

# Hydraulic Control Valves

for Agriculture & Landscape Irrigation



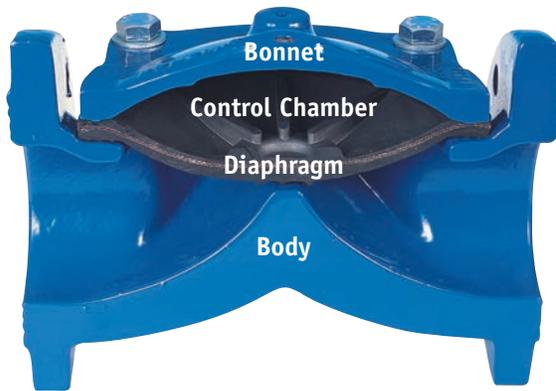
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**JAIN**  
jainsusa.com



# Cast Iron Valves

Streamlined, low friction hydraulic performance.



*JAIN hydraulic control valves are reliable, simple and economical. They can be operated manually and automatically, via; electrical, hydraulic and wireless systems. We stock a wide range of; sizes, body types and connections: Sizes 3/4" – 12" (larger sizes, made to order). Body types; Plastic Globe (EV), Plastic and Cast Iron High-Flow (P and CI) and Angle (CIA). Connections; Female Iron Pipe Thread (TH), Grooved (GR), and Flanged (FL). We have the diversity to meet your needs. We build many standard assemblies and can build custom assemblies to order. Assembly drawings with component list are available for every configuration. As well as installation, operation and trouble shooting guides, indicating pilot system internal hydraulics to aid in service. Our trained; sales, customer service and technical support staff stand ready to assist and support you.*

## EV Globe Style Diaphragm Valves Features:

- Globe Style Body to accommodate low flows
- Flow Control Stem for manual regulation
- On-Off lever for manual operation at the valve
- Internal drain for efficiency and dry site
- Controlled opening and closing to prevent vibration
- Full range of high quality solenoids to match most control systems

## Raphael High Flow Diaphragm Valves Features:

- Streamline high Cv design allow higher flows in smaller valves for better economics
- 4 body ports with upstream and downstream Schrader valves standard for low-cost easy maintenance
- Spring-less Patented design for precise regulation and low maintenance
- Versatile easy to access platform accommodates multiple functions and service



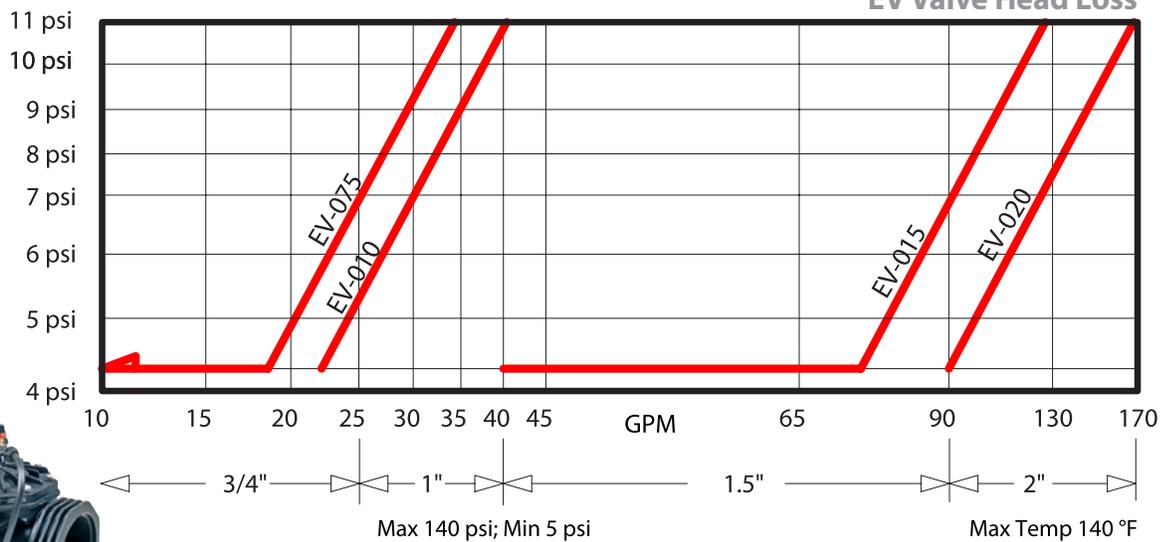
SIZE	PTH	PRG	PFL	CIT	CIG	CIF	CIAT	CIAG	CIAF
3/4"	•								
1"	•			•	•				
1.5"	•			•	•				
2"	•			•	•	•	•	•	•
2.5"	•			•	•	•	•	•	•
3"	•	•	•	•	•	•	•	•	•
4"	•	•	•	•	•	•	•	•	•
6"					•	•		•	•
8"					•	•		•	•
10"						•			•
12"						•			•

# Plastic Valve Selection

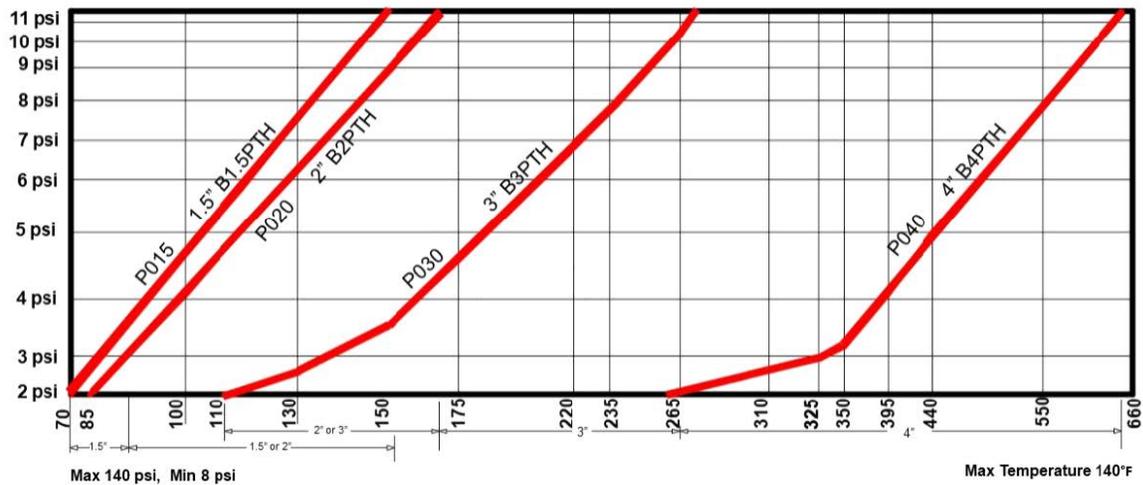


First, select Material of Construction based on the max pressure the valve will be exposed to and your preference; Plastic or Cast Iron as indicated on the back cover. Plastic Valves are; rated up to 140 psi and are less expensive than Cast Iron. The EV is for lower flows and has one component option; solenoids. For auto regulation of the EV use JAIN PR series pressure regulators. Cast Iron high flow valves work at low pressures like our plastic line with a Low Pressure Diaphragm (LP), and are rated up to 235 psi with a High Pressure Diaphragm (HP). CI valves have a higher structural strength, but all valves must be supported properly. Cast Iron Angle valves are great for decreasing the space and fittings needed. Please reference table, opposite page, lower right, for sizes and connection types.

EV Valve Head Loss



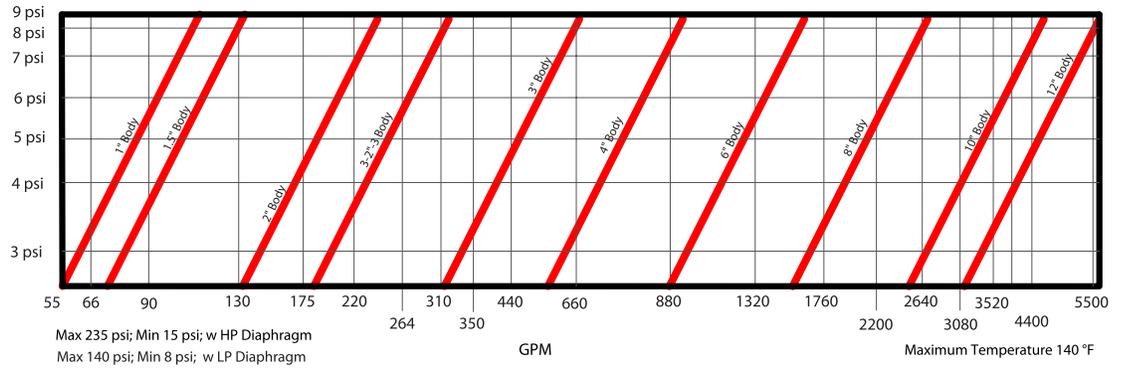
Plastic Inline Valve Head Loss



# Cast Iron Valve Selection

Recommended Performance Range

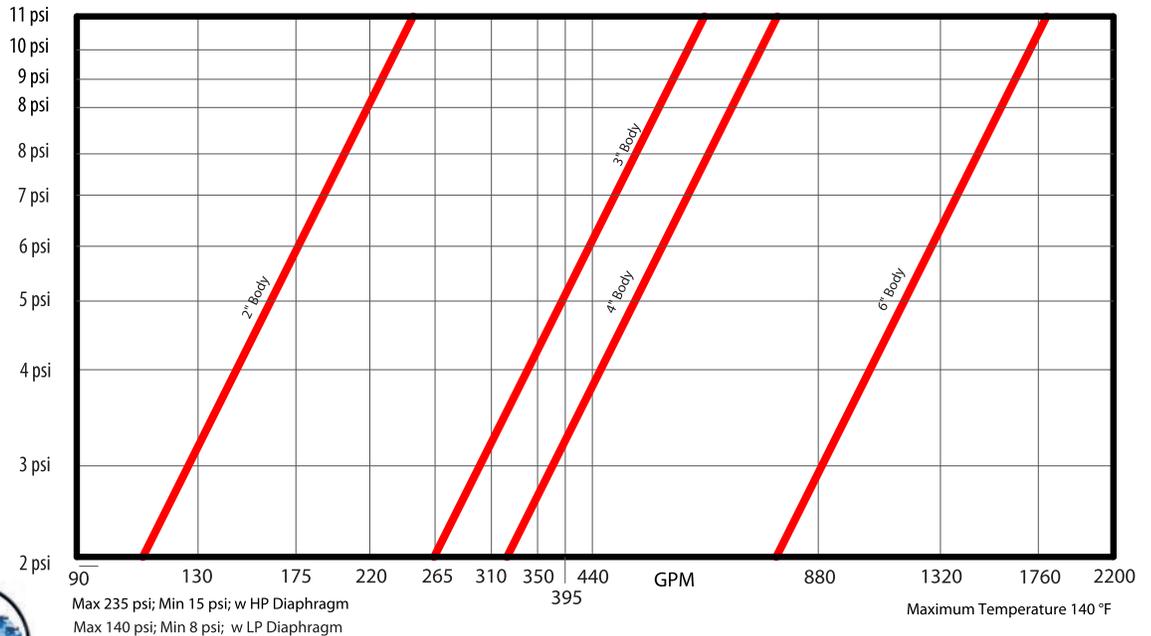
## Cast Iron Hydraulic High Flow Valve Head Loss



*Second, locate design flow on the x axis of the Head Loss (HL) Charts. Move vertically. A red line that is intersected indicates recommended valve size. If multiple red lines are intersected, there are multiple choices. A lower red line has less HL and is more expensive. A higher red line has more HL and is less expensive. HL is indicated horizontal of the intersection point on the y axis. HL above the recommended range increase the probability of cavitation. HL below the performance range may result in; slow, sloppy and unreliable valve response. Minimum inlet pressure required is noted, lower left of chart. Valves placed within the Recommended Performance Range are warranted.*

Recommended Performance Range

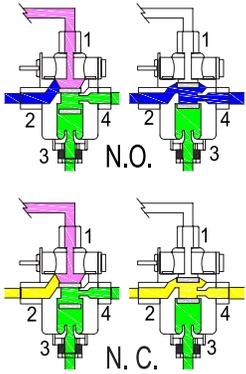
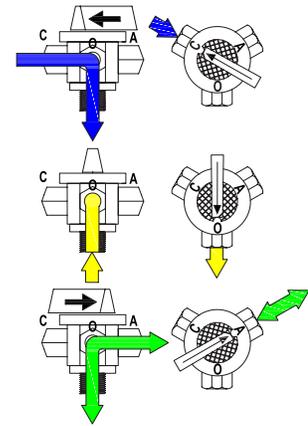
## Cast Iron Angle Hydraulic Valve Head Loss



# Component Selection



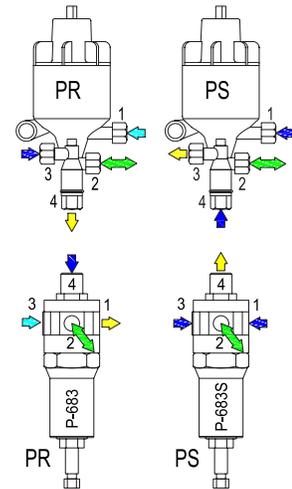
**The 3-Way Manual Selector Valve (M)** allows the operator to manually open the valve by applying upstream pressure to the control chamber. Or manually open the valve by venting the control chamber to the atmosphere. Or turn command over to the control system by putting the valve in the Auto position. The operator can also manually freeze the diaphragm in a partially open position by parking the selector in-between the 0 and C positions, manually regulating flow. The manual operator is a great trouble shooting tool and recommended with most assemblies.



