



**Bulletin HY14-2103/US**

# **Series MV3 Midget Directional Control Valves**

Effective: February 1, 2004  
Supersedes: Cat. No. PMF 1002 dated 10/99

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## **Features**

- Superior versatility
- Both open and closed center configurations
- Excellent metering characteristics
- Inlet load drop checks
- Optional high flow inlets (low  $\Delta P$ )
- Fourth position float
- Combinable with Parker Mini-Pak solenoid operated directional control valves
- Power beyond feature

## **Description**

The Parker Series MV3 Midget Directional Control Valves provide multiple-function directional control in series, parallel and series-parallel circuits. Proven for more than 30 years in thousands of mobile and industrial hydraulic systems, these Parker Midget Valves are modular in design and can be assembled in a wide variety of circuit configurations.

## **Specifications**

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

**Power Beyond Pressure Capability:** 3000 PSI (207 Bar).

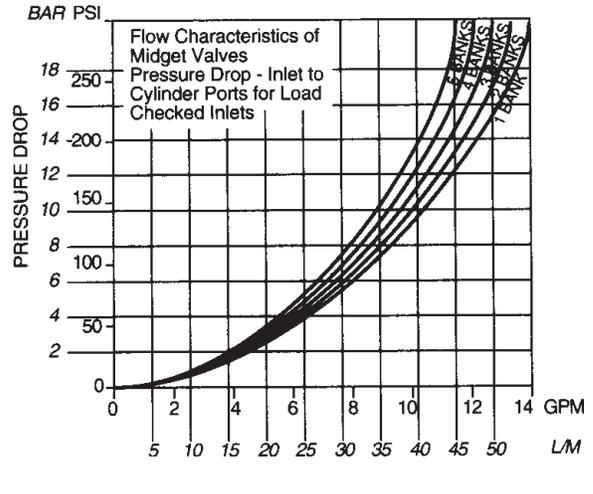
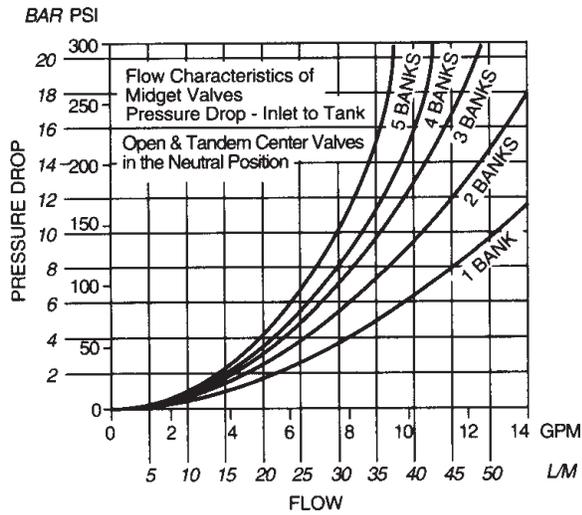
**Operating Fluid:** Standard petroleum-based.

**Leakage C-T at 3000 PSI (207 Bar):** 5.4 in<sup>3</sup>/min. (88.5 cc/min.) at 100°F (38°C), 150 SSU (32 cSt).

**Handle Pull Force at 3000 PSI (207 Bar):** 15 lbs. (66.6 N) maximum, spring centered or detent.

**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:** Hard chrome-plated precision spool, high-strength alloy cast iron body, standard Buna "N" seals.

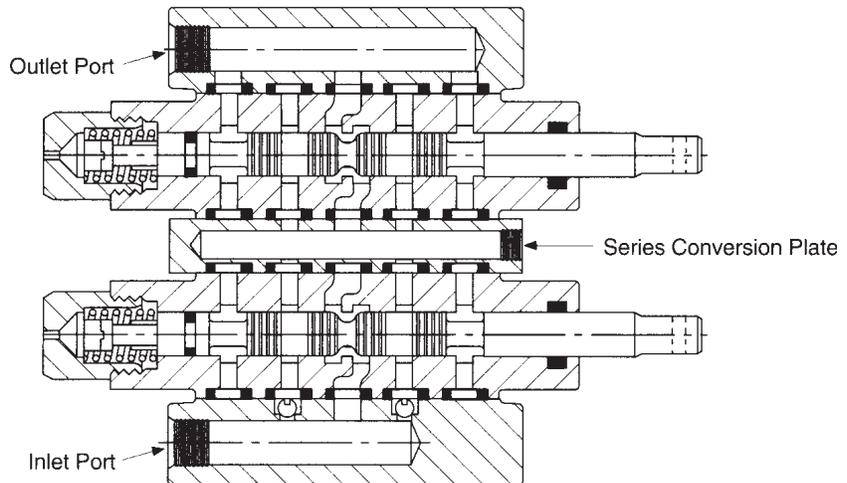
**Porting:** SAE-6 (9/16" x 18 thread)

