

Quality People. Building Solutions.

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Date: 2/12/2024

Return Request: 2/22/2024

Project: Arkansas Children's Hospital – 4D Renovations

Supplier: Fluid Solutions

Manufacturer: Griswold

Submittal: Hydronic Piping (Valve Packages)

Submittal Number: 23 21 13-02

Drawing # and Installation: Mechanical Insulation

ARCHITECT

Cromwell
1300 E. 6th Street
Little Rock, AR 72202
501-372-2900

ENGINEER

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GENERAL CONTRACTOR

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Notes:

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SUBMITTAL DATA

DATE: February 8, 2024

PROJECT: ACH 4D

CONTRACTOR: Comfort Systems USA

ENGINEER: Cromwell

GRISWOLD VALVE PACKAGES

*Pipe, 2-Way/3-Way ATC Valve (by others), and coil sizes will be coordinated in the field. We will coordinate actual sizes with approved equipment submittals before ordering.

*TBD - Incoming line sizes will also be coordinated with field conditions.

TAG	MODEL	Pipe Size	Coil Size	GPM	ATC Size
Air Terminals	CPP2IRIS	3/4"	TBD	As Scheduled	TBD

10350 Riverview Corporate Drive · Maumelle, AR 72113

Phone (501) 663-8886 · Fax (501) 663-8738

www.fluidsolutionsinc.com

Isolator R: Automatic Flow Limiting Valve

Isolator U: Union with CPTA (Optional CPTA and Coin-Op Airvent or CPTA and Drain Valve)

Control Valve (CV): Supplied By Others

Isolator S: Combination Y-Strainer and Ball Valve with CPTA & Drain Valve (Optional 2nd CPTA)

2-WAY ATC F x F

LINE TYPE:		COIL TYPE:	
<input type="checkbox"/> FNPT	<input type="checkbox"/> SWT	<input type="checkbox"/> FNPT	<input type="checkbox"/> SWT <input type="checkbox"/> MNPT
<input type="checkbox"/> QuickPress ¹		<input type="checkbox"/> QuickPress ¹	
LINE SIZE:	COIL SIZE:	CV SIZE:	
<input type="checkbox"/> 1/2"	<input type="checkbox"/> 1/2"	<input type="checkbox"/> 1/2"	
<input type="checkbox"/> 3/4"	<input type="checkbox"/> 3/4"	<input type="checkbox"/> 3/4"	
<input type="checkbox"/> 1"	<input type="checkbox"/> 1"	<input type="checkbox"/> 1"	
<input type="checkbox"/> 1-1/4"	<input type="checkbox"/> 1-1/4"	<input type="checkbox"/> 1-1/4"	
<input type="checkbox"/> 1-1/2"	<input type="checkbox"/> 1-1/2"	<input type="checkbox"/> 1-1/2"	
<input type="checkbox"/> 2"	<input type="checkbox"/> 2"	<input type="checkbox"/> 2"	
BALL & STEM:			
<input type="checkbox"/> Nickel-plated brass ball & brass stem			
<input type="checkbox"/> Stainless Steel ball & stem			
COMPONENT OPTIONS:			
<input type="checkbox"/> 1-1/2" Ext Kit		<input type="checkbox"/> 2" Ext Kit	
<input type="checkbox"/> Strainer 20 Mesh		<input type="checkbox"/> Strainer 50 Mesh	
<input type="checkbox"/> Isolator S 2 nd CPTA		<input type="checkbox"/> Union Coin-Op	
HOSE OPTIONS (FNPT COIL):			
Swivel Type: <input type="checkbox"/> MNPT <input type="checkbox"/> SWT			
Length: <input type="checkbox"/> 12" <input type="checkbox"/> 18" <input type="checkbox"/> 24" <input type="checkbox"/> 36"			
CONTROL VALVE (CV):			
<input type="checkbox"/> Customer Supplied and Installed CV			
<input type="checkbox"/> Customer Supplied CV - Installed By Griswold Controls			

SPECIFICATIONS

Isolator R: Forged brass (ASTM B283) automatic flow control valve assembly includes integrated isolation ball valve and stainless steel flow control cartridge. Cartridge can be removed for inspection, or can be replaced without disturbing piping connections. Valve housing includes field repairable dual Teflon and EPDM o-ring seal stem, with Nickel plated ball. Valve includes one fixed end connection and one union connection. Union end includes union nut and EPDM o-ring. Valve body has two ports with (1) Pressure/Temperature Test Valves, and (1) combination Pressure/Temperature Test Valves and manual air vent (CPTA). PSI/Temp Rating: 1/2"-1-1/2": 600WOG-400PSI/250°F. 1-1/2"L-3": 400WOG-275PSI/250°F

Isolator S: Ball valve and integrated strainer. Valve housing is forged brass with field repairable dual Teflon and EPDM o-ring seal stem. Strainer is 20 mesh Stainless Steel and can be removed from housing without disturbing pipe connections for inspection or replacement. Valve includes one fixed connection and one union connection. Union end includes union nut and EPDM o-ring. Body has one port with combination Pressure/Temperature Test Valves (CPTA). Assembly includes drain valve with 3/4" hose connection with cap. PSI/Temp Rating: 1/2"-1-1/2": 600WOG-400PSI/250°F. 1-1/2"L-3": 400WOG-275PSI/250°F

