

The “Permaphragm” Pressure Reducing Valve

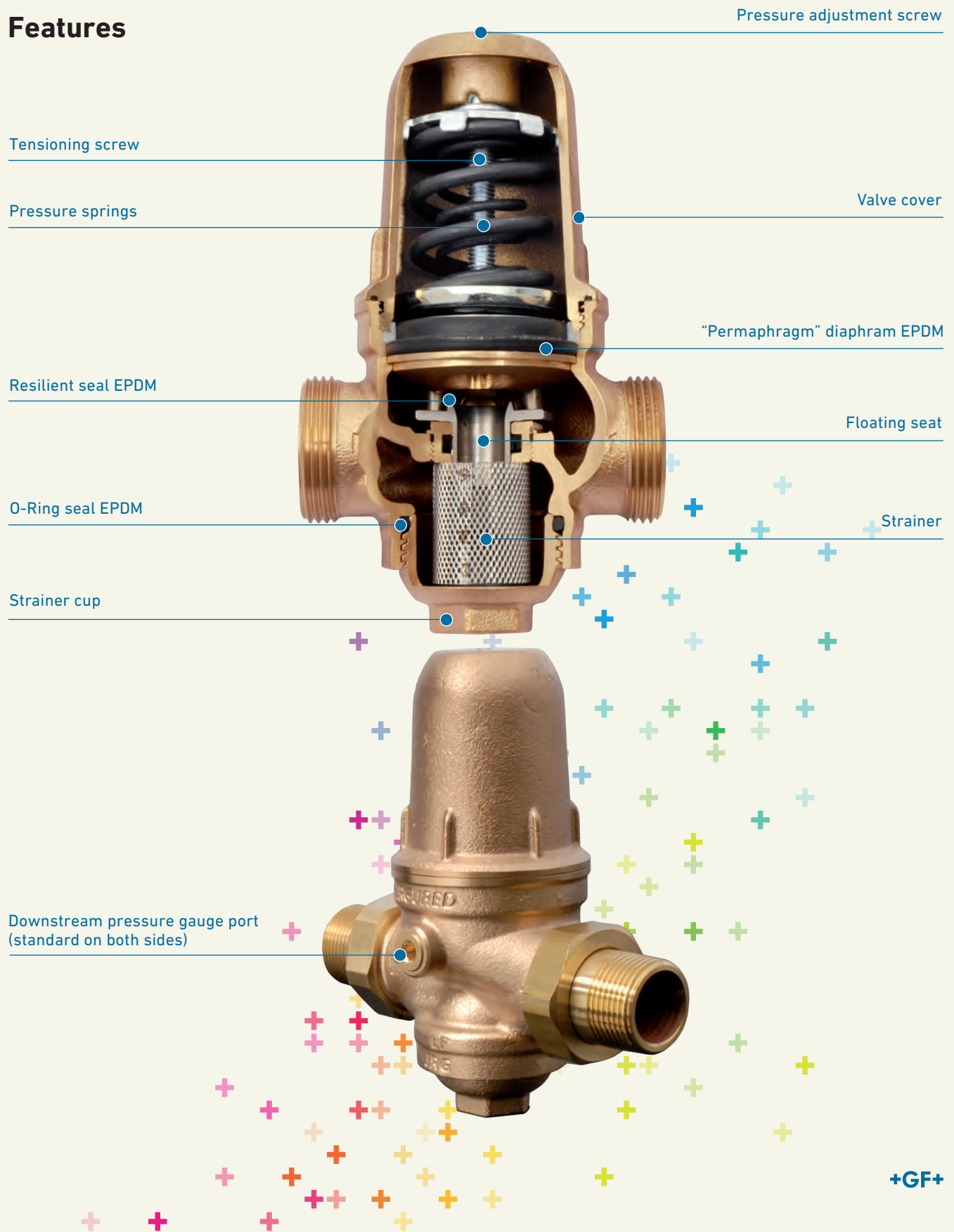
Type 1319/1339

NSF Lead Free



When performance counts

+ Features



The Type 1319/1339 is a compact direct acting pressure reducing valve for water systems consisting of a mesh strainer and the pressure reducing valve. The PRVs can handle up to 357 psi, and are available in sizes ½" to 2½".

It is recommended to install a Y strainer upstream of the pressure reducing valve, limiting debris problems.

