

WATER PRESSURE REDUCING VALVES

How Pressure Reducing Valves Work

OPERATION



Apollo pressure reducing valves are shipped in the OPEN position. Their internal seat is held open by a compression spring.

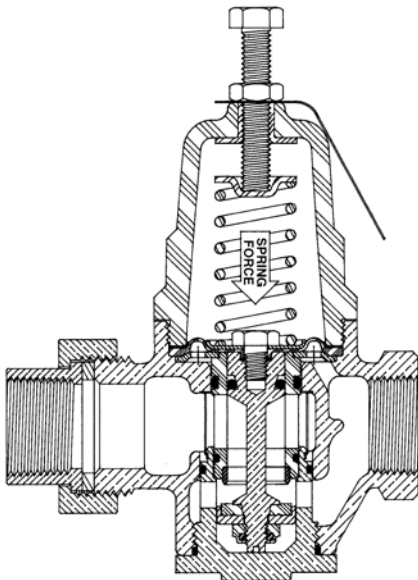
Compression is applied to the spring by an adjusting screw working on a spring button. The amount of force on the diaphragm by the valve spring determines the reduced pressure downstream of the regulating valve. The standard setting is 50 psig.

During static (no-flow) conditions, the valve is closed because the diaphragm force is greater than the valve spring force. Outlet pressure drops once flow downstream begins and force from the spring begins opening the valve.

Apollo's integral design enables the valve to react smoothly and quickly to changing flow demands, while protecting against inlet pressure change. As water enters the valve it flows past the open seat, under the diaphragm and through to the outlet pipe, stopping at the closed fixtures until diaphragm force overcomes spring force to close the valve.

Under flow conditions (when the faucet is opened), the captive 50 psig water begins to flow out. Once flow starts, pressure under the diaphragm starts to fall off to below 50 PSI, causing the compression spring to open the seat and allowing more water to enter. Our regulating valve opens, passing only the amount of water flowing out through the faucet at a pressure below the "set" pressure.

REDUCED PRESSURE FALL-OFF



Fall-off is the reduced pressure change that results when a valve opens: the difference between the static (closed) pressure and residual (flowing) pressure downstream of the regulating valve. Inherent in the direct-acting design, fall-off is an important factor when choosing a valve size and type.

Most often, the regulating valve supplies many fixtures (i.e. toilets, tubs, showers, sinks, etc.) or many industrial applications. Intermittent water demands will vary the flow requirements to the regulating valve widely, from a small trickle to a large volume under peak load. So outlet or downstream pressure from the regulator also varies. Which reducing valve you need depends on the flow rate — or capacity — required.

Pressure reducing valve sizing and selection are important to a successful application. Remember to find out what the MINIMUM inlet pressure is AT THE VALVE.

When the reduced pressure on the outlet of a regulator drops too low during flow conditions, the valve or line size is too small for the job.

See pages 17-18 for sizing, selection, and installation guidelines.

WATER PRESSURE REDUCING VALVES

For General Purpose Residential & Light to Medium Commercial Applications

PR SERIES (36)



Apollo PR Series pressure reducing valves provide automatic control of excessive water pressure and problem supply fluctuations. These models are designed to reduce pressures of up to 300 PSI to a more manageable range.

Factory set at 50 PSI, they adjust with a turn of a screw. They feature a built-in by-pass and strainer, and comply with ASSE 1003 and CSA B356 standards. They are listed with IAPMO and the City of Los Angeles.

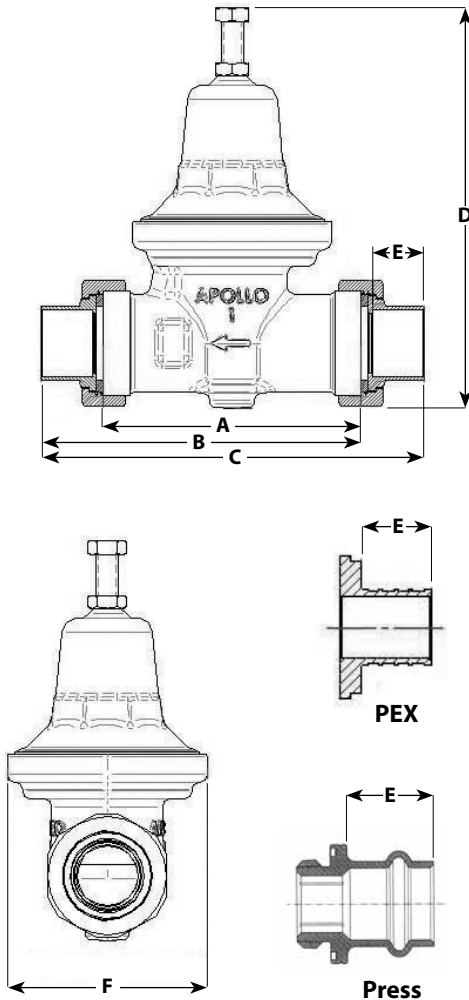
PR Series valves are built for long, reliable service with an all-bronze body and high-capacity stainless steel strainer. Available with or without optional pressure gauge tapping.

