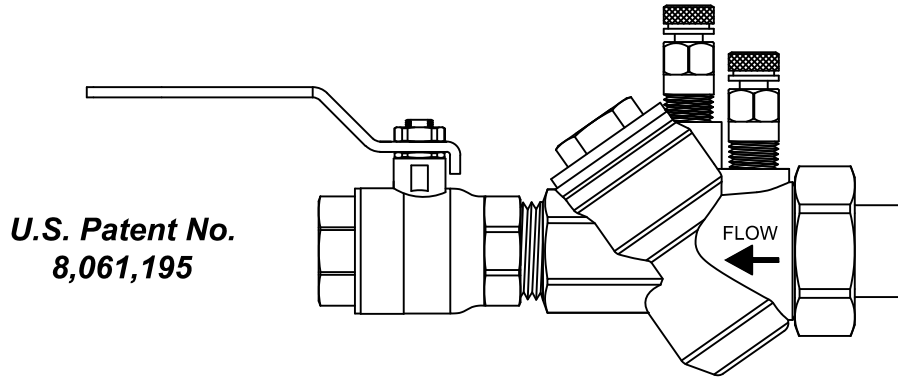
JOB NAME	REPRESENTATIVE	
ENGINEER	REF/PO#	DATE
CONTRACTOR	SUBMITTED BY	DATE



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"



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		STANDARD OPERATING SPECIFICATIONS	
Body	Forged Brass ASTM B283-06 or Cast Brass ASTM B763-08A	Control Range:	2 psi - 60+ psi
O-Ring	EPDM	Accuracy:	±5%
Tail Piece, Packing Nut	Brass ASTM B124-09, B228-06, or B763-08A	Max Working Pressure:	600 WOG / CWP
Union Nut	Brass ASTM B455	Max Operating Temperature:	40°F to 250°F
Flow Cartridge	ASTM A582 Type 303 Stainless Steel	Start-Up Head Loss:	5 Feet of H ₂ O
Diaphragm	EPDM	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.	
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		

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:

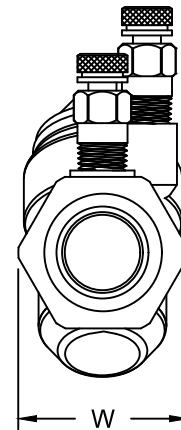
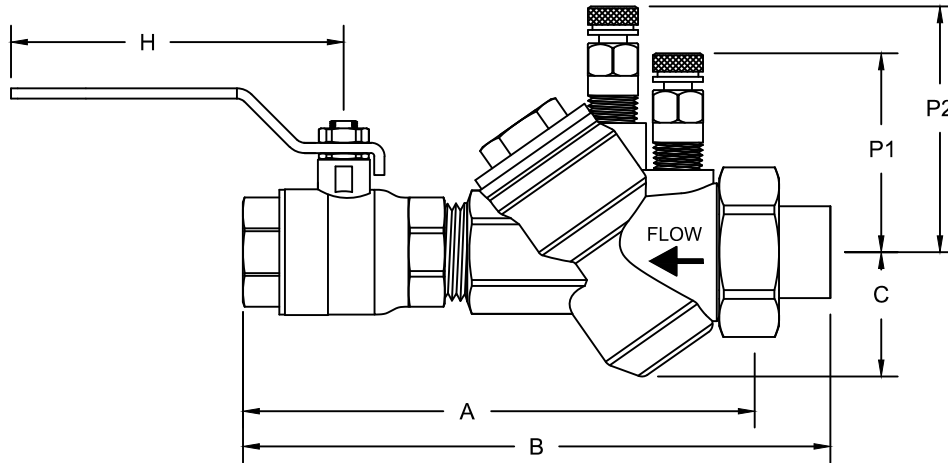
- The Automatic Flow Limiter with Ball Valve (AFLB) shall have flow measurement capability
- The AFLB shall have a static orifice to control flow
- The AFLB Cartridge shall be permanently marked with the letter that corresponds to the factory preset GPM
- All flow cartridge wear surfaces shall be stainless 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 - 1/2" - 1" L