**Hydraulic Relays (H)** allow external pressure from a control system (pink) to command the valve. Plumbed **Normally Open (N.O.)**: The valve will close when there is no external pressure, by allowing upstream pressure (blue) to the control chamber. The valve will open and regulate when external pressure is applied, by allowing regulating pressure (green) to and from the control chamber. This is typical on a **Pressure Reducing valve (PR)**. For a simple on/off valve, N.O. HR plumbing is used, but port 3 is vented to atmosphere, instead of to the pilot regulating port. Plumbed **Normally Closed (N.C.)**: Permits auto regulation when there is external pressure, by allow regulating pressure (green) to and from the control chamber. And fully opens the valve when there is no external pressure, by venting the control chamber to atmosphere (yellow). This is typical of a **Pressure Sustaining valve (PS)**.



**3 way pilots** (regulators) are the most versatile and economic. They are used for reducing pressure downstream of the valve (PR), or sustaining pressure upstream of the valve (PS). Available in plastic or brass. **Plastic 3 Way Pilots** are rated to: 100 psi, 160°F & 6" valves. **Brass 3 way Pilots** are rated to: 235 psi, 190°F & 16" valves. **Select your model from the 3-Way Pilot table.** Models starting with a P are plastic. In the illustration to the right: Top pilots are plastic. Bottom are Brass. PR=Pressure Reducing. PS=Pressure Sustaining. Blue is pressure from valve upstream port. Light Blue is pressure from downstream port. Yellow is vent to atmosphere. Green is regulating pressure to and from the control chamber. **Limit pressure drop to 50% of inlet pressure.** Beyond this cavitation & instability may result.



3-Way Pilots

Valve Size	PR Reg Range		PS Reg Range	
	8-18 psi	18-100 psi	8-18 psi	18-100 psi
6" ▼	PRb	PRs*	PSb	PSs**
	8-80 psi	80-230 psi	8-80 psi	80-230 psi
8" ▲	3Rr	3Ry	3Sr	3Sy

\* = if > 100 psi use 3Ry

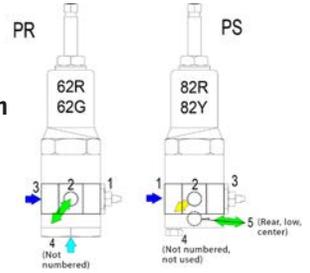
\*\* = if > 100 psi use 3Sy



# Cast Iron Valve Selection



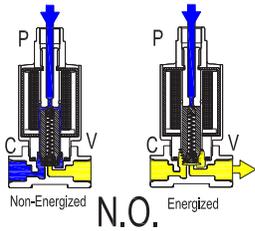
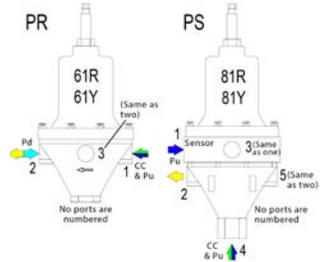
**2 Way pilots** (regulators) are quicker to respond, only have 3 ports and cost more. They are used for reducing pressure downstream of the valve (PR), or sustaining pressure upstream of the valve (PS). Available only in Brass. Most models are rated to: 235 psi and 190°F. **Select your model from the Brass 2-Way Pilot table.** In the illustration to the right: PR=Pressure Reducing. PS=Pressure Sustaining. Blue is pressure from valve upstream port. Light Blue is pressure from downstream port. Yellow is vent to atmosphere or downstream port. Green is regulating pressure to and from the control chamber. **Limit pressure drop to 50% of the inlet pressure.** Beyond this cavitation and instability may result.



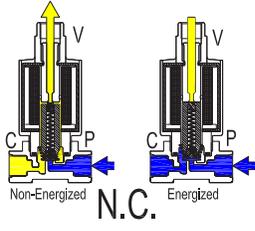
**Brass 2-Way Pilots**

Valve Size	PR Reg Range		PS Reg Range	
	8-60 psi	60-175 psi	8-60 psi	60-140 psi
6" ▼	62r	62g*	82r	82y**
	8-60 psi	60-230 psi	8-60 psi	60-230 psi
8" ▲	61r	61y	81r	81y

\* = if > 175 psi use 61y    \*\* = if > 140 psi use 81y



N.O.



N.C.

**3 Way Electric Solenoids** are used with Hydraulic Controllers to activate regulation, open and close valves. They come in two configurations; Normally Open (N.O.) and Normally Closed (N.O.). The solenoid designation is opposite the resulting valve condition. i.e. a N.O. Solenoid provides a N.C. Valve and a N.C. Solenoid provides a N.O. valve. 3 Way Solenoids have 3 ports; The Control chamber port (C), Pressure (P) and Vent Port (V). N.C. and N.O. solenoids can look the same but often have internal differences. N.O. and N.C. are plumbed differently by swapping the P and V ports. The C port is always connected to the Control Chamber. In the figure to the left yellow is vent to atmosphere and blue is upstream pressure or regulating pressure to and from the pilot. Primary parameters for selecting solenoids are; Controller output voltage, valve size and pressure. Use the Table below to select a solenoid for your application.

3-Way	N.O. Solenoids			N.C. Solenoids		
	Valve Size			Valve Size		
Add H for highr psi i.e. M2H	1"-2"	3"-6"	8"-12"	1"-2"	3"-6"	8"-12"
	Orifice Size			Orifice Size		
Power	1.6mm	2mm	2.4mm	1.6mm	2mm	2.4mm
24VAC	S1	M1	L1	S2	M2	L2
110VAC	S3	M3	L3	S4	M4	L4
12VDC	S5	M5	L5	S6	M6	L6
Max psi	200	294	220	175	175	220
H Max psi	220	175	147	220	175	YTBD

\*: S6=73, M6 =132



# Component Selection

**2 Way Solenoids** have only two ports and are susceptible to plugging. And are typically only used on waterworks systems with clean water. With only two ports the control chamber is vented to the downstream port. Because of this the valve can never fully, open causing more head loss. 2 Way Solenoids are most often used for automating valves with 2 Way pilots. Or in smaller landscape vales like the our EV series where the solenoid body is part of the valve, which use an internal downstream bleed.

2-Way	N.O. Solenoids			N.C. Solenoids		
Add H for highr psi i.e. M2H	Valve Size			Valve Size		
	1"-2"	3"-6"	8"-12"	1"-2"	3"-6"	8"-12"
Power	Orifice Size			Orifice Size		
	1.6mm	2mm	2.4mm	1.6mm	2mm	2.4mm
24VAC	S7	M7	L7	S8	M8	L8
110VAC	S9	M9	L9	S10	M10	L10
12VDC	S11	M11	L11	S12	M12	L12
Max psi	200	294	220	175	175	220

Power	EV Coil
24VAC	EV1
110VAC	EV2
12VDC	EV3
9VLatch	EV4



EV Valve coils:  
 24VAC = E7  
 110VAC = E9  
 9V Latching = E8

**Latching Solenoids** have a multitude of designs to accommodate a variety of controllers. When in doubt contact the manufacture. Latching solenoids secure the plunger in either position so that they do not need a continual current of electricity. Typically, an internal magnet holds the plunger in positions. To change positions a pulse of electricity is sent to the solenoid by the controller. **The duration, amplitude and shape of this pulse must be compatible with the solenoid** so that it is strong enough to reposition the plunger yet not burn out the coil. Please **contact us with your controller's output information** so we can help you select the proper match. Jain can also supply pre-assembled solenoid manifolds for hydraulic control systems and special applications.



JAIN uses **8mm HDPE tube** on 6" and smaller valve assemblies, and **3/8" HDPE tubing** on larger valve assemblies, to assure proper reaction time and reliability. Our plastic valves have molded mounts with mating steel tongue for secure mounting. Cast Iron assemblies use steel mounting brackets bolted to valve to secure components. **Poly compression fitting are standard.** Brass fittings are used where needed, for a secure assembly with no dangling components. A **full copper tube and brass fitting assembly** is available as an option.

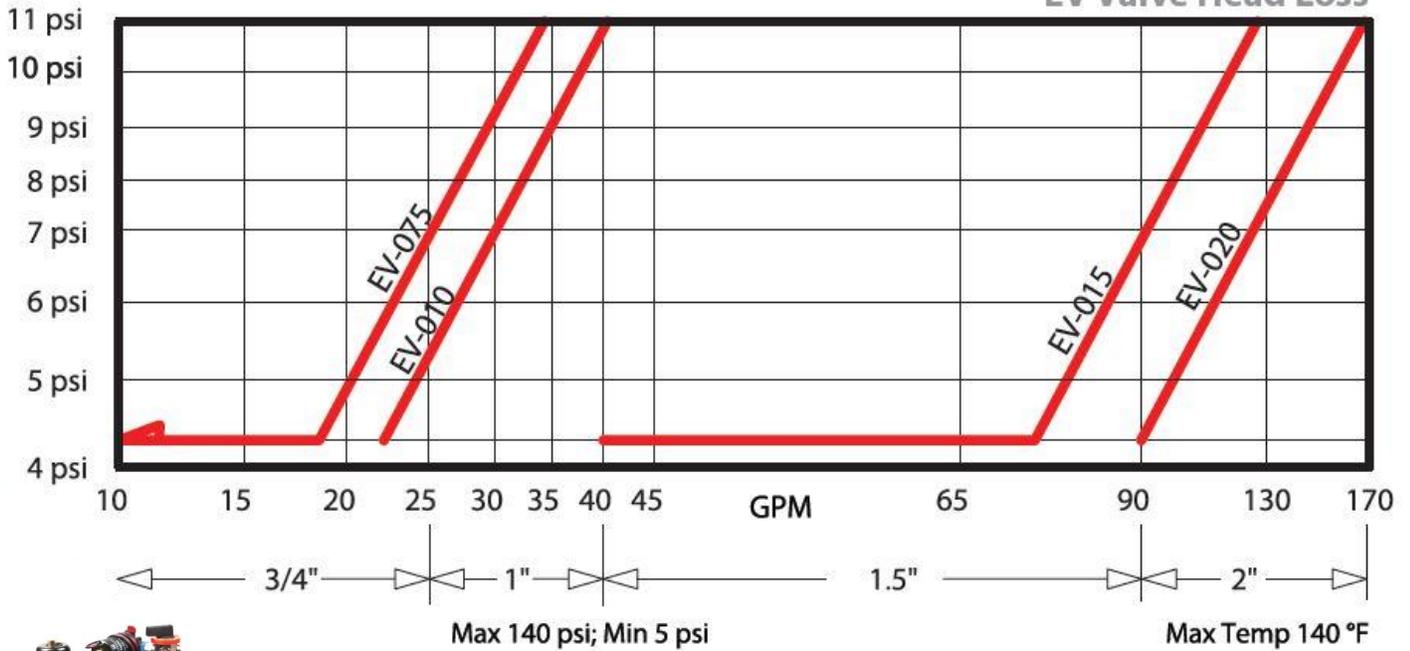


# June 2016 JAIN Hydraulic Valves Sizing

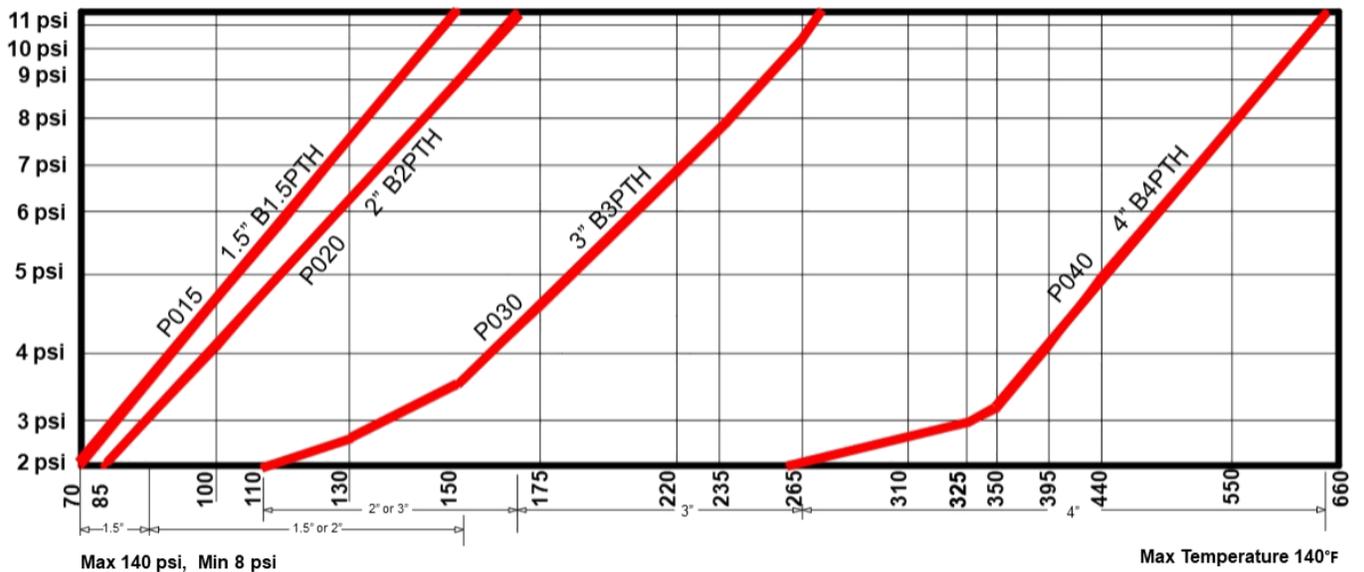


Locate your flow on the lower horizontal axis. Move vertically until you hit a red line. This line indicates the valve size you should use. If you can continue vertically and intersect another red line this line also indicates a valid valve size. The higher line is less expensive but has more head loss. The lower line is more expensive but has less head loss. Move horizontally to the left from the point of intersection to read the corresponding head loss on the left vertical axis. Valves selections performance range are warranted.

