

General Description

Series PRDM are direct operated pressure reducing valves that are used to regulate pressure in one area of a hydraulic circuit at a predetermined level below normal system pressure. Additionally, an integral pressure relieving function for the secondary reduced pressure circuit is incorporated into the design.

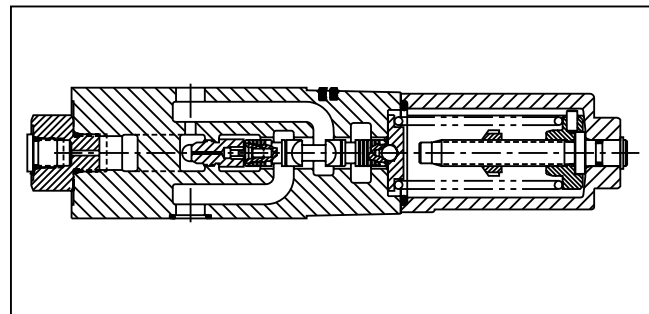
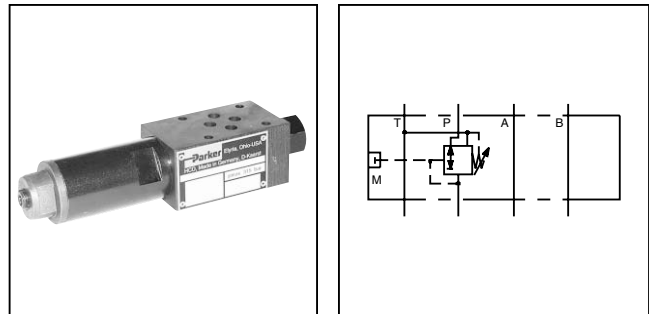
B

Operation

These valves are “normally open” devices that allow fluid to flow through the controlled port during their non-actuated or “at rest” condition. When downstream pressure exceeds the value set by the spring force, the control piston moves off its seat, closing off the flow path and thus reducing the fluid passing through from the main system. The cushioned piston modulates to maintain the preset pressure in this branch of the hydraulic circuit. If, due to external forces, the pressure continues to rise in this branch circuit, the piston will keep moving against the spring force allowing fluid to be drained to tank, thereby limiting maximum pressure to the valve’s setting.

Features

- 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 nine pressure adjustment ranges are available with maximum pressure settings.
- Adjustment options include: internal hex screw, hand knob or internal hex with keylock.
- Fluorocarbon seals are available.
- Available gage port connections include SAE and NPT.



Specifications

	PRDM2	PRDM3
Mounting Pattern	NFPA D03, CETOP 3, NG6	NFPA D05, CETOP 5, NG10
Maximum Operating Pressure P, A, B	350 Bar (5000 PSI)	315 Bar (4560 PSI)
T	10 Bar (145 PSI)	10 Bar (145 PSI)
Max. Flow	40 LPM (10.5 GPM)	80 LPM (21 GPM)
Pressure Range	Code Range 01 1.0 to 14 Bar (15 to 200 PSI) 02* 1.5 to 25 Bar (22 to 363 PSI) 05** 2 to 50 Bar (29 to 725 PSI) 06* 1.5 to 64 Bar (22 to 928 PSI) 10** 4 to 100 Bar (58 to 1450 PSI) 15** 6 to 150 Bar (87 to 2175 PSI) 16* 3 to 160 Bar (44 to 2320 PSI) 21 3 to 210 Bar (44 to 3045 PSI) 35* 10 to 315 Bar (147 to 4560 PSI)	
Viscosity Range	12-230 cSt (62-1190 SSU)	
Filtration	ISO Code 18/16/13 or Better	

* PRDM2 only

** PRDM3 only.

PRDM
 Pressure Reducing/Relieving Manapak

Size

Port Reduction Option

Pressure Range Option

Adjustment Option

Seal Material

Gage Port Option

Design Series
 NOTE: Not required when ordering.

Code	Description
2	NFPA D03 Subplate Mounting
3	NFPA D05 Subplate Mounting

Code	Type
N	Nitrile
V	Fluorocarbon

Code	Type
N	1/4" NPT Adapter
S	SAE #4 (UNF-2B 7/16-20) Adapter in PRDM3

Code	Description
PP	P Port Only
AA	A Port Only
BB	B Port Only

Code	Type
L	Hex w/Key Lock
S	Internal Hex Screw Adj.
K*	Knob

* PRDM2 only.

Code	Description
01	1 to 14 Bar (15 to 200 PSI)
02*	1.5 to 25 Bar (22 to 363 PSI)
05**	2 to 50 Bar (29 to 725 PSI)
06*	1.5 to 64 Bar (22 to 928 PSI)
10**	4 to 100 Bar (58 to 1450 PSI)
15**	6 to 150 Bar (87 to 2175 PSI)
16*	3 to 160 Bar (44 to 2320 PSI)
21	8 to 210 Bar (116 to 3045 PSI)
35*	10 to 315 Bar (147 to 4560 PSI)

* PRDM2 only.
 ** PRDM3 only.