The new patented design consists of a modular design and floating seat.

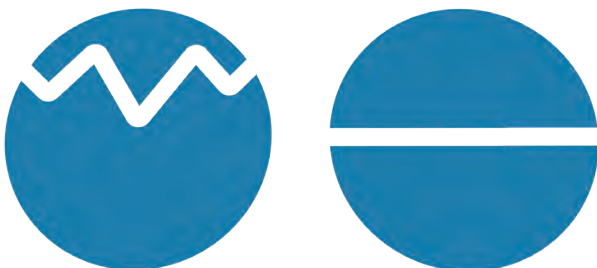
Accurate downstream pressure settings from 28–140 psi can be easily adjusted to meet system hydraulic requirements. The valve can accept water temperatures up to 158°F.

Operating Parameters

Type	Maximum Inlet Pressure Range (psi)	Outlet Pressure Range (psi)	Preset (psi)
1319 (1318)	357	28-85	56
1339 (1338)	357	80-140	80

Specification

Provide 357 psi rated direct acting pressure reducing valve consisting of a bronze valve cover threaded to a low-lead brass body, pressure adjustment screw, 416 stainless steel floating seat, EPDM seal with Elastomeric permaphragm and internal stainless steel strainer (1000 micron). The wetted surfaces of the valve in contact with consumable water shall contain less than 0.25% of lead by weight and be certified to NSF/ANSI 372. Install pressure reducing valve, with double union end connections, in an easily accessible location for maintenance and in accordance with all applicable codes and standards. Tapped and plugged for downstream pressure gauge. It is recommended to install a "Y" strainer upstream of the pressure reducing valve. Pressure reducing valve shall comply with ASSE Standard 1003. Pressure reducing valve shall be GF Piping Systems' "Permaphragm" Model 1319 LF or 1339 LF.



+ Advantages

- Excellent control characteristics, even at very low flow rates
- Minimal pressure drop
- Choice of two pressure control ranges
- Easy cleaning of internal mesh
- Compact valve body design
- Pressure gauge port standard on both sides; ideal when installed in confined spaces or up against a wall
- Light weight
- Complies with Safe Water Drinking Act NSF 61 PW
- NSF 61 and 372 certified for low lead compliance
- Inlet pressure up to 357 psi - standard
- Double union end connections - standard; allows for quick and easy installation
- Bronze cover - standard
- Bronze cover reduces corrosion of spring
- Elastomeric "permaphragm" diaphragm self-compensates for wear over time
- In buried applications, the valve can be sealed by adding PTFE tape to the plug that covers the pressure adjustment screw



Installation

For access to the internal strainer, 2" clearance is required to remove cup.

Always flush the piping system before installing the PRV.

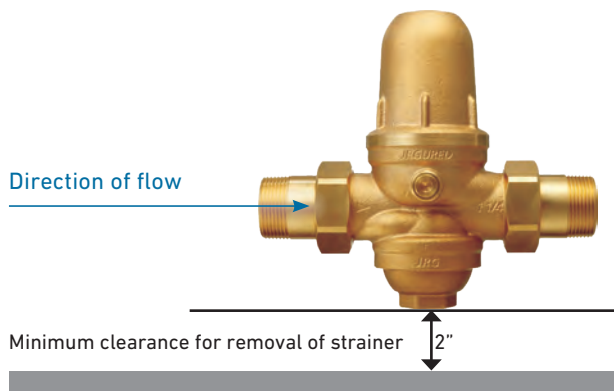
Allen key size for adjustment

Nominal size (inch)	
1/2 and 3/4	5 mm
1 and 1 1/4	6 mm
1 1/2, 2, 2 1/2	8 mm

Allen key is not supplied with the valve.

