

Manapak valves provide a variety of check, flow control, pressure relief and pressure reducing functions in a compact NFPA D03, D05 and D08 sandwich style valve. The NFPA D03 valve body conforms to the ISO 40 mm (1.57") thickness. These valves are mounted between directional control valves and their mounting surface.

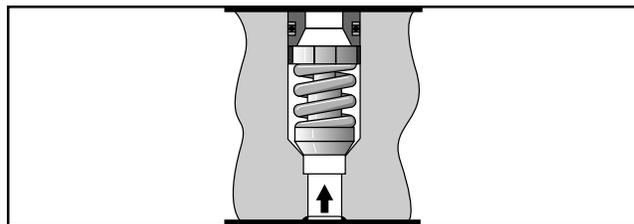
The NFPA D03 Manapak valves may also be used in conjunction with Parker's Cartpak Series of sandwich valves which offer a wide variety of additional functions including relief, pressure reducing/relieving, load check, back pressure check, needle, flow control, pressure compensated flow control, crossover, relief and directional valves.

B

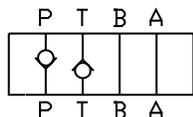
Check Valves

Series CM

- Valve bodies are manufactured from steel which provide extra strength and durability for longer life. Internal hardened steel components also provide longer life.
- Positive shut-off is provided by a fully guided poppet and allows full flow in the unchecked position.
- Parker Manapak CM sandwich style check valves can be used either on the 'P', 'A', 'B', 'T' port or combination.
- Large internal flow paths allow high flow at low pressure drop.



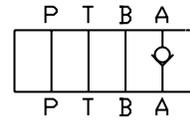
CM*PT



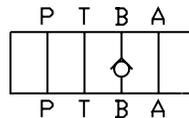
CM*AA



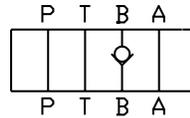
CM*AAF



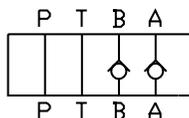
CM*BB



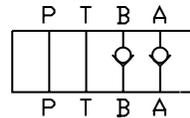
CM*BBF



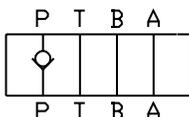
CM*DD



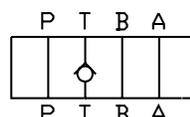
CM*DDF



CM*PP



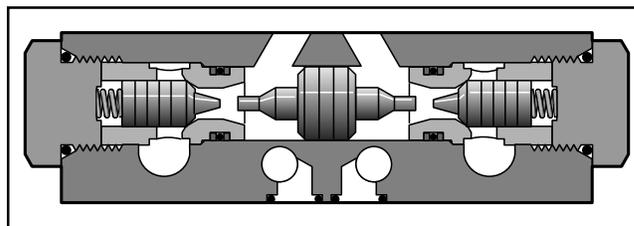
CM*TT



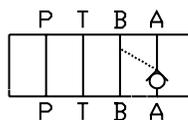
P. O. Check Valves

Series CPOM

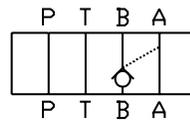
- Parker Manapak CPOM sandwich style, pilot operated check valves can be provided in either single or double configurations.
- The pilot operated checks may be positioned in 'A' port or 'B' port; or both 'A' and 'B' ports.
- Valve bodies are manufactured from steel which provide extra strength and durability for longer life. Internal hardened steel components also provide longer life.
- Positive shut-off is provided by a hardened poppet and cage assembly.
- Large internal flow paths allow high flow at low pressure drop.



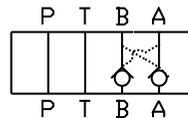
CPOM*AA



CPOM*BB



CPOM*DD



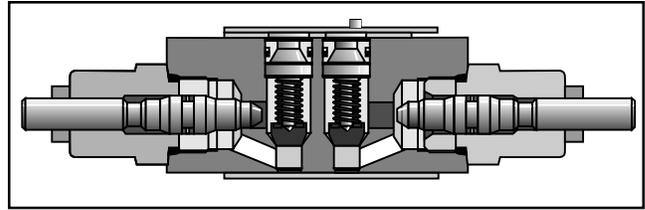
Flow Control Valves

Series FM

- Parker Manapak style FM flow control valves can be provided in either single or double configurations.

