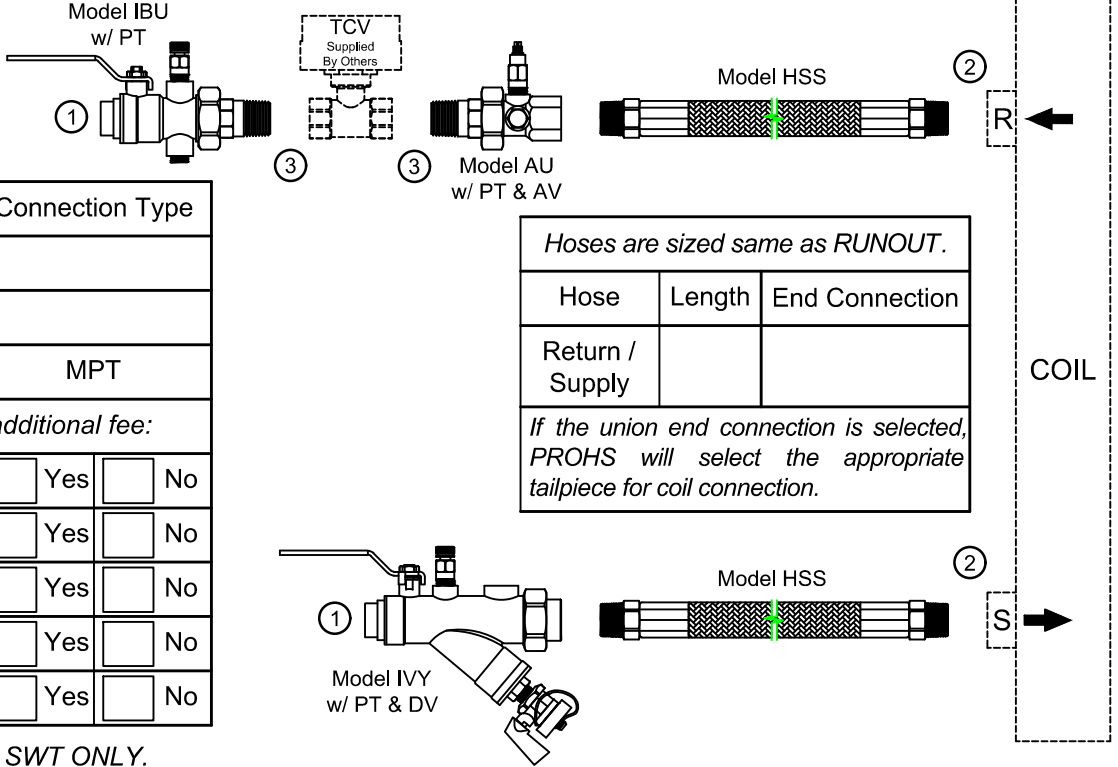


# PRO Hydronic Specialties

## Manual Balancing Kit - B2IH Submittal



	#	Size	Connection Type
Runout	1		
Coil	2		
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	
Factory Mounted Hoses	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Bag N Tag	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

*Hoses are sized same as RUNOUT.*

Hose	Length	End Connection
Return / Supply		

*If the union end connection is selected, PROHS will select the appropriate tailpiece for coil connection.*

\* 3/8" Coil Size available in SWT ONLY.  
 \*\* ProPress fittings supplied for additional fee.

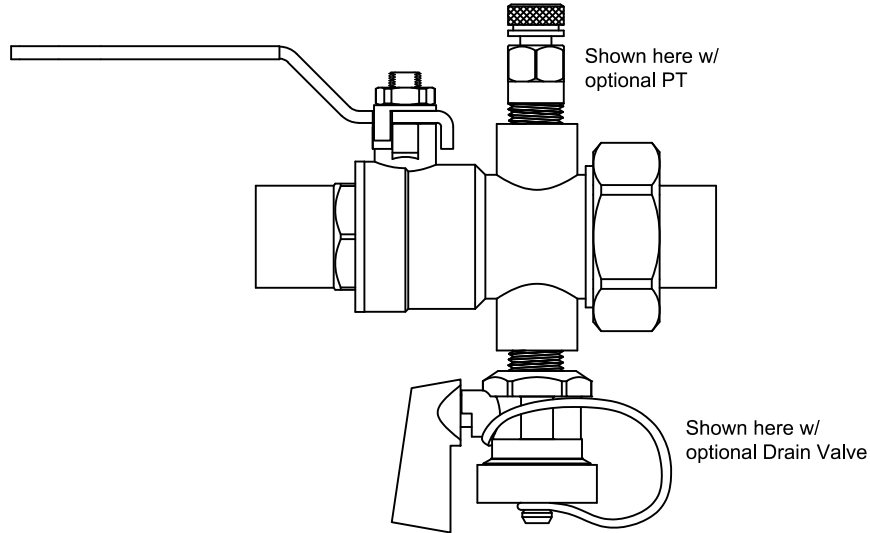
**PRODUCT DESCRIPTION:** The Manual Balancing Valve Kit is a packaged and partially preassembled grouping of components required to complete installation of a terminal unit. Temperature control valves, piping, and coils are supplied "by others". Mounting and testing of the customer supplied TCV is available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