Bold: Designates Tier I products and options.
Non-Bold: Designates Tier II products and options.
These products will have longer lead times.



Manapak Bolt Kits

Size "2"				Size "3"			
No. of Manapaks	Manapak & Valve Combination	Bolt Kit	Bolt Length mm (in)	No. of Manapaks	Manapak & Valve Combination	D3W-30 D3DW & D31VW*	Bolt Length mm (in)
1	Manapak & D1	BK243	73.2 (2.88)	1	Manapak & D3	BK141	88.9 (3.50)
2	Manapak & D1	BK225	111.3 (4.38)	2	Manapak & D3	BK142	139.7 (5.50)
3	Manapak & D1	BK244	152.4 (6.00)	3	Manapak & D3	BK143	190.5 (7.50)
4	Manapak & D1	BK245	190.5 (7.50)				

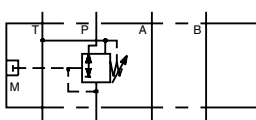
* D31VW with internal pilot and internal drain only.

Bolt Kits must be ordered separately.

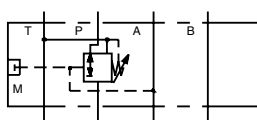
Weights:

PRDM2 1.3 kg (2.9 lbs.)
 PRDM3 2.6 kg (5.8 lbs.)

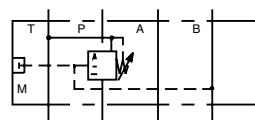
Schematics



PP Option

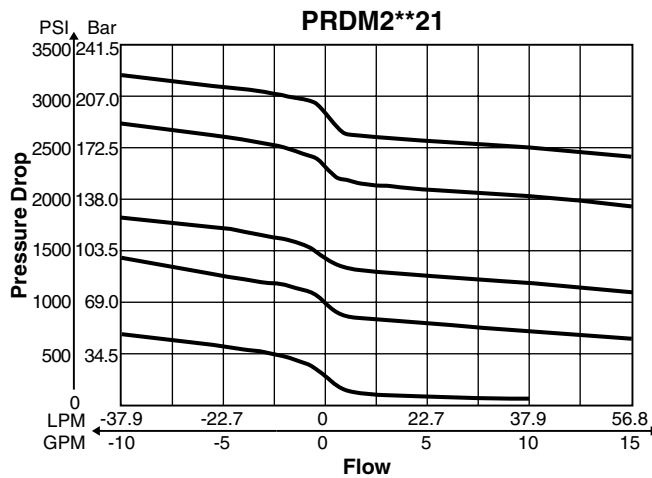
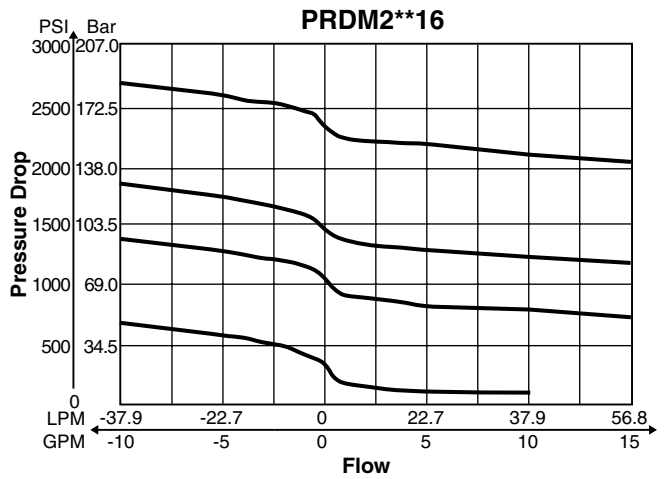
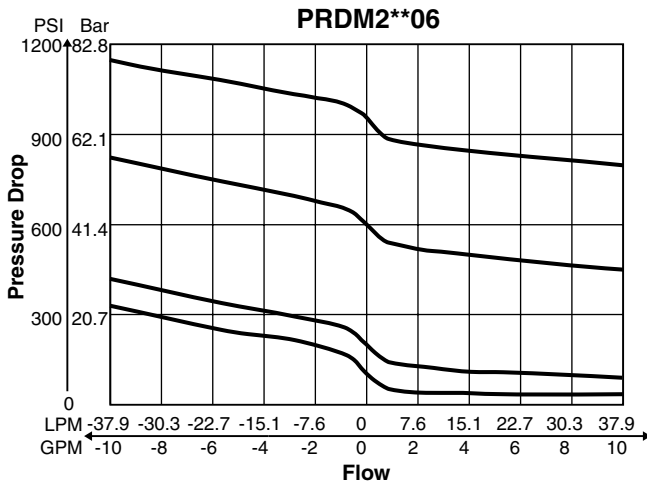
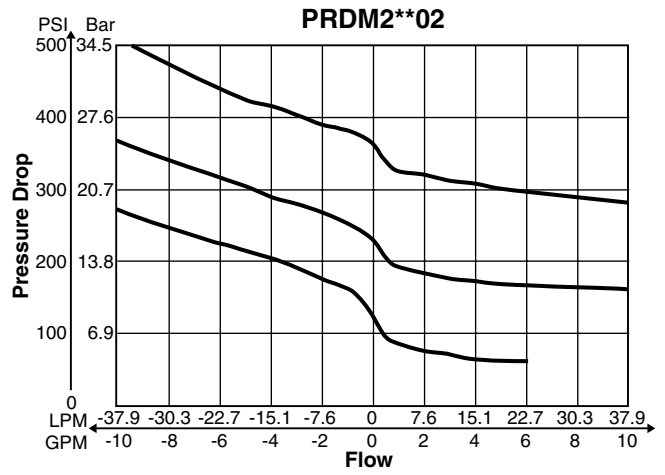
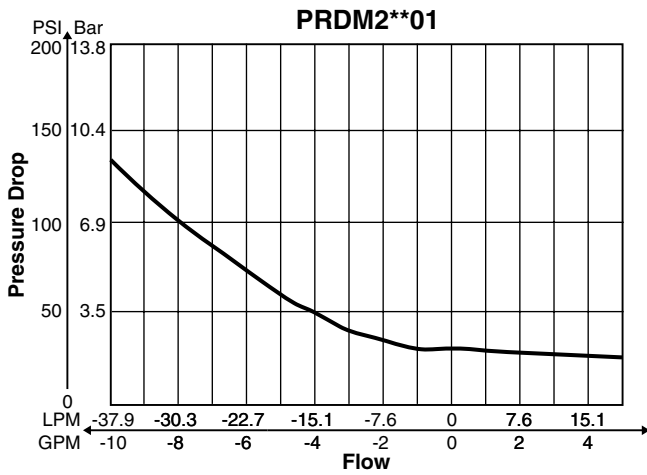


