

General Description

Series R and RS relief valve limits system pressure by opening to tank when system pressure reaches the valve setting.

Series PR pressure reducing valve regulates pressure in one or more areas of a hydraulic circuit independent of the main pressure relief valve.

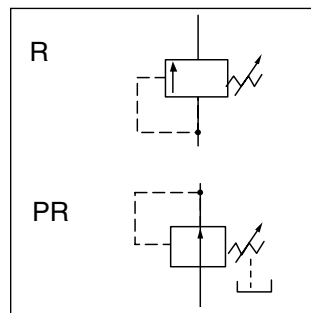
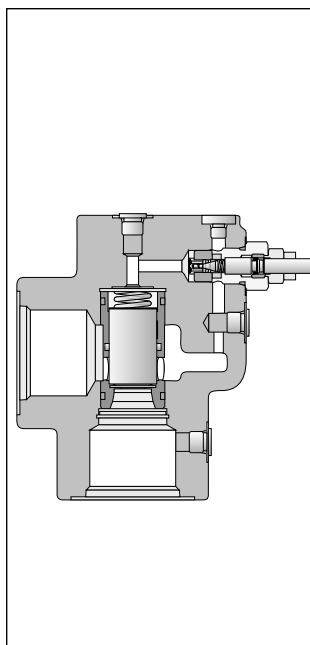
Series S sequence valve permits flow to a secondary circuit leg after a pilot pressure signal reaches the valve and is sustained in a primary circuit leg.

Features

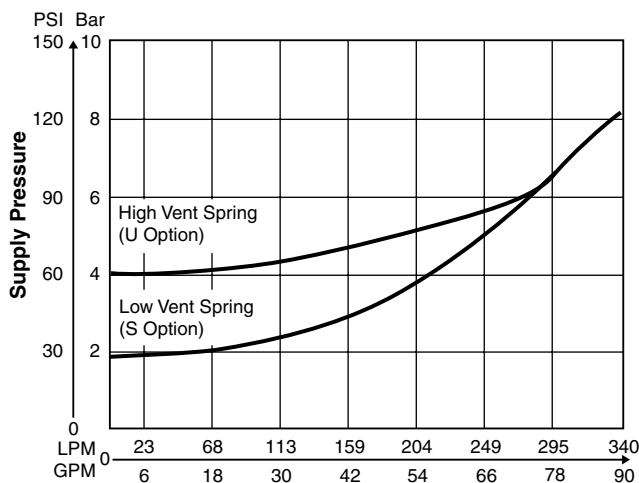
- **Accurate Performance** — Pilot Controlled. DIN cartridge design.
- **Rugged Construction** — Cast iron and hardened steel parts provide long trouble-free life.
- **High Pressure** — 350 Bar (5000 PSI) capability meets demanding requirements.
- **Serviceability** — Simple modular design facilitates easy maintenance.
- **Low Leakage** — DIN cartridge design provides low leakage shutoff.

Specifications

Size	3/4"	1-1/4"	
Mounting Options	In-line, Subplate	In-line	
Flow	Up to 240 LPM (60 GPM)	Up to 360 LPM (90 GPM)	
Maximum Operating Pressure	Inlet:	350 Bar (5000 PSI)	
	Outlet:	Non-Solenoid	350 Bar (5000 PSI)
		Std. Solenoid	103 Bar (1500 PSI)
	'H' Option Solenoid	210 Bar (3000 PSI)	
Interfaces	In-line:	SAE(S) or NPT(P)	
	Subplate:	ISO(M), US Industrial Standard (V)	
Min. Press. Adjust.	11 Bar (150 PSI)		
Operating Temp. Range (Ambient)	- 40°F to + 200°F (Nitrile)		
	- 20°F to + 250°F (Fluorocarbon)		