QUANTITY	GPM	TAGGING INFORMATION

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



## 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.

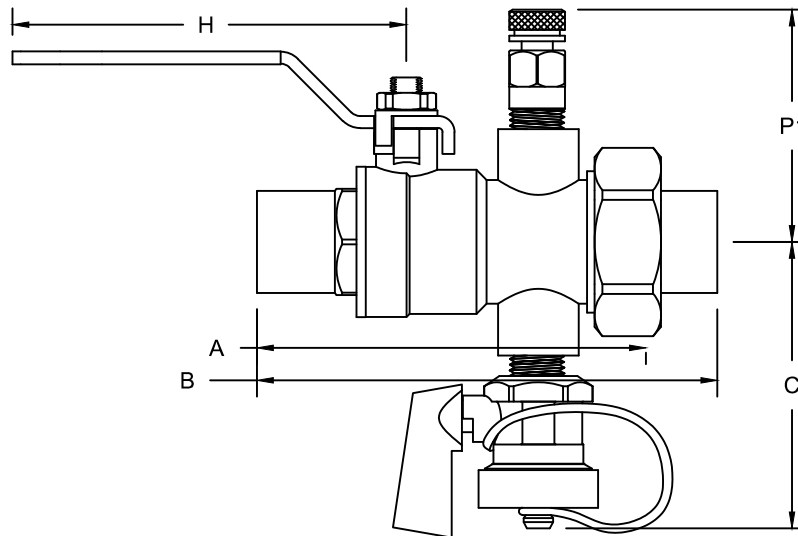
STANDARD MATERIAL SPECIFICATIONS	
Body	Forged Brass ASTM B283-06 or ASTM B763-08A
O-Ring	EPDM
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08A
Union Nut	Brass ASTM B455
Handle	Chrome Plated Steel
Stem	Brass ASTM B124-09 - Blow-Out Proof
Ball	Chrome Plated Brass - Full Port
Ball Seat	Teflon
STANDARD OPERATING SPECIFICATIONS	
Maximum Working Pressure:	600 WOG / CWP
Maximum Operating Temperature:	250° F
<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:**

- 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					
			- F	4.2	1.2									
			- S	4.2	1.1									
	½" - FPT	3.2	- M	4.7	1.2									
			- F	3.8	1.2									
			- S	3.8	1.1									
IBU2	¾" - SWT	3.8	- M	5.3	1.5	2.7	3.8	2.2	35					
			- F	4.9	1.6									
			- S	4.5	1.4									
			¾" - FPT	3.3	- M					5.5	1.5			
				- F	4.6					1.5				
				- S	4.6					1.4				
				½" - M	4.8					1.5				
				½" - F	4.4					1.6				
			- 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									
			1" - F	5.3	2.0									
				- M	5.7					2.1				
				¾" - M	5.7					2.1				
				- S	4.5					1.9				
				1" - F	4.6					2.0				
			- S	4.7	1.9									