AA Option

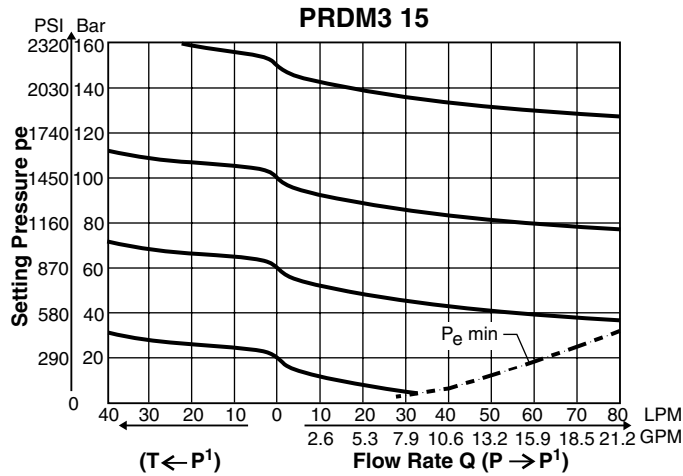
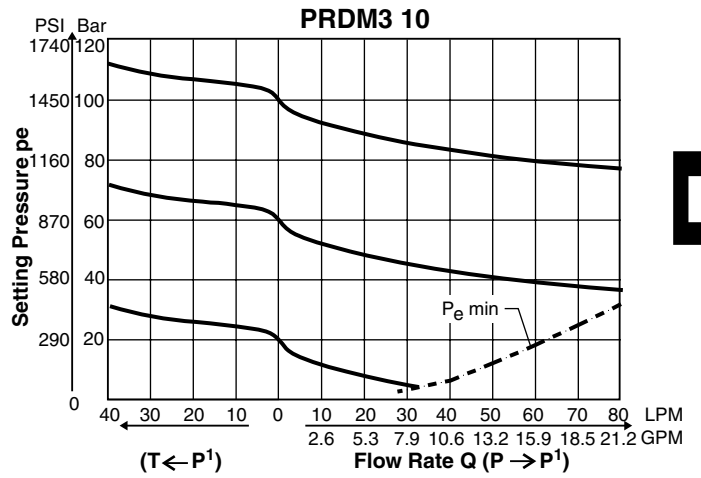
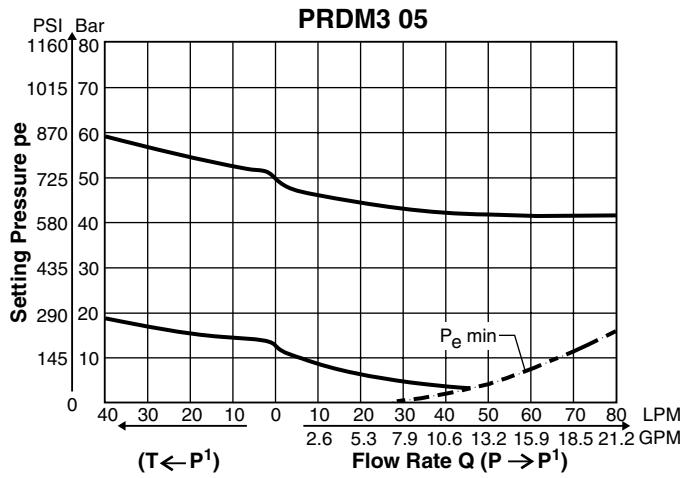


BB Option

B



NOTE: Lowest pressure setting dependent upon system resistance.