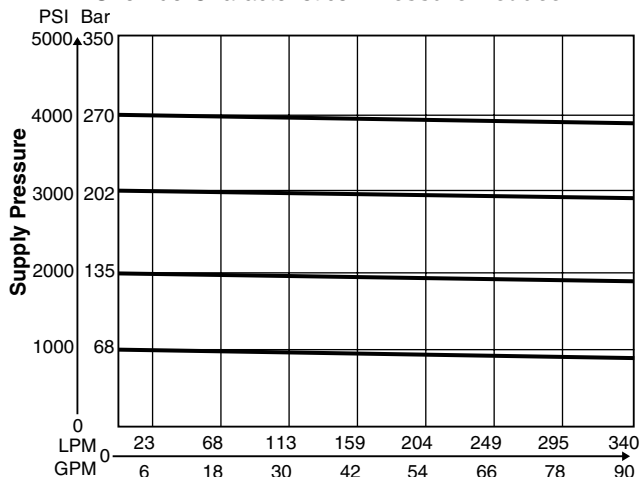


Vent Characteristics*

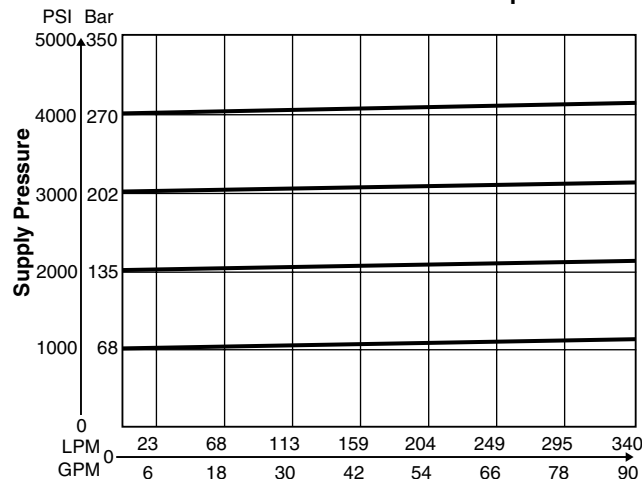


Performance Curves

Override Characteristics* Pressure Reducer

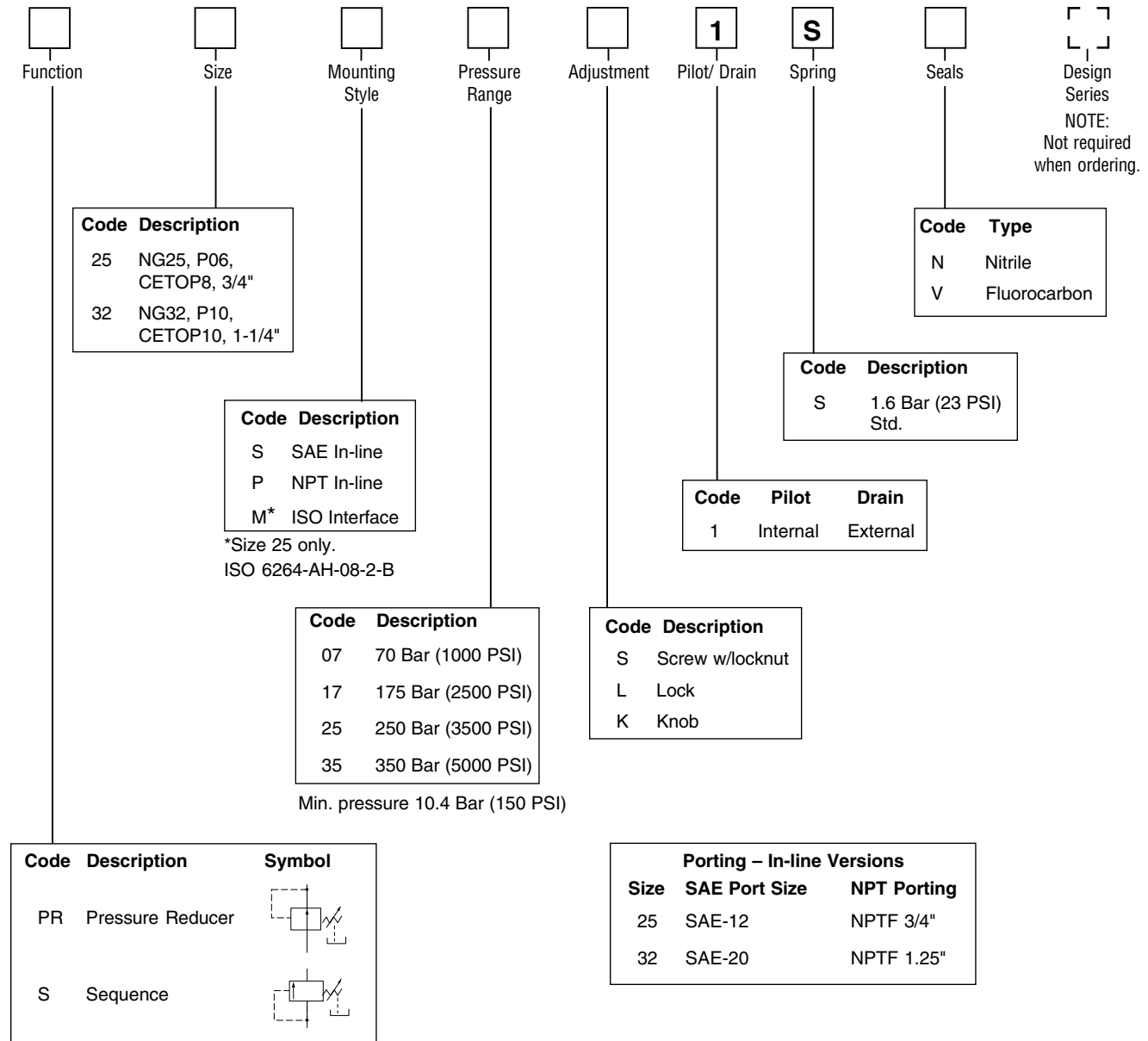


Override Characteristics* Relief and Sequence

