

**Bulletin HY14-2105/US**

# **Series MV5 Mini-Pak Directional Control Valves**

Effective: February 1, 2004  
Supersedes: Cat. No. PMF 1004 dated 10/99

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## **Features**

- Superior versatility in many combinations of different working sections
- Unique series/parallel banking
- Full manual overrides
- Optional high flow inlets (low  $\Delta P$ )
- Solenoid coils are weather-resistant and provide continuous duty at nominal rated voltage
- Proportional flow inlet
- Both open and closed center configurations
- Power beyond feature

## **Description**

The Parker Series MV5 Mini-Pak, solenoid-operated valves provide multiple-function directional control. The modular banking design concept eliminates costly fittings and potential leak points. Parker Mini-Pak valves are easy to install in both the factory and in the field.

Solenoid actuator construction utilizes the proven wet plunger design. Series, parallel and series-parallel valve circuitry offers application flexibility and energy savings potential.

## **Specifications**

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**Flow:** 6 GPM (23 L/M).

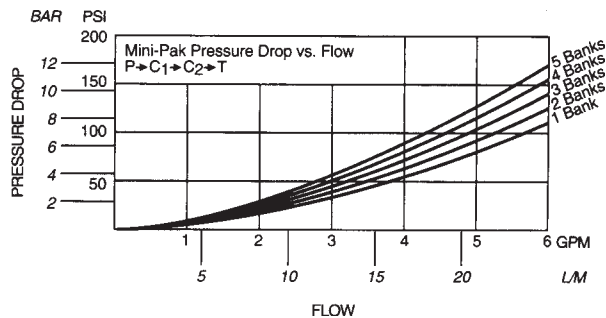
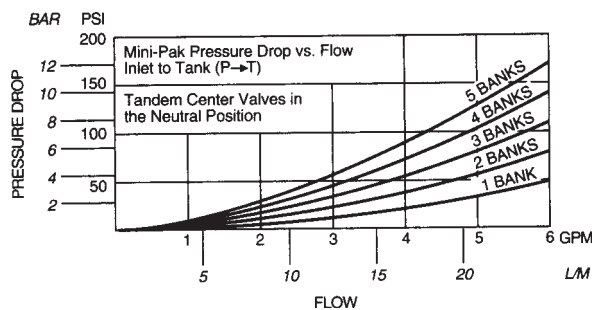
**Operating Pressure:** 3000 PSI (207 Bar) maximum.

**Operating Fluid:** Standard petroleum-based.

**Leakage C-T at 3000 PSI (207 Bar):** 10.8 in<sup>3</sup>/min. (177 cc/min.) at 100°F (38°C), 150 SSU (32 cSt).

**Filtration Requirement:** Recommend 25 micron (nominal). Class 18/15 according to ISO 4406, or cleaner.

## PERFORMANCE



NOTE: SAE 10 oil at 100°F (38°C), Viscosity 150 SSU (32 cSt)

## MATERIALS

**Construction:** Hardened steel spool, precision fit into high-strength alloy cast iron body. Buna "N" seals. Solenoid coils are epoxy-encapsulated (weather-resistant), with Class H magnet wire and PVC-coated lead wires.

**Porting:** SAE-6 (9/16 -18 thread)

### Banking Limitation:

Recommended to 5 sections only. Additional sections on factory-approved applications.

### Tie Rod Torque Specification:

115-125 lb. in. (13.0-14.1 N-m)

### Shipping Weight Per Section:

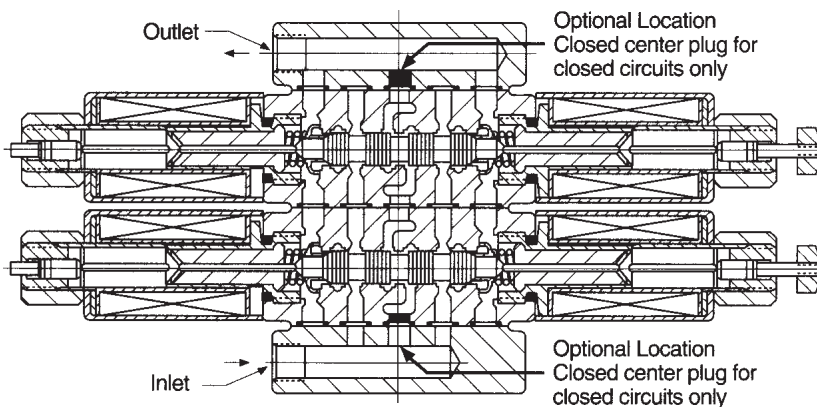
9.5 lbs. (4.3 kg) approx.