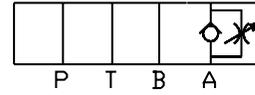
The flow controls may be positioned in 'P' port, 'A' port, 'B' port, or both 'A' and 'B' ports.

- Valve bodies are manufactured from steel which provide extra strength and durability for longer life. Internal hardened steel components also provide longer life.
- Two step needles (standard) provide fine adjustment for the first three turns and course adjustment for the last three turns. Fine metering needles are available as an option.
- Large bypass checks allow high flow at a low pressure drop.
- Reversible (invert 180°) for meter-in or meter-out (D03 & D05 only).



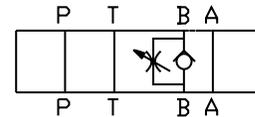
FM*AA

(Meter Out)



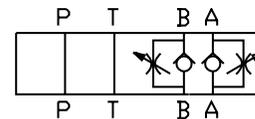
FM*BB

(Meter Out)



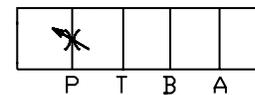
FM*DD

(Meter Out)



FM*PP

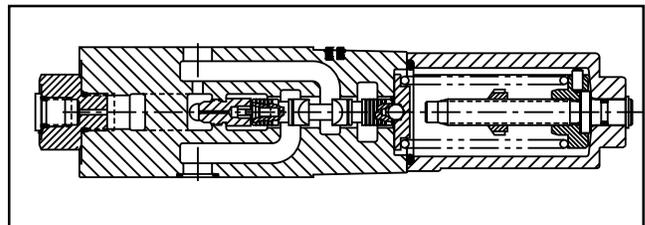
(Meter Out)



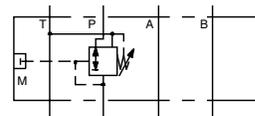
Pressure Reducing Valves

Series PRDM

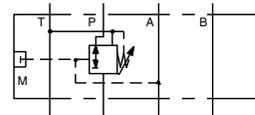
- PRDM Manapak sandwich valves may be selected to reduce pressure in the 'P' port, 'A' port or 'B' port.
- The direct operated, cushioned piston design results in fast response, low leakage and minimal hysteresis.
- Up to four pressure adjustment ranges are available with maximum pressure settings of 25, 64, 160 and 210 Bar (363, 928, 2320, 3045 PSI).
- Adjustment options include: internal hex screw, hand knob or internal hex with keylock.
- Fluorocarbon seals are standard for multi-fluid compatibility.
- Available gage port connections include: SAE, NPT, BSPP Metric and ISO 6149.



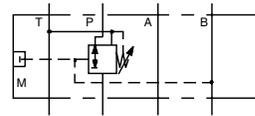
PRDM*PP



PRDM*AA



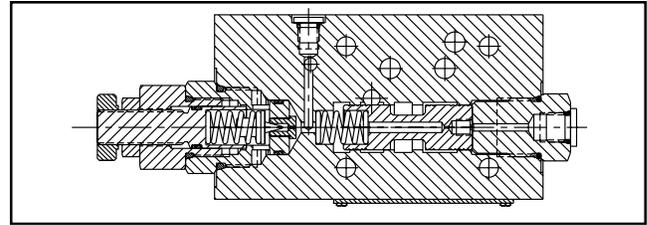
PRDM*BB



Pressure Reducing Valves

Series PRM

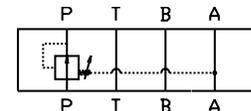
- Parker Manapak PRM sandwich style pressure reducing valves can be used to reduce pressure on the 'P' port, the 'A' port, or the 'B' port.
- Three pressure adjustment options available: slotted screw, knob and locking knob.
- Valve bodies are manufactured from steel which provide extra strength and durability for longer life. Internal hardened steel components also provide longer life.



