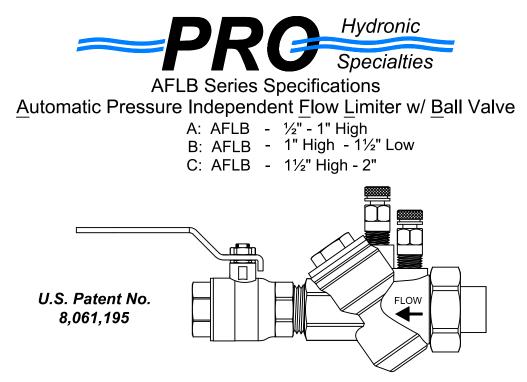


** ProPress fittings supplied for additional fee.

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	TAGG	ING INFORMATION	
JOB NAME		REPRESENTA	TIVE	
ENGINEER		REF/PO#		DATE
CONTRACT		SUBMITTED BY	Y	DATE



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.

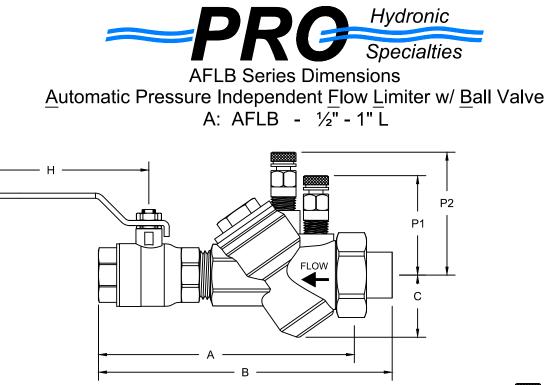
		STA	NDA		/ATE	RIAL	SPE	CIFI	CATI	ONS							ST	AND	ARD	OPE	RATI	NG S	SPEC	IFICA		٧S	
Body O-Ring			For	•	Brass	AST	M B2	83-06	6 or (Cast E	Brass	AST	M B7	63-0	8A	Control Range: 2 psi - 60+ psi											
•	e, Packing Nut				STM I	B124	-09, E	3228-	-06, c	or B76	63-08	8A				Ac	cura	cy:				:	±5%				
Union Nu	-					B455										Ma	ax Wo	orking) Pre	ssure	:		600 V	vog	/ CW	P/P	
Flow Cart Diaphrag	0		AS EPI		582 7	Гуре	303 8	Stainl	ess S	Steel						Ma	ax Or	erati	na Te	mne	rature	<u>.</u>	40°F	to 25	50°F		
Spring PT Port			302	2 Stai		Stee	-	Core								Max Operating Temperature: 40°F to 250°F Start-Up Head Loss: 5 Feet of H ₂ O											
Ball Valve Stem Ball Ball Seat, Handle	e , Packing Glan	nd	EPDM Dual Durometer Core Forged Brass ASTM B283-06 Brass ASTM B124-09 - Blow-Out Proof Chrome Plated Brass Teflon Chrome Plated Steel w/ Vinyl Cover									giv res	/en v	vithou s the	ut ob right	ligati to m	on oi ake c	r wai chang	rranty jes in	/. T desi	assis he C gn, m lity.	ompa	any				
	ve Size							F	LOW	/ RA1	ES (GPM) *	CON	ITRO	L RA	NGE	2 - 6	0+ P	SID *	*						
	ve Size	Α	в	С	D	Е	F	G	Н	Ι	J	κ	L	М	Ν	0	Ρ	Q	R	S	Т	U	V	w	Χ	Y	Z
А	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 - 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 1	1½" H - 2"	15	15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 9							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