## ELECTRICAL DATA

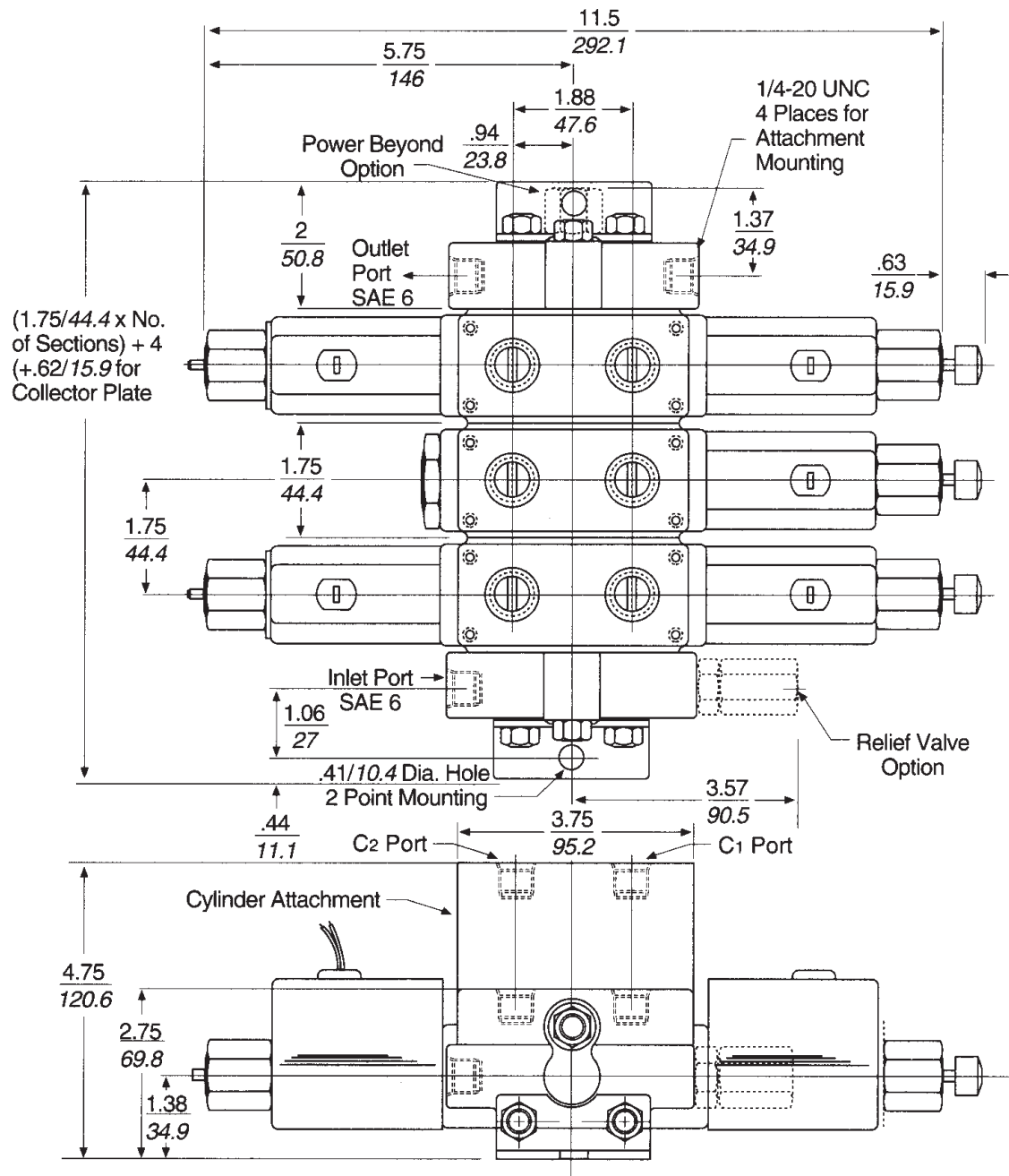
**Input Voltages:** 9, 12, 24 VDC or 115 VAC 50/60 Hz.