Union: Forged brass (ASTM B283) union. Union includes one fixed end (FNPT or SWT) connection and one union (MNPT) connection. Union end includes union nut and EPDM o-ring. Union body has one port with combination Pressure/Temperature Test Valves and manual air vent (CPTA). PSI/Temp Rating: 400PSI/250°F

Drain Valve: Brass housing, Nickel plated ball. 1/2"-1": 1/2"UNF x 3/4" NPSH. 1-1/4"-2": 3/4"UNF x 3/4" NPSH. Rated 300PSI/250°F

Combination Pressure/Test Valve & Manual Air Vent (CPTA): Brass Housing, EPDM Seal. Rated 1000PSI/350°F Pressure/Temperature Test Valve works in conjunction with valve body feature to function as Manual Air Vent. Requires both components to operate as manual air vent.

NOTES

¹ QuickPress connections are compatible with popular press tools and are rated for maximum 200 PSI.

MODEL NUMBER SELECTION (R.)

Size	Model Number- FNPT Line	Model Number- SWT Line	Model Number- PRESS Line	Select Coil Size & Type ² for Model Number	Select CV Size for Model Number
1/2"	CP2R0_E_B0	CP2R0_L_B0	CP2R0_2_B0	FNPT:(E=1/2,F=3/4) MNPT:(H=1/2, I=3/4) SWT: (K=3/8",L=1/2,M=3/4) PRESS:(2=1/2,3=3/4)	MNPT:(H=1/2)
3/4"	CP2R0_F_B0	CP2R0_M_B0	CP2R0_3_B0		MNPT:(1/2=H,I=3/4)
1/2"L	CP2R1_E_B0	CP2R1_L_B0	CP2R1_2_B0	FNPT:(E=1/2,F=3/4,G=1) MNPT:(H=1/2,I=3/4,J=1) SWT:(L=1/2,M=3/4,N=1) PRESS:(2=1/2,3=3/4,1=1)	MNPT:(H=1/2)
3/4"L	CP2R1_F_B0	CP2R1_M_B0	CP2R1_3_B0		MNPT:(1/2=H,I=3/4)
1"	CP2R1_G_B0	CP2R1_N_B0	CP2R1_1_B0		MNPT:(1/2=H,I=3/4,J=1)
1"L	CP2R2_G_B0	CP2R2_N_B0	CP2R2_1_B0		MNPT:(1/2=H,I=3/4,J=1)
1-1/4"	CP2R2_P_B0	CP2R2_K_B0	CP2R2_4_B0	FNPT:(G=1,P=1-1/4,Q=1-1/2) MNPT:(J=1,S=1- 1/4,T=1-1/2) SWT:(N=1,K=1-1/4,W=1-1/2) PRESS:(1=1, 4=1-1/4, 5=1-1/2)	MNPT:(1/2=H,I=3/4,J=1,S=1-1/4)
1-1/2"	CP2R2_Q_B0	CP2R2_W_B0	CP2R2_5_B0		MNPT:(1/2=H,I=3/4,J=1,S=1-1/4,T=1-1/2)
1-1/2"L	CP2R3_Q_B0	CP2R3_W_B0	CP2R3_5_B0	FNPT:(P=1-1/4,Q=1-1/2,R=2) MNPT:(S=1-1/4, T=1-1/2,U=2) SWT:(K=1-1/4,W=1-1/2,Y=2) PRESS:(4=1-1/4, 5=1-1/2, 6=2)	MNPT:(S=1-1/4,T=1-1/2)
2"	CP2R3_R_B0	CP2R3_Y_B0	CP2R3_6_B0		MNPT:(S=1-1/4,T=1-1/2,U=2)

NOTES:

- Standard CPPs include nickel-plated brass ball and brass stem. For optional Stainless Steel ball and stem change "CP" to "CS" in model number.
- Insert PSID Code in 6th digit. Insert "0" for No-Cartridge option.
- Insert Coil Size & Type in 8th digit.
- Insert Control Valve (CV) Size in 9th digit.
- Standard CPPs include (1) CPTA in Isolator S with 20 mesh strainer. For optional 2nd CPTA change "B" to "D" (20 mesh) or "G" (1 CPTA – 50 mesh) or "J" (2 CPTA – 50 mesh).
- Optional Extension Kit- includes cap and tube for insulation around handle and appropriate number of extensions for PT/CPTA included in package. Change "0" to "1" for 1-1/2" extension option or "2" for 2" extension option.³
- If Control Valve (CV) is installed at the factory by Griswold Controls add an "A" to end of model number.

