

Parker WJL Series In-Line Mounted Differential Poppet Relief Valve Service Manual

General Description

Series WJL accessory valves are relief valves used for limiting the maximum pressure which can be applied to the portion of the hydraulic circuit where it is connected.

Series WJL relief valves are differential poppet-type relief valves. Their best application is a cylinder port relief where fast response time is required.

Operation

Pressure on the inlet of the WJL relief valve acts on the differential area of the poppet (area difference between the O.D. of the poppet and the seat diameter) to produce a force which is opposed by the spring force. The poppet is pushed off its seat when pressure reaches the valve setting. The spring force re-seats the poppet once the pressure drops below the valve setting.

Features

- Compact, low profile design
- Hardened and ground poppet
- High tensile, compacted graphite body

Specifications

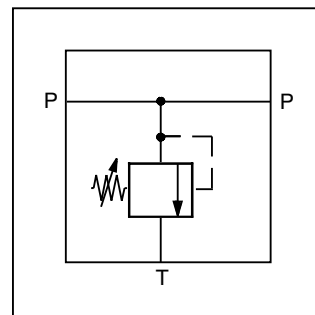
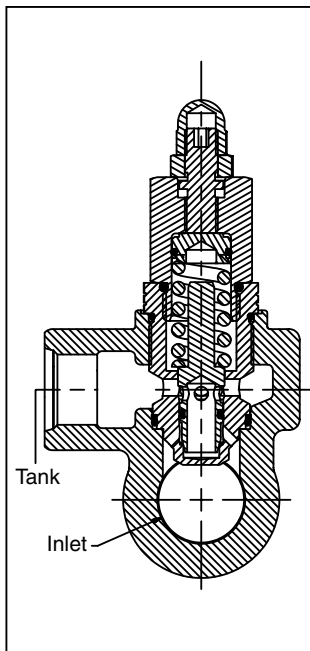
Input Flow	93.75 LPM (25 GPM)
Operating Pressure SAE Ports NPTF Ports	210 Bar (3000 PSI) 138 Bar (2000 PSI)
Operating Temperature Range (Ambient)	Nitrile Seals: -40°C to +93°C (-40°F to +200°F)
Material	Body – High strength cast iron Spool – Hardened and ground steel
Filtration	ISO Code 16/13 SAE Class 4 or better
Mounting Position	In-line; no restrictions

Note: A right angle flow path (former T option) is created by plugging one of the P ports.

Service Parts

Relief Valve Cartridges		Body Kits	
35 - 89 Bar (500 - 1250 PSI)	WHA-1250	WJL-10	K-WJL-10
89 - 142 Bar (1250 - 2000 PSI)	WHA-2000	WJL-50	K-WJL-50
142 - 177 Bar (2000 - 2500 PSI)	WHA-2500	WJL-75	K-WJL-75
177 - 210 Bar (2500 - 3000 PSI)	WHA-3000	Relief Adjustments	
O-Ring Seal Kit	00712223	Screw Adjustment –	
		1/4 turn = 200 PSI ±10%	
		Shim Adjustment – 100 PSI	00462001
		150 - 250 PSI	00459001
		250 - 450 PSI	00458001

Note: The internal parts of the relief valve (including the spring) are non-service items.



Ordering Information

WJL	—	□	—	□	—	□
In-line Mounted WH Differential Poppet Relief Valve		Port Size		Adjustment Option		Pressure Range

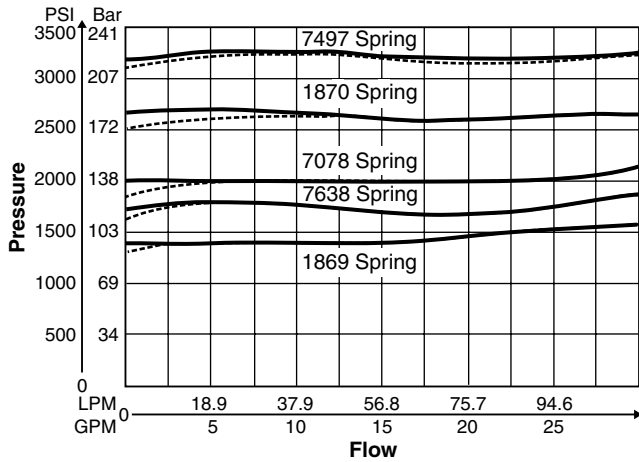
Code	Description	Code	Description
10	SAE-10 (7/8" - 14 UNF)	Omit	Shim Adjustable
12	SAE 12 (1 1/16" - 12 UNF)	A	Screw Adjustable
50	1/2" - 14 NPT		
75	3/4" - 14 NPT Pressure Ports 12" - 14 NPT Tank Port		

Note: NPT pipe ports are not recommended for pressures above 138 Bar (2000 PSI)

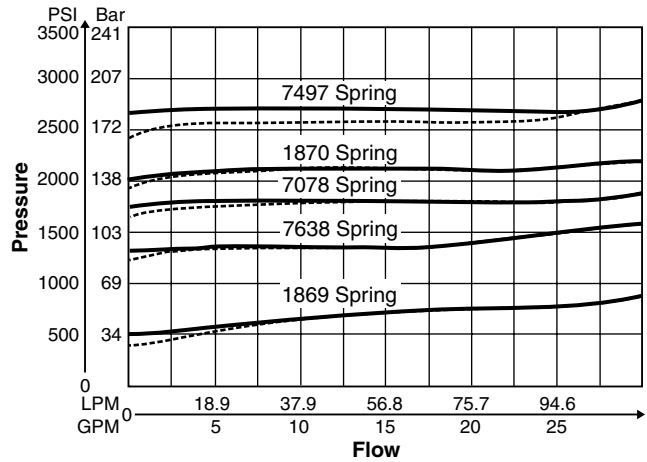
Code	Setting	Range
1250	89 Bar (1250 PSI)	35 - 89 Bar (500 - 1250 PSI)
2000	142 Bar (2000 PSI)	89 - 142 Bar (1250 - 2000 PSI)
2500	177 Bar (2500 PSI)	142 - 177 Bar (2000 - 2500 PSI)
3000	210 Bar (3000 PSI)	142 - 210 Bar (2000 - 3000 PSI)

Performance Curves

Low End – 34 to 207 Bar (500 to 3000 PSI)



High End – 34 to 207 Bar (500 to 3000 PSI)



Dimensions

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