EV Valve Head Loss



Plastic Inline Valve Head Loss



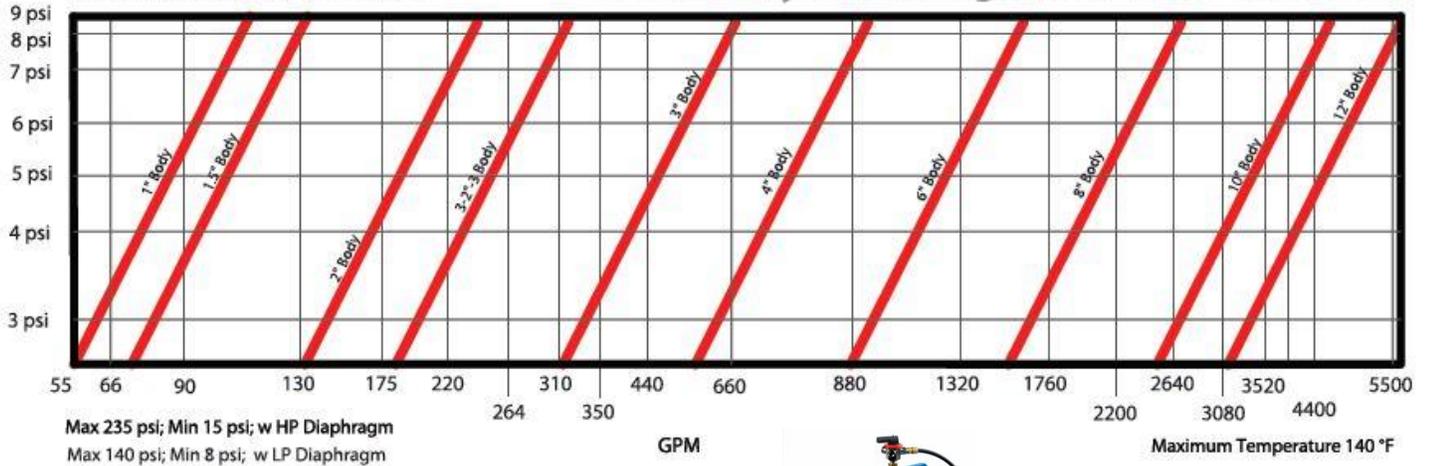
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Locate your flow on the lower horizontal axis. Move vertically until you hit a red line. This line indicates the valve size you should use. If you can continue vertically and intersect another red line this line also indicates a valid valve size. The higher line is less expensive but has more head loss. The lower line is more expensive but has less head loss. Move horizontally to the left from the point of intersection to read the corresponding head loss on the left vertical axis. Valves selections performance range are warranted.

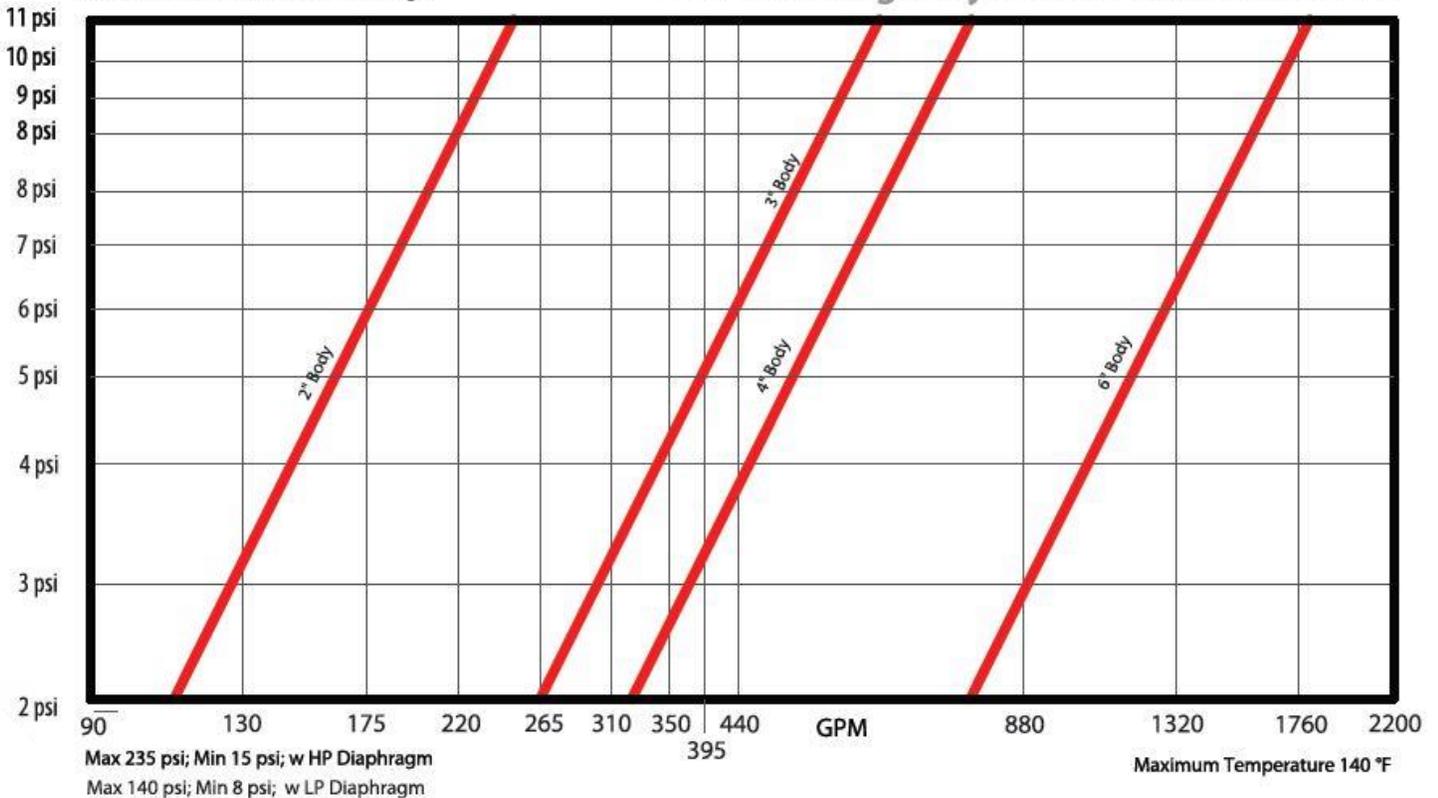
Recommended Performance Range

## Cast Iron Hydraulic High Flow Valve Head Loss



Recommended Performance Range

## Cast Iron Angle Hydraulic Valve Head Loss



# 2017 JAIN Hydraulic Valves List Price Table x Description



Body Model	Body Desc	B	M	MEL	MRC	PRM	PRMEL	PRMRC	PSM	PSMEL	PSMRC	PSPRM	PSPRMEL	PSPRMRC	QR or 2PS	2PR	2PRPS
NDJ V007T-	EV-075	x	x	44.00	x	x	x	x	x	x	x	x	x	x	x	x	x
NDJ V010T-	EV-010	x	x	44.00	x	x	x	x	x	x	x	x	x	x	x	x	x
NDJ V015T-	EV-015	x	x	44.00	x	x	x	x	x	x	x	x	x	x	x	x	x
NDJ V020T-	EV-020	x	x	147.40	x	x	x	x	x	x	x	x	x	x	x	x	x
JHV P015T-	B1.5PTH	105.60	161.70	301.40	272.80	317.90	371.80	488.40	356.40	552.20	502.70	556.60	651.20	702.90	x	x	x
JHV P020T-	B2PTH	119.90	176.00	313.50	286.00	330.00	394.90	501.60	371.80	565.40	518.10	569.80	664.40	717.20	x	x	x
JHV P030T-	B3PTH	238.70	293.70	434.50	405.90	446.60	529.10	617.10	489.50	685.30	636.90	686.40	781.00	833.80	x	x	x
JHV P040T-	B4PTH	536.80	592.90	732.60	705.10	733.70	810.70	905.30	788.70	983.40	936.10	953.70	1,048.30	1,101.10	x	x	x
JHV P030G-	B3PGR	234.30	290.40	431.20	401.50	442.20	524.70	612.70	485.10	680.90	632.50	682.00	777.70	828.30	x	x	x
JHV P040G-	B4PGR	464.20	528.00	673.20	638.00	663.30	751.30	837.10	716.10	913.00	863.50	881.10	984.50	1,030.70	x	x	x
JHV P040F-	B4PFL	705.10	742.50	866.80	858.00	895.40	944.90	1,063.70	955.90	1,141.80	1,100.00	1,120.90	1,196.80	1,261.70	x	x	x
JHV C010T-	B1CIT	99.00	154.00	293.70	266.20	305.80	467.50	476.30	348.70	486.20	495.00	437.80	532.40	584.10	761.20	574.20	1,493.80
JHV C015T-	B1.5CIT	129.80	184.80	323.40	294.80	335.50	496.10	506.00	378.40	515.90	524.70	468.60	563.20	614.90	790.90	602.80	1,523.50
JHV C020T-	B2CIT	160.60	214.50	352.00	325.60	366.30	525.80	536.80	408.10	546.70	554.40	497.20	591.80	643.50	820.60	632.50	1,553.20
JHV C323T-	B323CIT	223.30	278.30	416.90	388.30	426.80	587.40	598.40	473.00	610.50	619.30	558.80	653.40	705.10	884.40	694.10	1,613.70
JHV C030T-	B3CIT	486.20	542.30	679.80	652.30	682.00	850.30	862.40	735.90	873.40	882.20	822.80	917.40	969.10	1,148.40	959.20	1,878.80
JHV C040T-	B4CIT	771.10	823.90	961.40	935.00	973.50	1,131.90	1,141.80	1,020.80	1,213.30	1,168.20	1,104.40	1,195.70	1,250.70	1,738.00	1,237.50	2,164.80
JHV C020G-	B2CIG	160.60	214.50	352.00	325.60	366.30	525.80	536.80	408.10	546.70	554.40	497.20	591.80	643.50	800.80	632.50	1,553.20
JHV C323G-	B323CIG	223.30	278.30	416.90	388.30	426.80	587.40	598.40	473.00	610.50	619.30	558.80	653.40	705.10	865.70	694.10	1,613.70
JHV C030G-	B3CIG	486.20	542.30	679.80	652.30	682.00	850.30	862.40	735.90	873.40	882.20	822.80	917.40	969.10	1,144.30	959.20	1,878.80
JHV C040G-	B4CIG	739.20	794.20	932.80	904.20	941.60	1,101.10	1,108.80	987.80	1,180.30	1,134.10	1,072.50	1,167.10	1,218.80	1,697.30	1,207.80	2,127.40
JHV C060G-	B6CIG	1,791.90	1,901.90	2,123.00	2,123.00	2,504.70	2,792.90	2,666.40	2,597.10	3,356.10	2,597.10	2,666.40	2,666.40	2,666.40	3,554.10	2,686.20	2,686.20
JHV C020F-	B2CIF	222.20	299.20	372.90	399.30	413.60	495.00	583.00	459.80	555.50	600.60	555.50	590.70	704.00	1,074.70	704.00	1,548.80
JHV C323F-	B323CIF	286.00	358.60	427.90	459.80	478.50	556.60	647.90	525.80	621.50	668.80	618.20	646.80	765.60	1,162.70	763.40	1,625.80
JHV C030F-	B3CIF	503.80	557.70	695.20	668.80	697.40	858.00	867.90	752.40	944.90	898.70	830.50	925.10	976.80	1,461.90	965.80	1,885.40
JHV C040F-	B4CIF	771.10	826.10	964.70	936.10	954.80	1,116.50	1,124.20	1,019.70	1,212.20	1,166.00	1,087.90	1,182.50	1,234.20	1,728.10	1,223.20	2,143.90
JHV C060F-	B6CIF	1,843.60	1,955.80	2,174.70	2,174.70	2,555.30	2,843.50	2,715.90	2,647.70	3,407.80	2,794.00	2,715.90	2,897.40	2,862.20	3,605.80	2,736.80	3,656.40
JHV C080F-	B8CIF	3,434.20	3,545.30	3,765.30	3,765.30	4,142.60	4,429.70	4,301.00	4,238.30	4,997.30	4,384.60	4,306.50	4,489.10	4,453.90	5,197.50	4,323.00	5,243.70
JHV C100F-	B10CIF	4,585.90	4,695.90	4,917.00	4,917.00	5,294.30	5,582.50	5,454.90	5,388.90	6,150.10	5,536.30	5,454.90	5,637.50	5,601.20	6,347.00	5,474.70	6,395.40
JHV C120F-	B12CIF	9,086.00	9,196.00	9,417.10	9,417.10	9,791.10	10,080.40	9,951.70	9,889.00	10,650.20	10,036.40	9,951.70	10,134.30	10,099.10	10,847.10	9,973.70	10,894.40
JHV A020T-	B2CIATH	196.90	250.80	382.80	397.10	393.80	547.80	540.10	435.60	584.10	583.00	519.20	613.80	665.50	489.50	475.20	815.10
JHV A323T-	B323CIATH	249.70	320.10	386.10	451.00	445.50	521.40	597.30	492.80	548.90	638.00	585.20	609.40	733.70	595.10	577.50	977.90
JHV A030T-	B3CIATH	397.10	452.10	589.60	599.50	594.00	755.70	740.30	646.80	784.30	793.10	727.10	821.70	873.40	701.80	684.20	1,084.60
JHV A040T-	B4CIATH	830.50	843.70	949.30	1,036.20	1,034.00	1,168.20	1,166.00	1,098.90	1,201.20	1,252.90	1,148.40	1,197.90	1,290.30	1,016.40	998.80	1,399.20
JHV A020G-	B2CIAG	236.50	284.90	421.30	438.90	435.60	594.00	580.80	479.60	631.40	627.00	558.80	653.40	705.10	515.90	501.60	841.50
JHV A323G-	B323CIAG	297.00	363.00	425.70	498.30	493.90	566.50	643.50	542.30	594.00	687.50	631.40	650.10	778.80	629.20	612.70	1,013.10
JHV A030G-	B3CIAG	486.20	542.30	679.80	688.60	680.90	840.40	827.20	735.90	873.40	882.20	811.80	906.40	959.20	789.80	772.20	1,191.30
JHV A040G-	B4CIAG	950.40	968.00	1,071.40	1,155.00	1,147.30	1,278.20	1,278.20	1,216.60	1,316.70	1,367.30	1,257.30	1,307.90	1,399.20	1,133.00	1,115.40	1,534.50
JHV A060G-	B6CIAG	2,075.70	2,150.50	2,376.00	2,305.60	2,728.00	3,021.70	2,875.40	2,830.30	3,135.00	2,998.60	2,827.00	3,014.00	2,979.90	2,874.30	3,048.10	4,029.30
JHV A020F-	B2CIAF	200.20	254.10	386.10	401.50	397.10	552.20	543.40	440.00	587.40	586.30	522.50	617.10	668.80	491.70	477.40	817.30
JHV A323F-	B323CIAF	343.20	436.70	518.10	559.90	552.20	638.00	720.50	597.30	667.70	745.80	709.50	751.30	867.90	785.40	764.50	1,267.20
JHV A030F-	B3CIAF	655.60	727.10	887.70	861.30	855.80	1,029.60	1,013.10	905.30	1,062.60	1,052.70	999.90	1,117.60	1,151.70	1,027.40	1,005.40	1,508.10
JHV A040F-	B4CIAF	972.40	1,026.30	1,164.90	1,172.60	1,167.10	1,324.40	1,313.40	1,221.00	1,359.60	1,367.30	1,298.00	1,392.60	1,445.40	1,274.90	1,254.00	1,756.70
JHV A060F-	B6CIAF	1,923.90	2,032.80	2,252.80	2,179.10	2,576.20	2,864.40	2,723.60	2,671.90	2,968.90	2,818.20	2,680.70	2,863.30	2,827.00	2,725.80	2,904.00	3,866.50
JHV A080F-	B8CIAF	3,276.90	3,289.00	3,495.80	3,469.40	4,070.00	4,999.50	4,517.70	4,200.90	5,156.80	4,481.40	5,122.70	5,288.80	4,154.70	4,308.70	4,276.80	5,239.30