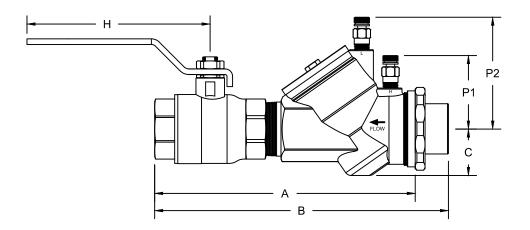
BALL VALVE SIZE AND TYPE	А	TAIL PIECE	В	WEIGHT (lbs)	С	Н	P1	P2	W
1⁄2" SWT	5.7	- M 1⁄2" - F - S	7.3 6.4 6.4	1.8 1.8 1.7	1.3	3.7	2.3	2.8	1.7
½" FPT	5.4	- M 1⁄2" - F - S	7.0 6.0 6.0	1.8 1.8 1.7	1.3	3.7	2.3	2.8	1.7
³⁄₄" SWT	6.6	- M ½" - F - S	8.1 7.3 7.3	2.4 2.4 2.4	1.4	3.8	2.0	2.6	1.8
		- M ¾" - F - S	8.3 7.2 7.2	2.5 2.4 2.4					
3/" FPT	6.1	- M ½" - F - S	7.5 7.2 6.8	2.4 2.5 2.4	1.4	3.8	2.0	2.6	1.8
74 11 1	0.1	- M ¾" - F - S	7.8 7.0 6.8	2.5 2.4 2.4	1.4	5.0	2.0	2.0	1.0
1" SWT	7.3	¹ / ₂ " - M _{3/4} " - M - S	9.5 9.5 8.2	3.5 3.5 3.3	1.2	5.0	2.0	2,5	2.1
1 3001	7.5	- M 1" - F - S	9.5 8.5 8.5	3.6 3.4 3.3	1.2	5.0	2.0	2.0	2.1
1" FPT	6.7	¹ / ₂ " - M ³ / ₄ " - M - S	8.7 8.7 7.5	3.5 3.5 3.3	1.2	5.0	2.0	2.5	2.1
	6./	- M 1" - F - S	8.7 7.6 7.6	3.6 3.4 3.3	1.2	5.0	2.0	2.5	2.1



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.



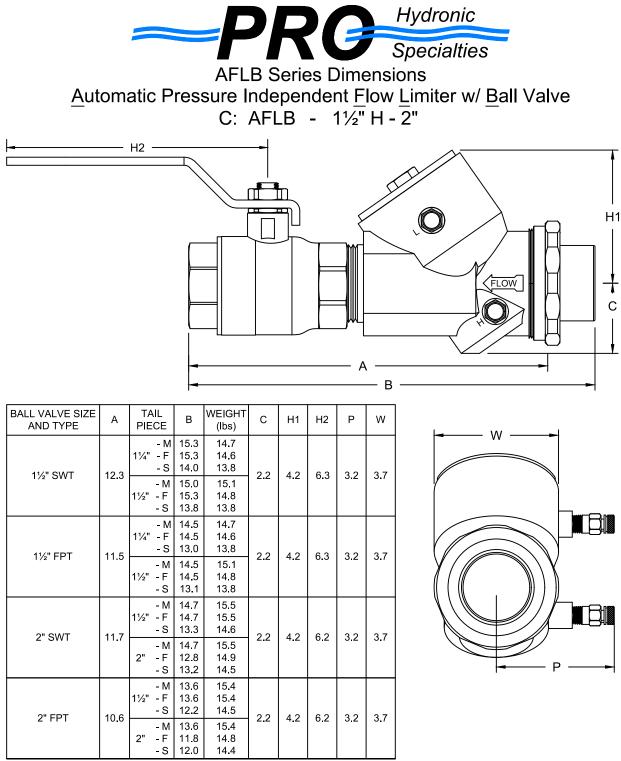
AFLB Series Dimensions <u>A</u>utomatic Pressure Independent <u>F</u>low <u>L</u>imiter w/ <u>B</u>all Valve B: AFLB - 1" H - 1½" L