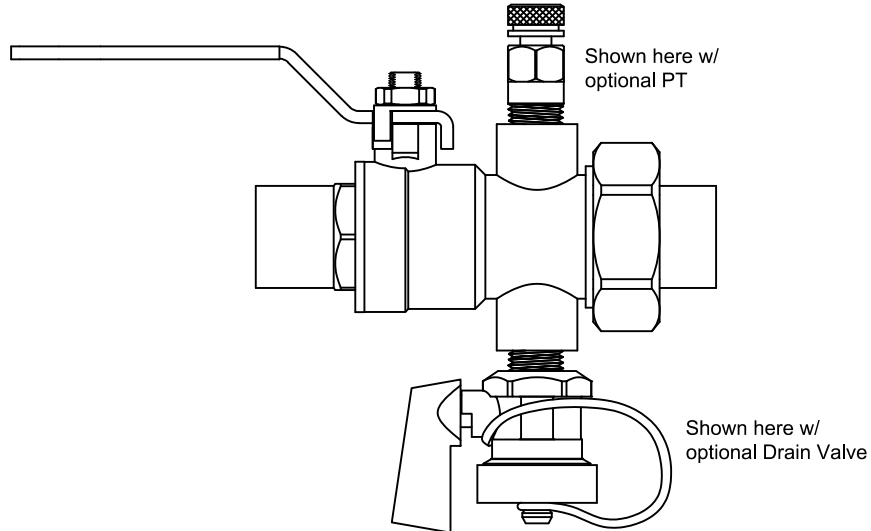
MODEL	SIZE	A	TAIL PIECE	B	Lbs	C	H	P1	* Cv					
IBU4	1¼" - SWT	5.2	½" - M	7.0	3.6	3.2	4.6	2.5	102					
			¾" - M	7.0	3.8									
			1" - M	7.0	3.8									
			- M	7.0	3.9									
				1¼" - F	6.0					3.6				
				- S	6.2					3.4				
				1¼" - FPT	4.5					½" - M	6.2	3.2		
				¾" - M	6.5					3.3				
			1" - M	6.5	3.4									
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									
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.

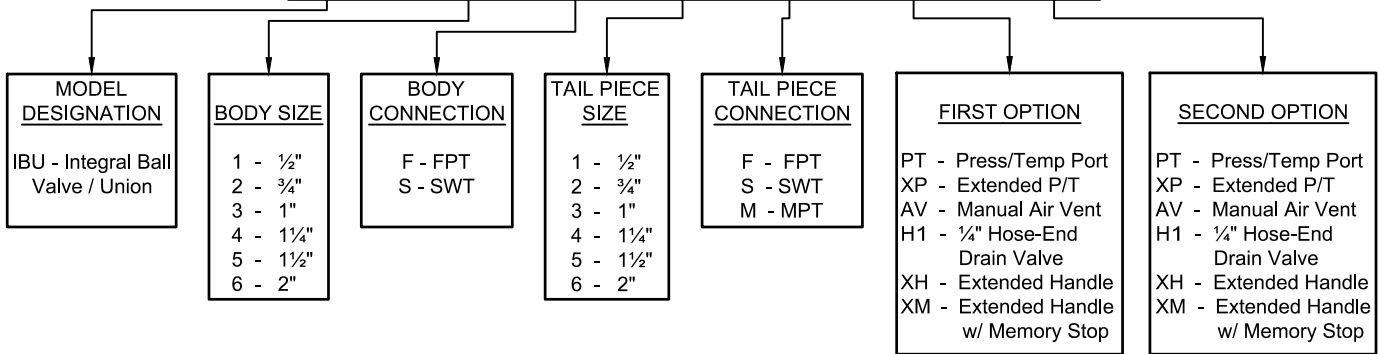
\* Cv = Estimated with union connection same as inlet, no reductions.



**IBU Series Submittal**  
**Integral Ball Valve/Union**



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

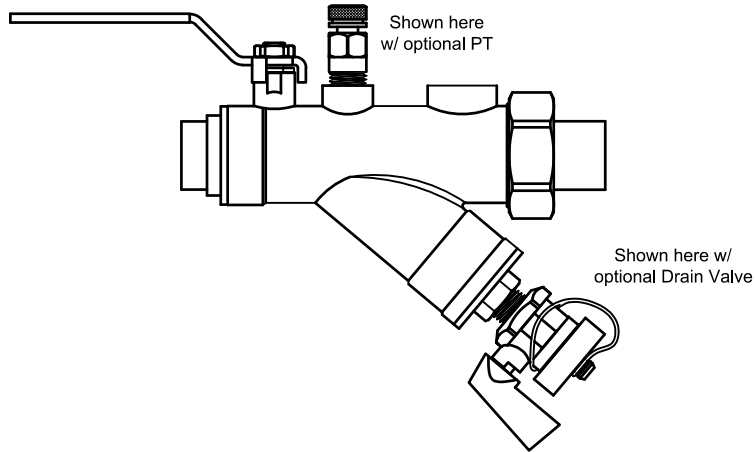


JOB NAME:	CUSTOMER:	
ENGINEER:	REF/PO#:	DATE:
CONTRACTOR:	SUBMITTED BY:	DATE:
PART # (See table above)	TAGGING/JOB INFORMATION	QUANTITY



## 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 1/4" taps for accessories to be installed. A 1/4" 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 1/4" port. The strainer has a 20-mesh stainless steel screen to aid in debris removal. The strainer cap has a 1/4" 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.