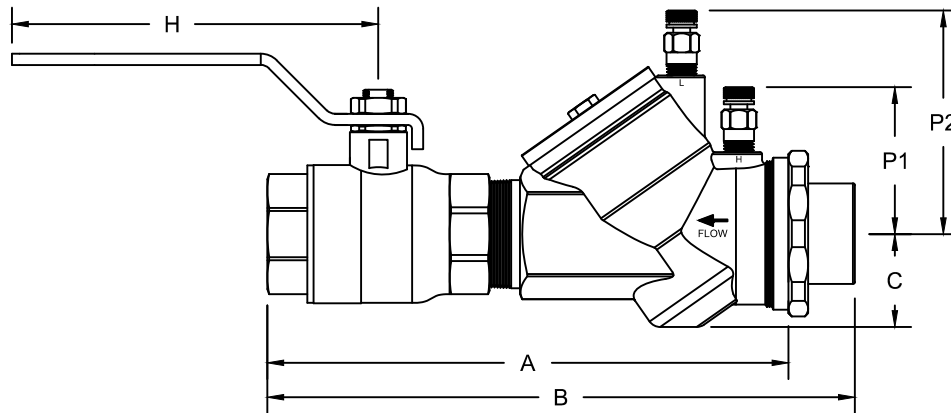
BALL VALVE SIZE AND TYPE	A	TAIL PIECE	B	WEIGHT (lbs)	C	H	P1	P2	W
1/2" SWT	5.7	- M	7.3	1.8	1.3	3.7	2.3	2.8	1.7
		- F	6.4	1.8					
		- S	6.4	1.7					
1/2" FPT	5.4	- M	7.0	1.8	1.3	3.7	2.3	2.8	1.7
		- F	6.0	1.8					
		- S	6.0	1.7					
3/4" SWT	6.6	- M	8.1	2.4	1.4	3.8	2.0	2.6	1.8
		1/2" - F	7.3	2.4					
		- S	7.3	2.4					
		- M	8.3	2.5					
		3/4" - F	7.2	2.4					
		- S	7.2	2.4					
3/4" FPT	6.1	- M	7.5	2.4	1.4	3.8	2.0	2.6	1.8
		1/2" - F	7.2	2.5					
		- S	6.8	2.4					
		- M	7.8	2.5					
		3/4" - F	7.0	2.4					
		- S	6.8	2.4					
1" SWT	7.3	1/2" - M	9.5	3.5	1.2	5.0	2.0	2.5	2.1
		3/4" - M	9.5	3.5					
		- 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	1/2" - M	8.7	3.5	1.2	5.0	2.0	2.5	2.1
		3/4" - M	8.7	3.5					
		- 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.

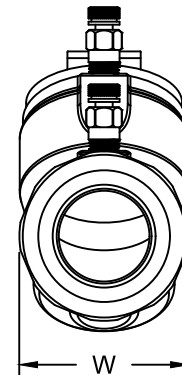


AFLB Series Dimensions

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	10.6	5.3	1.4	5.0	2.3	2.6	3.9
		- F	9.5	5.2					
		- S	9.5	5.1					
1" FPT	8.0	- M	10.0	5.3	1.4	5.0	2.3	2.6	3.9
		- F	8.8	5.2					
		- S	9.0	5.1					
1¼" SWT	9.1	- M	11.0	6.2	1.4	5.0	2.3	2.6	3.9
		- F	11.1	6.3					
		- S	10.5	5.9					
		- M	11.1	6.3					
		- F	10.1	6.0					
		- S	10.2	5.9					
1¼" FPT	8.3	- M	10.3	6.2	1.4	5.0	2.3	2.6	3.9
		- F	9.3	6.0					
		- S	9.6	5.9					
		- M	10.3	6.3					
		- F	9.0	5.8					
		- S	9.5	5.9					
1½" SWT	9.4	- M	11.9	6.5	1.4	6.3	2.5	3.4	3.2
		- F	11.9	6.6					
		- S	10.9	5.9					
		- M	11.9	6.4					
		- F	10.6	6.1					
		- S	10.6	5.9					
1½" FPT	9.0	- M	11.0	6.4	1.4	6.3	2.5	3.4	3.2
		- F	11.0	6.5					
		- S	10.0	5.8					
		- M	11.0	6.3					
		- F	9.7	6.0					
		- S	9.7	5.8					