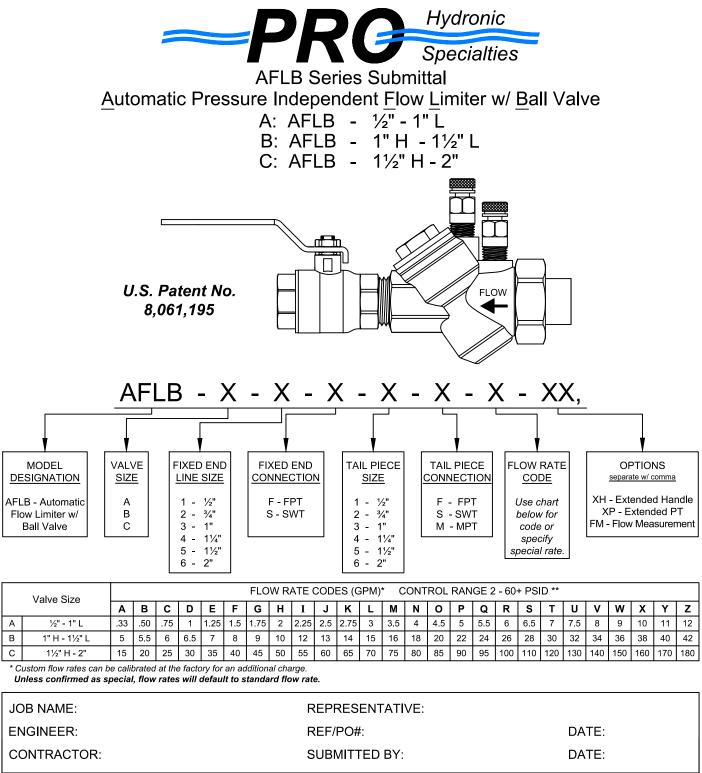
BALL VALVE SIZE AND TYPE	А	TAIL PIECE	В	WEIGHT (lbs)	С	Н	P1	P2	w
1" SWT	8.6	- M 1" - F - S	10.6 9.5 9.5	5.3 5.2 5.1	1.4	5.0	2.3	2.6	3.9
1" FPT	8.0	- M 1" - F - S	10.0 8.8 9.0	5.3 5.2 5.1	1.4	5.0	2.3	2.6	3.9
1¼" SWT	9.1	- M 1" - F - S	11.0 11.1 10.5	6.2 6.3 5.9	1.4	5.0	2,3	2.6	3.9
174 SWI	9.1	- M 1¼" - F - S	11.1 10.1 10.2	6.3 6.0 5.9	1.4	5.0	2.3	2.0	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
1/4 FF1	0.0	- M 1¼" - F - S	10.3 9.0 9.5	6.3 5.8 5.9	1_4	5.0	2.3	2.0	3.9
	0.4	- M 1¼" - F - S	11.9 11.9 10.9	6.5 6.6 5.9			0.5	2.4	2.0
1½" SWT	9.4	- M 1½" - F - S	11.9 10.6 10.6	6.4 6.1 5.9	1.4	6.3	2.5	3.4	3.2
	0.0	- M 1¼" - F - S	11.0 11.0 10.0	6.4 6.5 5.8			0.5	2.4	2.0
1½" FPT	9.0	- M 1½" - F - S	11.0 9.7 9.7	6.3 6.0 5.8	1.4	6.3	2.5	3.4	3.2



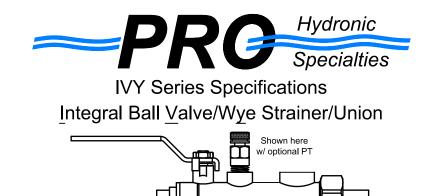
Note: Dimensions listed above do not include ProPress or any other special fittings or adapters. All dimensions, weights, and materials are subject to minor variations. Consult with factory for confirmation of dimensions and material specifications. Sweat size listed is nominal and will differ from the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



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.



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



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.

Shown here w/ optional Drain Valve

	STANDARD MATERIAL SPECIFICATIONS	PORT LOCATIONS
Body O-Ring Tail Piece Union Nut PT Seal Handle Stem Ball Ball Seat Packing Gland Packing Nut	Forged Brass ASTM B283-06, or cast Brass ASTM B763-08A EPDM Brass ASTM B124-09, B228-06, or B763-08a Brass ASTM B455 EPDM Dual Durometer Core Chrome Plated Steel Brass ASTM B124-09 - Blow-Out Proof Crome Plated Brass - Full Port Teflon Teflon Brass ASTM B124-09, B228-06, or B763-08a	Side Port (Optional) S B Standard (Optional)
Maxin	num Working Pressure: 600 WOG / CWP num Operating Temperature: -22° F to 325° F	Drain

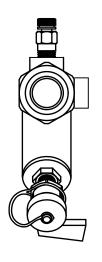
Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in design, materials, and/or specifications without notice or liability.