FLOW RATES (+/-5%)

SIZE	IR MODEL NO. FOR REFERENCE	HEAD LOSS IN FEET ⁴	PSID RANGE ⁵	GPM
1/2", 3/4"	IR02	7.4	2-32	0.25, 0.33, 0.50, 0.60, 0.75, 0.85, 1.00, 1.25, 1.50, 2.00, 2.50, 3.00
	IR04	13.4	4-57	0.50, 1.00, 1.50, 2.00, 2.50, 3.00
1/2"L, 3/4", 1"	IR11	3.5	1-14	0.33, 0.50, 0.67, 1.00, 1.33, 1.67, 2.00, 2.33, 2.67, 3.33, 4.00, 4.67, 5.00
	IR12	7.4	2-32	0.55, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50, 2.75, 3.00, 3.50, 4.00, 5.00, 6.00, 7.00, 8.00
	IR14	13.4	4-57	0.75, 1.00, 1.33, 2.00, 2.67, 3.33, 4.00, 4.67, 5.33, 6.67, 8.00, 9.33, 10.00, 11.00
	IR18	30.0	8-128	1.10, 1.50, 2.00, 3.00, 4.00, 5.00, 6.00, 7.00, 8.00, 10.0, 12.0, 14.0, 16.0
1"L, 1-1/4", 1-1/2"	IR21	3.5	1-14	5.33, 6.00, 6.67, 7.33, 8.00, 8.67, 9.33, 10.00, 10.67, 11.33, 12.00, 12.67, 13.33, 14.00, 14.67
	IR22	7.4	2-32	8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0
	IR24	13.4	4-57	10.67, 12.00, 13.33, 14.67, 16.00, 17.33, 18.67, 20.00, 21.33, 22.67, 24.00, 25.33, 26.67, 28.00, 29.33
1-1/2"L - 2"	IR28	30.0	8-128	16.0, 18.0, 20.0, 22.0, 24.0, 26.0, 28.0, 30.0, 32.0, 34.0, 36.0, 38.0, 40.0, 42.0, 44.0
	IR31	3.5	1-14	12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38
	IR32	7.4	2-32	18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57
	IR34	13.4	4-57	24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76
1-1/2"L - 2"	IR38	30.0	8-128	36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114

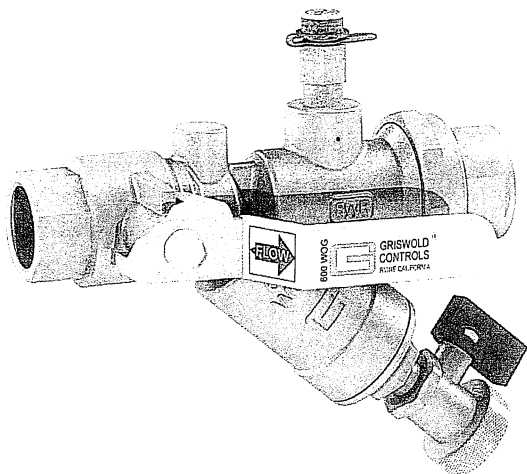
NOTES

² Coil Type must be FNPT if hoses are required.

³ Extension Option includes handle cover and accessory extensions for either 1-1/2" or 2" Insulation.

⁴ Head Loss in Feet is provided for pump head calculations. (1 PSI = 2.307 Feet of Water)

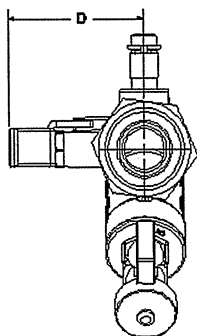
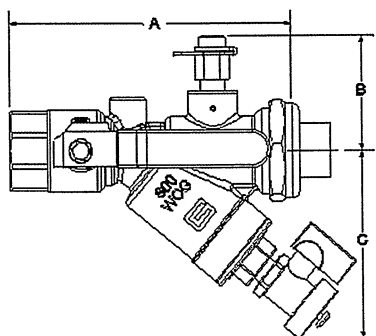
⁵ Systems with entrained air and fluid velocities less than 4FPS are susceptible to noise when using the 2-32 cartridge. If your system has entrained air and flowrates less than 2GPM please consider using the 4-57 cartridge.



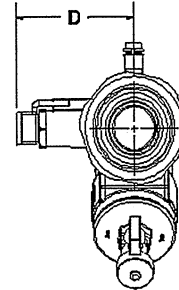
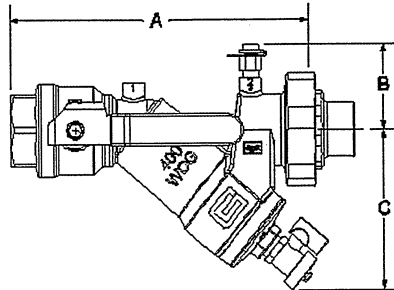
SPECIFICATIONS

- PSI/Temperature Rating:** 1/2"-1-1/2": 600 WOG 400 PSI / 250° F
1-1/2"L-3": 400 WOG 275 PSI / 250° F
- Body Material:** 1/2"-1-1/2": Forged Brass ASTM B283-06
1-1/2"L-3": Cast brass
- End Connections:** Brass – NPT, Sweat, QuickPress¹, Grooved²
- Ball Valve Seals:** Teflon
- Union Seal:** EPDM O-Ring
- Body Tappings³:** (3) Bosses for CPTAs and Drain Valve
- Ball Valve:** Nickel-plated brass ball
Optional: Stainless Steel ball
- Field Repairable Stem:** Dual Teflon seals and EPDM O-ring
- Strainer:** 20 mesh stainless steel (optional 50 mesh)
- Options:** Combination P/T Test Valve and Manual Air Vent (CPTA), Drain Valve, or 1/2" Bypass⁴, Extension Option

1/2" - 1-1/2" Housing



1-1/2" L - 3" Housing



DIMENSIONS & WEIGHTS (NOMINAL)

All dimensions are for planning purposes only and may change without notice.

