



Producción CNC, SA de CV  
Av. Pie de la Cuesta No. 1440  
Local 2 Col. Amalia Solorzano  
Querétaro, Qro. CP 76130  
Tel. (442) 253 7834  
Fax. (442) 253 7997  
[www.parkerenc.com.mx](http://www.parkerenc.com.mx)



# Industrial Hydraulics

Solutions Guide

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# Parker Hannifin Corporation



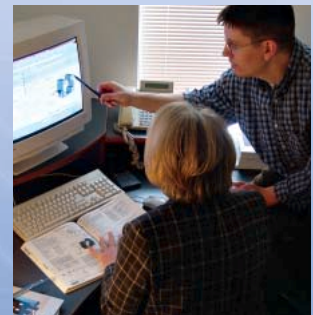
A global, Fortune 300 company with customers in 46 countries, Parker Hannifin is the world's leading supplier of hydraulic, pneumatic, and electromechanical motion control. Customers rely on Parker's best-in-industry customer service and engineering excellence for comprehensive application solutions that are second to none.

- **More than \$7 billion in sales**
- **254 plants worldwide**
- **8,600 distributors**
- **400,000 customers**
- **Over 1,000 distinct markets**
- **Listed as PH on the NYSE**

## Parker is Engineering

Let Parker become part of your design team. Whether you need to develop new products, redesign existing applications, or design completely new systems, Parker offers unparalleled engineering expertise.

Parker is your partner when it comes to innovation. Our engineers use leading-edge computer-aided design, manufacturing, product development, and testing to create hydraulic solutions that push the envelope for quality, performance, and reliability. In addition to being industry's foremost source for hydraulics, Parker also is the recognized leader in pneumatic, electromechanical, fluid-connector, and filtration technologies. No matter what your needs, Parker is your single-source provider of motion control solutions.



# Customer-Driven Solutions



## Customer-Driven Solutions

*Parker Hydraulics is in the “solutions business”, offering our customers the widest array of components and services available. Customers can be assured that no one knows hydraulics like Parker’s staff of highly qualified application and design engineers, our research-and-development teams, and our systems-solutions specialists. Our customers can reduce their number of vendors without compromising product integrity. And buying from a single source saves both time and money while allowing easier ordering and faster deliveries.*



## Hydraulic Products for Every Application

Our 75 years’ experience in hydraulics makes the Parker name the industry standard. No one is better positioned to meet your needs. Parker maintains more than 200,000 hydraulic model numbers in its inventory, so whether you are designing new applications or retrofitting older ones, we can meet any hydraulic component requirement.



# Parker's Value Proposition



## Parker's Value Proposition

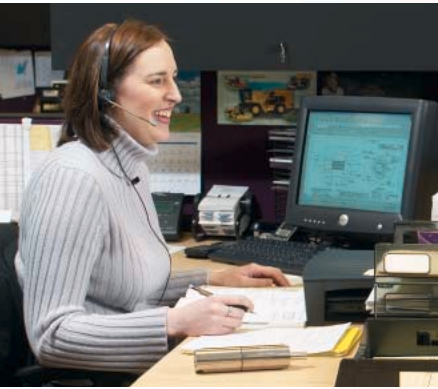
Parker is the leading hydraulics supplier worldwide. We have a powerful reputation, unparalleled breadth of products, and world-class customer service. However, Parker's greatest distinguishing benefits can be found in its Value Proposition. Parker believes that it takes more than our great products, competitive prices, and on-time delivery to satisfy customer demands. It takes a commitment to provide exceptional value.