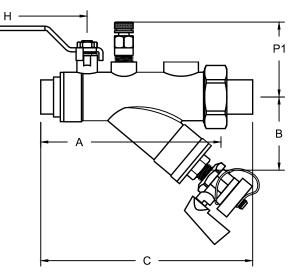
PRODUCT SPECIFICATIONS:

- 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





		-											
Size	Weight	с	Tail Piece	Size	** Cv	* R	P1	н	в	А	Bypass Size	Size	Model
1⁄2" FPT	1.8 1.8	6.0 5.1	- M ½" - F	1⁄2" SWT	8	11:1	2.0	4.1	2.3	4.4	1/2	1/2	IVY1-SWT
	1.8	5.1	- S		9	8:1	2.1	3.8	2.2	5.4	1/2	3⁄4	IVY2-SWT
	2.2	7.0	- M ½" - F		20	11:1	2.3	3.9	2.7	6.1	1/2	1	IVY3-SWT
	2.3 2.2	6.3 6.1	י∕₂ - F - S	3∕4" SWT	23	9:1	2.7	3.8	3.2	7.0	3⁄4"	1 1/4"	IVY4-SWT
	2.3	7.0	- M	74 3001	44	13 : 1	3.0	6.3	3.2	8.6	3⁄4"	1 ½"	IVY5-SWT
	2.2 2.2	6.1 6.2	¾" - F - S		46	9:1	3.1	6.5	3.5	9.2	1"	2	IVY6-SWT
	3.2	8.1	½" −M		7	11:1	2.0	4.1	2.3	4.2	1⁄2	1/2	IVY1-FPT
	3.7 3.4	8.1 7.0	³∕₄" - M - S		8	8:1	2.1	3.8	2.2	4.9	1/2	3⁄4	IVY2-FPT
1" FPT	3.5	8.1	- M	1" SWT	19	11:1	2.3	3.9	2.7	5.4	1/2	1	IVY3-FPT
	3.1 3.0	7.1 7.1	1" - F		21	9:1	2.7	3.8	3.2	6.3	3⁄4"	1 1/4"	IVY4-FPT
+	<u>3.0</u> 5.0	9.0	<u>-S</u> ¾"-M		45	13 : 1	3.0	6.3	3.2	7.5	3⁄4"	1 ½"	IVY5-FPT
1	5.0	9.0	1" - M		47	9:1	3.1	6.5	3.5	8.1	1"	2"	IVY6-FPT
1	10	1 0 0	' C	1									

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.