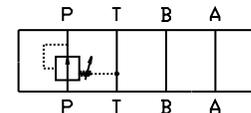
PRM*AA



PRM*BB



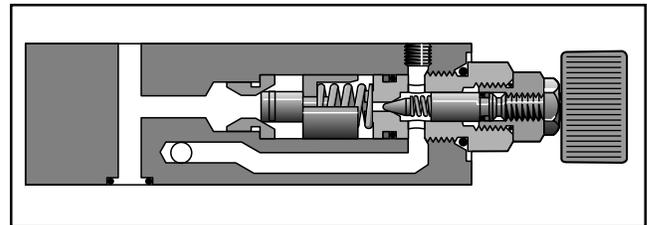
PRM*PP



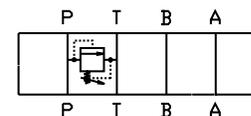
Pressure Relief Valves

Series RM

- Parker Manapak RM sandwich style relief valve is a 'P' port to 'T' port relief.
- Valve bodies are manufactured from steel which provide extra strength and durability for longer life. Internal hardened steel components also provide longer life.
- Three pressure adjustment options available: slotted screw, knob and locking knob.



RM*PT



General Description

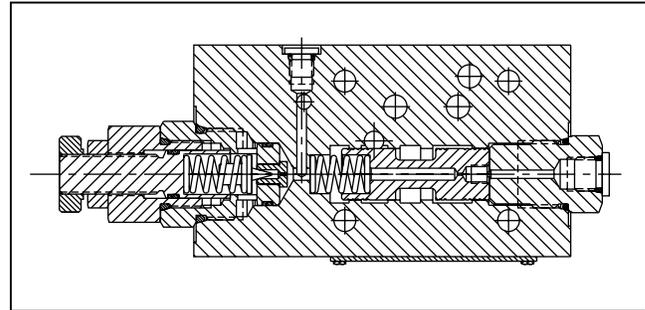
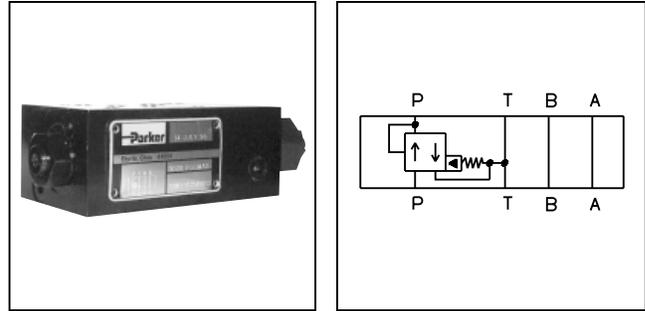
PRM Series reducing valves are used to regulate pressure, in one area of a circuit, below normal system pressure. The Manapak style valve is well suited to perform this function as it mounts directly below the directional control valve.

Operation

These are "normally open" valves that allow fluid to pass through the controlled port during typical operation. When downstream pressure rises above the value set by an adjustable spring force, the control pilot opens and allows the main spool to move from a full open position. The main spool modulates to maintain the desired "reduced pressure" downstream of the valve. The PRM3 also has a relieving mode.

Features

- Parker Manapak PRM sandwich style pressure reducing valves can be used to reduce pressure on the 'P' port, the 'A' port, or the 'B' port.
- Three pressure adjustment options are available: slotted screw, knob and locking knob. (PRM6 only)
- Valve bodies are manufactured from steel which provide extra strength and durability for longer life. Internal hardened steel components also provide longer life.