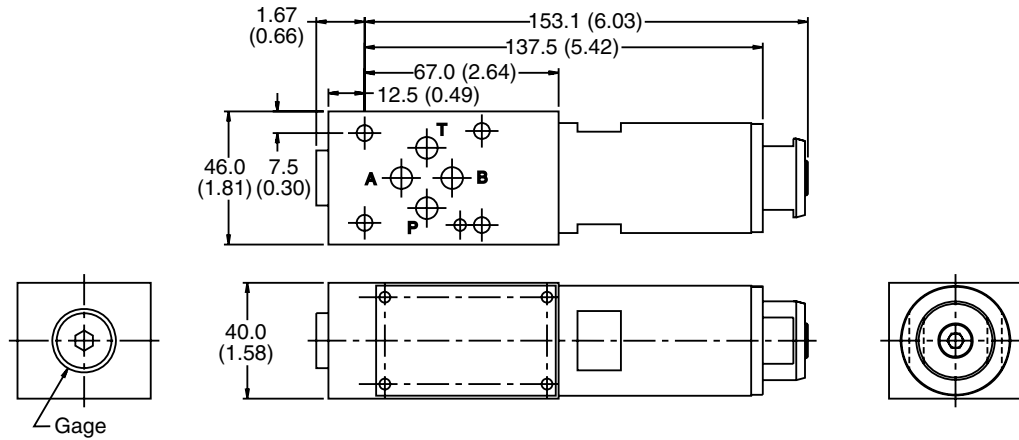
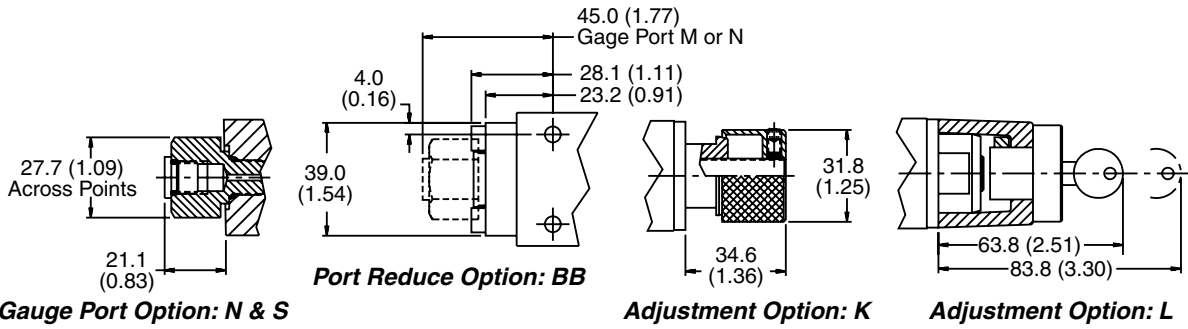


NOTE: Lowest pressure setting dependent upon system resistance.

PRDM2

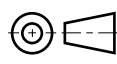
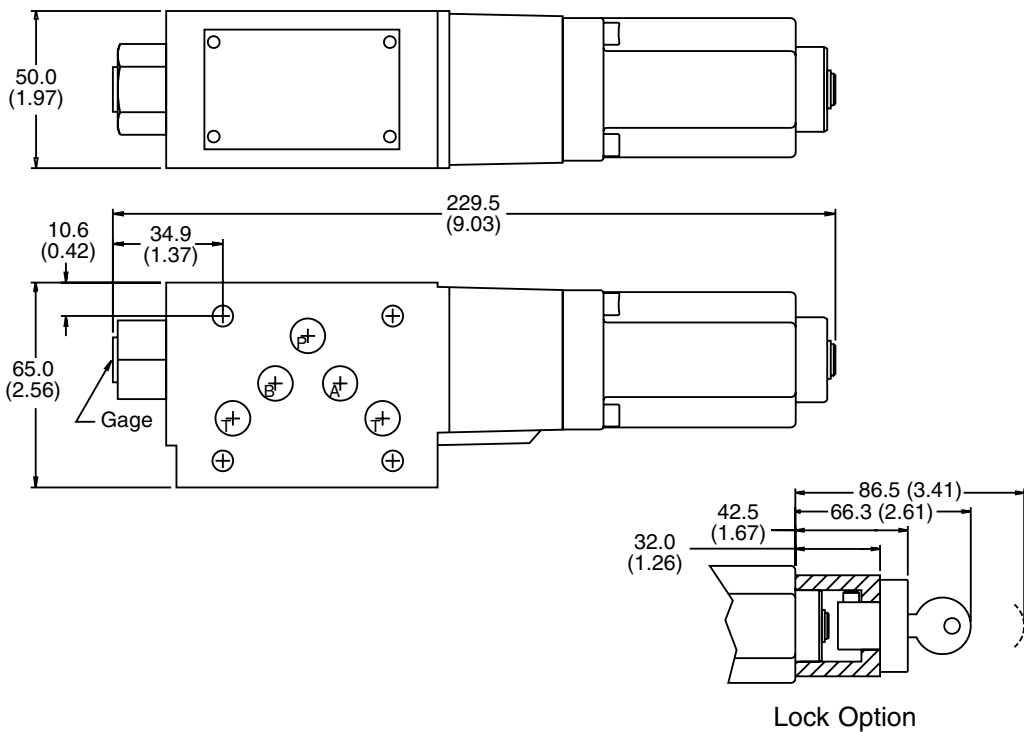
Inch equivalents for millimeter dimensions are shown in (**)