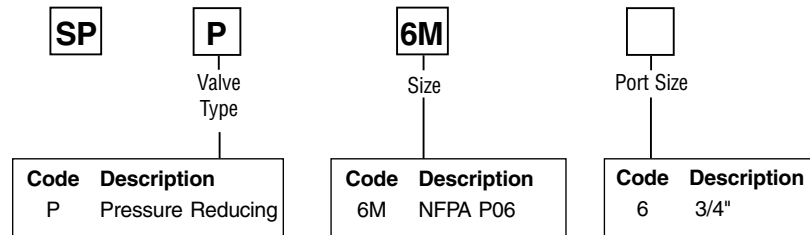


* Change in flow, temperature, or fluid (SSU) rating will affect valve minimum pressure and override characteristics.

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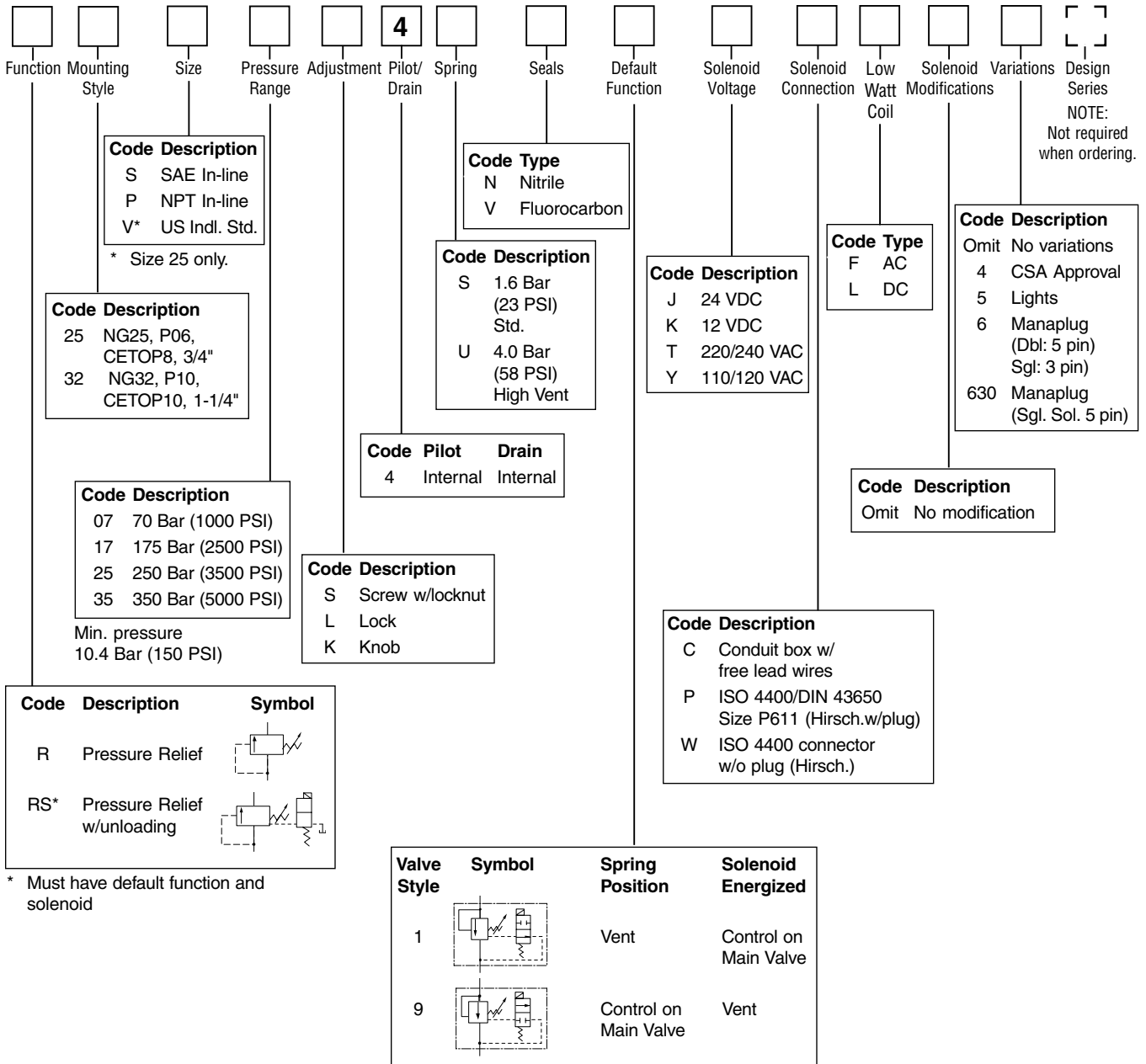