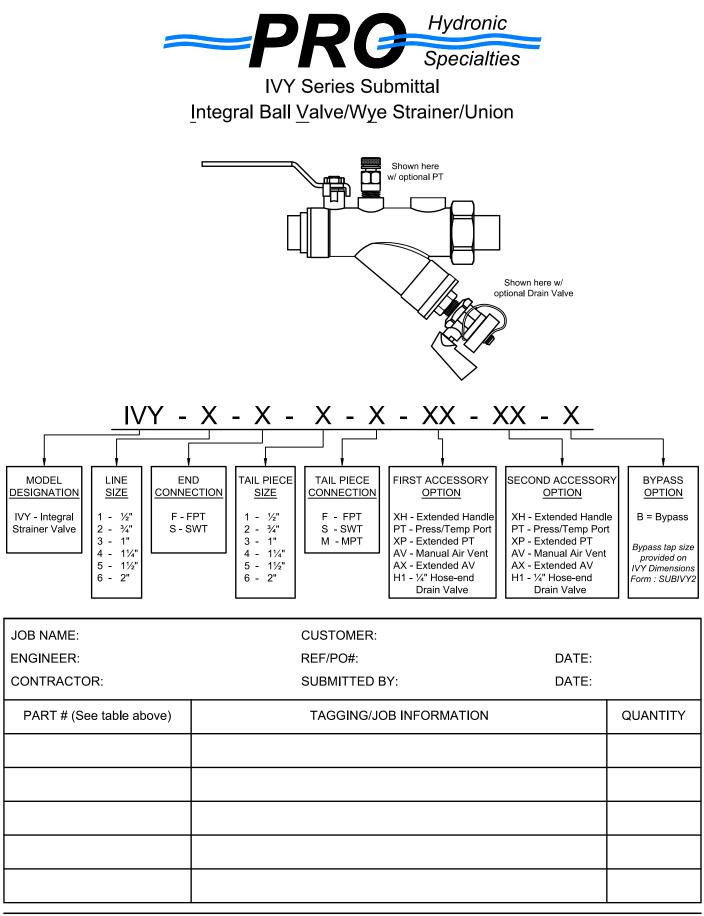
1⁄2" SWT	1⁄2"	- M - F - S	6.0 5.1 5.1	1.8 1.8 1.8	1⁄2" FPT	1⁄2"	- M - F - S	6.5 4.8 4.8	1.8 1.8 1.8
	1⁄2"	- M - F - S	7.0 6.3 6.1	2.2 2.3 2.2		1⁄2"	- M - F - S	6.5 6.0 5.7	2.5 2.5 2.1
¾" SWT	3⁄4"	- M - F - S	7.0 6.1 6.2	2.3 2.2 2.2	¾" FPT	3⁄4"	- M - F - S	6.5 5.7 5.7	2.3 2.2 2.2
	1⁄2"	- M	8.1	3.2		1⁄2"	- M	7.2	3.2
1" SWT	3⁄4"	- M - S	8.1 7.0	3.7 3.4	1" FPT	3⁄4"	- M - S	7.2 6.1	3.2 3.0
1 3001	1"	- M - F	8.1 7.1	3.5 3.1		1"	- M - F	7.2 6.2	3.3 3.1
	3⁄4"	- S	7 <u>.</u> 1 9.0	3.0 5.0		3⁄4"	- S	6.2 8.2	3.1 5.0
4 ¹ /1 0 M/T	74 1"	- M - M - S	9.0 9.0 8.2	5.0 5.0 4.6	4 1/1 507	74 1"	- M - M - S	8.2 7.7	5.0 5.1 4.7
1 ¼" SWT	1 1⁄4"	- M - F - S	9.0 8.0 8.1	5.1 4.8 4.7	1 ¼" FPT	1 1⁄4"	- M - F - S	8.2 7.3 7.5	5.1 4.8 4.7
	1"	- M	11.0	7.6		1"	- M	10.1	7.4
4 1/1 OM/T	1 1⁄4"	- M - S	11.0 10.0	7.7 7.1		1 1⁄4"	- M - S	10.0 9.0	7.6 7.0
1 ½" SWT	1 ½"	- M - F - S	11.0 9.8 9.7	7.6 7.3 7.1	1 ½" FPT	1½"	- M - F - S	10.1 9.0 8.8	7.4 7.2 7.0
	1 1⁄4"	- M	12.2	10.0		11/4"	- M	11.1	9.7
2" SWT	1 ½"	- M - S	12.2 11.0	8.6 9.0	2" FPT	1 ½"	- M - S	11.1 9.7	9.7 8.8
	2"	- M - F - S	12.2 10.5 10.7	10.0 9.4 9.0		2"	- M - F - S	11.1 9.2 9.5	9.8 9.1 8.8

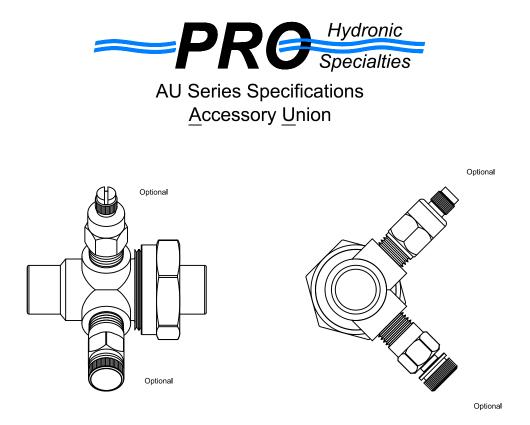
Tail Piece

С

Weight

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





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.