B

Specifications

	PRM3	PRM6		PRM3/PRM6										
Mounting Pattern	NFPA D05, CETOP 5, NG 10	NFPA D08, CETOP 8, NG 25	Venting	Connecting the vent port to tank allows the reducing valve to divert flow at minimum pressure.										
Minimum Pressure	10 Bar (150 PSI) with rated flow, 150 SSU oil, and fluid temperature of 38°C (100°F). ¹		Remote Control	Remote control valve connected to the vent port can be used to control the pressure. ²										
Maximum Pressure	345 Bar (5000 PSI)	345 Bar (5000 PSI)	Drain Line	Drain line from pilot valve is internally connected to the tank port. Tank line pressure is thus added to the valve setting. ³										
Min. Flow	3.78 LPM (1 GPM)	3.78 LPM (1 GPM)												
Maximum Flow	64 LPM (17 GPM)	189 LPM (50 GPM)												
Pressure Range	<table border="0"> <tr> <td><u>Code</u></td> <td><u>Pressure Range</u></td> </tr> <tr> <td>07</td> <td>10 to 70 Bar (150 - 1000 PSI)</td> </tr> <tr> <td>17</td> <td>10 to 175 Bar (150 - 2500 PSI)</td> </tr> <tr> <td>25</td> <td>10 to 250 Bar (150 - 3500 PSI)</td> </tr> <tr> <td>35*</td> <td>10 to 350 Bar (150 - 5000 PSI)</td> </tr> </table>		<u>Code</u>	<u>Pressure Range</u>	07	10 to 70 Bar (150 - 1000 PSI)	17	10 to 175 Bar (150 - 2500 PSI)	25	10 to 250 Bar (150 - 3500 PSI)	35*	10 to 350 Bar (150 - 5000 PSI)		
<u>Code</u>	<u>Pressure Range</u>													
07	10 to 70 Bar (150 - 1000 PSI)													
17	10 to 175 Bar (150 - 2500 PSI)													
25	10 to 250 Bar (150 - 3500 PSI)													
35*	10 to 350 Bar (150 - 5000 PSI)													

¹ Change in flow, temperature or fluid (SSU) rating will affect valve minimum pressure.
² Set main valve pressure 10 Bar (150 PSI) higher than remote pilot.
³ It is important that the drain line connection be taken into consideration when determining the minimum valve setting.
 * PRM3 only

B

PRM

Pressure Reducing Manapak

Size

Port Reduction Option

Pressure Range Option

Adjustment

Seal Material Option

Gauge Port Option

Drain Option

***** Design Series

NOTE:
Not required when ordering.

Code	Description
3	NFPA D05 Subplate Mounting
6	NFPA D08 Subplate Mounting

Code	Description	Available Models	
		PRM3	PRM6
PP	P Port Only	✓	
AA	A Port Only	✓	
BB	B Port Only	✓	
PA	P Port Reduced/Convertible to A Port Reduced		✓
AP	A Port Reduced/Convertible to P Port Reduced		✓

Code	Type
V	Fluorocarbon
N	Nitrile

Code	Type
K	Knob
L*	Locking Knob
S	Screw Adj.

* PRM6 only

Code	Type
S*	SAE
G	BSPP
N	NPT
M	Metric
T	BSPT

* PRM6 only available with SAE 6.

Code	Type
Omit	Internal
Y	External

Code	Description
07	10 to 70 Bar (150 to 1000 PSI)
17	10 to 175 Bar (150 to 2500 PSI)
25	10 to 250 Bar (150 to 3500 PSI)
35	10 to 345 Bar (150 to 4500 PSI)

Unit Weight:

PRM3

3.0 kg (6.6 lbs.)

PRM6

5.6 kg (12.5 lbs.)

