



# Series P1L

*High Performance Repairable  
Pneumatic Cylinder*

*Catalog: 0924/NA  
Effective: May 2001*



- Repairable Aluminum Construction
- Short Overall Length
- 8 Bore Sizes
- Modular Mounting Accessories
- Optional Piston Sensing and Cushions

## Series P1L

### High Performance Repairable Pneumatic Cylinder in a Compact Package

As a world leader in the design and manufacture of pneumatic cylinders, Parker is committed to developing world-class products to meet a wide range of linear actuation solutions. The Parker Series P1L is an innovative addition to Parker's growing family of full-featured, economical pneumatic cylinders. The Series P1L combines the high performance features of the Series 2MA and the compactness of the Series SR, to bring you a pneumatic cylinder with unparalleled versatility and industrial compatibility. All this with the service and quality you've come to expect from an industry leader.

The Series P1L is a sleek, round-body cylinder featuring threaded-on end caps for easy maintenance at either end. The P1L's short overall length, versatile mounting features and rugged bearing system equip it for applications where traditional NFPA cylinders may be too long and where low profile cylinders may provide inadequate bearing support.

A wide range of options, including adjustable cushions, magnetic piston, high temperature seals, and inch or metric port/mounting threads contribute to the P1L's overall adaptability.

The P1L interchanges with other "world design" cylinders specified by international machine manufacturers. Parker's P1L cylinder is readily available throughout the world. Parker's international network of over 1,500 distributors is the strongest in the industry. The Parker team supplies personalized customer service around the world to ensure the right solution and product are employed to meet customer needs.

For further information on our cylinder products and capabilities, contact your local Parker distributor or visit us on the Web at [www.parker.com/cylinder](http://www.parker.com/cylinder).



#### **WARNING**

#### **FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

#### **Offer of Sale**

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".

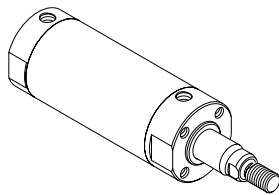
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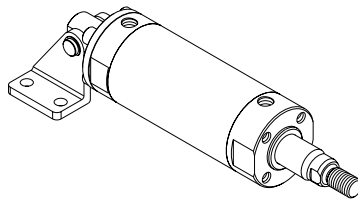
**Specifications**

- Bore Sizes: 20 to 100mm (3/4" to 4")
- Rod Diameters: 8 to 32mm (5/16" to 1-1/4")
- Rod Ends: Four Standard, specials to order
- Bumpers: Standard on both ends
- Single End or Double End Mounting
- Mounting Styles: 9 standard
- Rated Air Pressure: 10.3 bar (150 psi) Non-Lube
- Standard Temperature: -23° C to +74° C (-10° F to +165° F)
- Optional High Temp Service: -23°C to +121°C (-10°F to +250°F)
- Adjustable Cushions: provided at both ends as an option
- Strokes: available in any practical stroke length