Body Codes
<b>V</b> = EV = Plastic in-line Globe Valve
<b>P</b> = Plastic in-line high flow body
<b>C</b> = CI = Cast iron epoxy coated in-line high flow body
<b>A</b> = CIA = Cast iron Angle epoxy coated high flow body
007 = .75", 010 = 1", 015 = 1.5", 020 = 2", 030 = 3",
<b>Size:</b> 040 = 4", 060 = 6", 080 = 8", 100 = 10", 120 = 12",
323 = 2" body with 3" connections
<b>T</b> = TH = Female iron pipe Thread connections
<b>G</b> = GR = Grooved connections
<b>F</b> = FL = Flanged connections
<b>h</b> = HP = High pressure diaphragm 15 to 235 psi (ST)
<b>L</b> = LP = Low pressure diaphragm 8 to 140 psi (ST)

**Add or Subtract as needed:**

Brass Pilot .....\$308 ea.  
 Valves < 8" listed w plastic pilots  
 Plastic pilot rated to 100psi  
 PRPS have two pilots/valve

Solenoid  
 S to M or L upgrade .....\$88 ea.  
 Latching .....\$55 ea.

Manual Selector (M)  
 Valves < 6" .....\$36 ea.  
 Valves > 4" .....\$66 ea.

Descriptions Abbreviations	
B	Basic Body
M	Manual
MEL	Manual Electric
MRC	Manual Remote Control
PRM	Pressure Reducing Manual
PRMEL	Pressure Reducing Manual Electric
PRMRC	Pressure Reducing Manual Remote Control
PSM	Pressure Sustaining Manual
PSMEL	Pressure Sustaining Electric
PSMRC	Pressure Sustaining Manual Remote Control
PSPRM	Pressure Sustaining Pressure Producing Manual
PSPRMEL	Pressure Sustaining Pressure Reducing Manual Electric
PSPRMRC	Pressure Sustaining Pressure Reducing Manual Remote Control
QR or 2PS	Quick Reacting Pressure Relief or Sustaining (2 way)
2PR	Pressure reducing (2way)
2PR2PS	Pressure Sustaining and Pressure Reducing (2way)

# 2017 JAIN Hydraulic Valve Options List Price Adders

Body Model	Body Desc	c	f	g	n	i	p	s	a
NDJ V007T-	EV-075	x	x	x	x	x	x	x	x
NDJ V010T-	EV-010	x	x	x	x	x	x	x	x
NDJ V015T-	EV-015	x	x	x	x	x	x	x	x
NDJ V020T-	EV-020	x	x	x	x	x	x	x	x
JHV P015T-	1.5PTH	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV P020T-	2PTH	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV P030T-	3PTH	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV P040T-	4PTH	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV P030G-	3PGR	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV P040G-	4PGR	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV P040F-	4PFL	x	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C010T- <sub>1</sub>	1CIT	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C015T- <sub>1</sub>	1.5CIT	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C020T- <sub>1</sub>	2CIT	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C323T- <sub>1</sub>	323CIT	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C030T- <sub>1</sub>	3CIT	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C040T- <sub>1</sub>	4CIT	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C020G- <sub>1</sub>	2CIG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C323G <sub>1</sub>	323CIG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C030G- <sub>1</sub>	3CIG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C040G- <sub>1</sub>	4CIG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C060G- <sub>1</sub>	6CIG	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV C020F- <sub>1</sub>	2CIF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C323F- <sub>1</sub>	323CIF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C030F- <sub>1</sub>	3CIF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C040F- <sub>1</sub>	4CIF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV C060F- <sub>1</sub>	6CIF	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV C080F- <sub>1</sub>	8CIF	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV C100F- <sub>1</sub>	10CIF	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV C120F- <sub>1</sub>	12CIF	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV A020T- <sub>1</sub>	2CIATH	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A323T- <sub>1</sub>	323CIATH	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A030T- <sub>1</sub>	3CIATH	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A040T- <sub>1</sub>	4CIATH	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A020G- <sub>1</sub>	2CIAG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A323G <sub>1</sub>	323CIAG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A030G- <sub>1</sub>	3CIAG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A040G- <sub>1</sub>	4CIAG	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A060G- <sub>1</sub>	6CIAG	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV A020F- <sub>1</sub>	2CIAF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A323F- <sub>1</sub>	323CIAF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A030F- <sub>1</sub>	3CIAF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A040F- <sub>1</sub>	4CIAF	609.84	106.48	60.50	81.07	30.25	116.16	216.59	170.61
JHV A060F- <sub>1</sub>	6CIAF	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36
JHV A080F- <sub>1</sub>	8CIAF	609.84	106.48	60.50	81.07	54.45	211.75	216.59	624.36

option

Option Codes
c = copper tubing & brass fittings
f = external filters
g = fixed gauges
n = needle valve
i = isolation valve
p = push-lock fittings
s = stainless steel sleeve
a = accelerator

In the model option cells enter;

0 = no

code + 1 = at upstream port

code + 2 = at downstream port

code + 3 = at both ports

For options c, p, s & a 2 and 3 do not apply

For option g spec gage pressure by using:

03 = 30psi, 06 = 60 psi, 10 = 100psi, 16 = 160psi,  
20 = 200psi, 30 = 300 psi.

i.e. g116 = 160psi gauge upstream

i.e. g220 = 200psi gauge downstream

i.e. g31010 = 100psi gauge upstream and down stream.

List upstream first for g3

Remember fixed pressure gauges are not required.

Upstream and down stream Schrader valves are standard.

Pressure Hose Gauge Assemblies can be ordered separately.

(model = PHG##)

Required components are included as priced.

The valves will work properly without options



-<sub>1</sub> = add h for high pressure diaphragm or L for low pressee diaphragm

## 2017 JAIN Hydraulic Valves; weights, Dimensions & PN's



Body Model	Body Desc	PN (L)	PN (h)	Wt (lbs)	Length (in)	Width (in)	Hieght (in)
NDJ V007T	EV-075-FC	pending	x	0.75	4.30	3.20	4.20
NDJ V010T	EV-010-FC	pending	x	0.75	4.30	3.20	5.00
NDJ V015T	EV-015-FC	pending	x	1.65	6.30	5.00	7.10
NDJ V020T	EV-020-FC	pending	x	1.75	6.70	5.00	7.50
JHV P015T-	1.5PTH	14100009	x	1.50	7.30	4.90	4.10
JHV P020T-	2PTH	14100010	x	1.80	7.60	4.90	4.30
JHV P030T-	3PTH	14100025	x	3.10	9.40	6.30	6.00
JHV P040T-	4PTH	14100027	x	10.10	12.60	9.90	7.50
JHV P030G-	3PGR	14100026	x	3.10	8.70	6.30	5.90
JHV P040G-	4PGR	14100200	x	9.90	12.40	9.90	7.50
JHV P040F-	4PFL	14100033	x	16.80	19.80	9.90	9.20
JHV C010T- <sub>1</sub>	1CIT	14101008	14101021	3.30	6.14	3.70	2.76
JHV C015T- <sub>1</sub>	1.5CIT	14101009	14101023	4.40	6.26	3.78	3.15
JHV C020T- <sub>1</sub>	2CIT	14101000	14100120	7.70	7.48	4.92	3.94
JHV C323T- <sub>1</sub>	323CIT	14101010	pending	11.00	9.06	4.92	4.92
JHV C030T- <sub>1</sub>	3CIT	pending	14101020	24.20	11.42	7.87	5.43
JHV C040T- <sub>1</sub>	4CIT	pending	14101030	36.30	13.62	9.06	8.66
JHV C020G- <sub>1</sub>	2CIG	14101101	11401103	6.60	7.48	4.92	3.94
JHV C323G- <sub>1</sub>	323CIG	14101102	14101056	10.56	9.06	4.92	4.92
JHV C030G- <sub>1</sub>	3CIG	pending	14101110	23.76	11.42	7.87	5.43
JHV C040G- <sub>1</sub>	4CIG	pending	14101120	39.60	13.62	9.06	8.66
JHV C060G- <sub>1</sub>	6CIG	pending	14101122	72.60	16.22	11.81	9.49
JHV C020F- <sub>1</sub>	2CIF	14101055	14101056	17.38	7.48	6.50	6.26
JHV C323F- <sub>1</sub>	323CIF	14101047	14101048	24.20	9.06	7.87	6.89
JHV C030F- <sub>1</sub>	3CIF	14101040	14101025	38.50	11.14	7.87	7.87
JHV C040F- <sub>1</sub>	4CIF	pending	14101050	57.20	12.01	9.06	8.66
JHV C060F- <sub>1</sub>	6CIF	pending	14101060	101.20	15.98	11.81	11.61
JHV C080F- <sub>1</sub>	8CIF	pending	14101070	148.50	18.50	13.94	15.08
JHV C100F- <sub>1</sub>	10CIF	pending	14101080	244.20	25.00	18.27	16.93
JHV C120F- <sub>1</sub>	12CIF	pending	14101092	332.20	29.49	18.90	18.66
JHV A020T- <sub>1</sub>	2CIATH	14101090	14101006	9.24	3.54	4.92	5.91
JHV A323T- <sub>1</sub>	323CIATH	14101017	14101016	10.78	4.33	4.92	5.75
JHV A030T- <sub>1</sub>	3CIATH	14101027	14101026	26.40	5.83	7.87	8.07
JHV A040T- <sub>1</sub>	4CIATH	14101091	14101093	34.98	5.91	9.06	8.94
JHV A020G- <sub>1</sub>	2CIAG	pending	14101106	8.80	3.54	4.92	5.91
JHV A323G- <sub>1</sub>	323CIAG	14101101	14101116	10.34	4.33	4.92	5.75
JHV A030G- <sub>1</sub>	3CIAG	14101107	14101117	24.20	5.83	7.87	8.07
JHV A040G- <sub>1</sub>	4CIAG	14101108	14101118	34.32	5.91	9.06	8.94
JHV A060G- <sub>1</sub>	6CIAG	14101109	14101119	70.40	8.11	11.81	12.48
JHV A020F- <sub>1</sub>	2CIAF	pending	pending	17.82	4.41	6.50	0.32
JHV A323F- <sub>1</sub>	323CIAF	pending	pending	26.40	5.51	7.87	0.47
JHV A030F- <sub>1</sub>	3CIAF	14101057	14101041	41.80	6.06	7.87	0.75
JHV A040F- <sub>1</sub>	4CIAF	14101058	14101051	58.30	6.97	9.06	1.04
JHV A060F- <sub>1</sub>	6CIAF	14101069	pending	107.14	8.58	11.81	1.92
JHV A080F- <sub>1</sub>	8CIAF	14101071	pending	137.50	8.86	13.94	2.46

1 = L for Low Pressure Diaphragm or h for High Pressure Diaphragm  
 Use h unless operating below 15psi.