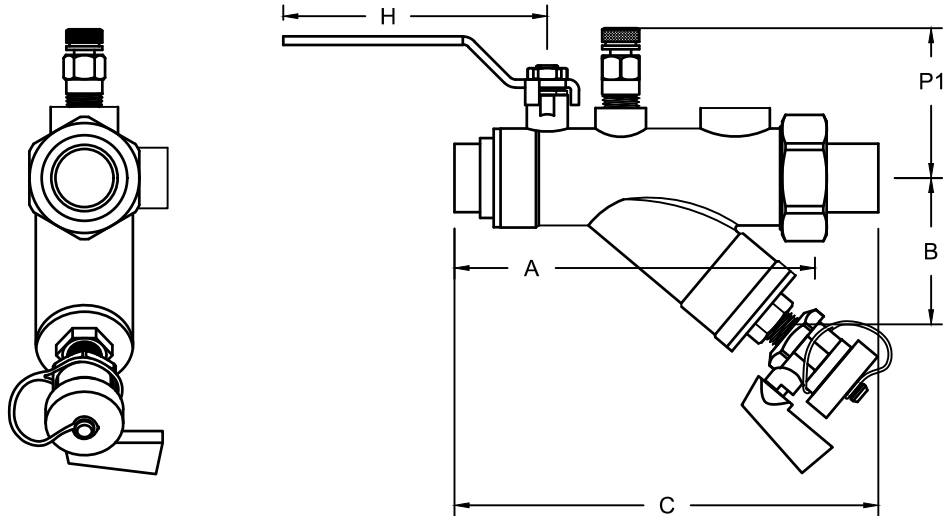
STANDARD MATERIAL SPECIFICATIONS		PORT LOCATIONS
Body	Forged Brass ASTM B283-06, or cast Brass ASTM B763-08A	<p>Side Port (Optional)</p> <p>Standard</p> <p>By-pass (Optional)</p> <p>Drain</p>
O-Ring	EPDM	
Tail Piece	Brass ASTM B124-09, B228-06, or B763-08a	
Union Nut	Brass ASTM B455	
PT Seal	EPDM Dual 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(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

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		- F	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		- F	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		- F	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		- F	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.

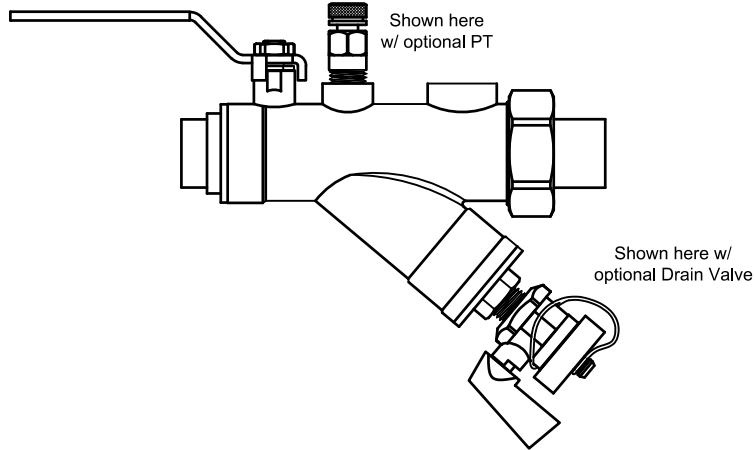
\* R = Ratio of screen surface area to cross-sectional pipe diameter