FEATURES

- All bronze body and cover
- Suitable for supply pressures to 300 psi
- Every valve is 100% factory set and tested
- Standard factory setting is 50 psi
- High & low pressure model options
- Diaphragm suitable for 33-180°F
- Solder, Thread, PEX, CPVC, Press and Push connection options
- Integral thermal expansion bypass
- Integral stainless steel strainer
- Single and double union options
- In-line repairable
- **USA materials and manufacture**
- **Lead-Free** option (36LF)

APPROVALS

- ASSE 1003
- CSA B356



Size	Connection	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	WT. (Union) (lbs)
1/2	Thread	4.00	4.88	5.63	5.88	0.63	2.75	3.5
	Solder	4.00	4.88	5.63	5.88	0.50	2.75	3.4
	PEX	4.00	5.00	5.75	5.88	0.63	2.75	3.3
	CPVC	4.00	4.63	5.25	5.88	0.50	2.75	3.1
	Press	N/A	N/A	5.78	5.88	0.75	2.75	3.1
3/4	Thread	3.94	4.88	5.63	5.88	0.63	2.75	3.4
	Solder	3.94	4.88	5.63	5.88	0.75	2.75	3.3
	PEX	3.94	5.00	5.75	5.88	0.63	2.75	3.2
	CPVC	3.94	4.88	5.63	5.88	0.63	2.75	3.0
	Press	N/A	N/A	6.09	5.88	0.88	2.75	3.1
1	Thread	4.38	5.50	6.38	6.88	0.63	3.38	4.5
	Solder	4.38	5.50	6.38	6.88	0.63	3.38	4.4
	PEX	4.38	5.50	6.63	6.88	0.88	3.38	4.3
	CPVC	4.38	5.75	7.00	6.88	0.75	3.38	4.0
	Press	N/A	N/A	6.65	6.88	0.88	3.38	4.1
1-1/4	Thread	5.38	6.50	7.50	8.88	0.88	4.00	10.2
	Solder	5.38	6.63	7.75	8.88	1.00	4.00	10.1
	Press	N/A	N/A	7.87	8.88	1.00	4.00	9.0
1-1/2	Thread	5.38	6.63	7.88	8.88	0.75	4.00	10.4
	Solder	5.38	6.75	8.00	8.88	1.13	4.00	10.3
	Press	N/A	N/A	8.61	8.88	1.44	4.00	9.0
2	Thread	7.13	8.50	9.88	11.50	1.00	5.75	22.5
	Solder	7.13	8.88	10.50	11.50	1.38	5.75	22.4
	Press	N/A	N/A	10.78	11.50	1.57	5.75	21.0



For additional information, submittal sheets and manuals, visit www.apollovalves.com

Customer Service (704) 841-6000

REV. 6-18-15

WATER PRESSURE REDUCING VALVES

Compact Design for Residential & Light Commercial Applications

PRC SERIES (36C)



Versatile, all-purpose Apollo PRC Series pressure reducing valves handle pressures up to 400 PSI. Compact and with a built-in thermal expansion by-pass, they're designed to protect residential and commercial water distribution systems from excessive pressures.

The valves' integral thermoplastic cage helps protect the inner adjusting spring from galvanic corrosion. Built for reliable, long-term service, PRC valves offer an all-bronze body, stainless steel strainer and seat. They comply with ASSE 1003 and CSA B356 standards. They are listed with IAPMO and City of Los Angeles.

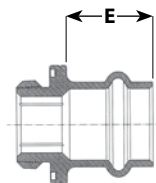
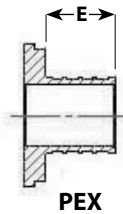
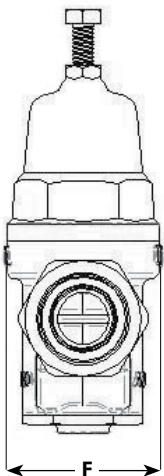
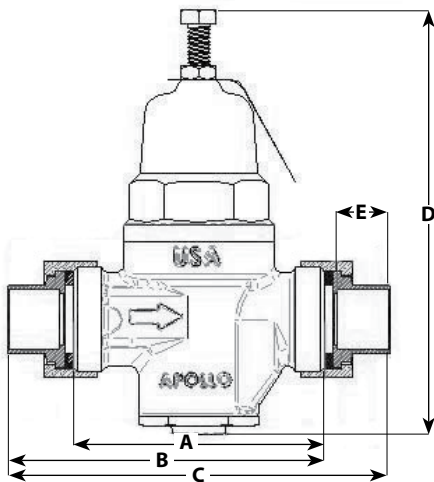
Designed for easy in-line servicing, PRC models come standard with a clean-out plug on the housing's bottom. Both seat disc and strainer can be maintained via the clean-out plug using a 1 1/2" hex socket. Available with or without gauge tapping and gauge.