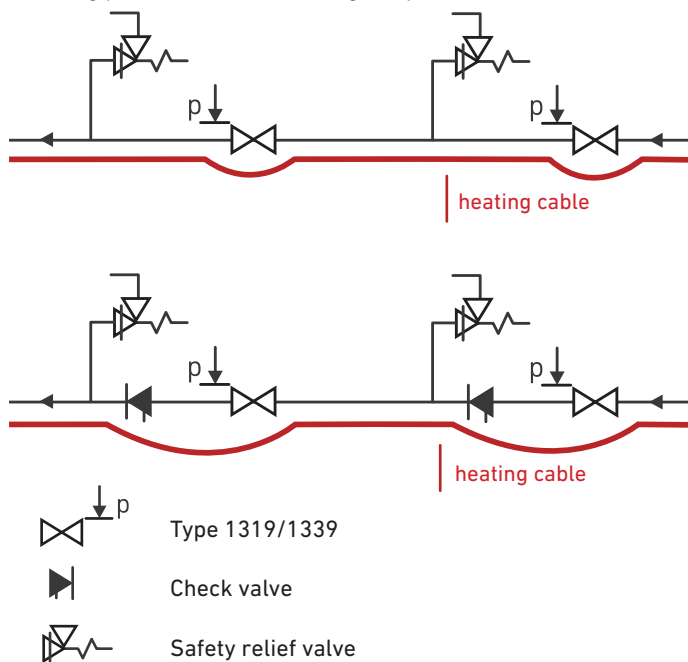
One 360° turn of the Allen key corresponds to a pressure change of:

Valve Size	Type 1319 (28-85 psi)	Type 1339 (80-140 psi)
1/2	5.0 psi	5.0 psi
3/4-2 1/2	4.3 psi	4.3 psi