# 2017 JAIN Hydraulic Valve Model

## MODEL

Body						Components					Options									
Material	size			Connection	Diaphragm	Manual selector	Hydraulic relay	Pilot #1	Pilot #2	Solenoid	Cu Tube & ftrs	Ext Filtr	Fixed Gauges	Ext Needle Vlv	Iso Vlv	Push-Lk Ftrs	SS Sleeves	Accelerator		
JHV	P	0	3	0	T	-	M	H	P <sub>1</sub>	P <sub>2</sub>	S	+	c	f	g	n	i	p	s	a

JHV = JAIN Hydraulic Valve  
NDJ = Naan Dan JAIN valve

V = Plstc Globe Vlv  
P = Plastic High Flow Vlv  
C = Cast Iron High Flow in-line Vlv  
A = Cast Iron High Flow Angle Vlv

T = fipt  
G = Grooved  
F = Flanged

L = Low pressure  
H = High pressure  
only enter for  
Cast iron Vlv

M = yes  
0 = none

0 = none  
or enter code from  
Solenoid Table below  
For latching Solenoids  
consult factory

0 = none  
or enter code  
from Pilot tables

0 = none  
or enter code from  
Hydraulic Relay Table below

Code + 0 = none  
Code + 1 = 1 at upstream port  
Code + 2 = 1 at downstream port  
Code + 3 = 1 at both ports

For options c, p, s & a 2 & 3 do not apply.

For option g, spec gauge pressure  
03 = 30psi, 06 = 60psi, 10=100psi,  
16=160psi, 20=200psi, 30=300psi  
i.e. g106 = 60psi gauge in upstream port  
g31003 = 100psi gauge upstream & 30psi  
gauge downstream

.75"=007, 1"=010, 1.5"=015, 2"=020, 2'Bdy w  
3"connections=323, 3"=030, 4"=040, 6"=060,  
8"=080, 10"=100, 12"=120, 14"=140, 16"=160

## 2017 JAIN Hydraulic Valve Reference Tables

3-Way	N.O. Solenoids			N.C. Solenoids		
Add H for higher psi i.e. M2H	Valve Size			Valve Size		
	1'-2"	3"-4"	6"-12"	1'-2"	3"-4"	6"-12"
	Orifice Size			Orifice Size		
<b>Power</b>	1.6mm	2mm	2.4mm	1.6mm	2mm	2.4mm
24VAC	S1	M1	L1	S2	M2	L2
110VAC	S3	M3	L3	S4	M4	L4
12VDC	S5	M5	L5	S6	M6	L6
Max psi	117	117	117	87*	175*	147
H Max psi	220	175	147	220	175	YTBD
				*: S6=73, M6 =132		

N.O. solenoids provide a Normally Closed Valve  
N.C. solenoids provide a Normally Open Valve  
Normal condition is non-energized  
Valve condition is opposite solenoid

2-Way	N.O. Solenoids			N.C. Solenoids		
Add H for higher psi i.e. M2H	Valve Size			Valve Size		
	1'-2"	3"-4"	6"-12"	1'-2"	3"-4"	6"-12"
	Orifice Size			Orifice Size		
<b>Power</b>	1.6mm	2mm	2.4mm	1.6mm	2mm	2.4mm
24VAC	S7	M7	L7	S8	M8	L8
110VAC	S9	M9	L9	S10	M10	L10
12VDC	S11	M11	L11	S12	M12	L12
Max psi	220	294	220	175	175	220

Valve Size	3-Way Pilots			
	PR		PS	
	Reg Range		Reg Range	
6" ↓	8-18 psi	18-100 psi	8-18 psi	18-100 psi
8" ↑	8-80 psi	80-230 psi	8-80 psi	80-230 psi
	3Rr	3Ry	3Sr	3Sy

\* = if >100psi use 3Ry  
\*\* = if > 100psi use 3Sy

Valve Size	Brass 2-Way Pilots			
	PR		PS	
	Reg Range		Reg Range	
6" ↓	8-60 psi	60-175 psi	8-60 psi	60-140 psi
8" ↑	8-60 psi	60-230 psi	8-60 psi	60-230 psi
	61r	61y	81r	81y

\* = if > 175psi use 61Y  
\*\* = if >140 psi use 81Y

Option Codes
c = copper tubing & brass fittings
f = external filters
g = fixed gauges
n = needle valve
i = isolation valve
p = push-lock fittings
s = stainless steel sleeve
a = accelerator

add H for higher psi i.e. 9S2H	3way Latching Solenoid Table					
	N.O. Solenoid Valve Size			N.C. Solenoid Valve Size		
Pulse Amplitude Volts	Orifice Size			Orifice Size		
	1'-2"	3"-4"	6"-12"	1'-2"	3"-4"	6"-12"
	1.6mm	2.0mm	2.4mm	1.6mm	2.0mm	2.4mm
6	4S1	2M1	2L1	4S2	2M2	2L2
7.5	9S1	na	na	9S2	na	na
9	12S1	5M1	5L1	12S2	5M2	5L2
12	23S1	13M1	13L1	23S2	13M2	13L2
18	na	20M1	20L1	na	20M2	20L2
24	na	53M1	53L1	na	53M2	53L2
Max psi	117	176	147	88	205	147

Use N.O. solenoids on Normally Closed Valves  
Use N.C. solenoids on Normally Open Valves  
Latching solenoids are neither AC or DC.  
The plunger position changes with a single pulse  
Required pulse amplitude is a critical specification  
Consult controller and or capacitor for amplitude available  
Use listed amplitude closest to available amplitude

$$\Delta P_{max} = 50\% \text{ if } P_u > 150\text{psi}$$

$$\Delta P_{max} = 75\% \text{ if } 150\text{psi} > P_u > 100\text{psi}$$

$$\Delta P_{max} = 80\% \text{ if } P_u < 100\text{psi}$$

# 2017 JAIN Hydraulic Valve Reference Tables continued

Hydraulic Relay Table		31		32		33		34			
		Allowable elevation change		Control Pressure On: Valve open/regulating	Control Pressure On: Valve open/regulating	Control Pressure On: Valve closed	Control Pressure On: Valve full open	Control Pressure Off: Valve closed	Control Pressure Off: Valve full open	Control Pressure Off: Valve open/regulating	Control Pressure Off: Valve open/regulating
Spring	0-16 ft	Hc1	Ho1	Hc2	Ho2	none	0-16 ft	Hc1	Ho1	Hc2	Ho2
Yellow	16-32 ft	yc1	yo1	yc2	yo2	Green	32-45 ft	gc1	go1	gc2	go2
White	45-55 ft	wc1	wo1	wc2	wo2	Red	55-72 ft	rc1	r01	rc2	r02

add H for higher psi i.e.5M3H	2way Latching Solenoid Table					
	N.O. Solenoid Valve Size			N.C. Solenoid Valve Size		
	1"-2"	3"-4"	6"-12"	1"-2"	3"-4"	6"-12"
	Orifice Size			Orifice Size		
Pulse Amplitude Volts	1.6mm	2.0mm	2.4mm	1.6mm	2.0mm	2.4mm
6	4S3	2M3	2L3	4S4	2M4	2L4
7.5	na	na	na	9S4	na	na
9	9S3	5M3	5L3	na	54	5L4
12	12S3	13M3	13L3	12S4	13M4	13L4
18	23S3	20M3	20L3	23S4	20M4	20L4
24	53S3	53M3	53L1	na	53M4	53L4
Max psi	186	186	186	90	186	186



Control Chamber Volume	
Valve Size (in)	Gallons
1	0.02
1.5	0.02
2	0.02
3	0.08
4	0.21
6	0.41
8	0.92
10	2.01
12	2.01
14	2.01

Use N.O. solenoids on Normally Closed Valves

Use N.C. solenoids on Normally Open Valves

Latching solenoids are neither AC or DC.

The plunger position changes with a single pulse

Required pulse amplitude is a critical specification

Consult controller and or capacitor for amplitude available

Use listed amplitude closest to available amplitude

## Reaction Times

1.6mm Orifice		Seconds								
		Δ5	Δ10	Δ20	Δ30	Δ40	Δ50	Δ60	Δ70	
Valve Size (in)	Gal	gpm 0.29	gpm 0.50	gpm 0.55	gpm 0.69	gpm 0.79	gpm 0.85	gpm 0.98	gpm 1.03	
1	0.02	4	2	2	2	2	1	1	1	
1.5	0.02	4	2	2	2	2	1	1	1	
2	0.02	4	2	2	2	2	1	1	1	
3	0.08	17	10	9	7	6	6	5	5	
4	0.21	43	25	23	18	16	15	13	12	
6	0.41	85	49	44	36	31	29	25	24	
8	0.92	190	110	100	80	70	65	56	54	
10	2.01	415	240	217	176	152	143	123	117	
12	2.01	415	240	217	176	152	143	123	117	
14	2.01	415	240	217	176	152	143	123	117	

2.4mm orifice		Seconds								
		Δ5	Δ10	Δ20	Δ30	Δ40	Δ50	Δ60	Δ70	
Valve Size (in)	Gallons	gpm 2.80	gpm 3.90	gpm 5.50	gpm 6.80	gpm 7.90	gpm 9.00	gpm 9.60	gpm 10.50	
1	0.02	0	0	0	0	0	0	0	0	
1.5	0.02	0	0	0	0	0	0	0	0	
2	0.02	0	0	0	0	0	0	0	0	
3	0.08	2	1	1	1	1	1	0	0	
4	0.21	4	3	2	2	2	1	1	1	
6	0.41	9	6	4	4	3	3	3	2	
8	0.92	20	14	10	8	7	6	6	5	
10	2.01	43	31	22	18	15	13	13	11	
12	2.01	43	31	22	18	15	13	13	11	
14	2.01	43	31	22	18	15	13	13	11	

2.0mm Orifice		Seconds								
		Δ5	Δ10	Δ20	Δ30	Δ40	Δ50	Δ60	Δ70	
Valve Size (in)	Gallons	gpm 1.50	gpm 2.10	gpm 3.00	gpm 3.70	gpm 4.40	gpm 4.75	gpm 5.20	gpm 5.75	
1	0.02	1	0	0	0	0	0	0	0	
1.5	0.02	1	0	0	0	0	0	0	0	
2	0.02	1	1	0	0	0	0	0	0	
3	0.08	3	2	2	1	1	1	1	1	
4	0.21	8	6	4	3	3	3	2	2	
6	0.41	16	12	8	7	6	5	5	4	
8	0.92	37	26	18	15	13	12	11	10	
10	2.01	80	57	40	33	27	25	23	21	
12	2.01	80	57	40	33	27	25	23	21	
14	2.01	80	57	40	33	27	25	23	21	

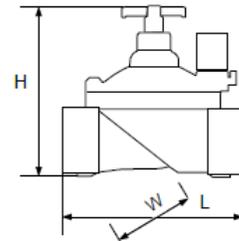
Model #	Part #	EV Plastic Globe Valves (2wy NC)	Coil	List	Wt (lbs)	L(in)	W(in)	H(in)
NDJV007-3	14103005	EV-075-FC-12VDC Vlv Cmplt Plstc NC 3/4"fipt w FC & Slnd Coil	EV3	44.00	1.65	6.3	5	7.1
NDJV010-3	14103006	EV-010-FC-12VDC Vlv Cmplt Plstc NC 1"fipt w FC & Slnd Coil	EV3	44.00	1.65	6.3	5	7.1
NDJV015-3	14103007	EV-015-FC-12VDC Vlv Cmplt Plstc NC 1.5"fipt w FC & Slnd Coil	EV3	110.00	1.65	6.3	5	7.1
NDJV020-3	14103008	EV-020-FC-12VDC Vlv Cmplt Plstc NC 2"fipt w FC & Slnd Coil	EV3	147.40	1.65	6.3	5	7.1
NDJV007-2	14103010	EV-075-FC-110VAC Vlv Cmplt Plstc NC 3/4"fipt w FC & Slnd Coil	EV2	44.00	0.75	4.3	3.2	5
NDJV010-2	14103013	EV-010-FC-110VAC Vlv Cmplt Plstc NC 1"fipt w FC & Slnd Coil	EV2	44.00	0.75	4.3	3.2	5
NDJV015-2	14103018	EV-015-FC-110VAC Vlv Cmplt Plstc NC 1.5"fipt w FC & Slnd Coil	EV2	110.00	0.75	4.3	3.2	5
NDJV020-2	14103020	EV-020-FC-110VAC Vlv Cmplt Plstc NC 2"fipt w FC & Slnd Coil	EV2	147.40	0.75	4.3	3.2	5
NDJV007-1	14103021	EV-075-FC-24VAC Vlv Cmplt Plstc NC 3/4"fipt w FC & Slnd Coil	EV1	44.00	0.75	4.3	3.2	4.2
NDJV010-1	14103012	EV-010-FC-24VAC Vlv Cmplt Plstc NC 1"fipt w FC & Slnd Coil	EV1	44.00	0.75	4.3	3.2	4.2
NDJV015-1	14103017	EV-015-FC-24VAC Vlv Cmplt Plstc NC 1.5"fipt w FC & Slnd Coil	EV1	110.00	0.75	4.3	3.2	4.2
NDJV020-1	14103019	EV-020-FC-24VAC Vlv Cmplt Plstc NC 2"fipt w FC & Slnd Coil	EV1	147.40	0.75	4.3	3.2	4.2
NDJV007-4	14103011	EV-075-FC-DCL Vlv Cmplt Plstc NC 3/4"fipt w FC & Slnd Coil	EV4	44.00	1.75	6.7	5	7.5
NDJV010-4	14103014	EV-010-FC-DCL Vlv Cmplt Plstc NC 1"fipt w FC & Slnd Coil	EV4	44.00	1.75	6.7	5	7.5
NDJV015-4	14103015	EV-015-FC-DCL Vlv Cmplt Plstc NC 1.5"fipt w FC & Slnd Coil	EV4	110.00	1.75	6.7	5	7.5
NDJV020-4	14103022	EV-020-FC-DCL Vlv Cmplt Plstc NC 2"fipt w FC & Slnd Coil	EV4	134.00	1.75	6.7	5	7.5