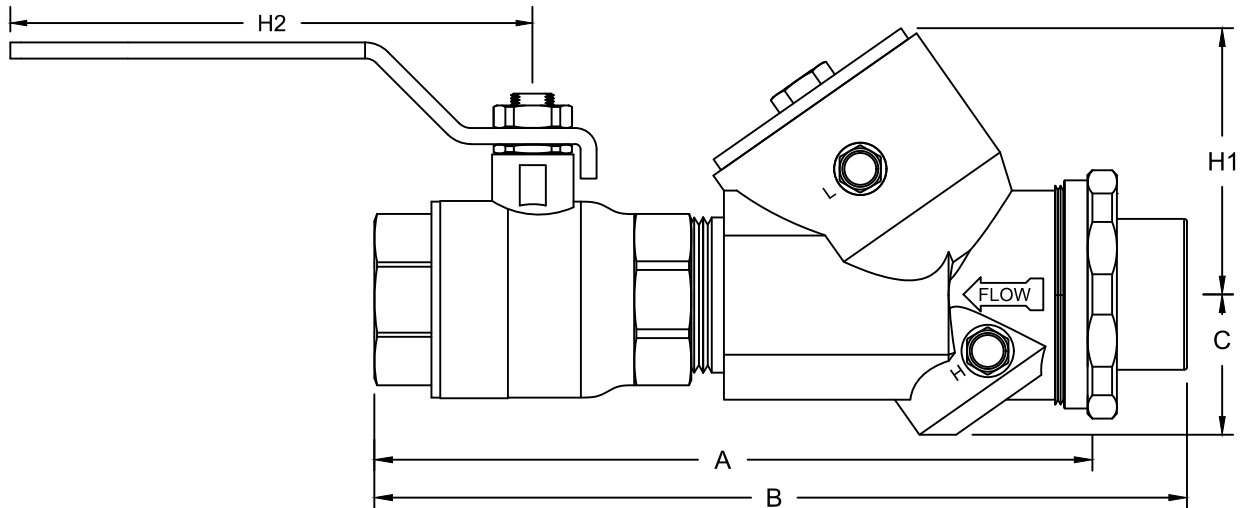
Note: Dimensions listed above do not include ProPress or any other special fittings or adapters. All dimensions, weights, and materials are subject to minor variations. Consult with factory for confirmation of dimensions and material specifications. Sweat size listed is nominal and will differ from the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



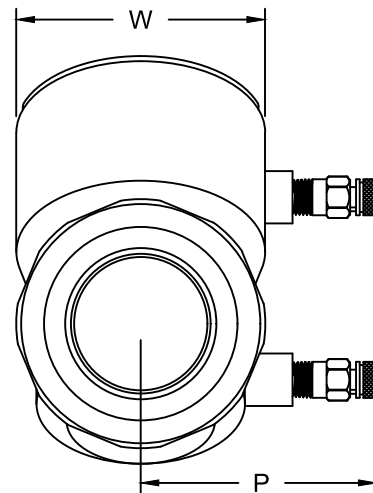
AFLB Series Dimensions

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					
		1½" - M	15.0	15.1					
		- 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					
		1½" - M	14.5	15.1					
		- 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					
		2" - M	14.7	15.5					
		- 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					
		2" - M	13.6	15.4					
		- 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.