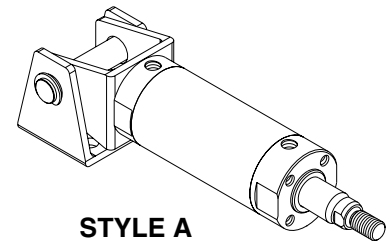
**Available Mountings**



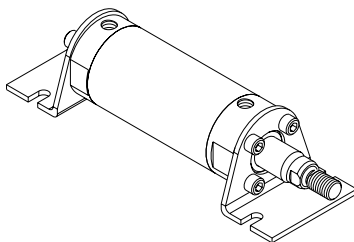
**STYLE N**  
 Basic No Mounts



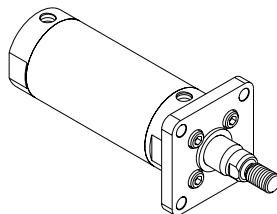
**STYLE B**  
 Single Rear Clevis



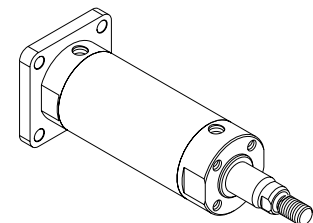
**STYLE A**  
 Double Rear Clevis



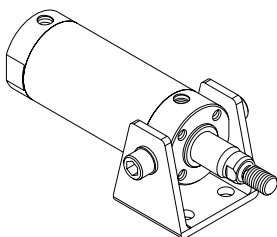
**STYLE F**  
 Foot Mount



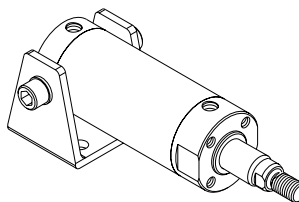
**STYLE J**  
 Front Flange



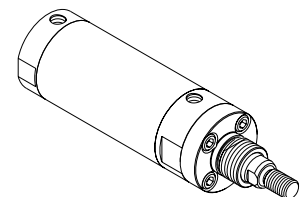
**STYLE H**  
 Rear Flange



**STYLE E**  
 Front Trunnion



**STYLE D**  
 Rear Trunnion



**STYLE G**  
 Nose Mount

# Step Up to the Series P1L

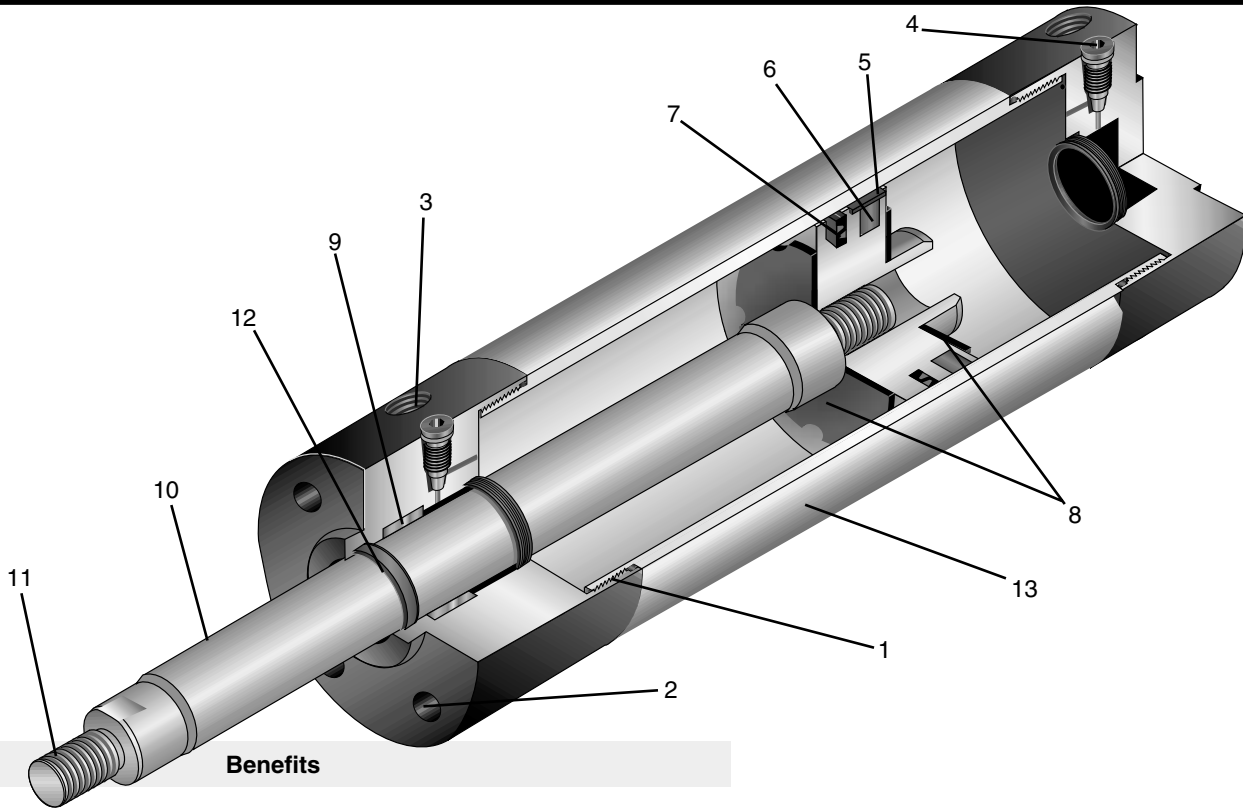
## High Performance Repairable Pneumatic Cylinder

The Series P1L is a fully-featured air cylinder in a sleek, compact package. This modern design cylinder is available in bore sizes 20, 25, 32, 40 50, 63, 80 and 100 mm. Stroke lengths and rod ends are custom-made to the order without delivery time penalties.