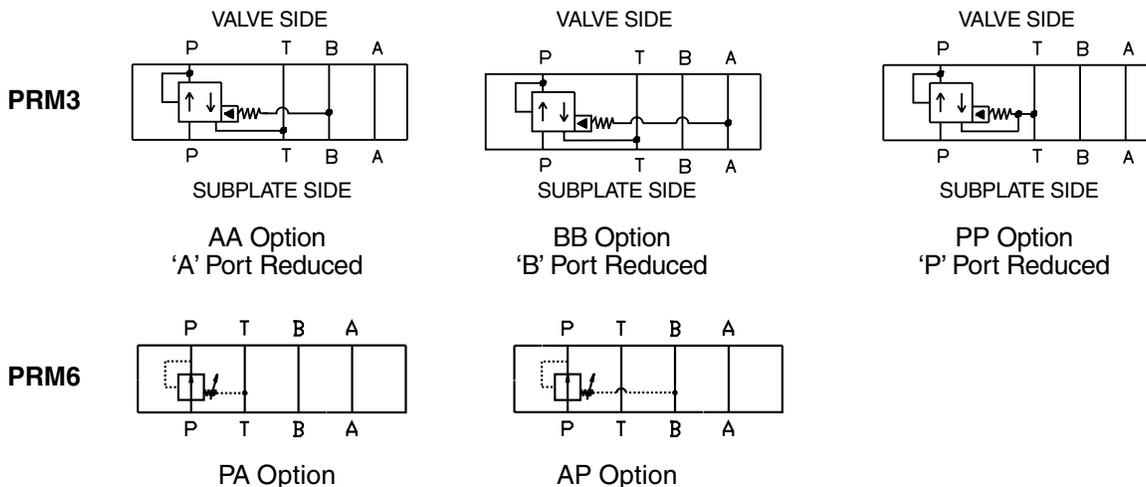
Manapak Bolt Kits

Size "3"				Size "6"			
No. of Manapaks	Manapak & Valve Combination	D3W-30 D3DW & D31VW*	Bolt Length mm (in)	No. of Manapaks	Manapak & Valve Combination	Bolt Kit	Bolt Length mm (in)
1	Manapak & D3	BK141	88.9 (3.50)	1	Manapak & D6	BK121	133.4 (5.25)
2	Manapak & D3	BK142	139.7 (5.50)	2	Manapak & D6	BK122	203.2 (8.00)
3	Manapak & D3	BK143	190.5 (7.50)	3	Manapak & D6	BK123	273.1 (10.75)
				4	Manapak & D6	BK124	342.9 (13.5)

* D31VW with internal pilot and internal drain only.

Bolt Kits must be ordered separately.

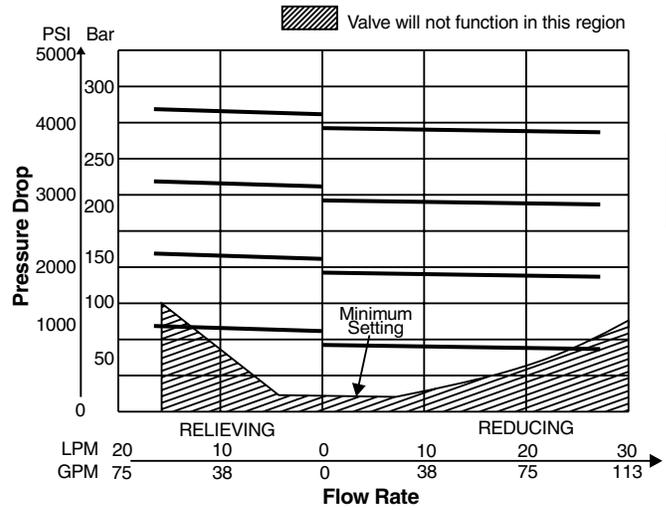
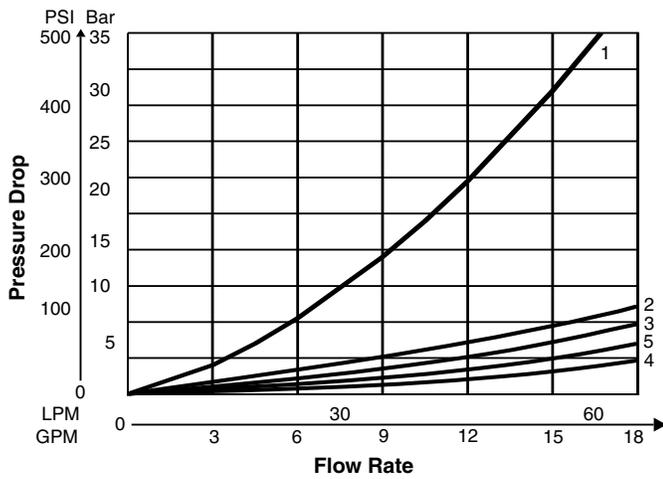
Schematics



2502-B1.p65, dd



Performance Curves



B

Mode	Flow Path			
	P → P	A → A	B → B	T → T
PP	1	2	3	4
AA	1	2	3	5
BB	1	2	3	5

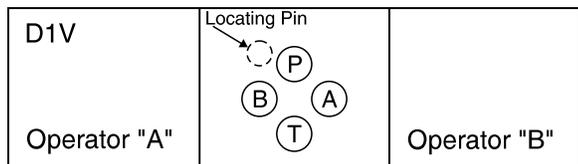
Viscosity Correction Factor							
Viscosity (SSU)	75	150	200	250	300	350	400
% of ΔP (approx.)	93	111	119	126	132	137	141
Curves were generated using 100 SSU hydraulic oil. For any other viscosity, pressure drop will change per chart.							