FEATURES

- Dependable cast bronze body
- Suitable for supply pressures to 400 psi
- Every valve is 100% factory set and tested
- Standard factory setting is 50 psi
- High and low pressure model options
- Diaphragm suitable for 33 - 180°F
- Solder, Thread, PEX, CPVC, and Press connection options
- Sealed cage with ss adjusting screw for vault installation
- Integral thermal expansion by-pass
- Integral stainless steel strainer
- Single and double union options
- In-line repairable, bottom access
- **USA materials and manufacture**
- **Lead Free** option (36CLF)

APPROVALS:

- ASSE 1003
- CSA B356



Press

Size	Connection	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	WT. (Union) (lbs)
1/2	Thread	3.63	4.50	5.50	6.00	0.63	2.75	3.5
	Solder	3.63	4.50	5.50	6.00	0.50	2.75	3.4
	PEX	3.63	4.50	5.50	6.00	0.63	2.75	3.3
	CPVC	3.63	4.50	5.00	6.00	0.50	2.75	3.1
	Press	N/A	N/A	5.48	6.00	0.75	2.75	2.8
3/4	Thread	3.63	4.50	5.50	6.00	0.63	2.75	3.4
	Solder	3.63	4.50	5.50	6.00	0.75	2.75	3.3
	PEX	3.63	4.63	5.63	6.00	0.63	2.75	3.2
	CPVC	3.63	4.50	5.50	6.00	0.63	2.75	3.0
	Press	N/A	N/A	5.79	6.00	0.88	2.75	2.8
1	Thread	3.75	4.63	5.75	6.00	0.63	3.38	4.5
	Solder	3.75	4.63	5.75	6.00	0.88	3.38	4.4
	PEX	3.75	4.75	6.00	6.00	0.75	3.38	4.3
	CPVC	3.75	4.75	6.00	6.00	0.94	3.38	4.0
	Press	N/A	N/A	6.16	6.00	0.88	3.38	3.1

WATER PRESSURE REDUCING VALVES

Light Duty Residential & Commercial Application

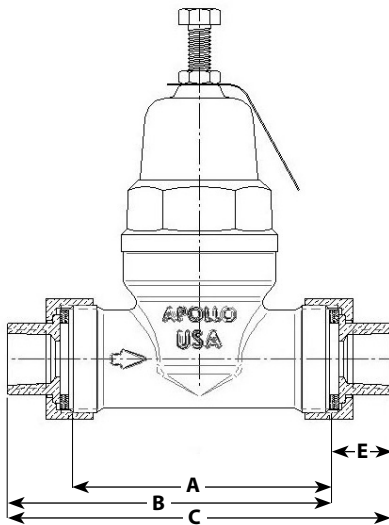
PRE SERIES (36E)



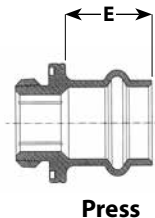
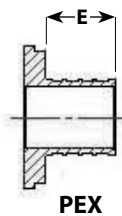
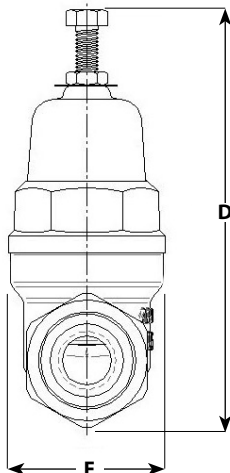
Designed for light duty residential and commercial applications to protect water supplies from excessive pressure. Excellent flow performance at low pressure drop. The dezincification resistant bronze body and dielectric polymer cage provide maximum corrosion resistance. Designed for easy in-line servicing with simple cartridge removal. They meet ASSE 1003 and CSA B356 standards. They are listed with IAPMO and the city of Los Angeles.

