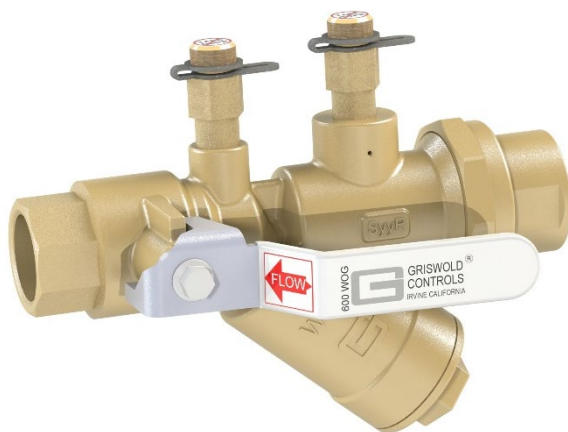


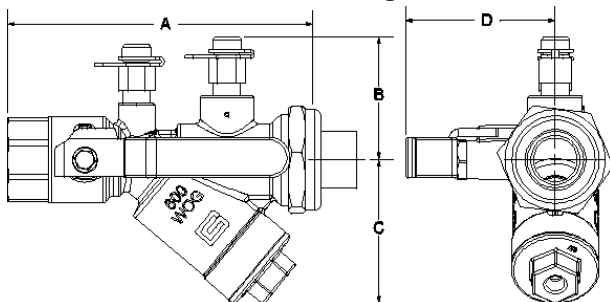
## ACCESSIBLE CARTRIDGE



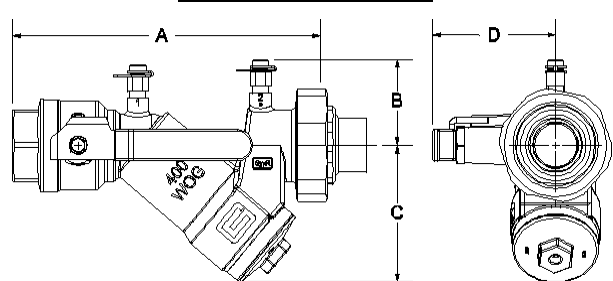
## SPECIFICATIONS

<b>PSI/Temperature Rating:</b>	1/2"–1-1/2": 600 WOG 400 PSI / 250° F 1-1/2"L–3": 400 WOG 275 PSI / 250° F
<b>Cartridge:</b>	AISI Type 304 stainless steel AISI Type 17-7 PH stainless steel spring
<b>Body Material:</b>	Forged DZR Brass
<b>End Connections:</b>	Brass – NPT, Sweat or QuickPress <sup>1</sup>
<b>Ball Valve Seals:</b>	Teflon
<b>Union Seal:</b>	EPDM O-Ring
<b>Body Tappings<sup>2</sup>:</b>	Two Combination P/T Test Valve and Manual Air Vent (CPTA)
<b>Ball Valve:</b>	Stainless Steel
<b>Stem:</b>	Brass (Optional: Stainless Steel)
<b>Field Repairable Stem:</b>	Dual Teflon seals and EPDM O-ring

1/2" – 1-1/2" Housing



1-1/2"L – 3" Housing



## DIMENSIONS &amp; WEIGHTS (NOMINAL)

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

SIZE	A - FIXED END CONNECTION		UNION END CONNECTION <sup>3</sup>							B	C	D <sup>4</sup>	Cv <sup>5</sup>	WEIGHT (LBS.)		
	FNPT	SWT	FNPT		MNPT		SWT									
1/2"	3.9	3.8	1/2":1.0	3/4":N/A <sup>6</sup>	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														
1/2"L	5.3	5.5	1/2",3/4":1.0	1":N/A <sup>6</sup>	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	1.6, 2.6, 3.2 2.6,3.2	10.9	2.3	
3/4"L	5.4	5.4														
1"	5.4	5.6														
1"L	8.0	8.2	1",1-1/4",1-1/2":1.7		1",1-1/4",1-1/2":1.7 <sup>7</sup>		1",1-1/4":1.7		1-1/2":1.4	2.5	3.1	3.1, 3.7	28.5	5.0		
1-1/4"	7.6	7.7														
1-1/2"	7.5	7.9														
1-1/2"L	9.4	9.6	1-1/4", 1-1/2":1.6	2": N/A <sup>6</sup>	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	40	8.8		
2"	9.3	9.8														
2"L	10.9	11.2	2": 2.5		2": 1.6		2": 1.6		2.9	4.0	4.0, 4.6	75	13.6			
2-1/2"	12.1	N/A	N/A <sup>8</sup>													
3"	12.3	N/A														

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

<sup>1</sup> Connections are compatible with popular press tools and are rated for maximum 200 PSI.

<sup>2</sup> 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.

<sup>3</sup> For overall length, add union end connection length to body length.

<sup>4</sup> 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.

<sup>5</sup> Cv's are based on housing without cartridge. PSID=(GPM/Cv)<sup>2</sup>.