Subplates – NPTF Port Thread-Bottom Ported



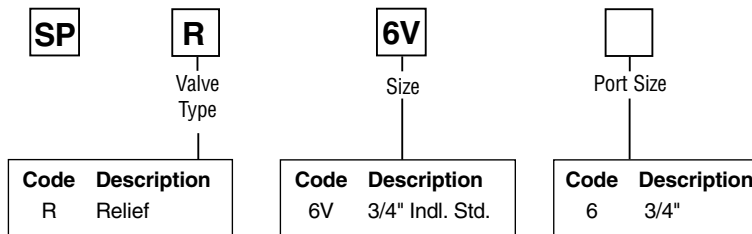
Bolt Kits

(torque 25 ft.-lbs.)
 BK156: 3/8" - 16x4"



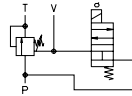
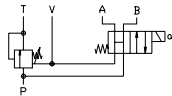
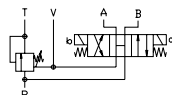
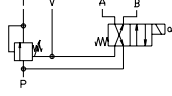
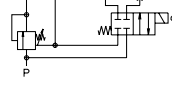
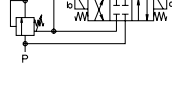
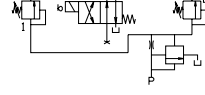
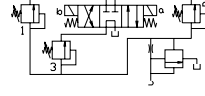
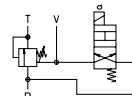
See Porting Chart next page

Subplates – NPTF Port Thread-Bottom Ported



Bolt Kits

(torque 25 ft.-lbs.)
 BK206: 5/8" - 11x4-1/4"

Porting – In-line Versions				
Code	Solenoid "A" Energized	Solenoid "B" Energized	De-energized Position	Symbol
1	Main Control	—	Vent	
2	Control @Port A	—	Vent	
3	Control @Port A	Control @Port B	Vent	
4	Control @Port A	—	Control @Port B	
5	Control @Port A	—	Main Control	
6	Control @Port A	Control @Port B	Main Control	
7	—	Control @ Head #1	Control @ Head #2	
8	Control @Head #3	Control @ Head #1	Control @ Head #2	
9	Vent	—	Main Control	