**Stacking Limitation:**

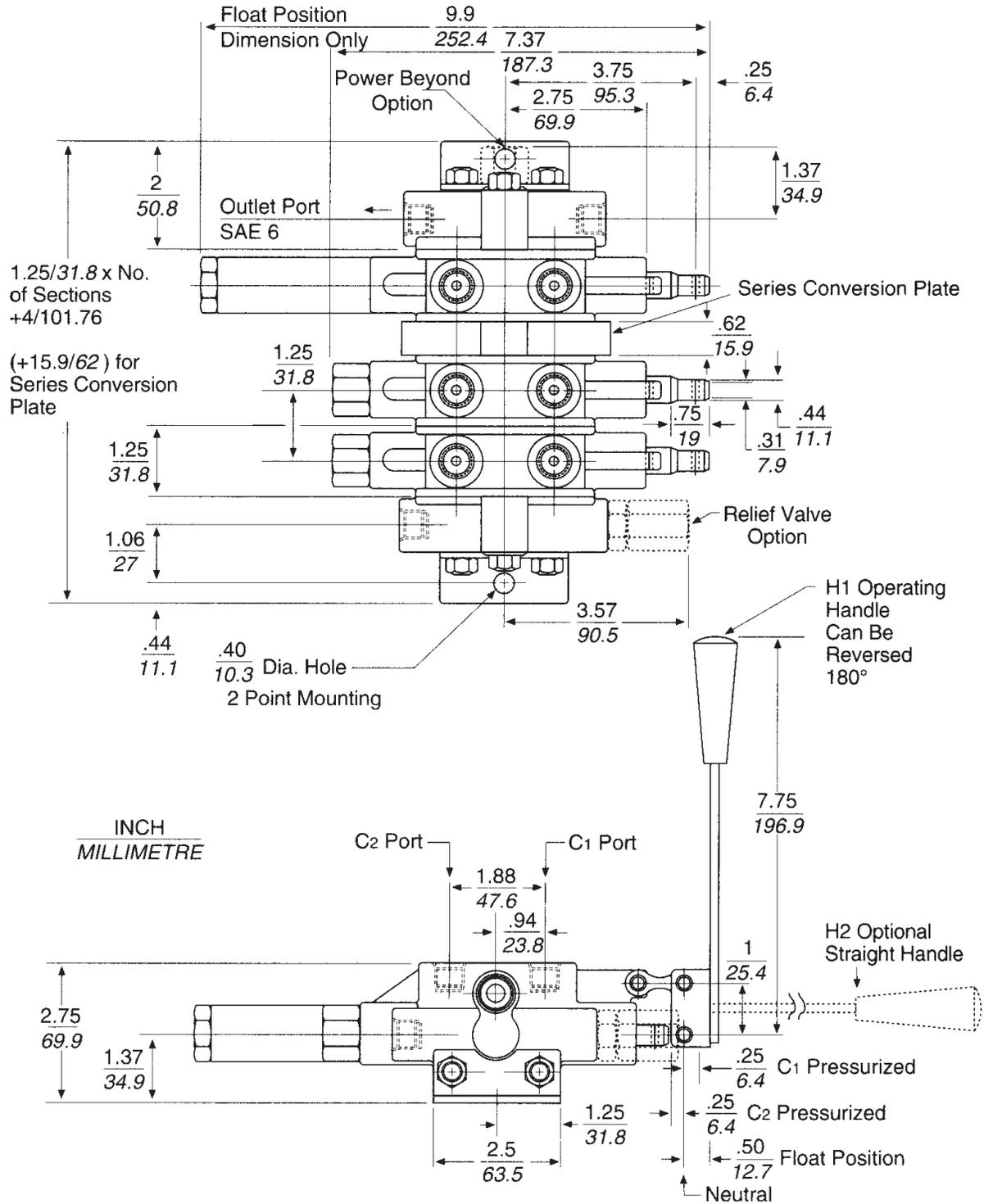
Recommended to 5 sections at maximum rated flow and pressure. For additional sections consult factory.