SIZE	A - FIXED END CONNECTION		UNION END CONNECTION ⁵						B	C	D ⁶	Cv ⁷	WEIGHT (LBS.)		
	FNPT	SWT	FNPT		MNPT		SWT								
1/2"	3.9	3.8	1/2":1.0	3/4":N/A ⁸	1/2":1.0	3/4":1.2	3/8",1/2":0.8		3/4":1.1	1.9	2.9	0.5,1.5,2.2	4.7	0.9	
3/4"	3.9	4.0													
3/4"L	5.4	5.4	1/2",3/4":1.0	1":N/A ⁸	1/2"-3/4":1.0	1":1.4	3/8",3/4":1.0		1/2":0.7	1":1.3	2.2	3.6	2.6, 3.2	9.1	2.3
1"	5.4	5.6													
1-1/4"	7.6	7.7	1",1-1/4",1-1/2":1.7		1",1-1/4",1-1/2":1.7 ⁹		1",1-1/4":1.7		1-1/2":1.4		2.5	3.1	3.1, 3.7	24.6	5.0
1-1/2"	7.5	7.9													
1-1/2"L, 2"	9.3	9.8	1-1/4", 1-1/2":1.6	2": N/A ⁸	1",1-1/4":1.8	1-1/2", 2":1.6	1-1/4",2":1.6		1-1/2":1.7	2.6	3.7	3.7, 4.3	35	8.8	
2"L	10.9	11.2	2": 2.5		2": 1.6		2": 1.6								
2-1/2"	11.1	N/A	N/A ¹⁰						2.9	4.0	4.0, 4.6	60	12.4		
3"	11.3	N/A													

For QuickPress connections add 3.1" (1/2") 3.6" (3/4", 3/4"L), 4.1" (1"), to the FNPT length (A) listed for a valve.

NOTES

- ¹ QuickPress is available on 1/2" to 1" valves only. Connections are compatible with popular press tools and are rated for maximum 200 PSI.
- ² Grooved End connection is available on 2-1/2" and 3" valves only.
- ³ Body Tappings for accessories are a leak proof metal to metal seal and do not require pipe dope or tape. Tape or dope should not be used.
- ⁴ Bypass is only available on 1/2" to 1-1/2" valves.
- ⁵ For overall length, add union end connection length to body length.
- ⁶ Space Saver handle standard on 1/2"-3/4" valves. Standard handle on 1" to 3" valves and 1-1/2" extended handle in 1/2" to 3" is compatible with 1-1/2" insulation. Largest extended handle is compatible with 2" insulation.
- ⁷ Cv's are based on a clean 20 mesh stainless steel strainer. When a 50 mesh screen is used, multiply PSID by 1.3.
- ⁸ Tailpiece is not available for this size. Male tailpiece used with coupling.
- ⁹ 1-1/4"-1-1/2" valves can also take 1/2"-3/4" MNPT tailpieces.
- ¹⁰ 2-1/2" and 3" Valves are fixed end by fixed end connection. Union connection is not available.

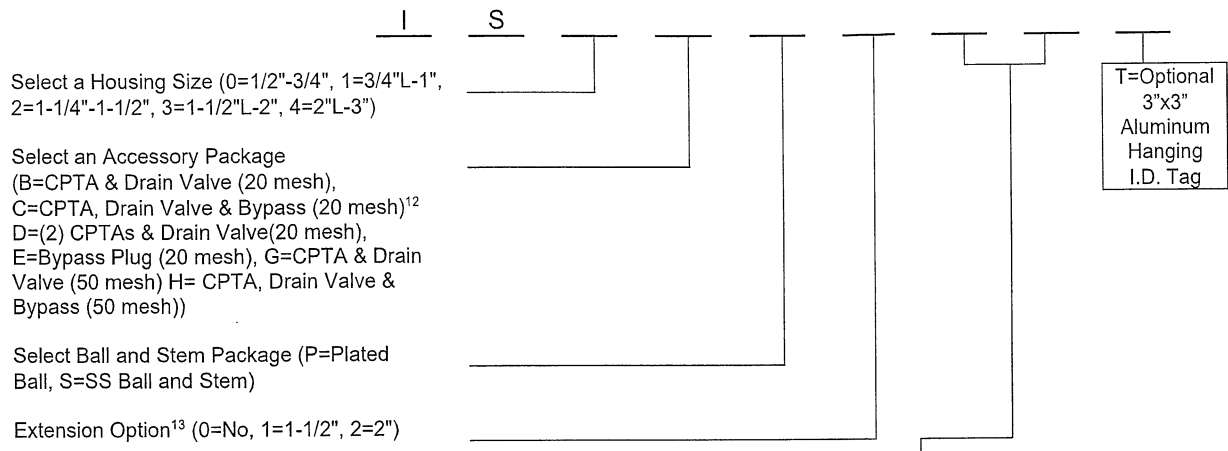
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F-5387M

