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## P1/PD Medium Pressure Open Circuit Piston Pumps



ENGINEERING YOUR SUCCESS.

# P1/PD Open Circuit Piston Pump Series

Compact, Quiet and Efficient Pumps for Mobile and Industrial Use

The Parker P1/PD series of open circuit piston pumps features a rugged cradle-bearing design ideal for optimal performance in medium pressure mobile (P1) and industrial (PD) applications. Boasting a wide range of control and input speeds, the series is available in displacements of 18, 28, 45, 60, 75, 100 and 140cc and is rated for operation at pressures up to 4,000 psi continuous and 5,000 psi peak.

Parker P1/PD series pumps increase productivity with full power through-drive capability and a fast and stable response. The pumps' high operating efficiency and optional torque limiter equate lower electricity/fuel costs. And, with simple hydraulic controls and fewer parts, P1/PD pumps are service-friendly and easy to maintain.

What's more, the compact size and superior design flexibility of the P1/PD series provide mobile and industrial equipment designers with a greater number of mounting options.

**Parker P1/PD series pumps operate at the highest total efficiency and serve a diverse range of markets including:**

- Mining
- Oil & Gas
- Forestry
- Construction
- Power Gen
- Recycling
- Military
- Industrial
- Utility
- Material Handling

## Technical Data

MODEL	P1/PD 018	P1/PD 028	P1/PD 045	P1/PD 060	P1/PD 075	P1/PD 100	P1/PD 140
Maximum Displacement, cm <sup>3</sup> /rev (cu.in./rev)	18 (1.10)	28 (1.71)	45 (2.75)	60 (3.66)	75 (4.58)	100 (6.1)	140 (8.54)
Outlet Pressure – Continuous, bar (psi)	280 (4000)						
Intermittent*, bar (psi)	320 (4500)						
Peak, bar (psi)	350 (5000)						
P1 Maximum Speed (1.3 bar abs inlet), rpm	3600	3400	3100	2800	2700	2500	2400
P1 (1.0 bar abs inlet), rpm	3300	3200	2800	2500	2400	2100	2100
P1 (0.8 bar abs inlet), rpm	2900	2900	2400	2200	2100	1900	1800
PD Maximum Speed (1.0 bar abs inlet), rpm	1800						
PD (0.8 bar abs inlet), rpm	1800						
Minimum Speed, rpm	600						

\*Intermittent pressure is defined as less than 10% of operation time, not exceeding 6 consecutive seconds.

# P1PD Series Benefits

## IMPROVED WORKING ENVIRONMENT

- Low-noise nine-piston design
- “Ripple chamber” for reducing pressure pulsations and improving overall noise level

## LONG LIFE AND RELIABILITY

- Rugged hydrostatic cradle-bearing design
- Tapered roller shaft bearings to improve pump life
- High temperature capability
- Lowest viscosity capability

## INCREASED PRODUCTIVITY

- Proportional electronic controls to provide flow on demand
- Large stroking pistons for fast and stable response
- Full power through-drive capability
- O-ring seals to eliminate external leaks at adjustment screws

## EASE OF SERVICE

- Simple hydraulic controls with “no leak” adjustments
- Spring-loaded shoe hold-down
- Compact size for small space applications