\*\* 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**



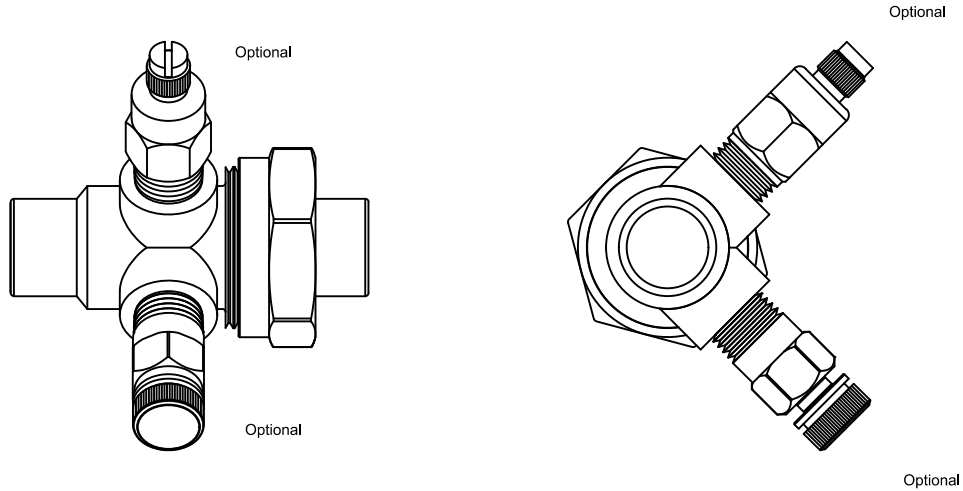
**IVY - X - X - X - X - XX - XX - X**

<b>MODEL DESIGNATION</b> IVY - Integral Strainer Valve	<b>LINE SIZE</b> 1 - 1/2" 2 - 3/4" 3 - 1" 4 - 1 1/4" 5 - 1 1/2" 6 - 2"	<b>END CONNECTION</b> F - FPT S - SWT	<b>TAIL PIECE SIZE</b> 1 - 1/2" 2 - 3/4" 3 - 1" 4 - 1 1/4" 5 - 1 1/2" 6 - 2"	<b>TAIL PIECE CONNECTION</b> F - FPT S - SWT M - MPT	<b>FIRST ACCESSORY OPTION</b> 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>SECOND ACCESSORY OPTION</b> 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 OPTION</b> B = Bypass  <i>Bypass tap size provided on IVY Dimensions Form : SUBIVY2</i>
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JOB NAME:		CUSTOMER:	
ENGINEER:		REF/PO#:	DATE:
CONTRACTOR:		SUBMITTED BY:	DATE:
<b>PART # (See table above)</b>	<b>TAGGING/JOB INFORMATION</b>		<b>QUANTITY</b>



## 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>	

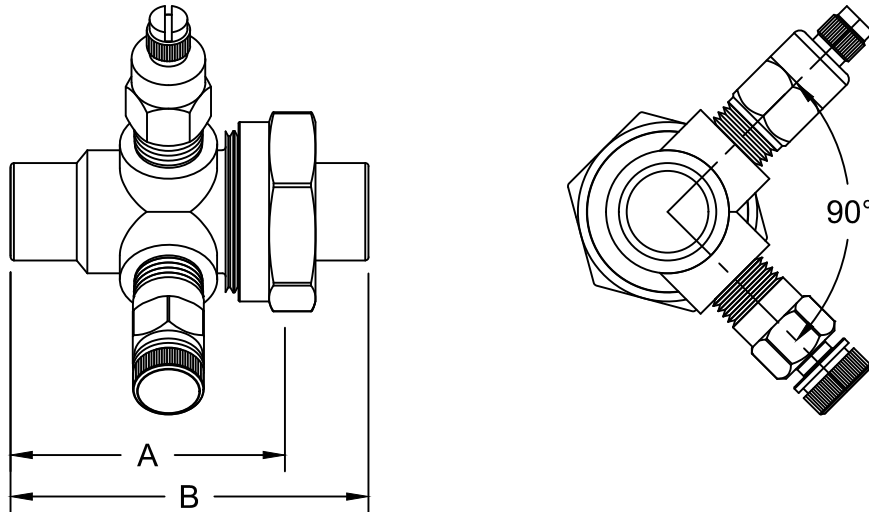
### PRODUCT SPECIFICATIONS:

- 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

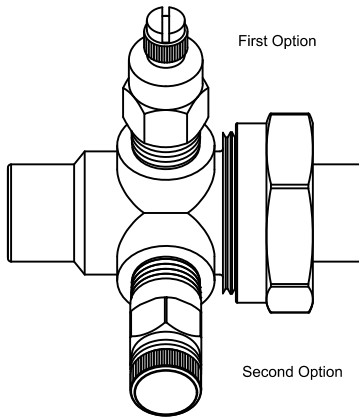


MODEL	SIZE	A	LENGTH "B" / WEIGHT OF PRO-AU AND TAIL PIECE CONNECTION											
			$\frac{1}{2}$ " M	lbs	$\frac{1}{2}$ " S	lbs	$\frac{1}{2}$ " F	lbs						
AU1M	$\frac{1}{2}$ "	2.7	4.2	0.6	3.3	0.6	3.3	0.6						
AU1S		2.1	3.7	0.5	2.8	0.4	2.8	0.5						
AU1F		2.0	3.6	0.6	2.7	0.5	2.7	0.5						
AU2M	$\frac{3}{4}$ "	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	4.5	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
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	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

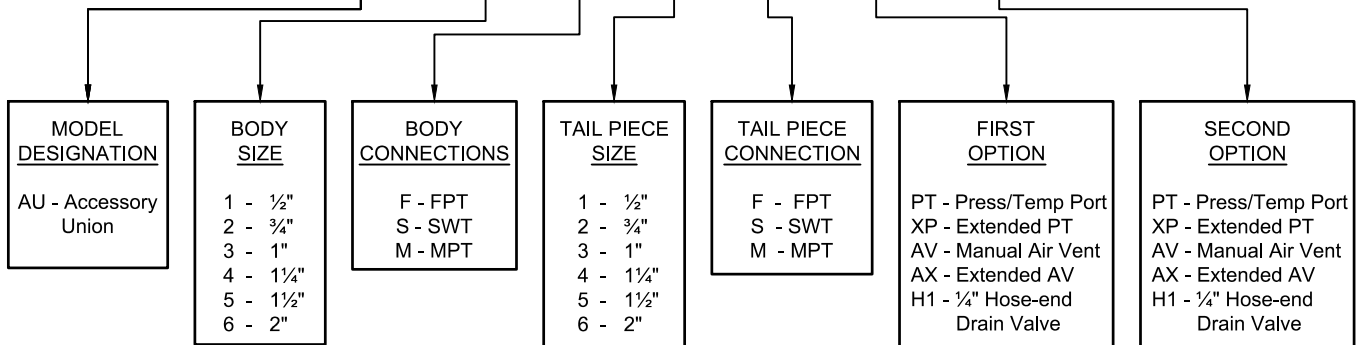
*Note: Dimensions listed above do not include ProPress or any other special fittings or adapters. All dimensions, weights, and materials are subject to minor variations. Consult with factory for confirmation of dimensions, weights, and material specifications. Sweat size listed is nominal and will differ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