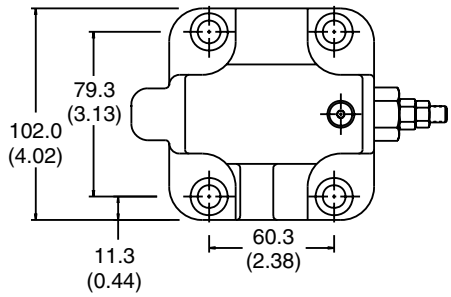


Dimensions

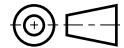
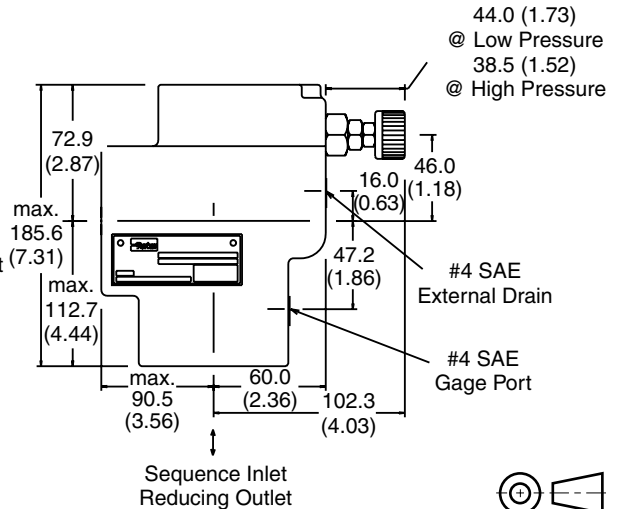
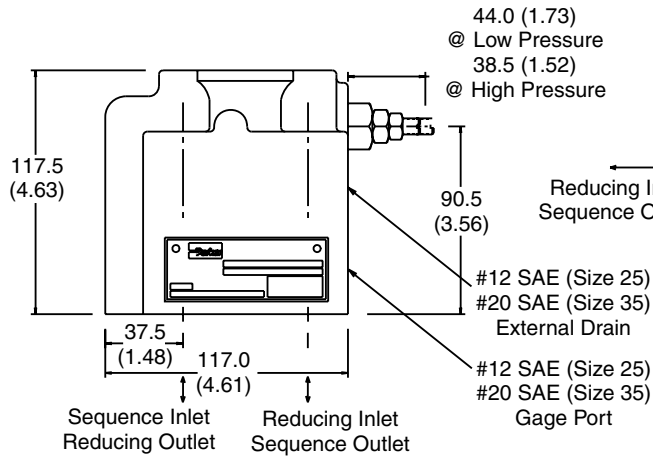
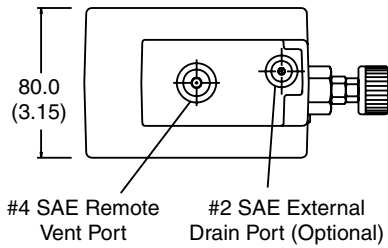
**Pressure Control Valves
Series PR, S**

Inch equivalents for millimeter dimensions are shown in (**)