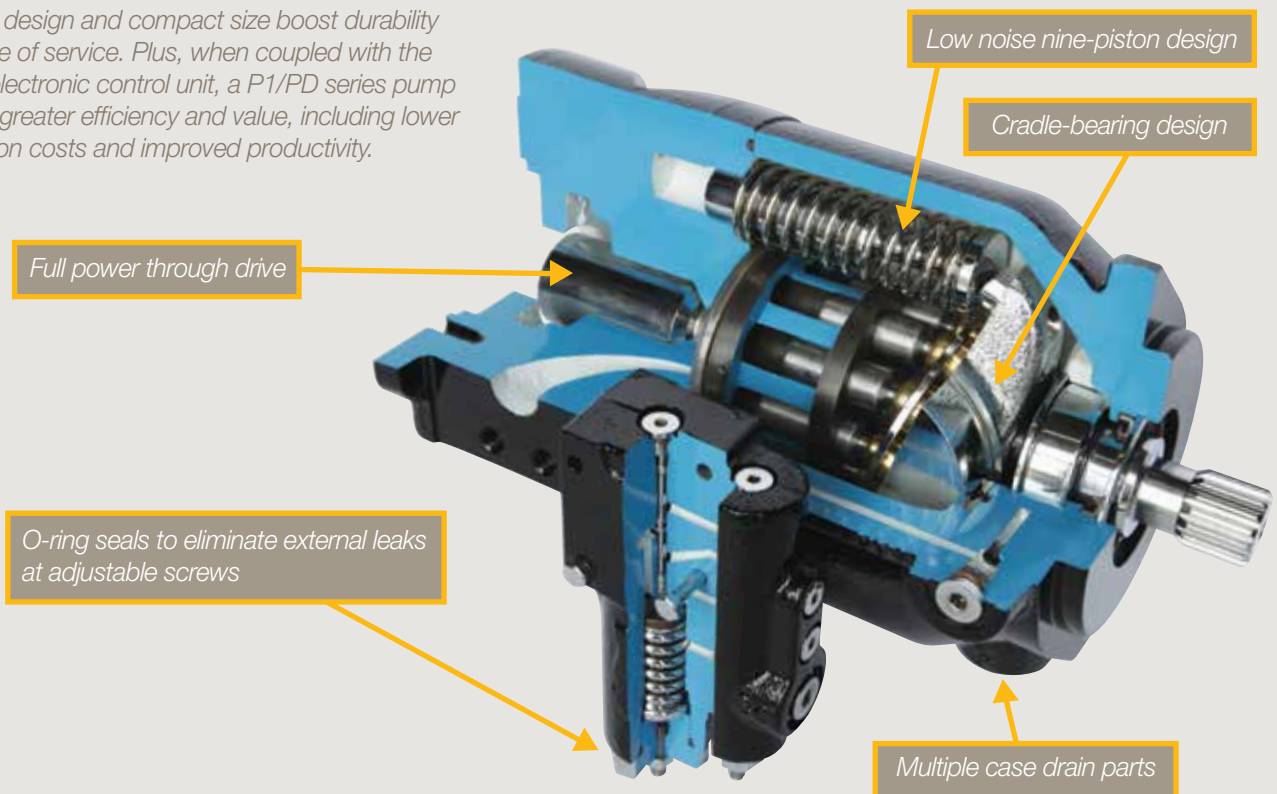
## DESIGN FLEXIBILITY

- Case drain port for horizontal or vertical shaft-up mounting
- Optional maximum and minimum volume stops
- Smallest envelope size
- Wide range of controls

## COMPATIBILITY AND COMPLIANCE

- SAE, ISO and BSPP standard mounting flanges and ports
- End or side inlet and outlet ports for flexible installation

*Rugged design and compact size boost durability and ease of service. Plus, when coupled with the Parker electronic control unit, a P1/PD series pump delivers greater efficiency and value, including lower installation costs and improved productivity.*



# Proven Performances for Medium-Pressure Applications



P1 MOBILE APPLICATIONS AND MARKETS	
MARKET	APPLICATION
Forestry	Feller Bunchers, Knuckle Boom Loader, Skidder, Forwarder, Fan Drives
Construction	Wheel Loader, Crawler Dozer, Backhoe Loaders/Cranes, Horizontal Directional Drills, Fan Drives
Mining	Drill Rigs, Top Drives, Loaders, Articulated Dump Trucks, Tunneling Equipment, Roof Bolters, Fan Drives, Crushers
Recycling	Shredders, Balers, Compactors, Vacuum Truck Systems, Refuse Trucks – ASL, Rear Loaders
Material Handling	Cranes, Digger Derricks, Man Lifts, Cable Placers, Horizontal Directional Drills, Forklift, Reachstacker
PD INDUSTRIAL APPLICATIONS AND MARKETS	
MARKET	APPLICATION
Industrial	Power Units, Industrial Molding, Press, Waterjet Cutting
Oil & Gas	Oil Lift Pumps, Top Drive, Pipe Handler, Offshore Cranes
Material Handling	Conveyor Drives
Power Gen	CNG, Lube Oil Skids

# P1/PD Technology Works Smarter



## Electronic Controls Optimize Hydraulic Performance

When coupled with electronic control technologies, Parker P1/PD series pumps deliver notably greater efficiencies, performances and value.

### Customer-cited benefits include:

- Improved machine productivity, response and stability
- Reduced hydraulic complexity
- Low installation cost
- Improved product quality through better process control
- Machine tamper resistance
- Energy recovery capability of the over center version
- Easy setup and operation
- Package size advantage versus comparable competitors' controls

*"The electronic pressure control... more than pays for itself through component elimination and simplification. The result was a very smooth-acting, highly repeatable, simplified machine."*

– Parker ECU Customer

## Control Options for Every Application

The Parker P1/PD series functions with a variety of control options, allowing pumps to provide precise and long-lasting performance in a diverse range of applications.

TRADITIONAL HYDROMECHANICAL CONTROLS		
PRESSURE LIMITER	C00, C10	
LOAD SENSE	L00, L20	
REMOTE PRESSURE LIMITER	AM, AN	
TORQUE LIMITER OPTION	LOT, AMT, ALT, ANT	
ELECTRONIC CONTROLS		
REMOTE PRESSURE LIMITER WITH PROPORTIONAL ELECTRONIC ADJUSTMENT	AE, AF	
PROPORTIONAL DIAPLACEMENT CONTROL WITH OPTIONAL MECHANICAL PRESSURE LIMITER WITHOUT ECU	P02, S02, T02, U02	
PROPORTIONAL DISPLACEMENT & PRESSURE CONTROLS WITH ECU <i>OPTIONAL PRESSURE LIMITER OPTIONAL CANBUS</i>	Q, PQ	

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### Industrial

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##### Great Lakes Region

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##### Pacific Region

Buena Park, CA  
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##### Southern Region

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