Quality threaded end cap construction, sleek round-body profile, short overall length, custom stroking, and heavy duty bearing system make the Series P1L your first choice for flexible, value-based machine design.

The Series P1L is an integral part of any pneumatic system where space-efficiency, high-speed performance and long operating life are important. All this at a fraction of the cost of other repairable air cylinders.

Nb.	Features	Advantages
1	<b>Threaded End Cap Construction</b> Precision-machined, aluminum alloy end caps are black anodized, removable from either end.	Minimal cylinder weight and size. Corrosion-resistant surface finish. Removable end caps allow for easy repair of internal components.
2	<b>Tapped Mounting Holes</b> Mounting holes can be inch or metric.	Holes allow for flush mounting from the head or cap face. Standard mounting kits can be bolted-on for adapting to a wide range of applications.
3	<b>Ports</b> Optional NPTF or BSPT ports provide full air flow to piston.	Optional porting styles to meet application requirements. Faster piston speeds.
4	<b>Adjustable Cushion Option</b> Available for high speed applications.	Feature fine-thread, brass needle valves with a captive design. Needle valves are recessed into head on all sizes except 20 and 25mm bores.
5	<b>Aluminum Piston with Ultra-Wide Nylon Wear Band</b>	Piston is permanently sealed and locked to rod with anaerobic adhesive. Ultra wide wear band prevents metal-to-metal contact and distributes piston loads across wide bearing area.
6	<b>Optional Piston Magnet</b> Located under wear band.	For use with through-the-barrel sensors for electronic piston position indication. Does not add length to the piston.
7	<b>Z-Profile Piston Seal</b> Polyurethane piston seal features two rounded micro sealing edges.	Z-Profile seal is a dynamic piston seal having dual contact points for maximum wear compensation and rounded micro grooves for retaining lubrication. The thin seal profile minimizes cylinder overall length, while maximizing bearing length.
8	<b>Bumpers</b> Impact resistant urethane bumpers are standard for all bore sizes.	Provide noise reduction and impact resistance in every bore size.
9	<b>High Strength Rod Bearing</b> PTFE-coated bronze rod bearing is inboard of rod seal.	Long rod bearing provides rigid support of piston rod while minimizing bearing stress. Rod bearing is inboard of rod seal to ensure positive lubrication.
10	<b>Piston Rod</b> Ground, polished hard chrome plated steel piston rod. Stainless steel is standard on 20 and 25mm bore.	Smooth rod surface finish provides minimum friction and maximum seal life.
11	<b>Four Standard Piston Rod Ends</b> Inch or metric with male or female	Optional rod end styles to meet application requirements. Specials provided as required.
12	<b>Rounded Lip Rod Wiper Seal</b> Non-lube, urethane rod seal provides dual function as rod seal and rod wiper	Eliminates leakage and prevents contamination from entering cylinder. Rounded lip profile removes the need for external lubrication.
13	<b>Cylinder Body</b> Smooth anodized aluminum tube on OD and ID	Clean, tubular design eliminates areas where contamination can accumulate. Anodized tube provides wear-resistant surface.



**Benefits**

Premium machine aesthetics. Quick and easy cylinder maintenance.
Maximum mounting flexibility. Reduces cylinder inventories by stocking base cylinder and bolt-on mounting kits.
Maximum porting flexibility. Higher machine productivity.
Increased productivity and maximum performance. Safer operating environment and space-efficient design.
A secure piston-to-rod connection ensures safety. Ultra-wide wear band minimizes bearing stress and prolongs cylinder life.
Simplified machine automation. Space-efficient design.
High performance, long life, non-lube service and compact cylinder package.
A safe, quieter operating environment.
Fosters long piston rod and cylinder life in demanding applications.
High performance and long cylinder service life.
Flexible rod end styles to meet special requirements without delivery time penalties.
Provides clean, trouble-free, non-lube operation and extended cylinder life.
Maintains machine cleanliness. Precision ID surface finish affords long seal life.