NOTE: Lowest settable pressure dependent upon system resistance.

B

CAUTION:
Manapak Installation

Prior to installation of Manapaks, please review flow paths. Due to the reversibility of the DO3 size, incorrect installation will alter the hydraulic circuit. Care must be taken during installation to insure that the Manapak is installed in compliance with the hydraulic schematic. Please consult with your Parker representative with any questions that may arise.



Pressure Ratings

Unless otherwise specified, all Parker Manapaks have continuous duty pressure rating as shown in this catalog.

Special Requirements

Consult your Parker representative for factory recommendations on such situations as:

- Installations that will operate at pressures higher than published catalog ratings.
- Use of hydraulic fluids which do not meet our recommended specifications.
- Operations where fluid temperature will exceed 121°C (250°F).

Recommended Mounting Surface

Surface must be flat within .0004 inch T.I.R. and smooth with 32 micro-inch.

System Cleanliness

Any hydraulic system that includes Parker valves should be carefully protected against dirt and fluid contamination. Life of the valves, as well as of all other components, will be greatly lengthened. Operation will be smoother and more precise. Maintenance and repairs will be reduced. Lost production because of low pressure and flow will be minimized. Fluid contamination should be maintained to less than 500 particles larger than 10 micrometers per milliliter of fluid (SAE class 4 or better/ISO Code 16/13).

Hydraulic Fluids

Parker recommends using top-quality hydraulic fluids having a viscosity range of 150 to 250 SSU (32 to 54 cst.) at 38°C (100°F). The absolute viscosity range should be 80 to 1000 SSU (16 to 220 cst.). Fluids should have highest anti-wear characteristics and be treated to avoid rust and oxidation.

Seals

When used with water-glycol, water/oil emulsions, and high-grade petroleum base hydraulic fluids, Parker standard nitrile seals are suitable.

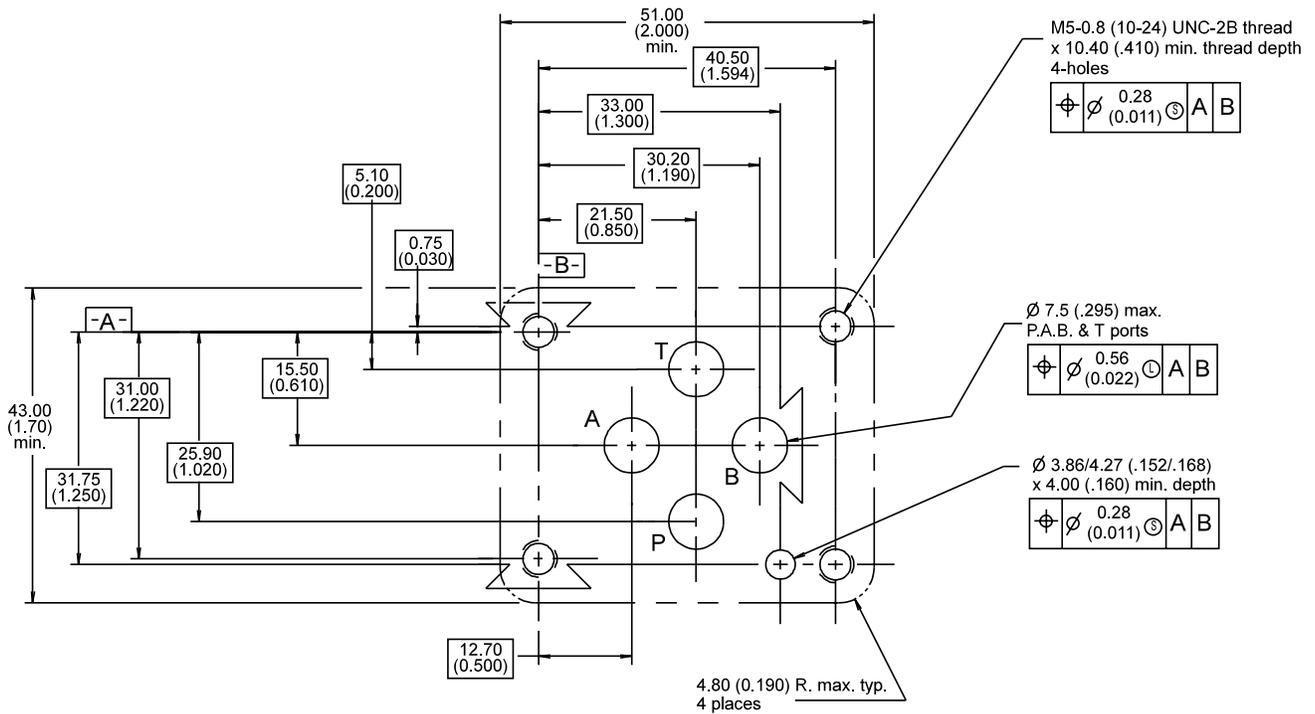
When using phosphate ester fluids or their blends, specify Parker optional seals made of fluorocarbon. Synthetic fire-resistant fluids require special seal materials which your Parker representative can recommend.