FEATURES

- Balanced piston design
- Sealed cage for vault installations
- Built-in thermal expansion by-pass
- Integral stainless steel strainer
- Modular seat disc and strainer cartridge
- Control pressure ranges: 15-75 psi and 75-150 psi
- NPT, Solder, PEX, CPVC and Press and Push connections
- Maximum supply pressure: 400 psig
- Working temperature range: 33°F-180°F
- **100% manufactured in USA**
- **Lead Free** option (36ELF)



Size	Connection	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	WT. (Union) (lbs)
1/2	Thread	3.62	4.50	5.50	6.00	0.63	2.75	2.4
	Solder	3.62	4.50	5.50	6.00	0.50	2.75	2.4
	PEX	3.62	4.50	5.50	6.00	0.63	2.75	2.4
	CPVC	3.62	4.25	5.00	6.00	0.50	2.75	2.4
	Press	N/A	N/A	5.48	6.00	0.74	2.75	2.4
3/4	Thread	3.62	4.50	5.50	6.00	0.63	2.75	2.4
	Solder	3.62	4.50	5.50	6.00	0.75	2.75	2.4
	PEX	3.62	4.63	5.63	6.00	0.63	2.75	2.4
	CPVC	3.62	4.50	5.50	6.00	0.63	2.75	2.4
	Press	N/A	N/A	5.79	6.00	0.88	2.75	2.4
1	Thread	3.62	4.63	5.75	6.00	0.63	3.38	2.7
	Solder	3.62	4.63	5.75	6.00	0.88	3.38	2.7
	PEX	3.62	4.75	6.00	6.00	0.75	3.38	2.7
	CPVC	3.62	4.75	6.00	6.00	0.94	3.38	2.7
	Press	N/A	N/A	5.91	6.00	0.88	3.38	2.7



WATER PRESSURE REDUCING VALVES

Super Capacity for Commercial, Institutional & Industrial Applications

PRH SERIES (36H)



Apollo PRH Series pressure reducing valves offer high performance in heavy-duty applications. They're designed with a larger diaphragm and orifice area to yield the highest water flow water capacities in the industry.

PRH pressure reducing valves' integral by-pass protects against thermal expansion. Built for extended service, these models include bronze body construction and stainless steel replaceable seat. They meet ASSE 1003 and CSA B356 standards. They are listed with IAMPO and city of Los Angeles.

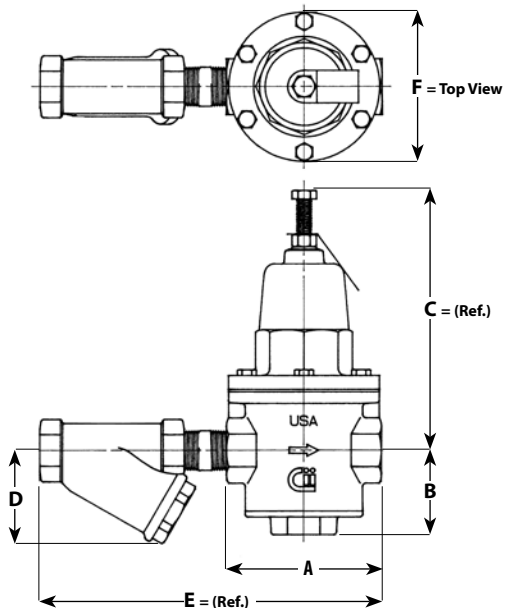
These heavy-duty valves are available with optional in-line strainer and 150 lb. ANSI B16.24 integral bronze flange connections. (2-1/2" and 3" only)

FEATURES

- Bronze body and spring cage for superior corrosion resistance and dependability
- SS fasteners, spring, seat, and adjustment screw
- Suitable for supply pressures to 400 psi
- Every valve is 100% factory set and tested
- Standard factory setting is 50 psi
- Operating temp: 33 - 180°F
- Integral thermal expansion by-pass
- In-line repairable, bottom access
- **USA materials and manufacture**
- **Lead Free** option (36HFLF)

APPROVALS:

- ASSE 1003
- CSA B356



Size (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Wt. w Strainer	Wt. w/o Strainer
NPT								
1/2"	4.13	2.25	7.00	1.88	8.38	4.00	7.0	6.00
3/4"	4.13	2.25	7.00	2.44	9.00	4.00	8.0	6.00
1"	4.81	2.31	7.50	4.00	10.25	4.69	12.0	8.00
1-1/4"	6.75	3.81	10.00	3.38	12.50	6.50	29.0	24.00
1-1/2"	6.75	3.19	10.00	3.88	13.13	6.50	29.0	23.00
2"	8.13	3.50	12.50	4.63	16.00	7.63	47.0	38.00
2-1/2"	8.13	3.50	12.50	5.94	16.69	7.63	49.0	37.00
3"	10.38	3.94	15.13	6.94	20.50	9.75	87.0	70.00
Flanged								
2-1/2"	10.38	3.50	12.50	7.13	21.69	7.63	105.0	55.00
3"	12.50	3.94	15.13	8.13	24.50	9.75	136.0	92.00