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MODEL NUMBER SELECTION¹¹



Valve	FIXED END OR UNION END ¹⁴ (No Union Tailpiece=Z)			UNION END ONLY ¹⁴
	Female Threaded	Female Sweat	QuickPress	Male Threaded
IS0	1/2"=E, 3/4"=F ¹⁵	3/8"=K ¹⁶ , 1/2"=L, 3/4"=M	1/2"=2, 3/4"=3	1/2"=H, 3/4"=I
IS1	1/2"=E ¹⁶ , 3/4"=F, 1"=G ¹⁵	3/8"=K ¹⁶ , 1/2"=L ¹⁶ , 3/4"=M, 1"=N	1/2"=2 ¹⁶ , 3/4"=3, 1"=1	1/2"=H, 3/4"=I, 1"=J
IS2	1"=G ¹⁶ , 1-1/4"=P, 1-1/2"=Q	1"=N ¹⁶ , 1-1/4"=K, 1-1/2"=W	N/A	1/2"=H, 3/4"=I, 1"=J, 1-1/4"=S, 1-1/2"=T
IS3	1-1/4"=P ¹⁶ , 1-1/2"=Q, 2"=R ¹⁵	1-1/4"=K ¹⁶ , 1-1/2"=W, 2"=Y	N/A	1-1/4"=S, 1-1/2"=T, 2"=U
IS4 ¹⁴ (Union)	2"=L	2"=Y	N/A	1-1/4"=S, 1-1/2"=T, 2"=U
IS4 ¹⁴ (Fixed End)	2"=L, 2-1/2"=M, 3"=N ¹⁷	N/A	N/A	N/A

NOTES

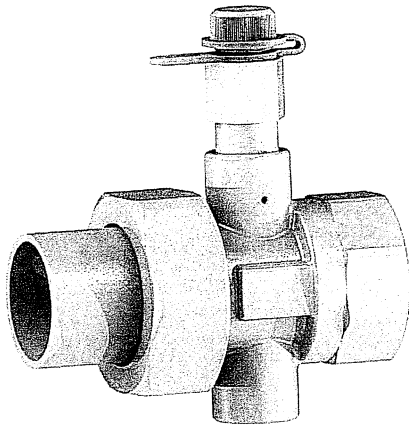
- ¹¹ Model no. and flow rate are indicated on label affixed to body.
- ¹² C option with bypass is only available for 1/2" to 1-1/2" size.
- ¹³ Extension Option includes handle cover and accessory extensions for either 1-1/2" or 2" insulation.
- ¹⁴ Select the Fixed End First and the Union End Second. For 2-1/2" and 3" size select a 2nd fixed end instead of a union end.
- ¹⁵ Tailpiece is not available for this size. Male tailpiece used with coupling.
- ¹⁶ Fixed end not available for this size. Union tailpiece only.
- ¹⁷ For Grooved End option use MG=2-1/2" and NG=3".

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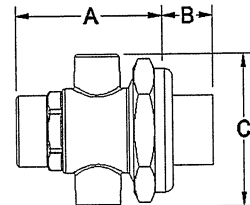
SPECIFICATIONS

PSI / Temperature Rating: 400 PSI / 250°F
Body Material: Forged Brass ASTM B283-06
End Connections: Brass – NPT, Sweat or QuickPress¹
Union Seal: EPDM O-ring
Body Tappings²: (2) Bosses for CPTAs, Airvent. and Drain Valve
Options: Combination P/T Test Valve and Manual Air Vent (CPTA), Drain Valve, Coin Operated Airvent, Extension Option

DIMENSIONS & WEIGHTS (NOMINAL)

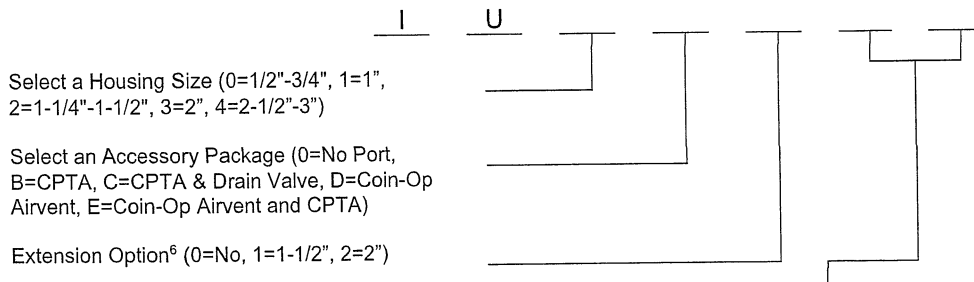
All dimensions are for planning purposes only and may change without notice.

SIZE	A - FIXED END CONNECTION		B - UNION END CONNECTION ³						C	WEIGHT (LBS.)	
	FNPT	SWT	FNPT		MNPT		SWT				
3/8"	N/A	1.7									
1/2"	2.0	1.9	1/2":1.0	3/4":N/A ⁴	1/2":1.0	3/4":1.2	3/8", 1/2":0.8		3/4":1.1	1.2	0.3
3/4"	1.9	1.9									
1"	2.2	2.2	1/2", 3/4":1.0	1":N/A ⁴	1/2"-3/4":1.0	1":1.4	3/8", 3/4":1.0	1/2":0.7	1":1.3	2.0	1.1
1-1/4"	2.6	2.6	1", 1-1/4", 1-1/2":1.7		1", 1-1/4", 1-1/2":1.7 ⁵		1", 1-1/4":1.7		1-1/2":1.4	2.7	2.4
1-1/2"	2.8	2.8									
2"	2.8	2.8	1-1/4", 1-1/2":1.6	2": N/A ⁴	1", 1-1/4":1.8	1-1/2", 2":1.6	1-1/4", 2":1.6		1-1/2":1.7	3.4	3.2
2-1/2"	3.0	N/A	1-1/2" – 2-1/2": 1.2	3": 2.2	1-1/2"-2-1/2": 1.5	3": 2.5	2":2.0			3.7	5.1
3"	3.2	N/A									5.6



For QuickPress connections add 3.1" (1/2"), 3.6" (3/4"), 4.1" (1") to the FNPT length (A) listed for a valve.