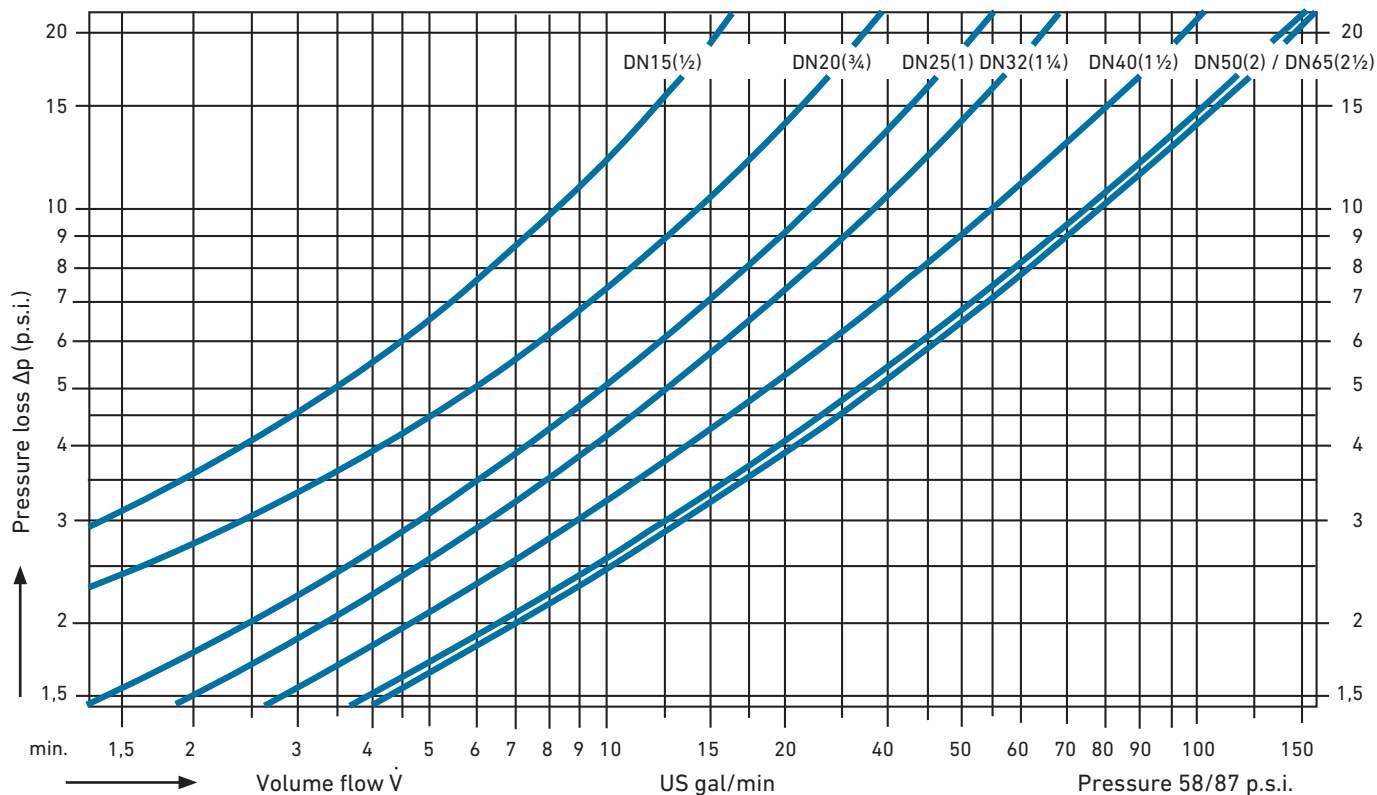
Installations with heating cables

When using heating cables on hot water pipes between pressure reducing valves, install a check valve and safety relief valve as illustrated. This provides protection for plumbing fixtures and piping components from potential rising pressure due to freezing temperatures.



Install valves in an accessible location for inspection and adjustment.

Flow capacity for Type 1319/1339 pressure reducing valves

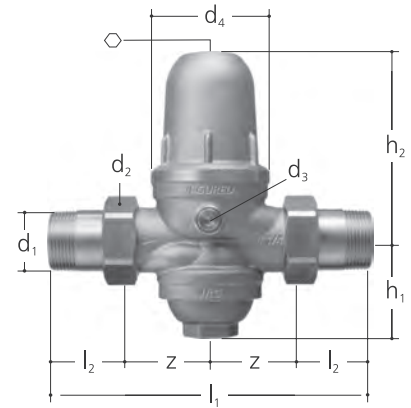


PRV Dimensions

Type 1319/1339 pressure reducing valve with unions

Wetted parts are made of low lead brass. Floating seat made of 416 stainless steel.

- Male NPT union connections standard
- Gauge connections for downstream pressure on both sides come plugged from the factory
- Maximum inlet pressure 357 psi/ temperature maximum 158°F



Type 1319: 28–85 PSI Standard factory set at 56 PSI

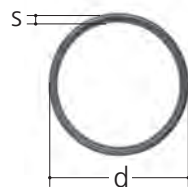
Nominal size (inch)	Part Number	d1 (inch)	d2 (inch)	d3 (inch)	d4 (inch)	l1 (inch)	l2 (inch)	z (inch)	h1 (inch)	h2 (inch)	net weight (lb)
1/2"	350 736 368	1/2	G 3/4	Rp 1/8	2 1/8	5 5/8	1 1/4	1 37/64	1 5/16	3 3/32	2.3
3/4"	350 736 468	3/4	G 1	Rp 1/8	2 23/64	6	1 5/16	1 43/64	1 21/32	3 23/64	3.0
1"	350 736 568	1	G 1 1/4	Rp 1/4	2 53/64	7 1/16	1 5/16	1 31/32	2 1/32	4 21/64	5.1
1 1/4"	350 736 668	1 1/4	G 1 1/2	Rp 1/4	3 3/32	8 3/8	1 3/16	2 23/64	2 33/64	4 3/4	7.4
1 1/2"	350 736 768	1 1/2	G 1 3/4	Rp 1/4	3 49/64	9 3/4	2	2 55/64	3 5/32	6 3/16	12.3
2"	350 736 868	2	G 2 3/8	Rp 1/4	4 9/64	11 5/16	2 1/4	3 7/16	3 55/64	6 49/64	18.5
2 1/2"	350 736 968	2 1/2	G 3	Rp 1/4	4 9/64	12 3/16	2 9/16	3 35/64	3 55/64	6 49/64	21.0

Type 1339: 80–140 PSI Standard factory set at 80 PSI

Nominal size (inch)	Part Number	d1 (inch)	d2 (inch)	d3 (inch)	d4 (inch)	l1 (inch)	l2 (inch)	z (inch)	h1 (inch)	h2 (inch)	net weight (lb)
1/2"	350 737 068	1/2	G 3/4	Rp 1/8	2 1/8	5 5/8	1 1/4	1 37/64	1 5/16	3 3/32	2.3
3/4"	350 737 168	3/4	G 1	Rp 1/8	2 23/64	6	1 5/16	1 43/64	1 21/32	3 23/64	3.0
1"	350 737 268	1	G 1 1/4	Rp 1/4	2 53/64	7 1/16	1 5/16	1 31/32	2 1/32	4 21/64	5.1
1 1/4"	350 737 368	1 1/4	G 1 1/2	Rp 1/4	3 3/32	8 3/8	1 3/16	2 23/64	2 33/64	4 3/4	7.4
1 1/2"	350 737 468	1 1/2	G 1 3/4	Rp 1/4	3 49/64	9 3/4	2	2 55/64	3 5/32	6 3/16	12.3
2"	350 737 568	2	G 2 3/8	Rp 1/4	4 9/64	11 5/16	2 1/4	3 7/16	3 55/64	6 49/64	18.5
2 1/2"	350 737 668	2 1/2	G 3	Rp 1/4	4 9/64	12 3/16	2 9/16	3 35/64	3 55/64	6 49/64	21.0