### Current Draw:

- 9 VDC — 3.1 A at 68° F (20°C)
- 12 VDC — 2.4 A at 68° F (20°C)
- 24 VDC — 1.2 A at 68° F (20°C)
- 115 VAC — .30 A at 68° F (20°C)



# DIMENSIONS

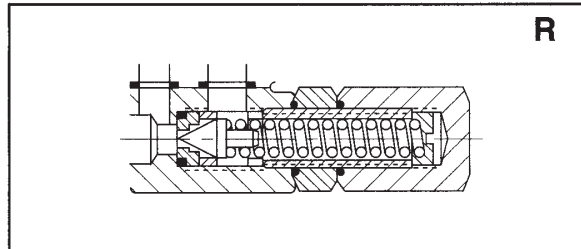


DIMENSIONS ARE IN INCHES (MILLIMETERS) AND ARE FOR REFERENCE ONLY.

# OPTIONS

## OPTIONS

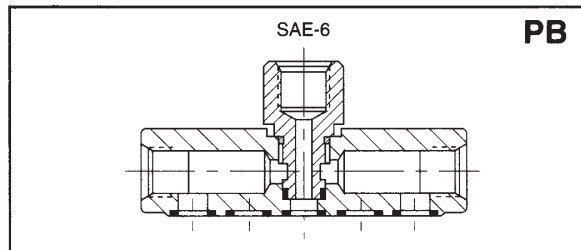
- Integral adjustable inlet relief valve.
- Priority inlet with direct-acting relief valve.
- Convertible to open center series or closed center parallel circuit stacks.
- Accessory cylinder port attachments.
- Bankable manual sections may be installed upstream of solenoid sections.
- Palm button manual override.
- Proportional flow inlet.
- Variety of coil terminations.



**R**

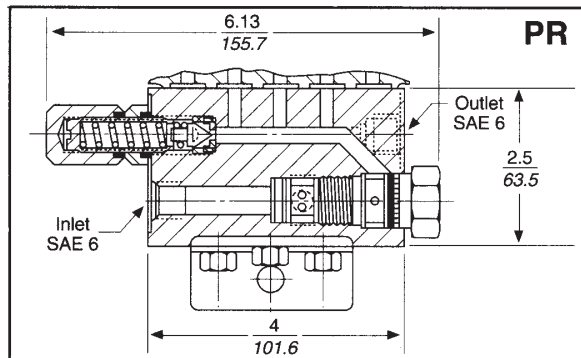
### Direct Acting Relief Valve

Adjustable in 2 pressure ranges: 50-500/500-3000 psi (3.5-35/35-207 BAR)



**PB**

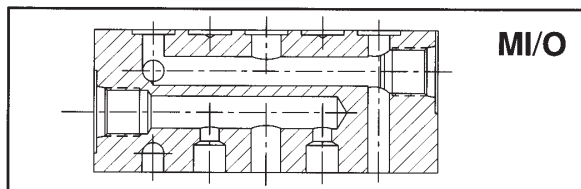
### Power Beyond Outlet Section



**PR**

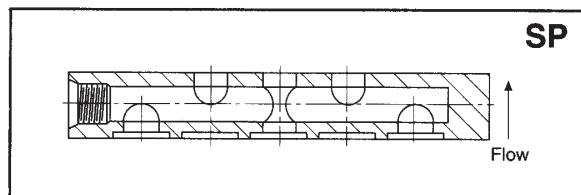
### Priority Inlet with Direct Acting Relief

Adjustable in 2 pressure ranges: 50-500/500-3000 psi (3.5-35/35-207 BAR)



**MI/O**

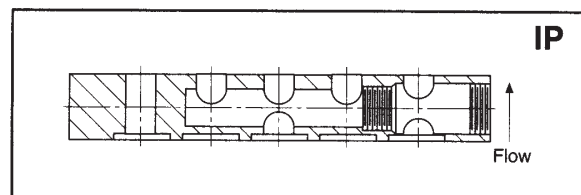
### Mid Inlet/Outlet



**SP**

### Series Conversion Plate

Used in series circuits



**IP**

### Isolator Plate

Used to isolate downstream sections

# ORDER CODE

MV5- 



**XXXX**- 



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*If Needed*

PRESSURE SETTING

**Example: MV5-R2000-10A-SP-10TT-SP-10A-SO-12-LA** **MV5-BK5**

(Complete Assembly)