B



PRDM3

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



General Description

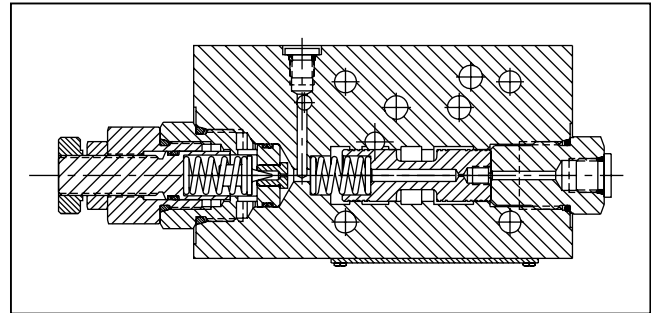
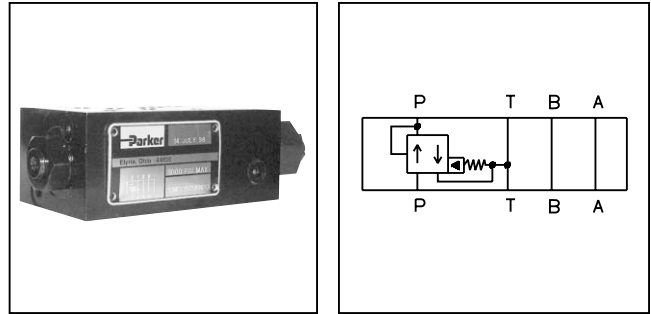
Series PRM reducing valves are used to regulate pressure, in one area of a circuit, below normal system pressure. The Manapak style valve is well suited to perform this function as it mounts directly below the directional control valve.

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.

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
N	Nitrile
V	Fluorocarbon

Code	Type
Omit*	SAE
S†	SAE
N*	NPT

Code	Type
Omit	Internal
Y*	External

* PRM3 only.

* PRM6 only.

† PRM3 only.

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

* PRM6 only.

Unit Weight:

PRM3 3.0 kg (6.6 lbs.)

PRM6 5.6 kg (12.5 lbs.)

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 5000 PSI)

Bold: Designates Tier I products and options.

Non-Bold: Designates Tier II products and options. These products will have longer lead times.

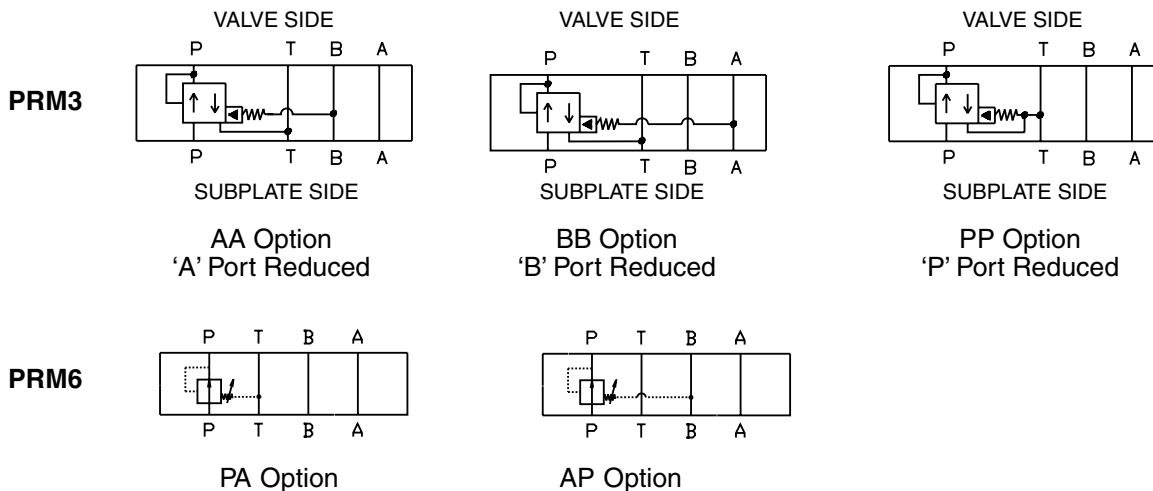
Manapak Bolt Kits

Size "3"				Size "6"			
No. of Manapaks	Manapak & Valve Combination	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)