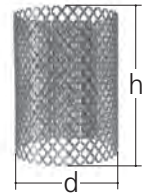
Accessories

Strainer Cup O-Ring EPDM



Nominal size (inch)	Part Number	d (inch)	s (inch)
1/2	350 981 123	1.11	0.10
3/4	350 981 127	1.44	0.10
1	350 981 222	1.74	0.10
1 1/4	350 981 228	2.32	0.10
1 1/2	350 981 616	2.72	0.10
2, 2 1/2	350 981 622	3.47	0.10

Mesh (US 18, 1000 µm) stainless steel



Nominal size (inch)	Part number	d (inch)	h (inch)
1/2	350 720 301	0.61	0.82
3/4	350 720 401	0.82	1.10
1	350 720 501	1.02	1.39
1 1/4	350 720 601	1.31	1.77
1 1/2	350 720 701	1.57	2.75
2, 2 1/2	350 720 801	1.96	2.75

+ Examples: Master PRV stations

Example 1

Master PRV: Simplex install with no redundancy

Legend

1 Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 968) 300 Lb Scr'd, low lead brass body, SS trim, 28-85@30 psi

2 Excess pressure safety relief valve, bronze body and trim, 0-75@45 psi

A Isolation ball valve, bronze body, full ported

B 300 Lb Bronze Y strainer

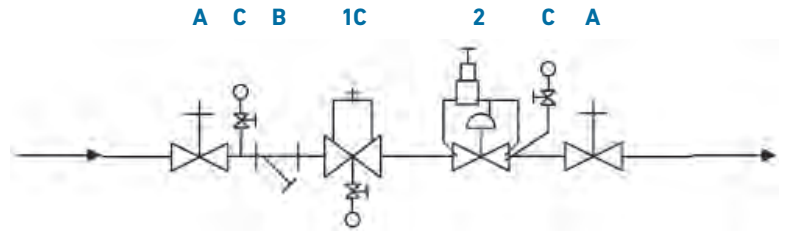
C Pressure gauge, 4" SS case, glycerin fill, 0-100 psi

Manifold capacity

160 gpm Rig inlet 70 psi, PRV outlet 40 psi, excess pressure safety relief valve set point 55 psi

Valve size

2.5" PRV, strainer, isolation valves



Example 2

Master PRV: Install with parallel redundant legs

Legend

1 Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 968) 300 Lb Scr'd, low lead brass body, SS trim, 28-85@60 psi

2 Excess pressure safety relief valve, bronze body and trim, 20-200@75 psi

A Isolation ball valve, bronze body, full ported

B 300 Lb Bronze Y strainer

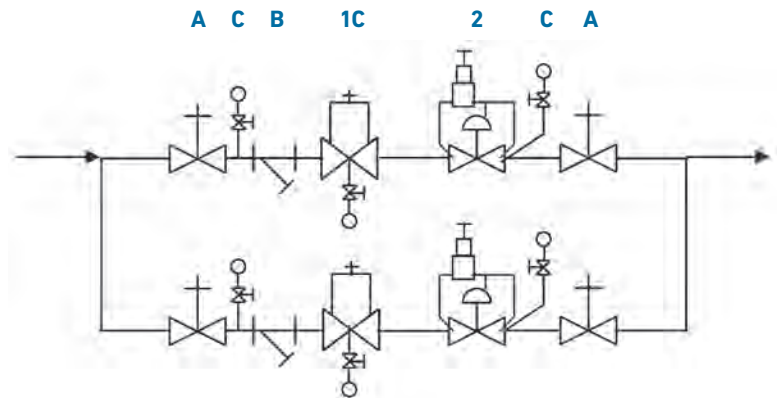
C Pressure gauge, 4" SS case, glycerin fill, 0-200 psi

Manifold capacity

160 gpm; inlet 90 psi, PRV outlet 60 psi, excess pressure safety relief valve set point 75 psi

Valve size

2.5" PRVs, strainers, isolation valves



+ Examples: Master PRV stations with excess pressure safety valves

Series or Multi-stage reduction is recommended so that the outlet pressure does not fall below 45% of the inlet pressure. Series installation limits pressure drop avoiding cavitation issues which include damage, noise and vibration.