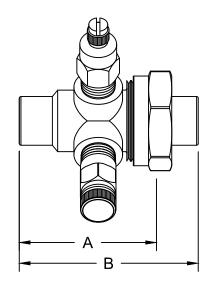
STANE	STANDARD MATERIAL SPECIFICATIONS							
Accessory Union O-Ring Tail Piece	Forged Brass ASTM B283-06 EPDM Brass ASTM B124-09, B228-06, or B763-08A							
Specification information is provided to assist and is given without obligation or warranty. The Company reserves the right to make changes in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

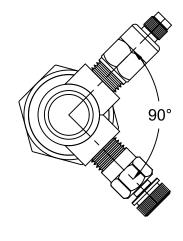
PRODUCT SPECIFICATIONS:

- 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



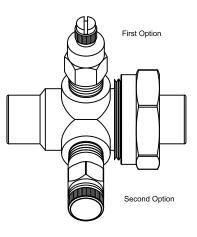


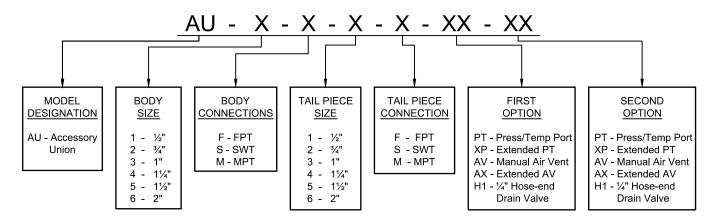
MODEL	SIZE	А			LENGT	"H "B" / W	/EIGHT O	F <i>PR</i> O-A	U AND TA	AIL PIECE	E CONNE	CTION		
AU1M AU1S AU1F	1⁄2"	2.7 2.1 2.0	½" M 4.2 3.7 3.6	lbs 0.6 0.5 0.6	1⁄2" S 3.3 2.8 2.7	lbs 0.6 0.4 0.5	¹ / ₂ " F 3.3 2.8 2.7	lbs 0.6 0.5 0.5						
AU2M AU2S AU2F	3⁄4"	2.5 2.1 2.1	½" M 4.0 3.7 3.6	lbs 0.7 0.6 0.7	1½" S 3.2 2.9 2.8	lbs 0.6 0.5 0.6	1⁄2" F 3.6 3.3 3.2	lbs 0.8 0.6 0.8	3⁄4" M 4.2 3.8 3.8	lbs 0.7 0.6 0.7	3⁄4" S 3.2 2.9 2.8	lbs 0.6 0.5 0.6	³ ⁄4" F 3.3 2.9 2.9	lbs 0.7 0.6 0.7
AU3M AU3S AU3F	1"	2.6 2.4 2.1	¹ ⁄2" M 4.6 4.5 4.1	lbs 1.1 1.0 1.0	3⁄4" M 4.6 4.5 4.1	lbs 1.1 1.0 1.1	³ ⁄₄" S 3.4 3.3 3.0	lbs 0.9 0.7 0.8	1" M 4.6 4.5 4.1	lbs 1.2 1.0 1.1	1" S 3.6 3.5 3.3	lbs 0.9 0.8 0.9	1" F 3.5 3.4 3.1	lbs 1.0 0.8 0.9
AU4M AU4S AU4F	1¼"	3.0 3.0 2.3	½" M 4.7 4.7 4.1	lbs 1.7 1.5 1.6	³ ⁄4" M 5.0 4.9 4.3	lbs 1.8 1.7 1.8	1" M 5.0 4.9 4.3	lbs 1.9 1.7 1.8	11¼" M 5.0 5.0 4.4	lbs 1.9 1.8 1.9	1¼" S 4.1 4.1 3.4	lbs 1.5 1.4 1.5	1¼" F 4.0 4.0 3.3	lbs 1.6 1.5 1.6
AU5M AU5S AU5F	1½"	3.0 3.0 2.7	³ ⁄₄" M 4.9 4.9 4.6	lbs 2.3 2.2 2.3	1" M 5.5 5.5 5.1	lbs 2.6 2.6 2.7	1¼" M 5.5 5.5 5.1	lbs 2.7 2.6 2.7	1½" M 5.5 5.5 5.1	lbs 2.5 2.5 2.6	1½" S 4.2 4.2 3.9	lbs 2.1 2.0 2.2	1½" F 4.3 4.2 3.9	lbs 2.3 2.2 2.3
AU6M		3.4	1" M 6.2	lbs 4,3	1¼" M 6,2	lbs 4.0	1½" M 6,2	lbs 4.0	2" M 6.2	lbs 4.1	2" S 4.8	lbs 3.1	2" F 4.6	lbs 3,4