MODEL NUMBER SELECTION



Select a Housing Size (0=1/2"-3/4", 1=1", 2=1-1/4"-1-1/2", 3=2", 4=2-1/2"-3")

Select an Accessory Package (0=No Port, B=CPTA, C=CPTA & Drain Valve, D=Coin-Op Airvent, E=Coin-Op Airvent and CPTA)

Extension Option⁶ (0=No, 1=1-1/2", 2=2")

Valve	FIXED END OR UNION END ⁷ (No Union Tailpiece=Z)			UNION END ONLY ⁷
	Female Threaded	Female Sweat	QuickPress	Male Threaded
IU0	1/2"=E, 3/4"=F ⁴	3/8"=K, 1/2"=L, 3/4"=M	1/2"=2, 3/4"=3	1/2"=H, 3/4"=I
IU1	1/2"=E ⁸ , 3/4"=F ⁸ , 1"=G ⁴	3/8"=K ⁸ , 1/2"=L ⁸ , 3/4"=M ⁸ , 1"=N	1/2"=2 ⁸ , 3/4"=3 ⁸ , 1"=1	1/2"=H, 3/4"=I, 1"=J
IU2	1"=C ⁸ , 1-1/4"=P, 1-1/2"=Q	1"=N ⁸ , 1-1/4"=K, 1-1/2"=W	N/A	1/2"=H, 3/4"=I, 1"=J, 1-1/4"=S, 1-1/2"=T
IU3	1-1/4"=P ⁸ , 1-1/2"=Q ⁸ , 2"=R ⁴	1-1/4"=K ⁸ , 1-1/2"=W ⁸ , 2"=Y	N/A	1-1/4"=S, 1-1/2"=T, 2"=U
IU4	1-1/2"=Q ⁸ , 2"=R ⁸ , 2-1/2"=A, 3"=B	2"=Y ⁸	N/A	1-1/2"=T, 2"=U, 2-1/2"=C, 3"=D

NOTES

- QuickPress is available on 1/2" to 1" valves. Connections are compatible with popular press tools and are rated for maximum 200 PSI.
- Body Tappings for accessories are a leak proof metal to metal seal and do not require pipe dope or tape. Tape or dope should not be used.
- For overall length, add union end connection length to body length.
- Tailpiece is not available for this size. Male tailpiece used with coupling.
- 1-1/4"-1-1/2" valves can also take 1/2"-3/4" MNPT tailpieces.
- Extension Option includes accessory extensions for either 1-1/2" or 2" insulation.
- Select the Fixed End First and the Union End Second.
- Fixed end not available for this size. Union tailpiece only.

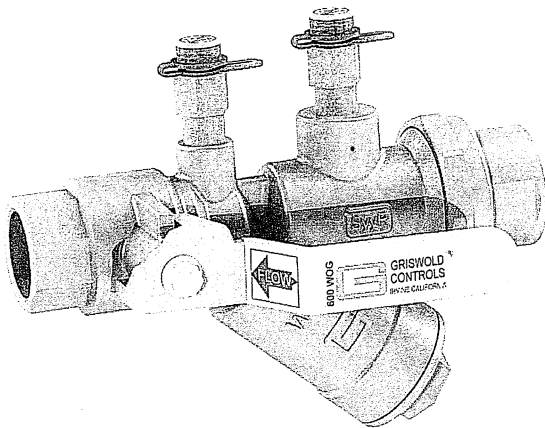
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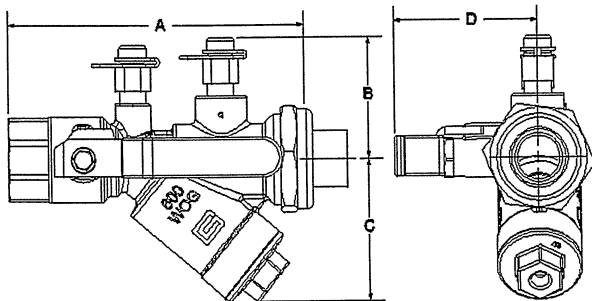
ACCESSIBLE CARTRIDGE



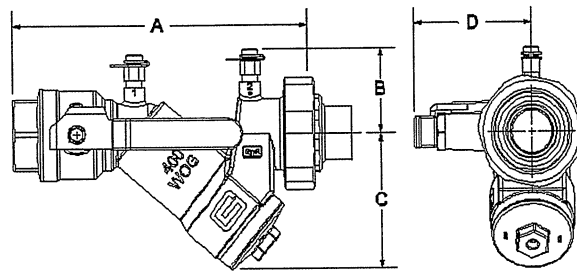
SPECIFICATIONS

- PSI/Temperature Rating:** 1/2"-1-1/2": 600 WOG 400 PSI / 250° F
1-1/2"L-3": 400 WOG 275 PSI / 250° F
- Cartridge:** AISI Type 304 stainless steel
AISI Type 17-7 PH stainless steel spring
- Body Material:** 1/2"-1-1/2": Forged brass ASTM B283-06
1-1/2"L-3": Cast brass
- End Connections:** Brass – NPT, Sweat or QuickPress¹
- Ball Valve Seals:** Teflon
- Union Seal:** EPDM O-Ring
- Body Tappings²:** Two Combination P/T Test Valve and Manual Air Vent (CPTA)
- Ball Valve:** Nickel-plated brass ball
Optional: Stainless Steel ball
- Field Repairable Stem:** Dual Teflon seals and EPDM O-ring