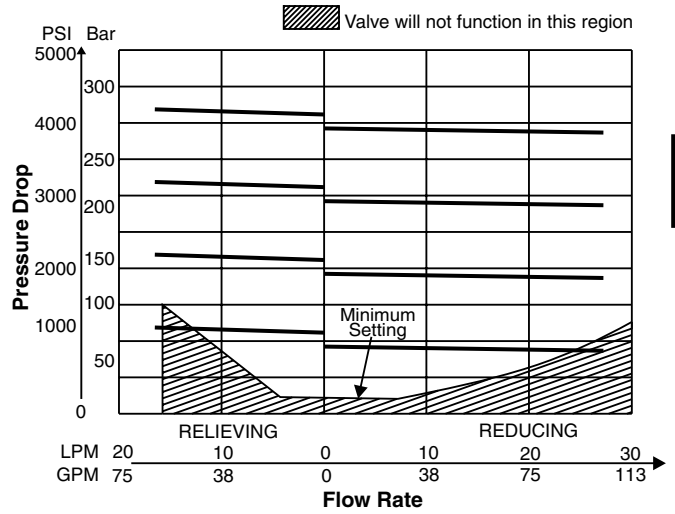
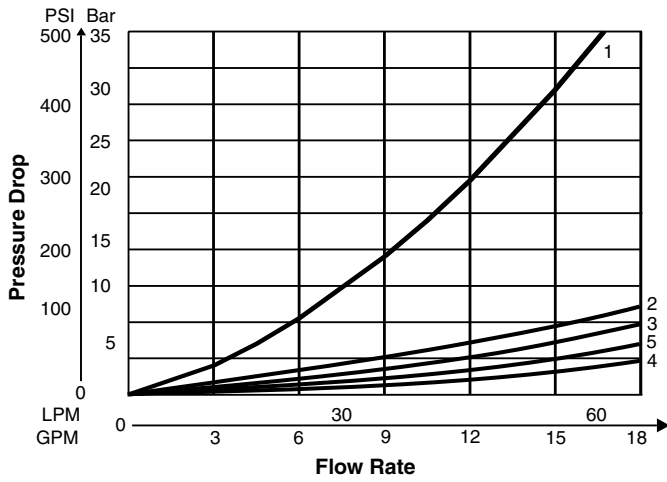
* D31VW with internal pilot and internal drain only.

Bolt Kits must be ordered separately.

Schematics



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

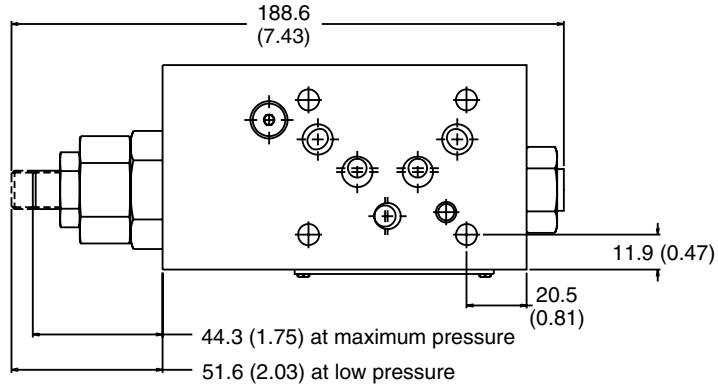
Viscosity Correction Factor							
Viscosity (SSU)	75	150	200	250	300	350	400
% of ΔP (approx.)	93	111	119	126	132	137	141
Curves were generated using 100 SSU hydraulic oil. For any other viscosity, pressure drop will change per chart.							

NOTE: Lowest pressure setting dependent upon system resistance.

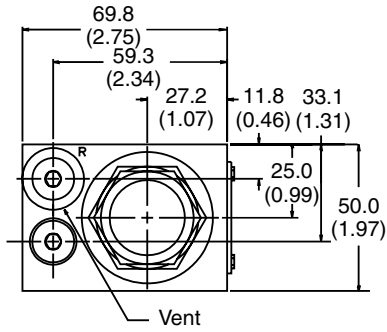
PRM3AA

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

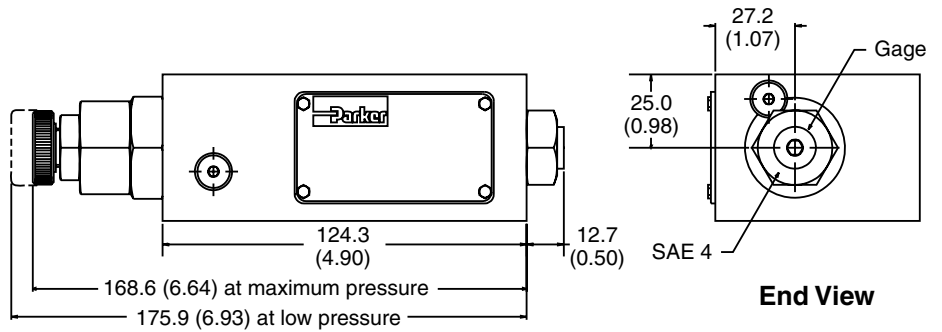
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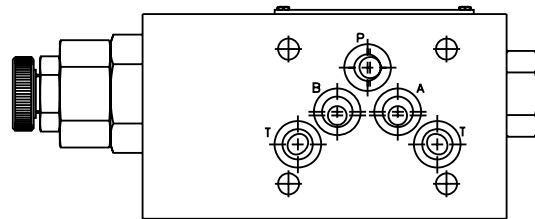
Top View