At Parker, value is not a commodity. Instead, it is the result of personal interaction and resources. Parker's value-added services include:

- **Machine Analysis and Troubleshooting**
- **Design-Engineering Support**
- **System Design**
- **Components Selection**
- **New Product Development**
- **Custom-Component Manufacturing**
- **Assemblies and Kits**
- **Sub-Systems**
- **Global Support and Service**
- **ISO Certification**



# Parker's Value Proposition



## Support and Service

When it comes to hydraulics, Parker's worldwide network of field-sales engineers walks the walk and talks the talk. The best trained in the business, our field-sales engineers can be your single point of contact for any hydraulic requirement, including rapid problem solving. All are degreed engineers who are dedicated to long-term relationships. And whether they are crawling inside your machine during business hours, or working weekends, Parker engineers are there when you need them!



## PIN Parker Integration Network

Parker's PIN program, which networks over 100 systems integrators, combines leadership in motion control technology with specific application design-and-build expertise. The PIN program offers customers one-stop problem solving. It also enables Parker and its systems integrators to act as a single, qualified team with local sales and distribution. To locate a systems integrator, go to [www.parker.com/pin](http://www.parker.com/pin).

## 3 year Extended Warranty

Parker extends its standard limited warranty to 36 months on all Hydraulics Group products if they are protected by properly installed and maintained Parker hydraulic filters. This warranty applies to systems supplied by Parker and/or its authorized Hydraulic Technology Centers.

# Parker's Value Proposition



## Training Excellence

Parker's technical training for hydraulic, pneumatic, and electromechanical technology is the best in the world. We offer complete and comprehensive texts,

Web-based training, and hands-on classes for employees, distributors, and customers. Classes are held at your facilities, or at Parker.

What's more, hundreds of North American colleges and universities use Parker textbooks in motion and control courses. In addition to texts, Parker provides these institutions instructor guides, computer-based training discs, digital overheads on CD, final exams, drafting and simulation software, lab manuals, and trainer stands.

Find out more about Parker training by visiting: [www.parker.com/training](http://www.parker.com/training), or call 216-896-2495.

## Markets Served

- Amusement Rides & Simulators
- Bailleurs & Compactors
- Hydraulic Presses
- Industrial Machinery
- In-Plant Automotive
- Machine Tool
- Marine
- Medical Equipment
- Oil and Gas
- Paper
- Plastics & Rubber
- Power Generation
- Testing Machines



## Hydraulic Technology Centers

Hydraulic Technology Centers (HTCs) are Parker distributors who offer a one-stop shop for a wide range of products, engineering services, computer-aided design, fabrication, and assembly. HTCs can assist with equipment design, prototyping, and the integration of electronic or pneumatic components with hydraulic systems. They were introduced by Parker to meet the evolving needs of industrial customers who were looking for distributors to provide a higher level of services.

Parker's HTCs are selected for their commitment to providing exceptional customer service and complete hydraulic systems and solutions. HTCs carry local inventory of Parker products, ensuring customers fast delivery and reduced downtime.

Locate your nearest Parker HTC by calling 1-800-CPARKER or via our website at [www.parker.com/distloc](http://www.parker.com/distloc).


## A Click Away

This product solution presentation features Parker's new "ZIP" URLs. Simply type in the short URL located above the product photo and you will go directly to that product on Parker's Web site.

Additionally, the accompanying CD contains a full line of catalogs for individual products that can be searched in Adobe Acrobat. Get to the relevant catalog information quickly by typing the product code printed next to the CD icon in the brochure into Acrobat's search field.


**Gear Pumps**

**P16**  
[www.parker.com/hydp16](http://www.parker.com/hydp16)



- Aluminum flange and cover
- Cast iron gear plate
- Clockwise or counter-clockwise rotation
- Flows to 38 GPM per section
- Journal bearings
- Available with fluorocarbon seals

- Available in tandem and piggy-back configurations
- Integral priority valve available
- Electric clutches available