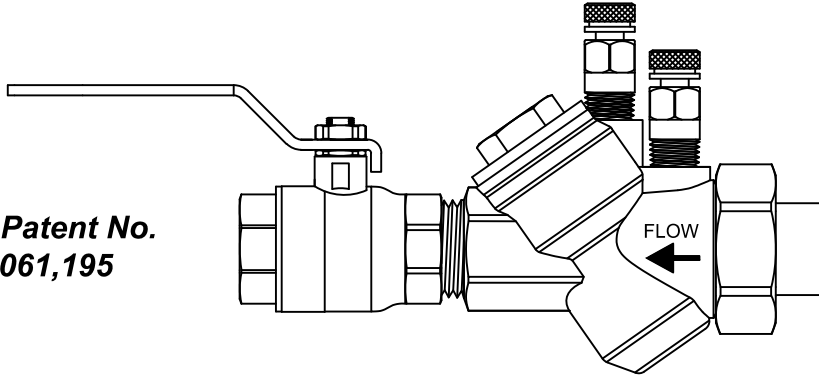
PRO *Hydronic* *Specialties*

AFLB Series Submittal

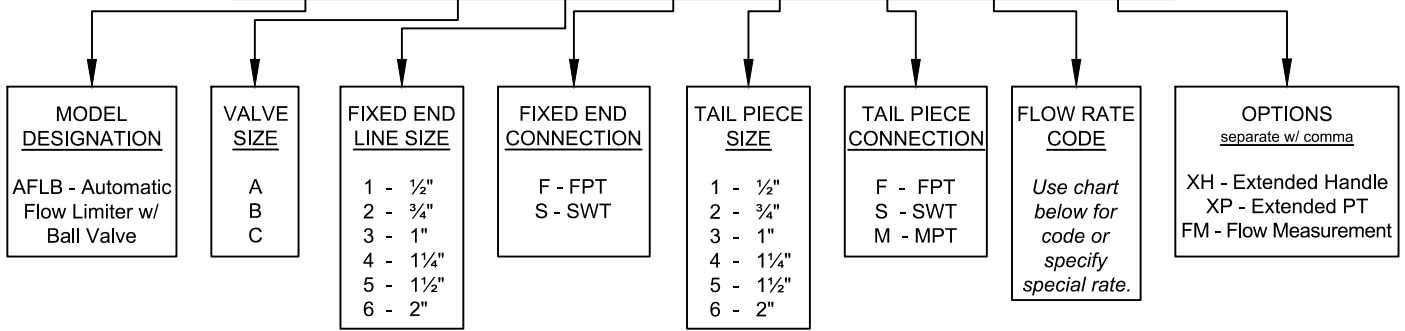
Automatic Pressure Independent Flow Limiter w/ Ball Valve

- A: AFLB - 1/2" - 1" L
- B: AFLB - 1" H - 1 1/2" L
- C: AFLB - 1 1/2" H - 2"

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



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



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 1/2" - 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 - 1 1/2" 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 1 1/2" 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.

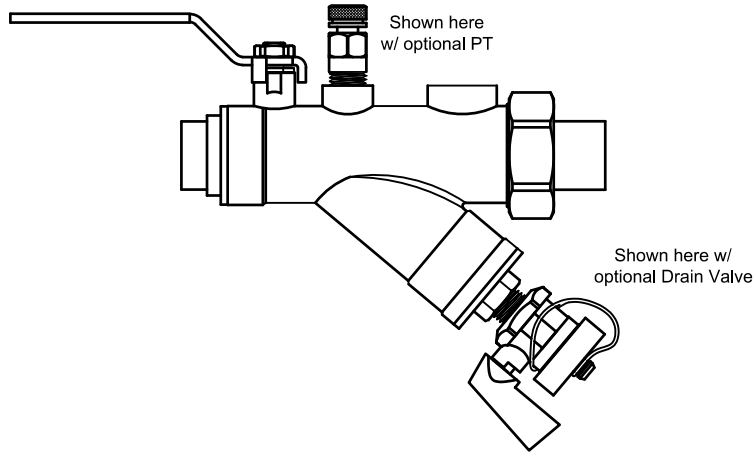
JOB NAME:		REPRESENTATIVE:	
ENGINEER:		REF/PO#:	
CONTRACTOR:		SUBMITTED BY:	
		DATE:	
		DATE:	

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.