### MAIN FEATURES

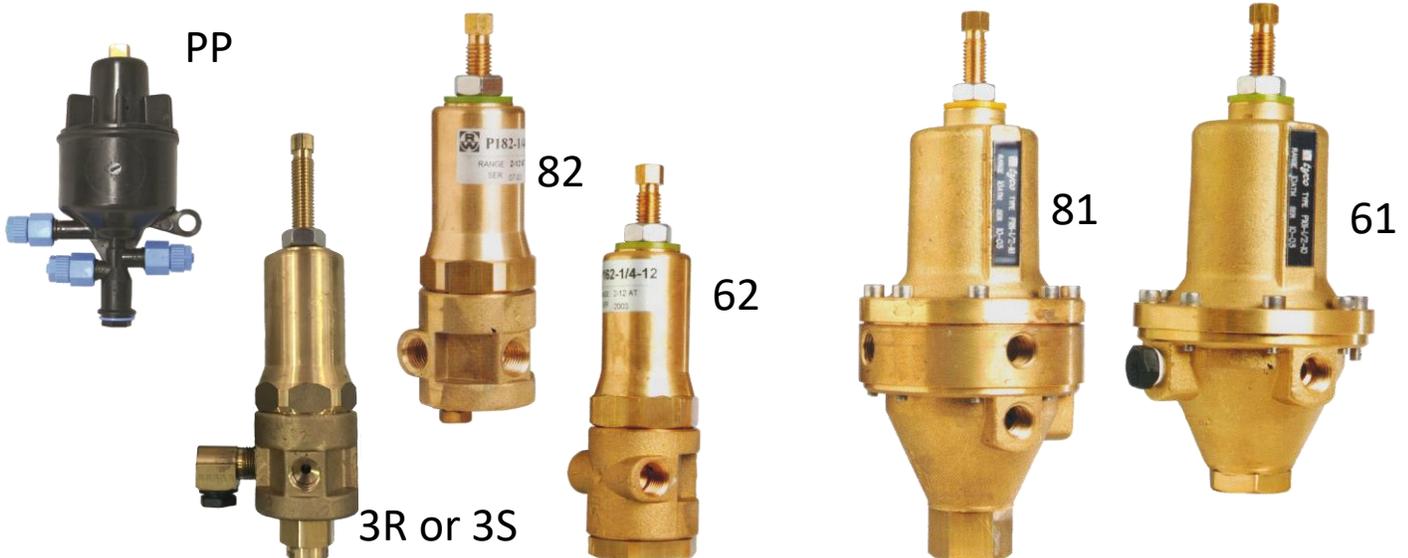
- 3/4"–2" electric valve
- High performance integral solenoids
- Low head losses at high flow rates
- Wide range of operation pressures
- Smooth valve operation minimizes pressure surges
- Flow control handle allows flow rate adjustment
- Manual solenoid override
- Direct current (AC) as standard, pulse (Latch) actuation supplied on request

### TECHNICAL DATA

- Max. operating pressure: 10 bar / 145 psi
- End connections: Female BSP (Standard) / NPT (American)
- Electrical data: Direct current: 24 VAC,  
Inrush: 0.4 A  
Holding: 0.2 A
- DC pulse: 9-12 VDC Latch
- Max. water temperature: 60° C



Part #	Model	Components			
		Manual Selectors, Relays and Pilots	List Price (\$/ea)	UNT Wt. (oz)	UNT Cube (ft3)
<b>Manual Selector Valves</b>					
34100383	MS18	Vlv Ftg: Brs Vlv 3wy 1/4"mipt x (3) 1/8"fipt, 3.2mm	45.10	4.6	0.0052
34100384	MS14	Vlv Ftg: Brs Vlv 3wy 1/4"mipt x (3) 1/4"fipt, 3.2mm	45.10	4.6	0.0052
Pending	MS14	Vlv Ftg: Brs Vlv 3wy 1/2"mipt x (3) 1/4"fipt, 6.0mm	84.70	8.5	0.0109
<b>Hydraulic Relays and Accessories</b>					
34100282	Ho	Vlv Rly: Plstc 1/8"fipt (no sprng)	113.30	3.5	0.0101
34100275	Hy	Vlv Rly Acc: Sprng Ylw (16-32')	6.60	0.6	0.0002
34100276	Hg	Vlv Rly Acc: Sprng Grn (32-45')	6.60	0.6	0.0002
34100277	Hw	Vlv Rly Acc: Sprng Wht (45-55')	6.60	0.6	0.0002
34100278	Hr	Vlv Rly Acc: Sprng Red (55-72')	6.60	0.6	0.0002
<b>Pilots 3way Plastic and Accessories</b>					
34100463	PPo	Vlv Plt: Plstc 3wy Rdc or Sst 1/4"mipt & fipt (no sprng)	165.00	1.3	0.0641
34100267	Pb	Vlv Plt Acc: Sprng Blu (8-22psi) for PPlt	30.80	1.6	0.0012
34100269	Ps	Vlv Plt Acc: Sprng Slvr (15-100psi) for PPlt	30.80	1.6	0.0012
34100298	PaT	Vlv Plt Acc: Mntg Tongue for PPO	5.50	0.3	0.0001
<b>Pilots 3way Brass and Accessories</b>					
34100455	3Ro	Vlv Plt: Brs 3wy Rdc 1/4"fipt (no spring)	563.20	29.0	0.0137
34100456	3So	Vlv Plt: Brs 3wy Sst 1/4"fipt (no spring)	563.20	29.0	0.0137
34100292	Br	Vlv Plt Acc: Sprng Red (8-117psi) for Brs 3wy Plt, 2wy 62 & 82	7.70	1.7	0.0014
34100291	Bg	Vlv Plt Acc: Sprng Grn (29-174psi) for Brs 3wy Plt, 2wy 62	7.70	1.7	0.0014
34100290	By	Vlv Plt Acc: Sprng Ylw (16-235psi) for Brs 3wy Plt, 2wy 82	7.70	1.7	0.0014
<b>Pilots 2way Brass for Valves &lt; 6" and Accessories</b>					
34100452	62o	Vlv Plt: Brs 2wy Rdc 1/4"fipt (no spring) for VlvS < 6"	415.80	29.0	0.0174
34100454	82o	Vlv Plt: Brs 2wy Sst 1/4"fipt (no spring) for VlvS < 6" & psi < 140	415.80	29.0	0.0174
34100292	Br	Vlv Plt Acc: Sprng Red (8-117psi) for Brs 3wy Plt, 2wy 62 & 82	7.70	1.7	0.0014
34100290	By	Vlv Plt Acc: Sprng Ylw (16-235psi) for Brs 3wy Plt, 2wy 62	7.70	1.7	0.0014
<b>Pilots 2way Brass for Valves &gt; 4" and Accessories</b>					
34100451	61	Vlv Plt: Brs 2wy Rdc 1/4"fipt (no spring) for VlvS > 4"	556.60	105.0	0.0713
34100454	81	Vlv Plt: Brs 2wy Sst 1/4"fipt (no spring) for VlvS > 4"	556.60	64.0	0.0578
34100295	B1r	Vlv Plt Acc: Sprng Red (8-88psi) for Brs 2wy 61 & 81 Plt	7.70	4.0	0.0024
34100293	B1y	Vlv Plt Acc: Sprng Ylw (29-235psi) for Brs 2wy 61 & 81 Plt	7.70	4.0	0.0024
<b>Pilot Brass Parts</b>					
34100297	44886	Vlv Plt Acc: Stl Mntg Brkt for Brs Plt	33.00	1.8	0.0004
34100570	BRM2	Vlv Plt Acc: Stl Mntg Blt Pair for 2" CI	13.20	6.0	0.0021
34100571	BRM3	Vlv Plt Acc: Stl Mntg Blt Pair for 3" CI	13.20	6.0	0.0021
34100572	BRM4-8	Vlv Plt Acc: Stl Mntg Blt Pair for 4" CI	19.80	6.0	0.0021
34100575	BRM10-12	Vlv Plt Acc: Stl Mntg Blt Pair for 10" CI	19.80	6.0	0.0021



Part #	MDL	Standard Solenoids	List Price (\$/ea)	UNT Wt. (oz)	UNT Cube (ft3)	Max Psi	Nominal Resistance	Nominal Voltage	Volt max	Volt min	In-Rush (A)	Holding(A)	watt
<b>Solenoids 3way Normally Open</b>													
14105300	S1	Vlv Slnd: 3wy NO 24VAC wo diode 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	84.62	3.3	0.003	117	24	24	26.4	19.2	0.14	0.12	3
14105310	M1	Vlv Slnd: 3wy NO 24VAC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	117	104	24	26.4	21.6	0.28	0.23	5.5
14105320	L1	Vlv Slnd: 3wy NO 24VAC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	117	9.3	24	26.4	21.6	0.41	0.33	8
14105301	S3	Vlv Slnd: 3wy NO 110VAC wo diode 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	84.62	3.3	0.003	117	820	110	121	88	0.02	0.01	2
14105311	M3	Vlv Slnd: 3wy NO 110VAC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	117	228	110	121	99	0.06	0.05	5.5
14105321	L3	Vlv Slnd: 3wy NO 110VAC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	117	228	110	121	99	0.09	0.07	8
14105302	S5	Vlv Slnd: 3wy NO 12VDC 1.6mm Plstc 1/8"fipt Plstc Ovrde 2 wire	84.62	3.3	0.003	117	32	12	13.2	9.6	0.375	0.375	4.5
14105312	M5	Vlv Slnd: 3wy NO 12VDC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	117	40	12	13.2	10.8	0.45	0.45	5.5
14105322	L5	Vlv Slnd: 3wy NO 12VDC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	117	25	12	13.2	10.8	0.83	0.833	10
<b>Solenoids 3way Normally Closed</b>													
14105303	S2	Vlv Slnd: 3wy NC 24VAC wo diode 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	84.62	3.3	0.003	87	24	24	26.4	19.2	0.14	0.12	3
14105313	M2	Vlv Slnd: 3wy NC 24VAC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	147	9.3	24	26.4	21.6	0.28	0.23	5.5
14105323	L2	Vlv Slnd: 3wy NC 24VAC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	147	7.6	24	26.4	21.6	0.41	0.33	8
14105304	S4	Vlv Slnd: 3wy NC 110VAC wo diode 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	84.62	3.3	0.003	87		110	121	88	0.02	0.01	2
14105314	M4	Vlv Slnd: 3wy NC 110VAC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	147	228	110	121	99	0.06	0.05	5.5
14105324	L4	Vlv Slnd: 3wy NC 110VAC 2.4mm Brs 1/4"fipt Plstc Ovrde, Mld Cable	173.74	9.3	0.007	147	165	110	121	99	0.09	0.07	8
14105305	S6	Vlv Slnd: 3wy NC 12VDC 1.6mm Plstc 1/8"fipt Plstc Ovrde 2 wire	84.62	3.3	0.003	73	32	12	13.2	9.6	0.38	0.38	5
14105315	M6	Vlv Slnd: 3wy NC 12VDC 2mm Brs 1/8"fipt Plstc Ovrde, Mld Cable	173.74	9.3	0.007	132	25	12	13.2	10.8	0.45	0.45	6
14105325	L6	Vlv Slnd: 3wy NC 12VDC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	173.74	9.3	0.007	147	14.5	12	13.2	10.8	0.83	0.83	10
<b>Solenoids 2way Normally Open</b>													
14105200	S7	Vlv Slnd: 2wy NO 24VAC 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	81.40	9.3	0.007	367	7.6	24	26.4	19.2	0.2	0.14	4.5
14105210	M7	Vlv Slnd: 2wy NO 24VAC 2mm Brs 1/8"fipt Plstc Ovrde, Mld Cable	172.70	9.3	0.007	294	7.6	24	26.4	19.2	0.28	0.22	5.5
14105220	L7	Vlv Slnd: 2wy NO 24VAC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	172.70	9.3	0.007	220	7.6	24	26.4	19.2	0.39	0.33	8
14105201	S9	Vlv Slnd: 2wy NO 110VAC 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	81.40	9.3	0.007	367	165	110	121	88	0.02	0.02	2
14105211	M9	Vlv Slnd: 2wy NO 110VAC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	172.70	9.3	0.007	294	165	110	121	88	0.06	0.05	5.5
14105221	L9	Vlv Slnd: 2wy NO 110VAC 2.4mm Brs 1/4"fipt Plstc Ovrde, Mld Cable	172.70	9.3	0.007	220	165	110	121	88	0.08	0.07	8
14105202	S11	Vlv Slnd: 2wy NO 12VDC, 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	81.40	9.3	0.007	367	14.5	12	13.2	9.6	0.375	0.375	4.5
14105212	M11	Vlv Slnd: 2wy NO 12VDC 2mm Brs 1/8"fipt Plstc Ovrde Mld Cable	172.70	9.3	0.007	294	14.5	12	13.2	9.6	0.45	0.45	5.5
14105222	L11	Vlv Slnd: 2wy NO 12VDC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	172.70	9.3	0.007	220	14.5	12	13.2	9.6	0.83	0.83	10
<b>Solenoids 2way Normally Closed</b>													
14105203	S8	Vlv Slnd: 2wy NC 24VAC wo diode 1.6mm Plstc 1/8"fipt Plstc Ovrde 2 wire	81.40	3.3	0.003	175	24	24	26.4	19.2	0.2	0.14	5
14105213	M8	Vlv Slnd: 2wy NC 24VAC wo diode, 2mm Plstc 1/8"fipt Plstc Ovrde 2 wire	172.70	3.3	0.003	175	24	24	26.4	19.2	0.28	0.22	6
14105223	L8	Vlv Slnd: 2wy NC 24VAC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	172.70	9.3	0.007	220	7.6	24	26.4	21.6	0.39	0.33	10
14105204	S10	Vlv Slnd: 2wy NC 110VAC wo diode 1.6mm Plstc 1/8"fipt Plstc Ovrde 2 wire	81.40	3.3	0.003	175	820	110	121	88	0.02	0.02	2
14105214	M10	Vlv Slnd: 2wy NC 110VAC wo diode 2mm Plstc 1/8"fipt Plstc Ovrde 2 wire	172.70	3.3	0.003	175	820	110	121	99	0.06	0.05	6
14105224	L10	Vlv Slnd: 2wy NC 110VAC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld Cable	172.70	9.3	0.007	220	1195	110	121	99	0.08	0.07	8
14105205	S12	Vlv Slnd: 2wy NC 12VDC 1.6mm plstc 1/8"fipt Plstc Ovrde 2 wire	81.40	3.3	0.003	175	32	12	13.2	9.6	0.375	0.375	2
14105215	M12	Vlv Slnd: 2wy NC 12VDC 2mm Plstc 1/8"fipt Plstc Ovrde 2 wire	172.70	3.3	0.003	175	32	12	13.2	10.8	0.45	0.45	6
14105225	L12	Vlv Slnd: 2wy NC 12VDC 2.4mm Brs 1/4"fipt Plstc Ovrde Mld cable	172.70	9.3	0.007	220	14.5	12	13.2	10.8	0.83	0.83	10
<b>2way coils for EV valves</b>													
14103058	EV1	Vlv Prt: Slnd Coil 2wy 24VAC NC wo diode for EV valve	57.20	3	0.002	176	36.5	24	26.4	19.2	0.09	0.08	2
14103057	EV2	Vlv Prt: Slnd Coil 2wy 110VAC NC for EV Valve	74.80	3	0.002	176	820	110	121	88	0.2	0.02	2
14103076	EV3	Vlv Prt: Slnd Coil 2wy 12VDC NC for EV Valve	57.20	3	0.002	176	32	12	13.2	9.6	0.8	0.375	4.5
14103059	EV4	Vlv Prt: Slnd Coil 2wy Ltch 9Ω for EV valve w Galcon DC controller	60.50	3	0.002	176	9.1						2
14103077	EV5	Vlv Prt: Slnd Coil 2wy Ltch 4Ω for EV valve w Baccara DC controller	60.50	3	0.002	176	4.1						2