Standard Subplate Sequence/Pressure Reducing

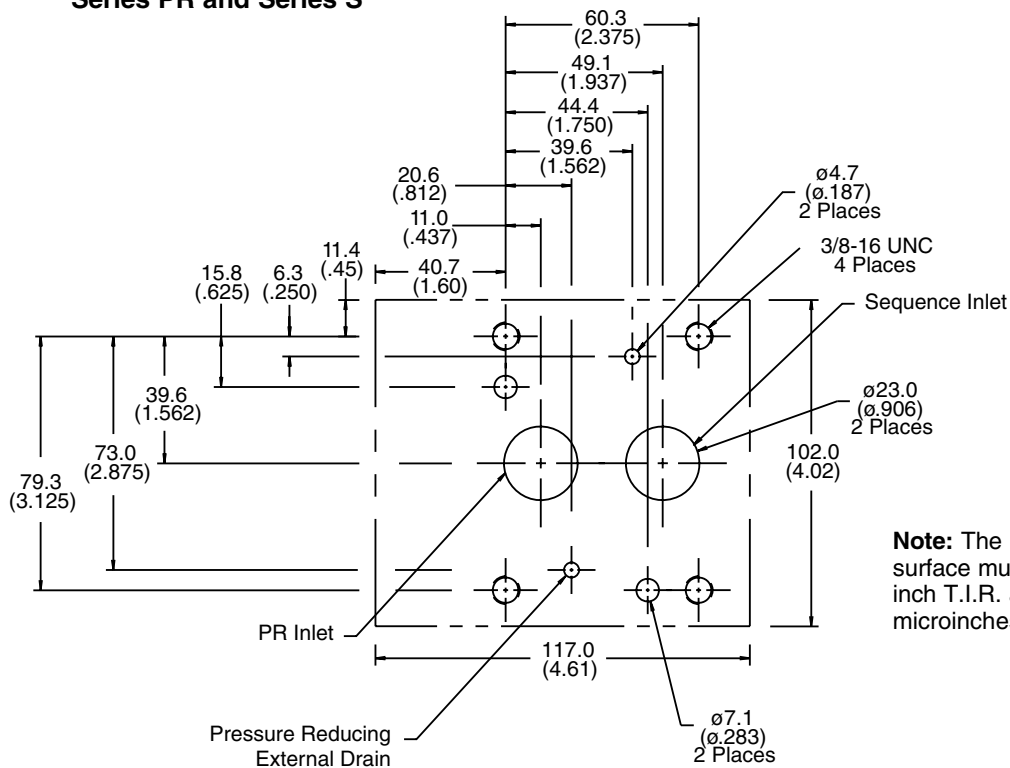


Standard In-Line Sequence/Pressure Reducing



Recommended Mounting Surface

Series PR and Series S

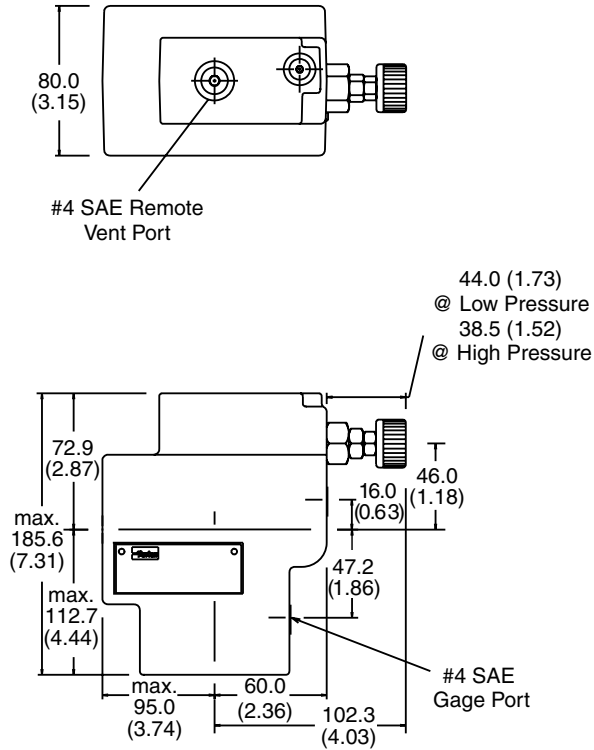


Note: The manifold mounting surface must be flat within .0003 inch T.I.R. and smooth within 63 microinches.