**Tie Rod Torque Specification:**  
115-125 lb. in. (13.0-14.1 N-m)

**Shipping Weight Per Section:**  
6 lbs. (2.7 kg) approx.



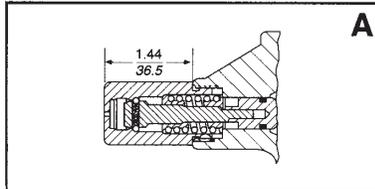
# DIMENSIONS



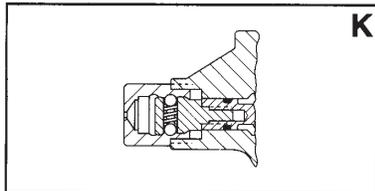
DIMENSIONS ARE IN INCHES (MILLIMETERS) AND ARE FOR REFERENCE ONLY.

# OPTIONS

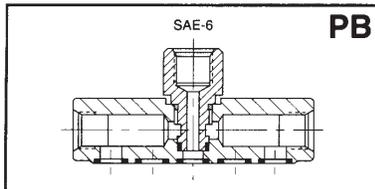
- Spring-centered or detented spools in any combination.
- Integral, adjustable inlet relief valve.
- Priority inlet with direct-acting relief valve; available in 50 - 3,000 psi (3.5 - 207 BAR).
- Power beyond outlet sections.
- Electric limit switches for DC power unit switching with 1/4" (6.35 mm) spade connectors.
- Open center series conversion.
- Closed center parallel circuit stack conversion.



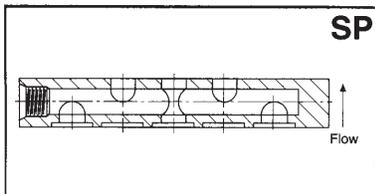
**A**  
Spring Center/Detent Position Cap



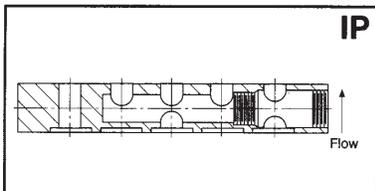
**K**  
2K, 2-Position Detented Cap  
3K, 3-Position Detented Cap



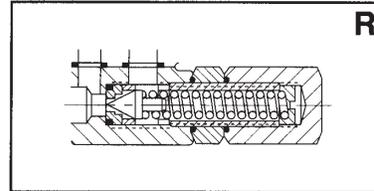
**PB**  
Power Beyond Outlet Section



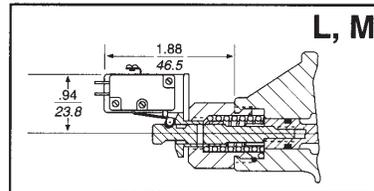
**SP**  
Series Conversion Plate



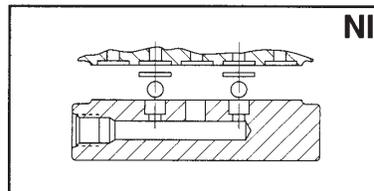
**IP**  
Isolator Plate



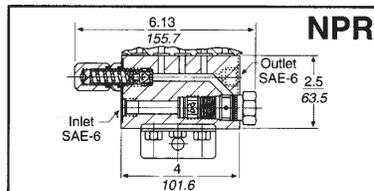
**R**  
Direct Acting Relief Valve  
Adjustable in 2 Pressure Ranges  
50-500/500-3000 psi  
(3.5-35/35-207 BAR)



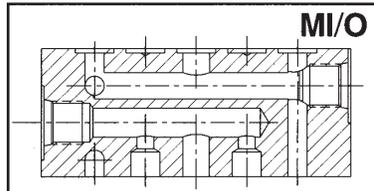
**L, M**  
Electric Limit Switch on Spool Cap  
1/4" (6.35 mm) Spade Adaptors  
L - 3 position  
M - 2 position