End View



Face View



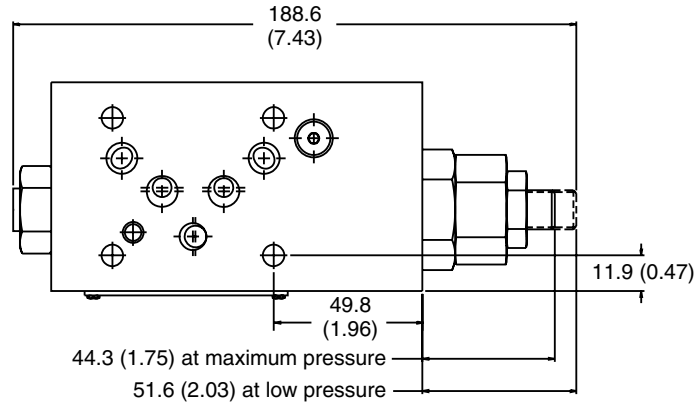
Bottom View



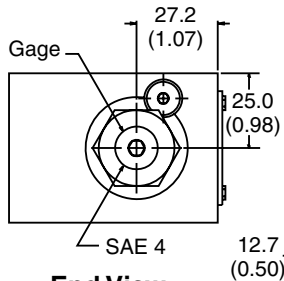
PRM3BB

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

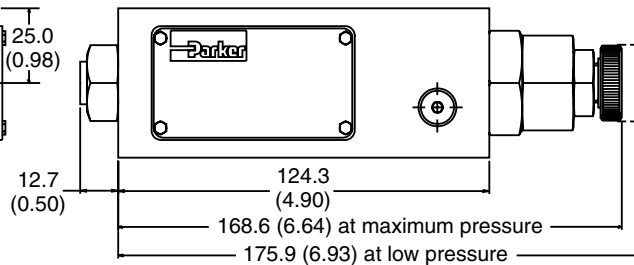
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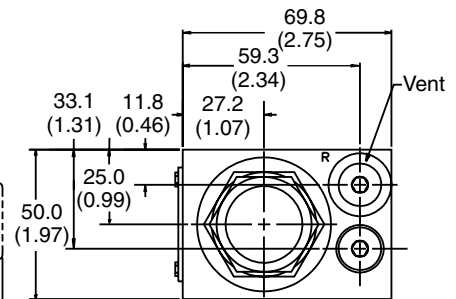
Top View