Torque Specifications

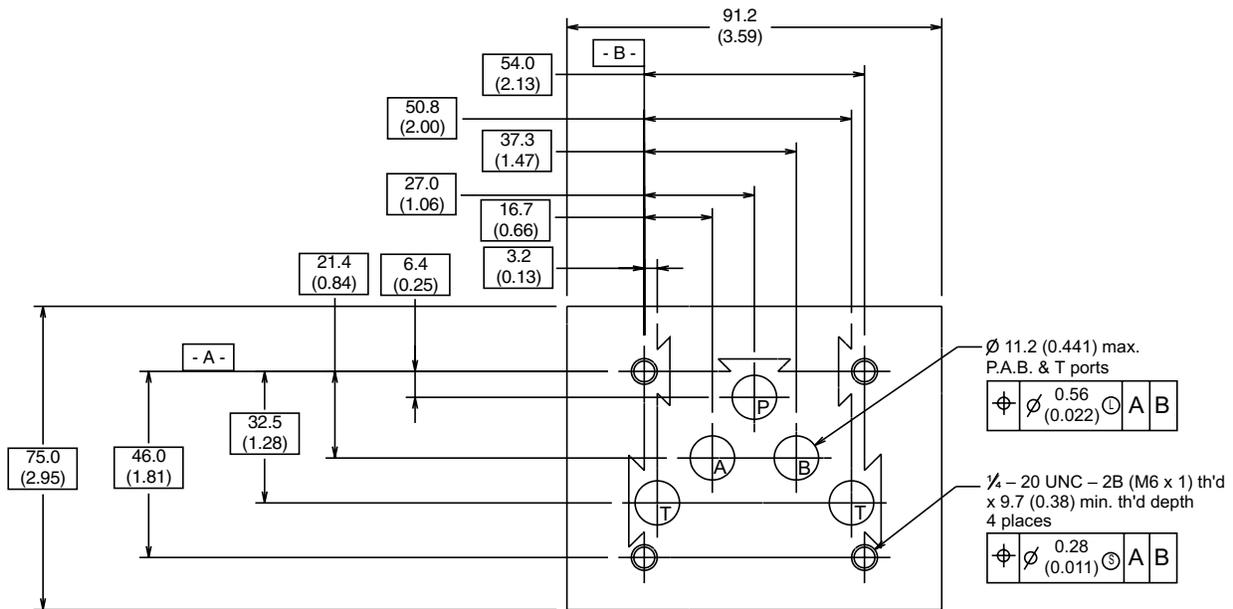
The recommended torque valves are for the bolts which mount the valve to the manifold or subplate are as follows:

Size	Torque Valve
2	5.7 N.m. (50 in.-lbs.)
3	16.3 N.m. (12 ft.-lbs.)
6	108.5 N.m. (80 ft.-lbs.)