AWG	Cir Mils
12	6530
14	4107
16	2583
18	1624
20	1022
22	642
24	404

Wire run w one 24VAC G75		AVD Volt	Current Amp	Length ft
AWG	Cir Mils	7.2	0.14	
12	6530	7.2	0.14	16,191
14	4107	7.2	0.14	10,183
16	1583	7.2	0.14	3,925
18	1624	7.2	0.14	4,027
20	1022	7.2	0.14	2,534
22	642	7.2	0.14	1,592
24	404	7.2	0.14	1,002

$$AVD = I \times 2 \times L \times 10.371/CM$$

AVD = Allowable Voltage Drop

I = current in amps

L = length in feet

CM = Wire Cross Section Area in Circular Mils

# Latching Solenoids



S



M & L



EV



Part #	Model	Latching Solenoids	List Price (\$/ea)	UNT Wt. (oz)	UNT Cube (ft3)	Mx (psi)	Resis- tance (Ohm)	Pulse (V)	Length (ms)
<b>Solenoids 3way Latching Normally Open</b>									
14105331	4S1	Vlv SlnD: 3wy NO Ltch 4Ω 1.6mm Plstc 1/8"fipt	80.67	3.3	0.0033	117	4.1	6	30-50
14103055	9S1	Vlv SlnD: 3wy NO Ltch 9Ω 1.6mm Plstc 1/8"fipt	75.93	3.3	0.003	117	9.1	8	30-50
14105334	12S1	Vlv SlnD: 3wy NO Ltch 12Ω 1.6mm Plstc 1/8"fipt	87.61	3.3	0.003	117	12	9	30-50
14105336	23S1	Vlv SlnD: 3wy NO Ltch 23Ω 1.6mm Plstc 1/8"fipt	87.61	3.3	0.003	117	23	12	30-50
1410534	2M1	Vlv SlnD: 3wy NO Ltch 2Ω 2mm Brs 1/8"fipt	195.74	9.3	0.007	176	2	6	30-50
14105342	5M1	Vlv SlnD: 3wy NO Ltch 5Ω 2mm Brs 1/8"fipt	195.74	9.3	0.007	176	5	9	30-50
14105344	13M1	Vlv SlnD: 3wy NO Ltch 13Ω 2mm Brs 1/8"fipt	195.74	9.3	0.007	176	13	12	30-50
14105346	20M1	Vlv SlnD: 3wy NO Ltch 20Ω 2mm Brs 1/8"fipt	254.13	9.3	0.007	176	20	18	30-50
14105342	53M1	Vlv SlnD: 3wy NO Ltch 53Ω 2mm Brs 1/8"fipt	195.74	9.3	0.007	176	53	24	30-50
14105350	2L1	Vlv SlnD: 3wy NO Ltch 2Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	2	6	30-50
14105352	5L1	Vlv SlnD: 3wy NO Ltch 5Ω 2.4mm Brs 1/4"fipt	195.74	9.3	0.007	147	5	9	30-50
14105354	13L1	Vlv SlnD: 3wy NO Ltch 13Ω 2.4mm Brs 1/4"fipt	195.74	9.3	0.007	147	13	12	30-50
14105356	20L1	Vlv SlnD: 3wy NO Ltch 20Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	20	18	30-50
14105358	53L1	Vlv SlnD: 3wy NO Ltch 53Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	53	24	30-50
<b>Solenoids 3way Latching Normally Closed</b>									
14105332	4S2	Vlv SlnD: 3wy NC Ltch 4Ω 1.6mm Plstc 1/8"fipt	83.49	3.3	0.003	88	4.1	6	30-50
14105333	9S2	Vlv SlnD: 3wy NC Ltch 9Ω 1.6mm Plstc 1/8"fipt	80.67	3.3	0.003	88	9.1	6	30-50
14105335	12S2	Vlv SlnD: 3wy NC Ltch 12Ω 1.6mm Plstc 1/8"fipt	87.61	3.3	0.003	88	12	9	30-50
14105337	23S2	Vlv SlnD: 3wy NC Ltch 23Ω 1.6mm Plstc 1/8"fipt	87.61	3.3	0.003	88	23	12	30-50
14105341	2M2	Vlv SlnD: 3wy NC Ltch 2Ω 2mm Brs 1/8"fipt	195.74	9.3	0.007	205	2	6	30-50
14105343	5M2	Vlv SlnD: 3wy NC Ltch 5Ω 2mm Brs 1/8"fipt	195.75	9.3	0.007	205	5	9	30-50
14105345	13M2	Vlv SlnD: 3wy NC Ltch 13Ω 2mm Brs 1/8"fipt	195.75	9.3	0.007	205	13	12	30-50
14105347	20M2	Vlv SlnD: 3wy NC Ltch 20Ω 2mm Brs 1/8"fipt	195.75	9.3	0.007	205	20	18	30-50
14105349	53M2	Vlv SlnD: 3wy NC Ltch 53Ω 2mm Brs 1/8"fipt	195.75	9.3	0.007	205	53	24	30-50
14105351	2L2	Vlv SlnD: 3wy NC Ltch 2Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	2	6	30-50
14105353	5L2	Vlv SlnD: 3wy NC Ltch 5Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	5	9	30-50
14105355	13L2	Vlv SlnD: 3wy NC Ltch 13Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	13	12	30-50
14105357	20L2	Vlv SlnD: 3wy NC Ltch 20Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	20	18	30-50
14105359	53L2	Vlv SlnD: 3wy NC Ltch 53Ω 2.4mm Brs 1/4"fipt	195.75	9.3	0.007	147	53	24	30-50
<b>Solenoids 2way Latching Normally Open</b>									
14105360	2S3	Vlv SlnD: 2wy NO Ltch 4Ω 1.6mm Brs 1/8"fipt	55.00	9.3	0.007	235	2	6	30-50
14105362	9S3	Vlv SlnD: 2wy NO Ltch 9Ω 1.6mm Brs 1/8"fipt	55.00	9.3	0.007	235	5	9	30-50
14105364	12S3	Vlv SlnD: 2wy NO Ltch 12Ω 1.6mm Brs 1/8"fipt	55.00	9.3	0.007	235	12	12	30-50
14105366	23S3	Vlv SlnD: 2wy NO Ltch 23Ω 1.6mm Brs 1/8"fipt	55.00	9.3	0.007	235	23	18	30-50
14105368	53S3	Vlv SlnD: 2wy NO Ltch 53Ω 1.6mm Brs 1/8"fipt	55.00	9.3	0.007	235	53	24	30-50
14105370	2M3	Vlv SlnD: 2wy NO Ltch 2Ω 2mm Brs 1/8"fipt	148.50	9.3	0.007	235	2	6	30-50
14105372	5M3	Vlv SlnD: 2wy NO Ltch 5Ω 2mm Brs 1/8"fipt	148.50	9.3	0.007	235	5	9	30-50
14105374	13M3	Vlv SlnD: 2wy NO Ltch 13Ω 2mm Brs 1/8"fipt	148.50	9.3	0.007	235	13	12	30-50
14105376	20M3	Vlv SlnD: 2wy NO Ltch 20Ω 2mm Brs 1/8"fipt	148.50	9.3	0.007	235	20	18	30-50
14105378	53M3	Vlv SlnD: 2wy NO Ltch 53Ω 2mm Brs 1/8"fipt	148.50	9.3	0.007	235	53	24	30-50
14105380	2L3	Vlv SlnD: 2wy NO Ltch 2Ω 2.4mm Brs 1/4"fipt	148.50	9.3	0.007	220	2	6	30-50
14105382	5L3	Vlv SlnD: 2wy NO Ltch 5Ω 2.4mm Brs 1/4"fipt	148.50	9.3	0.007	220	5	9	30-50
14105384	13L3	Vlv SlnD: 2wy NO Ltch 13Ω 2.4mm Brs 1/4"fipt	148.50	9.3	0.007	220	13	12	30-50
14105386	20L3	Vlv SlnD: 2wy NO Ltch 20Ω 2.4mm Brs 1/4"fipt	148.50	9.3	0.007	220	20	18	30-50
14105388	53L3	Vlv SlnD: 2wy NO Ltch 53Ω 2.4mm Brs 1/4"fipt	148.50	9.3	0.007	220	53	24	30-50
<b>Solenoids 2way Latching Normally Closed</b>									
14105361	4S4	Vlv SlnD: 2wy NC Ltch 4Ω 1.6mm Plstc 1/8"fipt	56.41	3.3	0.003	176	4.1	6	30-50
14105363	9S4	Vlv SlnD: 2wy NC Ltch 9Ω 1.6mm Plstc 1/8"fipt	56.41	3.3	0.003	176	9.1	7.5	30-50
14105365	12S4	Vlv SlnD: 2wy NC Ltch 12Ω 1.6mm Plstc 1/8"fipt	56.41	3.3	0.003	176	12	9	30-50
14105367	23S4	Vlv SlnD: 2wy NC Ltch 23Ω 1.6mm Plstc 1/8"fipt	56.41	3.3	0.003	176	23	12	30-50
14105371	2M4	Vlv SlnD: 2wy NC Ltch 2Ω 2mm Brs 1/8"fipt	159.50	9.3	0.007	235	2	6	30-50
14105373	5M4	Vlv SlnD: 2wy NC Ltch 5Ω 2mm Brs 1/8"fipt	159.50	9.3	0.007	235	5	9	30-50
14105375	13M4	Vlv SlnD: 2wy NC Ltch 13Ω 2mm Brs 1/8"fipt	159.50	9.3	0.007	235	13	12	30-50
14105377	20M4	Vlv SlnD: 2wy NC Ltch 20Ω 2mm Brs 1/8"fipt	159.50	9.3	0.007	235	20	18	30-50
14105379	53M4	Vlv SlnD: 2wy NC Ltch 53Ω 2mm Brs 1/8"fipt	159.50	9.3	0.007	235	53	24	30-50
14105381	2L4	Vlv SlnD: 2wy NC Ltch 2Ω 2.4mm Brs 1/4"fipt	159.50	9.3	0.007	235	2	6	30-50
14105383	5L4	Vlv SlnD: 2wy NC Ltch 5Ω 2.4mm Brs 1/4"fipt	159.50	9.3	0.007	235	5	9	30-50
14105385	13L4	Vlv SlnD: 2wy NC Ltch 13Ω 2.4mm Brs 1/4"fipt	159.50	9.3	0.007	235	13	12	30-50
14105387	20L4	Vlv SlnD: 2wy NC Ltch 20Ω 2.4mm Brs 1/4"fipt	159.50	9.3	0.007	235	20	18	30-50
14105389	53L4	Vlv SlnD: 2wy NC Ltch 53Ω 2.4mm Brs 1/4"fipt	159.50	9.3	0.007	235	53	24	30-50
<b>Solenoid Accessories</b>									
pending	LDOS1	Vlv SlnD Acc: LDOS 24VAC	382.8	0.3	0.007	na	na	na	na
pending	LDOS2	Vlv SlnD Acc: LDOS 12VDC	382.8	9.3	0.007	na	na	na	na
pending	LDO1	Vlv SlnD Acc: LDO 24VAC & 12VDC	107.8	3.3	0.003	na	na	na	na
pending	SMS75	Vlv SlnD Acc: Manifold Mounting Strip G75 (\$/ft)	5.64	0.2	0.008	na	na	na	na
pending	SMS	Vlv SlnD Acc: Manifold Mounting Strip GEM (\$/ft)	5.64	0.2	0.008	na	na	na	na