AU Series Submittal  
Accessory Union



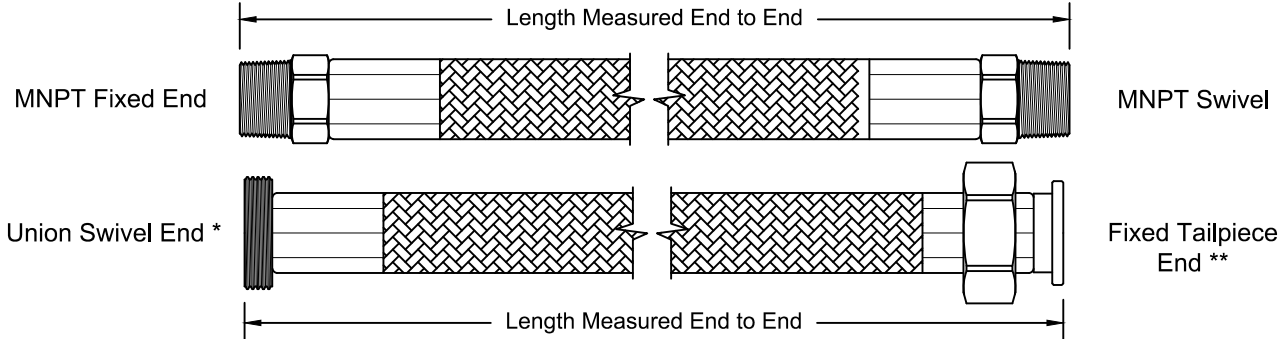
**AU - X - X - X - X - XX - XX**



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



## HSS Series Specifications Stainless Steel Braided Hose



**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 ½" - 1" hose sizes, and an EPDM inner tube with stainless steel ferrules and plated steel end connections for the 1¼" - 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 ½" to 2", and FNPT Swivel for ½" to 2". Other available end connection options are FNPT Swivel, Union Swivel \*, and Fixed Tailpiece\*\* and accessory union connections; available for the ½" 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 ½" - 1" sizes - SAE J1019 EPDM (Ethylene Propylene Diene Monomer) for 1¼" - 2" sizes - SAE 20R1-D1
Reinforcement	304L Stainless Steel braid cover meets UL-94 requirements
Ferrules	Type 304L stainless Steel
End Fittings	½" - 1" I.D. - Brass 1¼" - 2" I.D. - Steel Plated
End Connections	Fixed MNPT, FNPT, Swivel MNPT, Swivel FNPT (½"-2"), Swivel Union (½" - 2"), Fixed Tailpiece (½"-2")
Temperature Ratings	-40°F to 257°F (-40°C to 125°C) NOTE HOSE IS NOT INTENDED FOR STEAM APPLICATIONS.
	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
½"	12, 18, 24, 30, 36	500	5"	7
¾"	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
1½"	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.

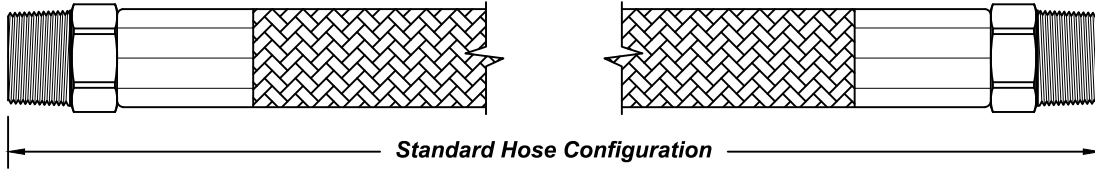
\*\* Cv listed in chart above is for a 24" length hose. The Cv is estimated and can vary according to installation.

# PRO *Hydronic Specialties*

## HSS Series Options Stainless Steel Braided Hose

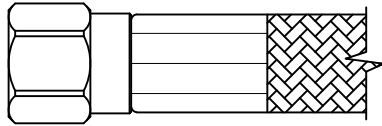
*Fixed MNPT*

*Swivel MNPT*

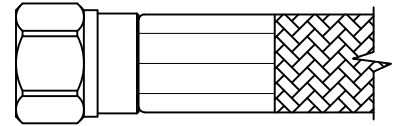


### Additional End Connections

Swivel FNPT  
Available in 1/2" thru 2"

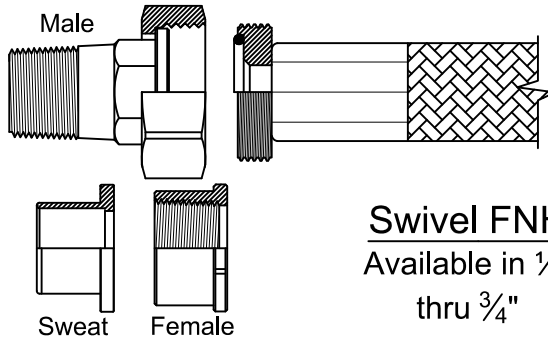


Swivel FJIC  
Available in 1/2" thru 1"

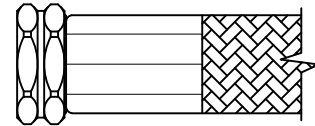


Swivel Union  
Available in 1/2" thru 1"

The Swivel Union must have the tailpiece connection size and type specified at time of order. Tailpiece options include FPT, SWT, MPT, and a variety of reductions.