Example on ordering individual parts: MV5-SI or MV5-10-12-LA

TABLE ONE		
INLET OPTIONS	<b>SI</b>	Standard Inlet
	<b>RI</b>	Reverse Ported Inlet
	<b>DIP</b>	Dual Ported Inlet Ports
	<b>R</b>	Inlet with Direct Acting Adjustable Relief
	<b>PR</b>	Inlet With Priority Flow and Direct Acting Relief
	<b>EF</b>	Proportional Inlet with Direct Acting Relief (Bypass port T2 must go directly to tank)
Specify pressure setting on <b>R</b> Specify pressure and flow on <b>PR</b>		

TABLE TWO		
SPOOL CONFIGURATION	<b>10</b>	3 position 4 way N/C (C1 and C2 Blocked)
	<b>14</b>	3 position 4 way Motor (C1 and C2 Open to Tank)
	<b>17</b>	3 position 4 way C1 Plugged (Single acting cyl. circuit)
	<b>20</b>	2 position 4 way N/C (C1 and C2 Blocked)
	<b>25</b>	2 position 4 way N/O (C1 and C2 Open)
	<b>35</b>	2 position 4 way Selector (P to C1 C2 to tank) Must be used with IP plate
	<b>JJ</b>	Palm button manual override
	(Note: Spool number precedes JJ designation)	

TABLE THREE		
ATTACHMENT OPTIONS	<b>A</b>	Dual lock valve
	<b>B</b>	Lock valve with thermal relief
	<b>F</b>	Crossover relief fixed setting (Specify pressure settings)
	<b>TT</b>	Crossover reliefs (Adjustable 0-3000 psi)
	<b>L</b>	Single lock valve (Specify work port)
Specify pressure setting		

TABLE FOUR Omit if not required		
CONVERSION PLATES	<b>SP</b>	Converts the power-beyond port to a true series circuit
	<b>IP</b>	Isolates the valve sections down stream

TABLE FIVE		
OUTLET OPTIONS	<b>SO</b>	Standard Outlet (Open Circuit)
	<b>SC</b>	Standard Outlet (Closed Circuit)
	<b>PB-</b>	Power beyond (Open Circuit)
	<b>DTO</b>	Dual tank Outlet (Open Circuit)
	<b>DTC</b>	Dual tank Outlet (Closed circuit)
	<b>NO</b>	Open Outlet w/reverse check (Open Circuit only)

TABLE SIX		
COIL OPTIONS	Coil	Part #
	<b>9</b>	CO4-9-LA CO4-9-TD 9 volts DC
	<b>12</b>	CO4-12-LA CO4-12-TD 12 volts DC
	<b>24</b>	CO4-24-LA CO4-24-TD 24 volts DC
	<b>115</b>	CO4-115-LA 115 volts AC

TABLE SEVEN		
CONNECTION OPTIONS	<b>LA</b>	9 volts DC 12 volts DC 24 volts DC 115 volts DC
	<b>TD</b>	9 volts DC 12 volts DC 24 volts DC

TABLE EIGHT Omit if factory assembled		
BANKING KITS	<b>MV5-</b>	Banking Kits consist of 3 fatigue proof steel tie rods, 6 hex nuts, 6 washers, mounting brackets. Tie rods are sized to accept an Inlet/Outlet and then the number spool sections and/or conversion plates required.
	<b>BK1</b>	1 spool section+inlet/outlet
	<b>BK2</b>	2 spool section+inlet/outlet
	<b>BK3</b>	3 spool section+inlet/outlet
	<b>BK4</b>	4 spool section+inlet/outlet
	<b>BK5</b>	5 spool section+inlet/outlet
Please consult factory when stacking more than 5 sections.		

ACCESSORIES	
Attachment bolt Kits	
<b>MV5-AK1</b>	Single attachment
<b>MV5-AK2</b>	Double attachment
Please Note: "O" rings are shipped with each valve section.	

**HOW TO ORDER:** Parker Mini-Pak Valves are coded by the assembled stack configuration (Left to Right) in a sequential order from inlet to outlet. Please refer to the ordering tables, to select a circuit type, inlet options, spool configuration, spool options, circuit conversion options as they apply to your application.



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## Notes

This image shows a full page of blank graph paper. The grid consists of thin, light gray horizontal and vertical lines that intersect to form small squares across the entire surface. There are no margins, text, or other markings on the paper.



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