Mounting Patterns



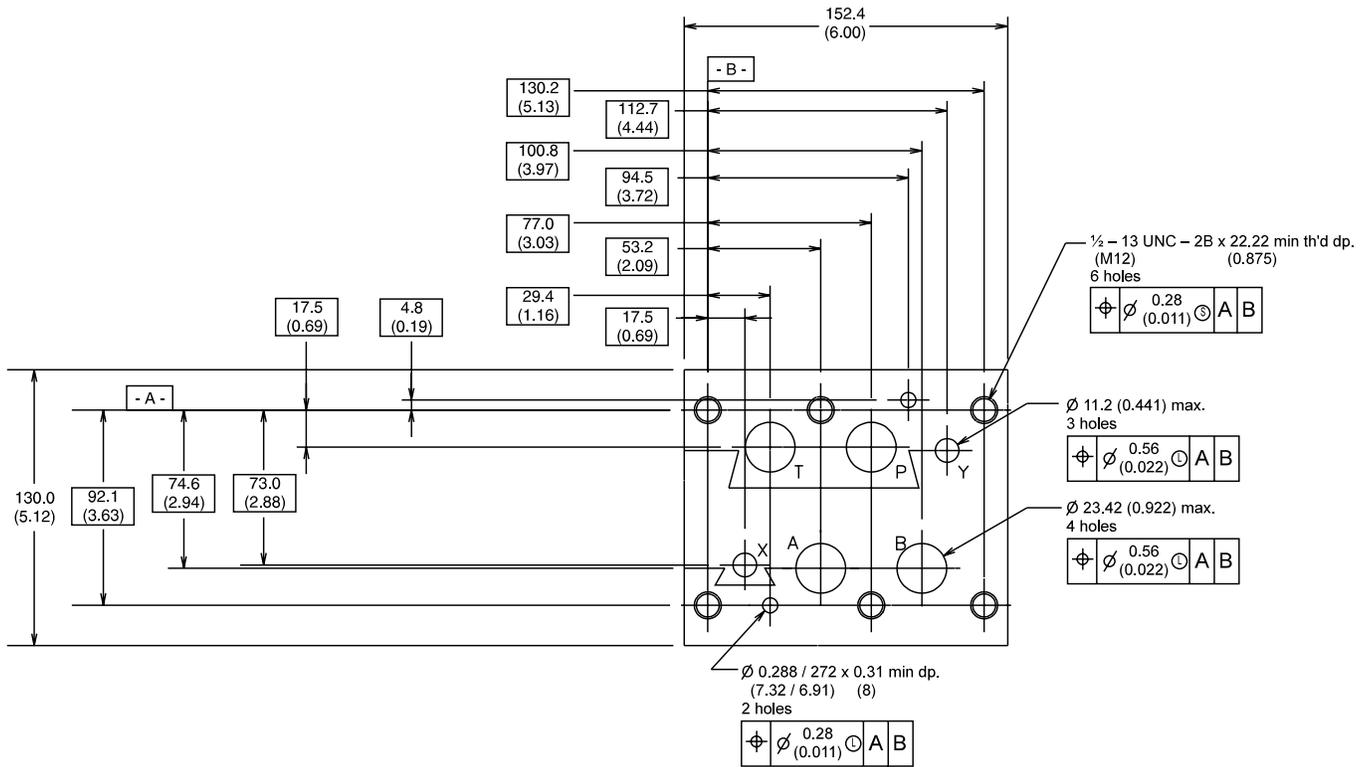
Mounting Surface for Directional Control Valve Manifold M'TD. (NFPA, D03); CETOP 3 & NG 6



Mounting Surface for Directional Control Valve (NFPA, D05); CETOP 5 & NG 10

Mounting Patterns

B



Mounting Surface for Directional Control Valve (NFPA, D08); CETOP 8 & NG 25