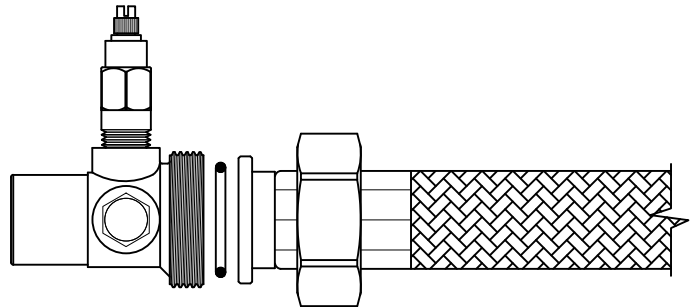


Swivel FNH  
Available in 1/2" thru 3/4"



Fixed Tailpiece  
Available in 1/2" thru 2"

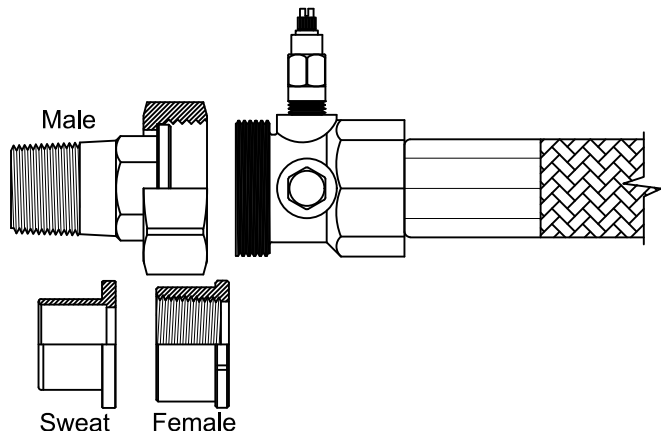
The Fixed Tailpiece end connects directly to PRO Hydronic Specialties' union ended products.



Swivel Accessory Union  
Available in 1/2" thru 2"

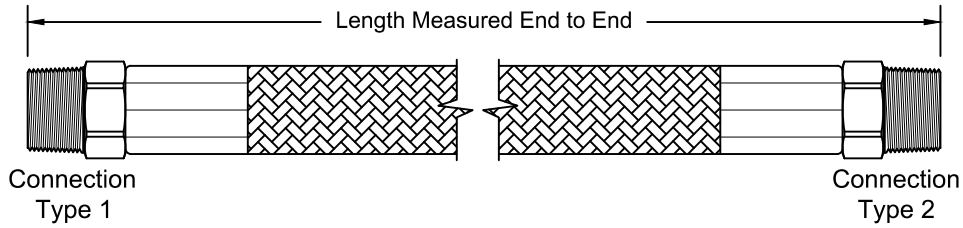
The Swivel Accessory Union must have the tailpiece connection size and type specified at time of order.

Tailpiece options include FPT, SWT, MPT, and a variety of reductions.

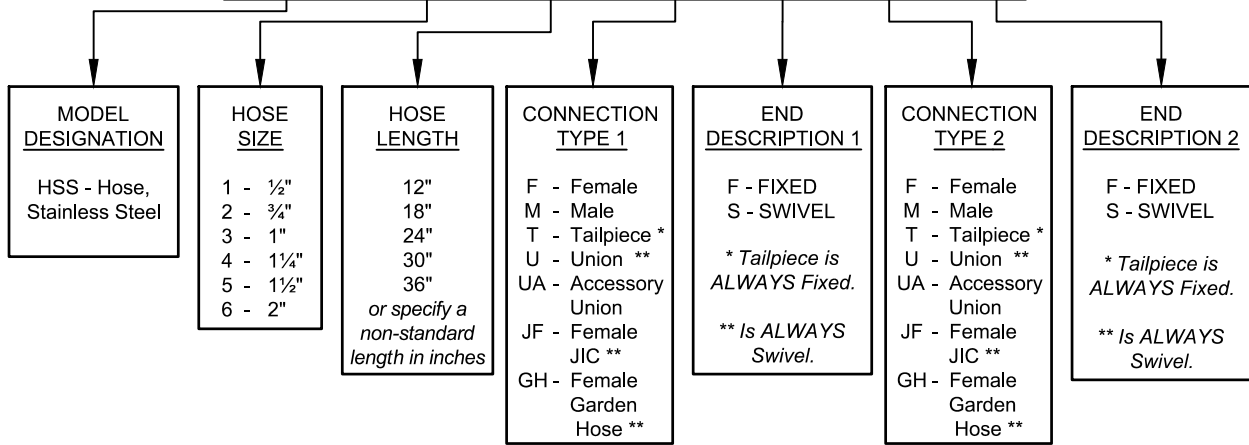




HSS Series Submittal  
Stainless Steel Braided Hose



HSS - X - XX - X - X - X - X



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

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