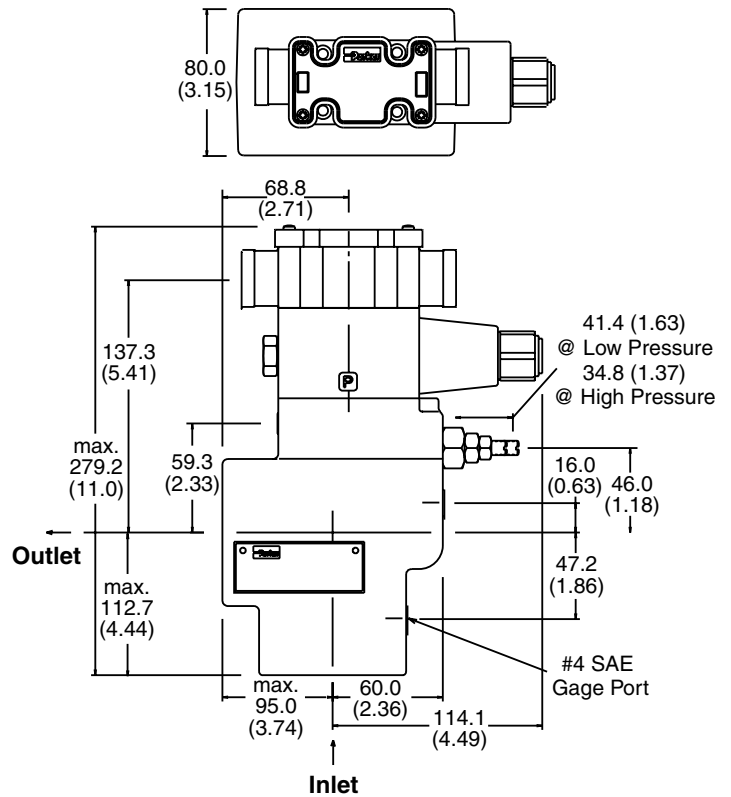


Inch equivalents for millimeter dimensions are shown in (**)