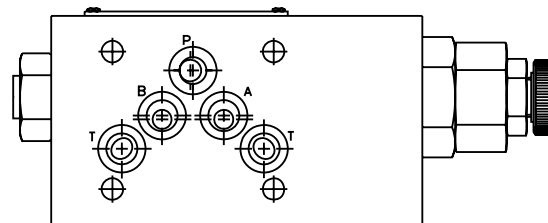
End View



Face View



End View



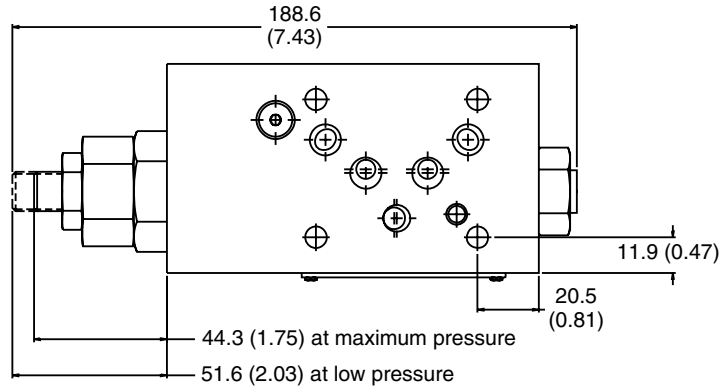
Bottom View



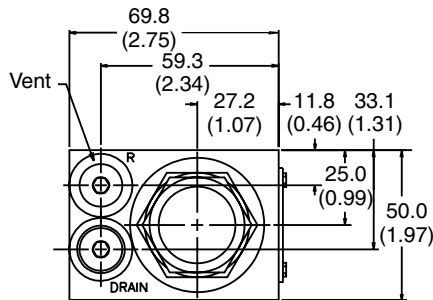
PRM3PP

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

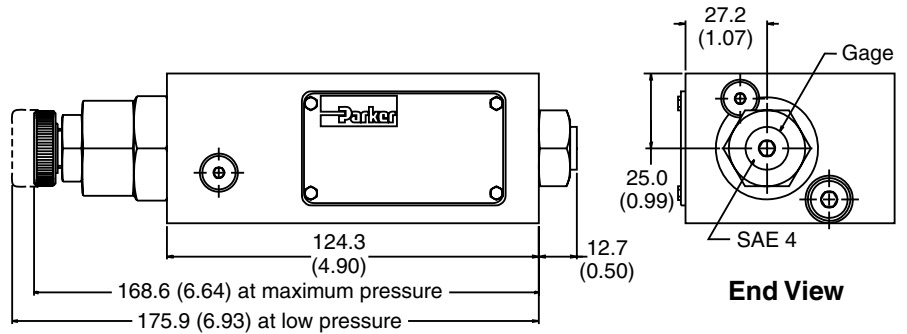
B



Top View

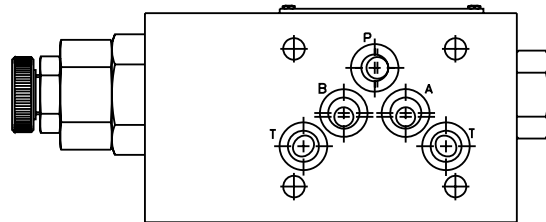


End View



End View

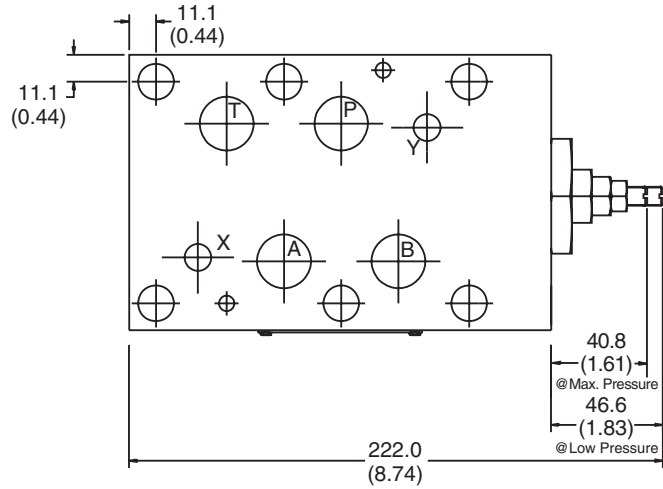
Face View



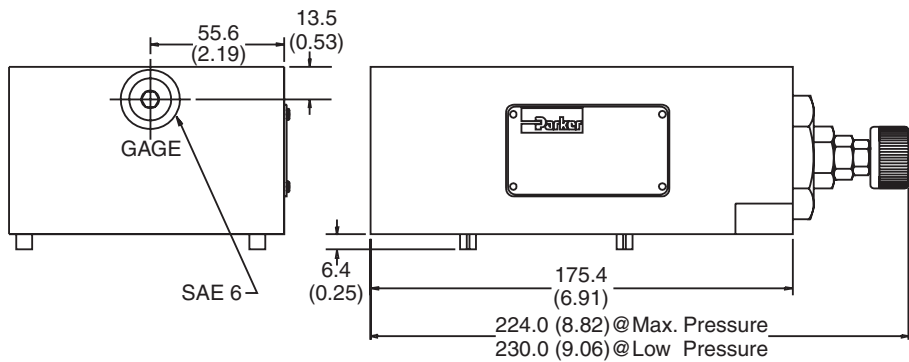
Bottom View



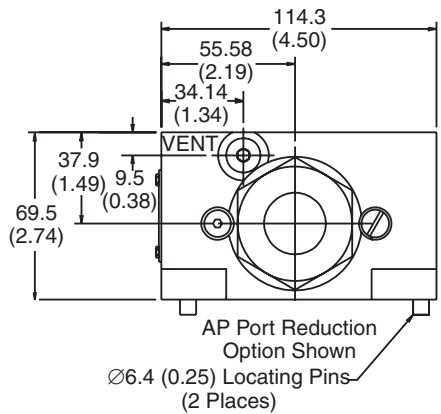
Inch equivalents for millimeter dimensions are shown in (**)



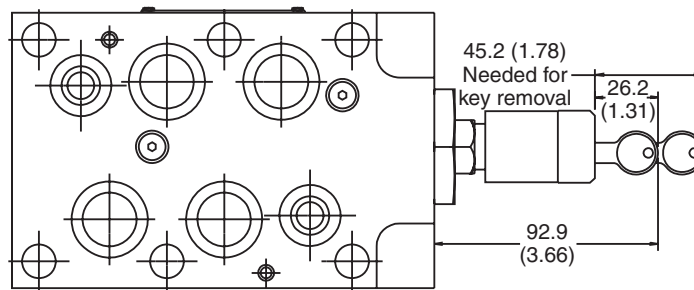
Top View



Face View



End View



Bottom View