1/2" – 1-1/2" Housing



1-1/2"L – 3" Housing



DIMENSIONS & WEIGHTS (NOMINAL)

All dimensions are for planning purposes only and may change without notice.

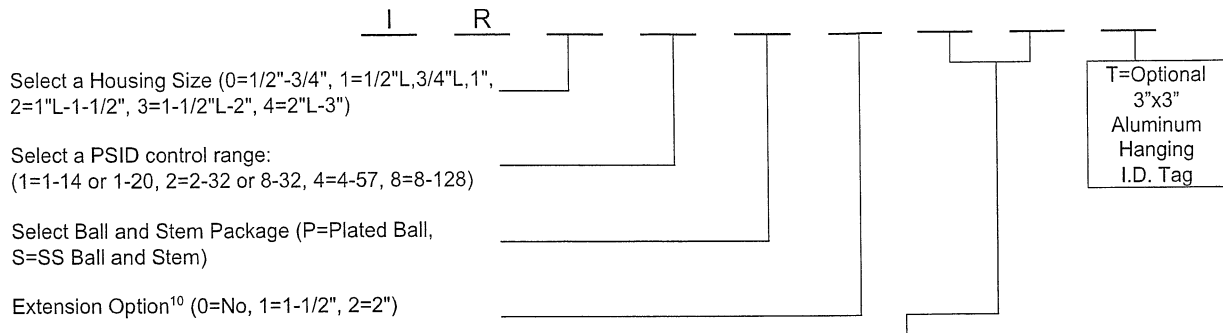
SIZE	A - FIXED END CONNECTION		UNION END CONNECTION ³						B	C	D ⁴	Cv ⁵	WEIGHT (LBS.)		
	FNPT	SWT	FNPT		MNPT		SWT								
1/2"	3.9	3.8	1/2":1.0	3/4":N/A ⁶	1/2":1.0	3/4":1.2	3/8",1/2":0.8		3/4":1.1	1.9	2.9	0.5,1.5 2.2	2.3	1.0	
3/4"	3.9	4.0					3/8",3/4":1.0								1":1.4
1/2"L	5.3	5.5	1/2",3/4":1.0	1":N/A ⁶	1/2"-3/4":1.0	1":1.4	3/8",3/4":1.0		1/2":0.7	1":1.3	2.2	3.6	2.6,3.2	10.9	2.3
3/4"L	5.4	5.4					1",1-1/4",1-1/2":1.7								
1"	5.4	5.6	1-1/4", 1-1/2":1.6	2": N/A ⁶	1",1-1/4":1.8	1-1/2", 2":1.6	1-1/4",2":1.6		1-1/2":1.7		2.5	3.1	3.7, 4.3	40	8.8
1"L	8.0	8.2					2": 2.5		2": 1.6						
1-1/4"	7.6	7.7	N/A ⁸		N/A ⁸		N/A ⁸		2.6	3.7	4.0, 4.6	75	13.6		
1-1/2"	7.5	7.9	N/A ⁸		N/A ⁸		N/A ⁸							2.9	4.0
1-1/2"L	9.4	9.6	N/A ⁸		N/A ⁸		N/A ⁸		2.9	4.0	4.0, 4.6	75	13.6		
2"	9.3	9.8	N/A ⁸		N/A ⁸		N/A ⁸							2.9	4.0
2"L	10.9	11.2	N/A ⁸		N/A ⁸		N/A ⁸		2.9	4.0	4.0, 4.6	75	13.6		
2-1/2"	12.1	N/A	N/A ⁸		N/A ⁸		N/A ⁸							2.9	4.0
3"	12.3	N/A	N/A ⁸		N/A ⁸		N/A ⁸		2.9	4.0	4.0, 4.6	75	13.6		

For QuickPress connections add 3.1" (1/2", 1/2"L) 3.6" (3/4", 3/4"L), 4.1" (1") to the FNPT length (A) listed for a valve.

NOTES

- ¹ QuickPress is available on 1/2" to 1" valves. Connections are compatible with popular press tools and are rated for maximum 200 PSI.
- ² Body Tappings for accessories are a leak proof metal to metal seal and do not require pipe dope or tape. Tape or dope should not be used.
- ³ For overall length, add union end connection length to body length.
- ⁴ Space Saver handle standard on 1/2"-3/4" valves. Standard handle on 1" to 3" valves and 1-1/2" extended handle in 1/2" to 3" is compatible with 1-1/2" insulation. Largest extended handle is compatible with 2" insulation.
- ⁵ Cv's are based on housing without cartridge.
- ⁶ Tailpiece is not available for this size. Male tailpiece used with ASME B16.15 Class 125 coupling.
- ⁷ 1-1/4"-1-1/2" valves can also take 1/2"-3/4" MNPT tailpieces.
- ⁸ 2-1/2" and 3" Valves are fixed end by fixed end connection. Union connection is not available.