Example 3

Master PRV: Two stage reduction , with parallel redundant leg

Two stage pressure reduction is required due to pressure drop.

Legend

1a Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 968) 300 Lb Scr'd, low lead brass body, SS trim, 28-85@60 psi

1b Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 968) 300 Lb Scr'd, BS, 28-85 psi EPDM

2 Excess pressure safety valve

A Isolation ball valve, bronze body, full ported

B 300 Lb Bronze Y strainer

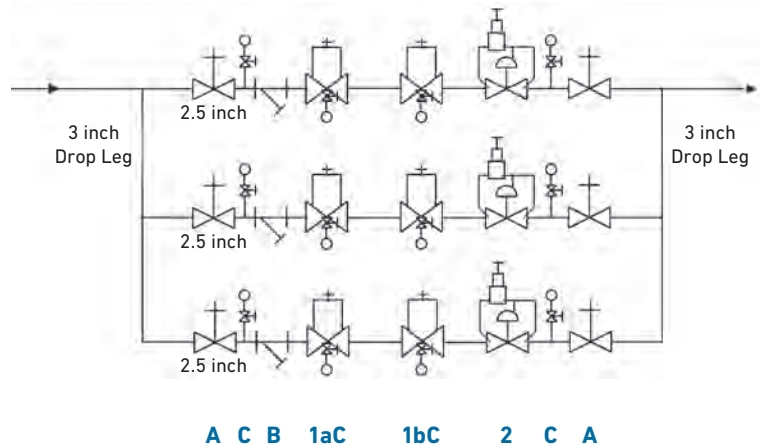
C Pressure gauge, 4" SS glycerin filled case (typical)

Manifold capacity

260 gpm; inlet 142 psi, PRV outlet 35 psi, excess pressure safety valve set point 55 psi

Valve size

2.5" PRVs, strainers, isolation valves



Example 4

Master PRV: Two stage reduction and Low Flow Bypass

Two stage pressure reduction is required due to pressure drop.

Low flow bypass to remove potential for chatter.

Set point about 5-7 psi higher than larger valve.

Legend

1a Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 668) 300 Lb Scr'd, BS, 80-140 psi, EPDM

1b Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 968) 300 Lb Scr'd, BS, 28-85 psi EPDM

2 Excess pressure safety valve

3a Pressure reducing valve (PRV), GF Type 1319 (Part #350 737 368) 300 Lb Scr'd, BS, 80-140 psi, EPDM

3b Pressure reducing valve (PRV), GF Type 1319 (Part #350 736 668) 300 Lb Scr'd, BS, 28-85 psi EPDM

A Isolation ball valve, bronze body, full ported

B 300 Lb Bronze Y strainer

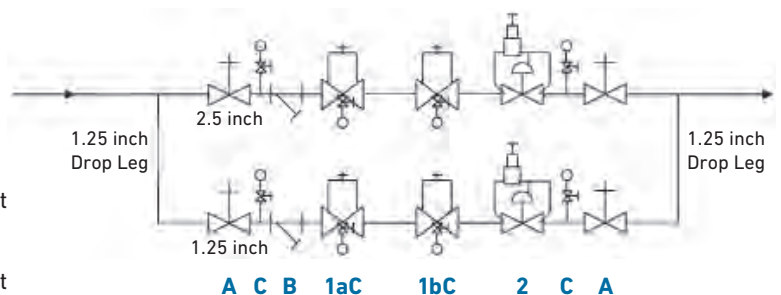
C Pressure gauge, 4" SS glycerin filled case (typical)

Manifold capacity

160 gpm; inlet 142 psi, PRV outlet 35 psi, excess pressure safety valve set point 55 psi

Valve size

2.5" and 1.25" PRVs, strainers, isolation valves



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