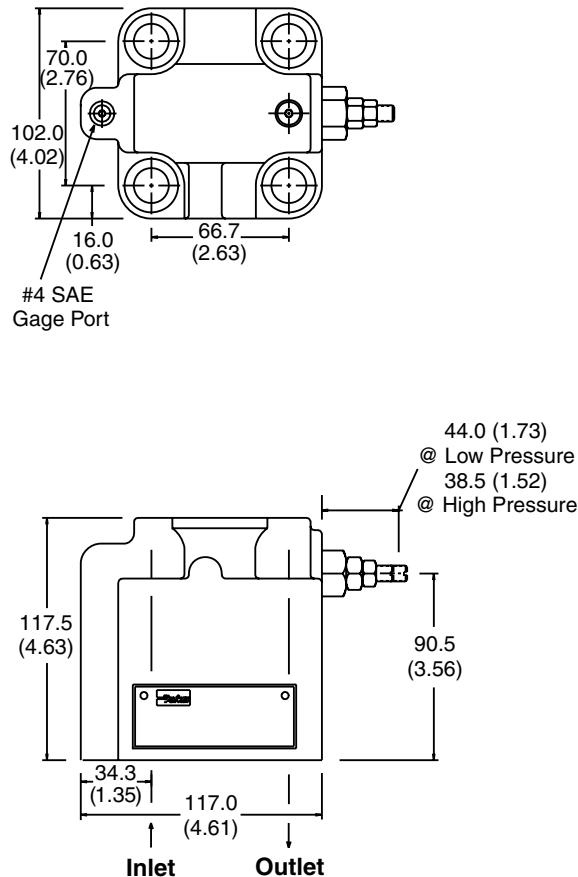
Standard In-Line Relief



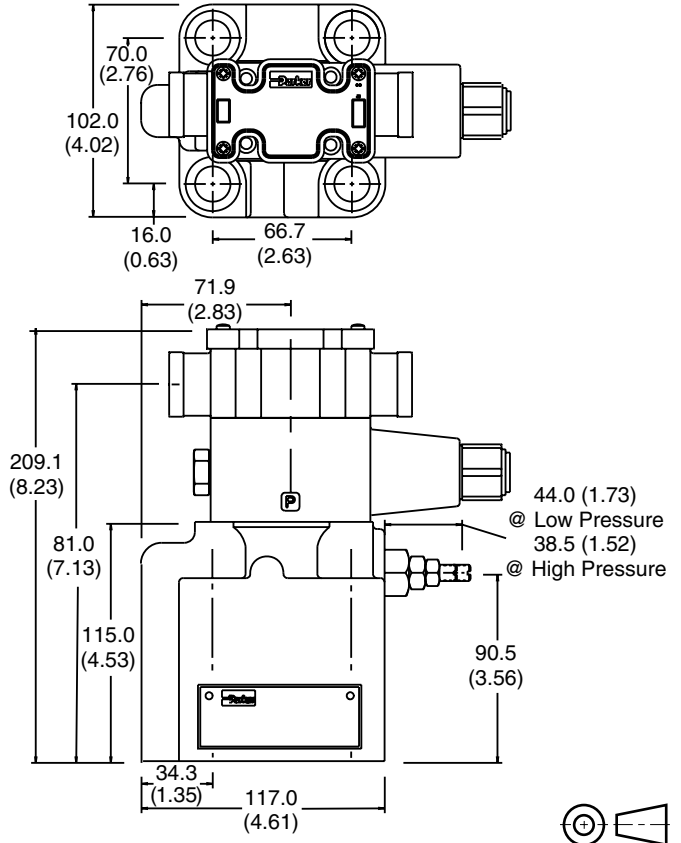
In-Line Solenoid Controlled Relief



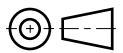
Standard Subplate Relief



Subplate Solenoid Controlled Relief

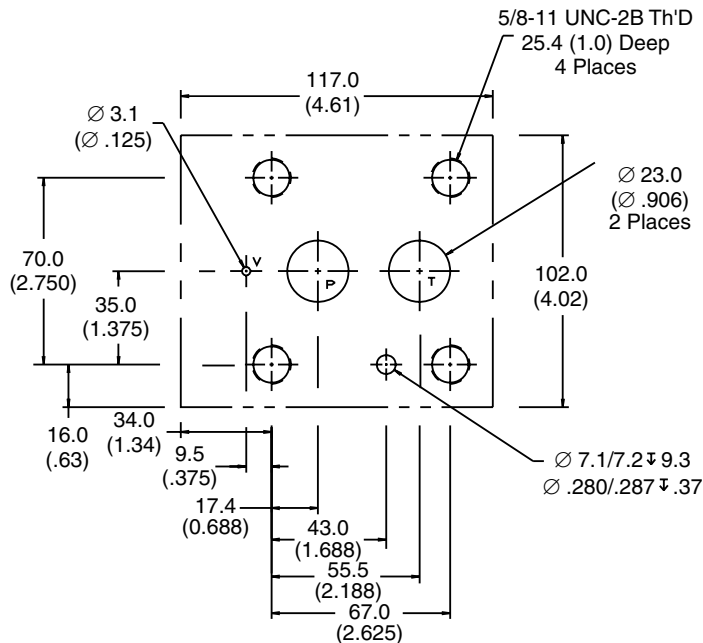


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Recommended Mounting Surface

Series RV**



Note: The manifold mounting surface must be flat within .0003 inch T.I.R. and smooth within 63 microinches.

Fluids And Seals

Premium quality hydraulic oil with a viscosity range between 32-54 cst. (150-250 SSU) at 38°C (100°F). Normal operating viscosity range between 16-220 cst. (80-1000 SSU). Oil should have maximum anti-wear properties, rust and oxidation treatment. Valves using synthetic, fire-resistant fluids may require special seals. When phosphate esters or its blends are used, fluorocarbon seals are required. Water-glycol, Water-in emulsions, and petroleum oils may be used with standard nitrile seals.

Filtration

For optimum valve and system component life, the system should be protected from contamination at a level not to exceed 125 particles greater than 10 microns per milliliter of fluid (SAE Class 4, ISO 16/13).

Valve Settings

To conserve energy and reduce stress on system components the relief should be set as low as possible, typically 10.4 Bar (150 PSI) above required system operating pressure. Secondary pressure controls (reducing and sequence valves) should be set to a minimum of 10.4 Bar (150 PSI) below system relief valves to minimize the possibility of valve interaction and instability.

Valve Adjustment

Relief and pressure control valves with knob option are limited to approximately 10.4 Bar (150 PSI) above pressure range specified. Adjustable pressure of screw adjust option may significantly exceed maximum pressure range specified.

Drain-Line Pressure Reducing and Sequence Valves

The drain line of pressure reducing and sequence valves should be connected directly to tank terminating below the oil level. Any pressure in the drain line is additive to the valve setting.

Tank Line-Relief Valves

Good practice dictates that the tank line of relief valves should be connected directly to tank, terminating below the oil level. Pressure in the tank line will be added to the relief valve pressure setting. Tank lines may be pressurized for crossover relief applications. Refer to specifications table for restrictions.

Venting

Connecting the vent port of a relief to tank allows the relief to divert flow at minimum pressure. Venting a relief during the idle portion of the machine cycle is helpful in reducing heat. Connecting the vent port of a reducing valve to tank allows the reducing valve to go to minimum setting. Heat generated in a reducing or a sequence valve should be dissipated through the system or with a heat exchanger.