MODEL NUMBER SELECTION⁹



Valve	FIXED END OR UNION END ¹¹ (No Union Tailpiece=Z)			UNION END ONLY ¹¹
	Female Threaded	Female Sweat	QuickPress	Male Threaded
IR0	1/2"=E, 3/4"=F ¹²	3/8"=K ¹³ , 1/2"=L, 3/4"=M	1/2"=2, 3/4"=3	1/2"=H, 3/4"=I
IR1	1/2"=E, 3/4"=F, 1"=G ¹²	3/8"=K ¹³ , 1/2"=L, 3/4"=M, 1"=N	1/2"=2, 3/4"=3, 1"=1	1/2"=H, 3/4"=I, 1"=J
IR2	1"=G, 1-1/4"=P, 1-1/2"=Q	1"=N, 1-1/4"=K, 1-1/2"=W	N/A	1/2"=H, 3/4"=I, 1"=J, 1-1/4"=S, 1-1/2"=T
IR3	1-1/4"=P ¹³ , 1-1/2"=Q, 2"=R ¹²	1-1/4"=K ¹³ , 1-1/2"=W, 2"=Y	N/A	1-1/4"=S, 1-1/2"=T, 2"=U
IR4 ¹¹ (Union)	2"=L	2"=Y	N/A	1-1/4"=S, 1-1/2"=T, 2"=U
IR4 ¹¹ (Fixed End)	2"=L, 2-1/2"=M, 3"=N	N/A	N/A	N/A

FLOW RATES (+/-5%)

SIZE	MODEL NO.	HEAD LOSS IN FEET ¹⁴	PSID RANGE ¹⁵	GPM						
1/2", 3/4"	IR02	7.4	2-32	0.25, 0.33, 0.50, 0.60, 0.75, 0.85, 1.00, 1.25, 1.50, 2.00, 2.50, 3.00						
	IR04	13.4	4-57	0.50, 1.00, 1.50, 2.00, 2.50, 3.00						
1/2"L, 3/4", 1"	IR11	3.5	1-14	0.33, 0.50, 0.67, 1.00, 1.33, 1.67, 2.00, 2.33, 2.67, 3.33, 4.00, 4.67, 5.00						
	IR12	7.4	2-32	0.55, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50, 2.75, 3.00, 3.50, 4.00, 5.00, 6.00, 7.00, 8.00						
	IR14	13.4	4-57	0.75, 1.00, 1.33, 2.00, 2.67, 3.33, 4.00, 4.67, 5.33, 6.67, 8.00, 9.33, 10.00, 11.00						
	IR18	30.0	8-128	1.10, 1.50, 2.00, 3.00, 4.00, 5.00, 6.00, 7.00, 8.00, 10.0, 12.0, 14.0, 16.0						
1"L, 1-1/4", 1-1/2"	IR21	3.5	1-14	5.33, 6.0, 6.67, 7.33, 8.0, 8.67, 9.33, 10.0, 10.67, 11.33, 12.0, 12.67, 13.33, 14.0, 14.67						
	IR22	7.4	2-32	8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0						
	IR24	13.4	4-57	10.67, 12.00, 13.33, 14.67, 16.00, 17.33, 18.67, 20.00, 21.33, 22.67, 24.00, 25.33, 26.67, 28.00, 29.33						
1-1/2"L - 2"	IR28	30.0	8-128	16.0, 18.0, 20.0, 22.0, 24.0, 26.0, 28.0, 30.0, 32.0, 34.0, 36.0, 38.0, 40.0, 42.0, 44.0						
	IR31	3.5	1-14	12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38						
	IR32	7.4	2-32	18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57						
	IR34	13.4	4-57	24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64, 68, 72, 76						
2"	IR38	30.0	8-128	36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114						
	IR41	3.5	1-20	GPM			HEAD LOSS IN FEET ¹⁴	PSID RANGE	HIGHER FLOW RATES/ NO INCREMENTS	
	IR42	7.4	2-32	MIN.	INCREMENT	MAX				
	2"L, 2-1/2", 3"	IR44	13.4	4-57	14.0	2.0	60	9.2	4-20	90, 110, 130
IR48		30.0	8-128	17.5	2.5	75	18.4	8-32	110, 135, 160	
NONE										

NOTES

- ⁹ Model no. and flow rate are indicated on label affixed to body.
- ¹⁰ Extension Option includes handle cover and accessory extensions for either 1-1/2" or 2" Insulation.
- ¹¹ Select the Fixed End First and the Union End Second. For 2-1/2" and 3" size select a 2nd fixed end instead of a union end.
- ¹² Tailpiece is not available for this size. Male tailpiece used with ASME B16.15 Class 125 coupling.
- ¹³ Fixed end not available for this size. Union tailpiece only.
- ¹⁴ Head Loss in Feet is provided for pump head calculations. (1 PSI = 2.307 Feet of Water)
- ¹⁵ Systems with entrained air and fluid velocities less than 4FPS are susceptible to noise when using the 2-32 cartridge. If your system has entrained air and flowrates less than 2GPM please consider using the 4-57 cartridge.

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