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

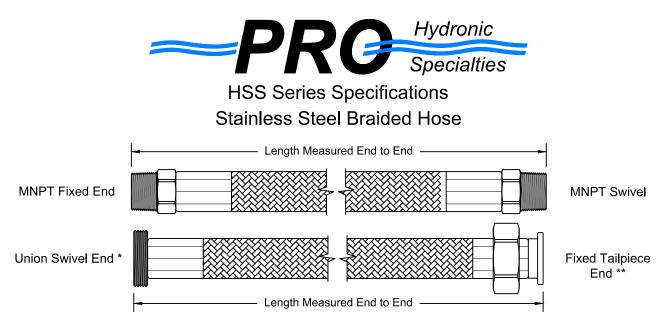


AU Series Submittal <u>A</u>ccessory <u>U</u>nion





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



PRODUCT DESCRIPTION: The Model HSS is a stainless steel braided hose that is abrasion resistant. The HSS has a CPE inner tube with brass end connections and stainless steel ferrules for the $\frac{1}{2}$ " - 1" hose sizes, and an EPDM inner tube with stainless steel ferrules and plated steel end connections for the $\frac{1}{4}$ " - 2" hose sizes. The flexible hose eases installation and is designed to withstand high pressures and varying temperatures. The standard end connections are MNPT Fixed x MNPT Swivel for $\frac{1}{2}$ " to 2", and FNPT Swivel for $\frac{1}{2}$ " to 2". Other available end connection options are FNPT Swivel, Union Swivel *, and Fixed Tailpiece** and accessory union connections; available for the $\frac{1}{2}$ " to 2" hose sizes. The Model HSS is BUY AMERICAN COMPLIANT.

* The Swivel Union comes standard with an EPDM O-ring, tailpiece, and union nut which must be specified at the time of order. The swivel union easily converts line connection types and offers line size reductions. The tailpieces are available in FNPT, MNPT, and Sweat ends.

** The Fixed Tailpiece hose end connection is designed to connect directly to union ended coil kit components (AFLB, AFLD, AU, CBV, IBU, or IVY). The tailpiece end eliminates multiple connections.

	PRODUCT SPECIFICATIONS
Tube	CPE (Chlorinated Polyethylene) for 1/2" - 1" sizes - SAE J1019
	EPDM (Ethylene Propylene Diene Monomer) for 11/4" - 2" sizes - SAE 20R1-D1
Reinforcement	304L Stainless Steel braid cover meets UL-94 requirements
Ferrules	Type 304L stainless Steel
End Fittings	1/2" - 1" I.D Brass
-	11/4" - 2" I.D Steel Plated
End Connections	Fixed MNPT, FNPT, Swivel MNPT, Swivel FNPT (1/2"-2"), Swivel Union (1/2" - 2"), Fixed Tailpiece (1/2"-2")
Temperature	-40°F to 257°F (-40°C to 125°C) NOTE HOSE IS NOT INTENDED FOR STEAM APPLICATIONS.
Ratings	
	Fire Retardant Material (CPE)
Ratings	Meets UL-94 Requirements Fire Retardant Material (CPE)

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.