<sup>6</sup> Tailpiece is not available for this size. Male tailpiece used with ASME B16.15 Class 125 coupling.

<sup>7</sup> 1-1/4"-1-1/2" valves can also take 1/2"-3/4" MNPT tailpieces.

<sup>8</sup> 2-1/2" and 3" Valves are fixed end by fixed end connection. Union connection is not available.

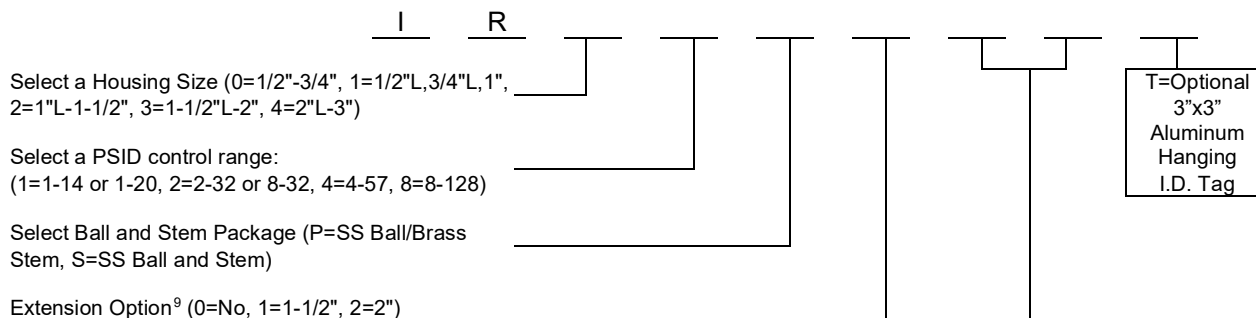
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## MODEL NUMBER SELECTION



	FIXED END OR UNION END <sup>10</sup> (No Union Tailpiece=Z)			UNION END ONLY <sup>10</sup>
Valve	Female Threaded	Female Sweat	QuickPress	Male Threaded
IR0	1/2"=E, 3/4"=F <sup>11</sup>	3/8"=K <sup>12</sup> , 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 <sup>11</sup>	3/8"=K <sup>12</sup> , 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	1-1/4"=4, 1-1/2"=5	1/2"=H, 3/4"=I, 1"=J, 1-1/4"=S, 1-1/2"=T
IR3	1-1/4"=P <sup>12</sup> , 1-1/2"=Q, 2"=R <sup>11</sup>	1-1/4"=K <sup>12</sup> , 1-1/2"=W, 2"=Y	1-1/2"=5, 2"=6	1-1/4"=S, 1-1/2"=T, 2"=U
IR4 <sup>10</sup> (Union)	2"=L	2"=Y	N/A	1-1/4"=S, 1-1/2"=T, 2"=U
IR4 <sup>10</sup> (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 <sup>13</sup>	PSID RANGE <sup>14</sup>	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					
	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					
1-1/2"L - 2"	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					
	IR38	30.0	8-128	36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114					
SIZE	MODEL NO.	HEAD LOSS IN FEET <sup>13</sup>	PSID RANGE	GPM			HEAD LOSS IN FEET <sup>13</sup>	PSID RANGE	HIGHER FLOW RATES/ NO INCREMENTS
				MIN.	INCREMENT	MAX			
2"L, 2-1/2", 3"	IR41	3.5	1-20	14.0	2.0	60	9.2	4-20	90, 110, 130
	IR42	7.4	2-32	17.5	2.5	75	18.4	8-32	110, 135, 160
	IR44	13.4	4-57	23.33	3.33	100	NONE		
	IR48	30.0	8-128	35.0	5.0	150			

## NOTES

<sup>9</sup> Extension Option includes handle cover and accessory extensions for either 1-1/2" or 2" Insulation.

<sup>10</sup> Select the Fixed End First and the Union End Second. For 2-1/2" and 3" size select a 2<sup>nd</sup> fixed end instead of a union end.

<sup>11</sup> Tailpiece is not available for this size. Male tailpiece used with ASME B16.15 Class 125 coupling.

<sup>12</sup> Fixed end not available for this size. Union tailpiece only.

<sup>13</sup> Head Loss in Feet is provided for pump head calculations. (1 PSI = 2.307 Feet of Water)

<sup>14</sup> While valve will control the flow through the high end of PSID range, there is a limit to the maximum PSID across the cartridge before cavitation occurs. A conservative guide is: Maximum Allowable Pressure Drop = 0.5 (Inlet Pressure - Water Vapor Pressure). Cavitation is an effect that occurs when the fluid vaporizes as it goes through a port opening. As the fluid exits the port the vapor bubbles collapse back into a liquid state. The vapor bubbles imploding cause noise and vibration in the valve and can eventually destroy valves. This phenomenon is amplified when entrained air is in the system. If cavitation is a concern, then selecting a stiffer spring like 4-57 or 8-128 can help reduce risk.