# Fittings



Part #	Model	Fittings	List Price (\$/ea)	UNT Wt. (oz)	UNT Cube (ft3)
<b>Finger Filters</b>					
34100380	FI-P-1/8-1/4	Vlv Ftg: Plstc Scrn 1/8"fipt x 1/4"mipt	16.92	0.3	0.0009
34100381	PI-B-1/4-1/4	Vlv Ftg: Brs Scrn 1/4"fipt x 1/4"mipt	33.85	1.9	0.0012
34100382	FI-B-1/4-1/2	Vlv Ftg: Brs Scrn 1/4"fipt x 1/2"mipt	56.41	2.4	0.0017
<b>Specialtiy Valves</b>					
34100388	BK-1/4NP	Vlv Ftg: Brs Ball Valve 1/4" fipt x mipt	22.56	2.9	0.0017
34100389	BK-1/2NP	Vlv Ftg: Brs Ball Valve 1/2" fipt x mipt	46.76	4.2	0.0024
34100387	BM-1/4-33	Vlv Ftg: Brs Needle Valve 1/4" fipt	56.41	3.3	0.0015
12070014	APS18	Vlv Ftg: Brs vlv Schdr1/4" mipt	3.10	0.5	0.0003
34100385	T-BORDER-PL	Vlv Ftg: Plstc T Chk (Shtl) 1/8" mipt x 8mmC	71.08	0.5	0.0021
34100386	T-BORDER-1/4	Vlv Ftg: Brs T Chk (Shtl) 1/4" fipt	137.25	3.3	0.0009
<b>Metal Threaded Fittings</b>					
34100050	VFN18M	Vlv Ftg: Brs Nip TBE 1/8" mipt	2.20	0.3	0.0002
34100052	VFN14M	Vlv Ftg: Brs Nip TBE 1/4" mipt	12.13	0.6	0.0004
34100056	VFRN1418M	Vlv Ftg: Brs Nip Rdc TBE 1/4" x 1/8"	5.19	0.5	0.0004
34100076	VFR1214M	Vlv Ftg: Brs RB 1/2" mipt x 1/4"fipt	8.29	1.6	0.0006
34100092	VFTFFM18M	Vlv Ftg: Brs T Run 1/8"	7.56	1.9	0.0007
34100096	VFTFFM14M	Vlv Ftg: Brs T Run 1/4"	9.70	2.3	0.0008
34100112	VFP14M	Vlv Ftg: Brs PLG 1/4" mipt	3.05	0.4	0.0002
34100114	BP1/2	Vlv Ftg: Brs PLG 1/2" mipt	9.03	1.6	0.0006
<b>8mmC Plastic Tubing Fittings</b>					
34100500	IRMAE8x1/8	Vlv Ftg: Plstc EL 1/8" mipt x 8mmC	1.64	0.1	0.0005
34100501	IRMAE8x1/4	Vlv Ftg: Plstc EL 1/4" mipt x 8mmC	1.64	0.1	0.0008
34100502	IRMA8x1/8	Vlv Ftg: Plstc MA 1/8" mipt x 8mmC	1.35	0.1	0.0004
34100503	IRMA8x1/4	Vlv Ftg: Plstc MA 1/4" mipt x 8mmC	1.35	0.1	0.0005
34100545	Blu PLt Ftg	Vlv Ftg: Plstc FA metric x 8mmC	9.59	0.1	0.0005
34100505	IRMBT8x1/8	Vlv Ftg: Plstc T Brnch 1/8" mipt x 8mmC	2.03	0.2	0.0009
34100506	IRMBT8x1/4	Vlv Ftg: Plstc T Brnch 1/4" mipt x 8mmC	2.03	0.3	0.0012
34100507	IRUT8x8x8	Vlv Ftg: Plstc T Un 8mmC	2.43	0.3	0.0011
34100508	IRMRT8x1/8	Vlv Ftg: Plstc T Rn 1/8" mipt x 8mmC	2.03	0.2	0.0009
34100509	IRMRT8x1/4	Vlv Ftg: Plstc T RN 1/4" mipt x 8mmC	2.03	0.3	0.0012
34100511	IRHP1/4	Vlv Ftg: Plstc plug 1/4" mipt	0.56	0.1	0.0002
<b>3/8" Plastic Tubing Fittings</b>					
34100517	PMAE3/8x1/8	Vlv Ftg: Plstc EL 1/8" mipt x 3/8"C (metal)	0.00	0.4	0.0019
34100523	PMAE3/8x1/4	Vlv Ftg: Plstc EL 1/4" mipt x 3/8"C	13.71	0.4	0.0019
34100521	PMA3/8x1/4	Vlv Ftg: Plstc MA 1/4" mipt x 3/8"C	9.25	0.3	0.0012
34100522	PFA3/8x1/4	Vlv Ftg: Plstc FA 1/4" fipt x 3/8"C	20.31	0.3	0.0012
34100516	PMBT3/8x1/8	Vlv Ftg: Plstc T Brnch 1/8" mipt x 3/8"C	0.00	0.8	0.0035
34100524	PMBT3/8x1/4	Vlv Ftg: Plstc T Brnch 1/4" mipt x 3/8"C	33.62	1.0	0.0040
34100526	PUCT3/8x3/8	Vlv Ftg: Plstc T Un 3/8"C	40.62	1.0	0.0040
<b>3/8" Brass Tubing Fittings</b>					
34100130	CTTEL818M	Vlv Ftg: Brs EL 1/8" mipt x 3/8"C	52.12	4.0	0.0020
34100132	CTTEL814M	Vlv Ftg: Brs EL 1/4" mipt x 3/8"C	7.95	4.0	0.0020
34100120	CTTMA818M	Vlv Ftg: Brs MA 1/8" mipt x 3/8"C	6.66	4.0	0.0020
34100124	CTTMA814M	Vlv Ftg: Brs MA 1/4" mipt x 3/8"C	7.22	4.0	0.0020
34100122	CTFA818M	Vlv Ftg: Brs FA 1/8" mipt x 3/8"C	7.05	4.0	0.0020
34100126	CTFA814M	Vlv Ftg: Brs FA 1/4" mipt x 3/8"C	7.39	4.0	0.0020
34100140	CTBT818M	Vlv Ftg: Brs T Brnch 1/8" mipt x 3/8"C	6.77	4.0	0.0020
34100142	CTBT814M	Vlv Ftg: Brs T Brnch 1/4" mipt x 3/8"C	6.99	4.0	0.0020
<b>Push Lock Fittings</b>					
34100182	HTTE818P	Vlv Ftg: PshLk EL 1/8" mipt x 8mmC	12.92	4.0	0.0020
34100186	HTTE814P	Vlv Ftg: PshLK EL 1/4" mipt 8mmC	5.02	4.0	0.0020
34100181	HTTE318P	Vlv Ftg: PshLk EL 1/8" mipt x 3/8"C	28.71	4.0	0.0020
34100185	HTTE314P	Vlv Ftg: PshLk EL 1/4" mipt x 3/8"C	28.71	4.0	0.0020
34100172	HTTMA818P	Vlv Ftg: PshLk MA 1/8"mipt x 8mmC	10.44	4.0	0.0020
34100176	HTTMA814P	Vlv Ftg: PshLk MA 1/4"mipt x 8mmC	4.34	4.0	0.0020
34100187	HTTE318P	Vlv Ftg: PshLk MA 1/8"mipt x 3/8"C	28.71	4.0	0.0020
34100188	HTTE314P	Vlv Ftg: PshLk MA 1/4"mipt x 3/8"C	28.71	4.0	0.0020
34100192	HTBT818P	Vlv Ftg: PshLk T Brnch 1/8"mipt x 8mmC	28.21	4.0	0.0020
34100196	HTBT814P	Vlv Ftg: PshLk T Brnch 1/4" mipt x 8mmC	6.15	4.0	0.0020
34100191	HTBT318P	Vlv Ftg: PshLk T Brnch 1/8" mipt x 3/8"C	0.00	4.0	0.0020
34100195	HTBT314P	Vlv Ftg: PshLk T Brnch 1/4" mipt x 3/8"C	0.00	4.0	0.0020
<b>Tubing</b>					
11190737	315x208-1000PE	Vlv Ftg: PE Tube 315x208 (8mm) per ft	0.15	2.0	0.0007
11190624	375x250-750PE	Vlv Ftg: PE Tube 375x250 (3/8") per ft	0.16	2.0	0.0009
34100160	375x277-10CU	Vlv Ftg: CU Tube 375 x 277 (3/8" O.D.) per ft'	26.63	8.0	0.0009

Part #	Model	Diaphragms and Tools	List Price (\$/ea)	UNT Wt. (oz)	UNT Cube (ft3)	L(in)	W(in)	H(in)
<b>Diaphragms For Plastic Globe Style Bodies (NDJ EV VALVES)</b>								
14103067	DV070-010	Vlv Bdy Prt: Diaphragm for 3/4"-1" Vlv Bodies	17.83	0.7	0.0031	3.0	3.0	0.6
14103068	DV015-020	Vlv Bdy Prt: Diaphragm for 1.5"-2" Vlv Bodies	17.83	1.1	0.0057	5.0	4.0	0.8
<b>Diaphragms For Plastic High Flow Inline Vlv Bodies</b>								
34100370	DP015-0	Vlv Bdy Prt: Diaphragm for 1-1/2" - 2" Plstc Vlv Bodies	43.10	3.1	0.0200	4.8	4.8	1.2
34100371	DP030	Vlv Bdy Prt: Diaphragm for 3" Plstc Vlv Bodies	93.36	8.1	0.0302	5.9	5.9	1.5
34100372	DP040	Vlv Bdy Prt: Diaphragm for 4" Plstc Vlv Bodies	172.39	25.1	0.0908	9.9	9.9	1.6
<b>Low Pressure Diaphragms For Castiron High Flow Vlv Bodies</b>								
34100359	DCL010-015	Vlv Bdy Prt: Diaphragm LP for 1-1.5" CI Vlv Bodies	43.10	1.8	0.0058	3.8	3.8	0.7
34100363	DCL020	Vlv Bdy Prt: Diaphragm LP for 2" CI Vlv Bodies	58.38	3.9	0.0133	4.8	4.8	1.0
34100375	DCL030	Vlv Bdy Prt: Diaphragm LP for 3" CI Vlv Bodies	93.47	16.5	0.0506	7.9	7.9	1.4
34100376	DCL040	Vlv Bdy Prt: Diaphragm LP for 4" CI Vlv Bodies	140.24	26.6	0.0784	9.2	9.2	1.6
34100377	DCL060+	Vlv Bdy Prt: Diaphragm LP for 6" CI Vlv Bodies	488.06	50	0.1402	11.6	11.6	1.8
34100378	DCL080+	Vlv Bdy Prt: Diaphragm LP for 8" CI Vlv Bodies	1,054.76	109.6	0.2683	13.9	13.9	2.4
34100379	DCL100-120+	Vlv Bdy Prt: Diaphragm LP for 10-12" CI Vlv Bodies	1,476.26	190	0.7584	20.9	20.9	3.0
<b>High Pressure Diaphragms For Castiron High Flow Vlv Bodies</b>								
34100360	DCH010-015	Vlv Bdy Prt: Diaphragm HP for 1-1.5" CI Vlv Bodies	43.10	1.8	0.0058	3.8	3.8	0.7
34100361	DCH020	Vlv Bdy Prt: Diaphragm HP for 2" CI Vlv Bodies	58.38	3.9	0.0133	4.8	4.8	1.0
34100364	DCH030	Vlv Bdy Prt: Diaphragm HP for 3" CI Vlv Bodies	93.47	16.5	0.0506	7.9	7.9	1.4
34100365	DCH040	Vlv Bdy Prt: Diaphragm HP for 4" CI Vlv Bodies	140.18	26.6	0.0784	9.2	9.2	1.6
34100366	DCH060+	Vlv Bdy Prt: Diaphragm HP for 6" CI Vlv Bodies	488.06	50	0.1402	11.6	11.6	1.8
34100367	DCH080+	Vlv Bdy Prt: Diaphragm HP for 8" CI Vlv Bodies	1,054.76	109.6	1.5598	13.9	13.9	14.0
34100368	DCH100-120+	Vlv Bdy Prt: Diaphragm HP for 10-12" CI Vlv Bodies	1,476.26	190	0.7584	20.9	20.9	3.0
<b>Valve Accessories</b>								
12070506	PHG015	Vlv Acc: Tool Pressure Hose Gauge Asmbly 15 PSI	91.72	15	0.0903			
12070505	PHG030	Vlv Acc: Tool Pressure Hose Gauge Asmbly 30 PSI	91.72	15	0.0903			
12070500	PHG060	Vlv Acc: Tool Pressure Hose Gauge Asmbly 60 PSI	91.72	15	0.0903			
12070501	PHG160	Vlv Acc: Tool Pressure Hose Gauge Asmbly 160 PSI	91.72	15	0.0903			
12070502	PHG300	Vlv Acc: Tool Pressure Hose Gauge Asmbly 300 PSI	91.72	15	0.0903			
12070325	LFG-15	Vlv Acc: Tool Gauge 15 PSI 1/4"mipt 2.5"face LF	22.51	7.8	0.0082			
12070326	LFG-30	Vlv Acc: Tool Gauge 30 PSI 1/4"mipt 2.5"face LF	22.51	7.8	0.0082			
12070328	LFG-60	Vlv Acc: Tool Gauge 60 PSI 1/4"mipt 2.5"face LF	22.51	7.8	0.0082			
12070330	LFG-160	Vlv Acc: Tool Gauge 160 PSI 1/4"mipt 2.5"face LF	22.51	7.8	0.0082			
12070333	LFG-300	Vlv Acc: Tool Gauge 300 PSI 1/4"mipt 2.5"face LF	22.51	7.8	0.0082			
12070006	ACG	Vlv Acc: Tool Schrader Chuck 1/4'fipt	18.62	1.8	0.0018			
12090070	PH	Vlv Acc: Tool Hse 1/4"x24"	38.53	5.1	0.0292			