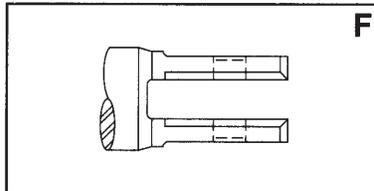
**NI**  
Load Drop Checks



**NPR**  
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



**F**  
Forked End Spool

# ORDER CODE

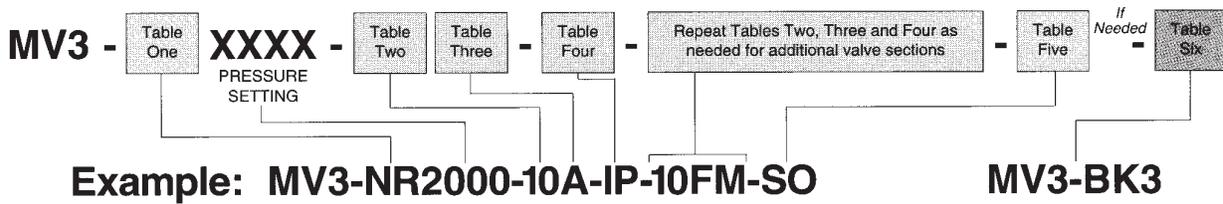


TABLE ONE		
<b>NI</b>		Inlet w/Load Checks
<b>NRI</b>		Reverse Ported Inlet w/Load Checks
<b>NDIP</b>		Dual Ported Inlets w/Load Checks
<b>NR</b>		Inlet w/Load Checks and Adjustable Direct Acting Relief
<b>NPR</b>		Inlet w/Load Checks Priority Flow and Direct Acting Relief

Specify pressure setting on **NR**  
Specify pressure and flow on **NPR**

TABLE TWO		
<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 3 way (C2 Blocked)
<b>20</b>		2 position 4 way N/C (C1 and C2 Blocked)
<b>34</b>		4 position 4 way (Float) (C1 and C2 Blocked)
<b>35</b>		Tool Priority Selector (Must be used with IP plate)

TABLE THREE		
<b>A</b>		Detented (Spool In) Spring Centered
<b>B</b>		Detented (Spool Out) Spring Centered
<b>F</b>		Forked End Spool
<b>K</b>		Detented In Both Operating Positions
<b>L</b>		Micro-Switch Operated in 3 Positions
<b>M</b>		Micro-Switch Operated in 2 Positions
<b>FM</b>	Fine Metering available on #10 and #14 spools only. Designed to give the operator some touch and Feel (As a Meter-Out device it is not recommended to be used with load holding valves.)	

TABLE FOUR		
<b>SP</b>		Series Conversion Plate (Not to be used w/Inlet relief)
<b>IP</b>		Isolator Plate

ACCESSORIES	
Handle Kits order separately	
<b>MV3-H1</b>	Right Angle handle
<b>MV3-H2</b>	Straight handle

TABLE FIVE		
<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>		Standard Outlet w/reverse check (Open Circuit only)

TABLE SIX	
Banking Kits consist of 3 fatigue proof steel tie rods, 6 hex nuts, 6 washers, 2 foot brackets. Tie rods are sized to accept an Inlet/Outlet and then the number spool sections and/or conversion plates required.	
<b>MV3-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.	

Please Note: Mylar shims and "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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**3. Delivery:** Unless otherwise provided on the face hereof, delivery shall be made F.O.B. Seller's plant. Regardless of the method of delivery, however, risk of loss shall pass to Buyer upon Seller's delivery to a carrier. Any delivery dates shown are approximate only and Seller shall have no liability for any delays in delivery.

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**7. Special Tooling:** A tooling charge may be imposed for any special tooling, including without limitation, dies, fixtures, molds and patterns, acquired to manufacture items sold pursuant to this contract. Such special tooling shall be and remain Seller's property notwithstanding payment of any charges by Buyer. In no event will Buyer acquire any interest in apparatus belonging to Seller which is utilized in the manufacture of the items sold hereunder, even if such apparatus has been specially converted or adapted for such manufacture and notwithstanding any charges paid

by Buyer. Unless otherwise agreed, Seller shall have the right to alter, discard or otherwise dispose of any special tooling or other property in its sole discretion at any time.

**8. Buyer's Property:** Any designs, tools, patterns, materials, drawings, confidential information or equipment furnished by Buyer or any other items which become Buyer's property, may be considered obsolete and may be destroyed by Seller after two (2) consecutive years have elapsed without Buyer placing an order for the items which are manufactured using such property, Seller shall not be responsible for any loss or damage to such property while it is in Seller's possession or control.

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9/91-P



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