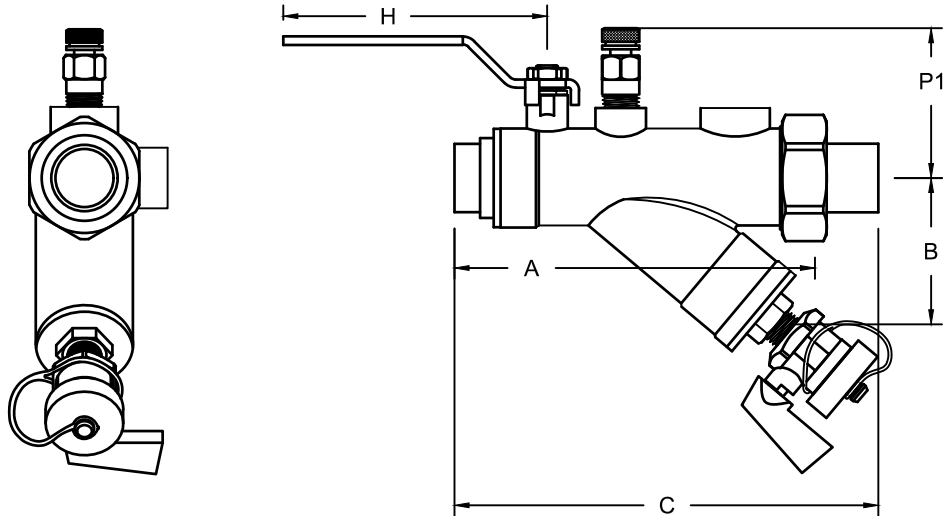
STANDARD MATERIAL SPECIFICATIONS		PORT LOCATIONS
Body	Forged Brass ASTM B283-06, or cast Brass ASTM B763-08A	
O-Ring	EPDM	
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08a	
Union Nut	Brass ASTM B455	
PT Seal	EPDM Dual Durometer Core	
Handle	Chrome Plated Steel	
Stem	Brass ASTM B124-09 - Blow-Out Proof	
Ball	Chrome 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	
<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:

- Device shall have a full port isolation valve
- Device shall have a 20 mesh accessible strainer sleeve (standard) 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

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

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.

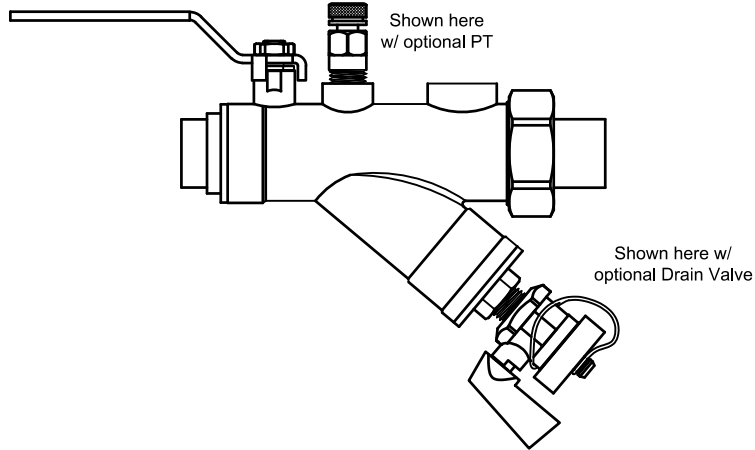
* R = Ratio of screen surface area to cross-sectional pipe diameter

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

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 - 1/2" 2 - 3/4" 3 - 1" 4 - 1 1/4" 5 - 1 1/2" 6 - 2"	F - FPT S - SWT	1 - 1/2" 2 - 3/4" 3 - 1" 4 - 1 1/4" 5 - 1 1/2" 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 - 1/4" Hose-end Drain Valve	XH - Extended Handle PT - Press/Temp Port XP - Extended PT AV - Manual Air Vent AX - Extended AV H1 - 1/4" Hose-end Drain Valve	B = Bypass <i>Bypass tap size provided on IVY Dimensions Form : SUBIVY2</i>

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