Size	Length	Working PSI	Bend Radius	** Cv
1⁄2"	12, 18, 24, 30, 36	500	5"	7
3⁄4"	12, 18, 24, 30, 36	500	7"	20
1"	12, 18, 24, 30, 36	500	10"	43
1¼"	12, 18, 24, 30, 36	200	12"	76
11⁄2"	12, 18, 24, 30, 36	200	15"	130
2"	12, 18, 24, 30, 36	200	20"	280

Length is measured End to End on all hose connection types.

** Cv listed in chart above is for a 24" length hose. The Cv is estimated and can vary according to installation.

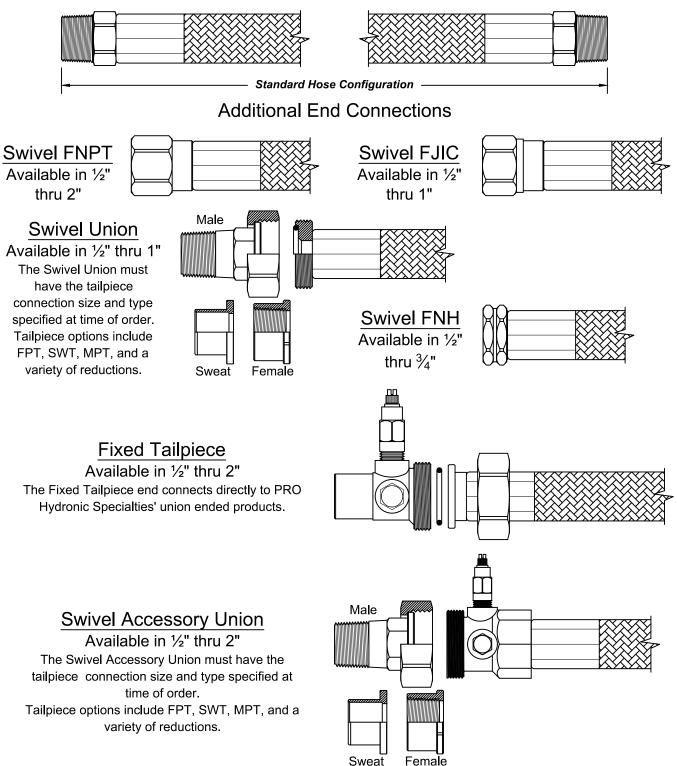


HSS Series Options

Stainless Steel Braided Hose

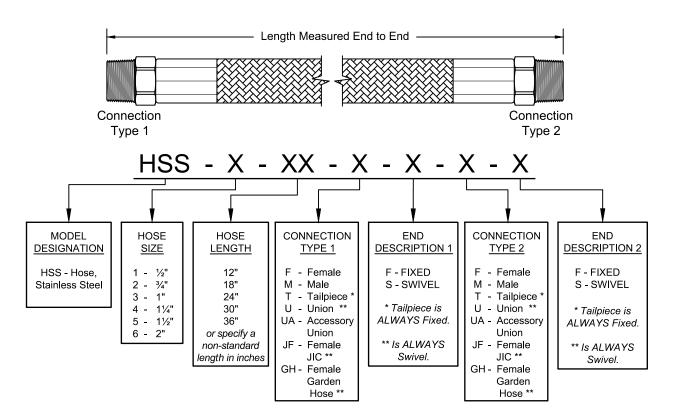


Swivel MNPT





Stainless Steel Braided Hose



When ordering, at least one hose end connection must be a swivel.

JOB NAME: ENGINEER:	REPRESENTATIVE: REF/PO#:	DATE:
CONTRACTOR:	SUBMITTED BY:	DATE:
PART # (See table above)		QUANTITY
PRO Hydronic Specialties, L.L.C.	Form Number: SUBHSS-PRO 3	

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