Frame size P16	-45	-65	-85	-100	-115	-150	-180	-200
Displacement (cm <sup>3</sup> /rev)	14.4	20.8	27.3	32.2	36.7	45.1	57.5	63.9
Displacement (in <sup>3</sup> /rev)	.89	1.27	1.67	1.98	2.24	2.93	3.51	3.99
Max continuous pressure (Bar)	307	307	307	307	307	307	15.5	136
Max continuous pressure (PSI)	3000	3000	3000	3000	3000	3000	2200	2000
Max speed (rpm)	3600	3600	3400	3300	3100	2800	2500	2200



# Industrial Hydraulic Components

Parker offers one of the world's most extensive hydraulic product lines. From pumps and valves to motors and motion controllers, all of our products share a common heritage of advanced technology for your applications. They incorporate electronic control for precise motion, innovative new designs to reduce size, and a greater choice of functions than ever before. Parker hydraulic components and systems are designed to deliver precise and reliable control.

## Pumps

Parker's broad line of energy-efficient hydraulic pumps includes fixed or variable displacement models in piston, vane and gear pumps. Designed to handle a wide range of applications, Parker pumps are available with a full complement of electronic and computer controls. Like all Parker products, these pumps are manufactured with the finest materials under strict quality control. The result is a pump that delivers high efficiency and low maintenance under the toughest operating conditions.

## Motors

Our full line of high and low speed motors provides power up to 15,000 in-lbs of torque. A complete range of sizes is offered in gear, gerotor and piston style operating configurations. Fixed and variable displacement motors are available. Parker hydraulic motors deliver excellent performance with high efficiency, true wear compensation and longer service life.





## Power Units

Parker offers the most complete line of standard, pre-engineered, cataloged hydraulic power units in the industry. We offer everything from five gallon vertical to 165 gallon overhead style platforms. Parker also offers custom power units that are designed and built to customer specifications. These units can be accessorized for almost any application, offering the convenience of one stop shopping in one quality unit.

All Parker power units are backed by complete engineering support including control documentation on the shop floor. Additionally, most Parker cataloged power units are delivered in five working days.

## Cylinders

Parker is a leading manufacturer of hydraulic cylinders for industrial equipment applications. From tie rod type to welded and telescoping designs manufactured by our Custom Cylinder Operation, Parker has the cylinder size and mounting configuration for the most demanding applications. We offer a variety of feedback options including the WaveScale Linear Displacement Transducer for accurate control of cylinder position. Regional cylinder manufacturing plants provide local support to ensure personalized customer service and timely cylinder delivery.

## Hydraulic Valves and Controls

We make hydraulic valves for virtually every industrial equipment application, from simple on/off functions to precise motion control. These include control and bankable control valves, motion controllers, pressure control valves, servo valves, and manifold mounted directional and proportional valves.

## Integrated Hydraulic Circuits

Parker is also the world leader in the design and manufacture of integrated hydraulic circuits. We provide solutions to complex circuits by selecting threaded cartridge valves from our wide range of products, and integrating them into a single manifold. We utilize 3D-CAD/CAM software, state-of-the-art HMC machining centers, and complete automated testing to maximize application performance.

## Rotary Actuators

Parker is an industry leader in the design and manufacture of hydraulic rack and pinion and vane style rotary actuators with torque output to 63 million in-lbs. In conjunction with a standard offering of rotary actuators, we work with customers on designs to meet specific application requirements. Rotary actuators provide smooth motion to perform a variety of actions, including upending, turning, rolling over, tilting, indexing, transferring, mixing, valve operating, tensioning and clamping. Applications include machine tool, packaging, marine, primary metals, rubber and plastics machinery and material handling.

## Accumulators

Parker is the industry's most complete source for hydraulic accumulators and related products. We offer a complete range of piston, bladder and diaphragm type accumulators, as well as gas bottles, KleenVent reservoir isolators and other accessories. These reliable components improve hydraulic system efficiency by maintaining pressure, supplementing pump flow and absorbing system shocks. Sturdy construction provides years of efficient, reliable service.

## Filtration

Filtration products designed by Parker maximize the reliability of your hydraulic systems and components with positive protection against fluid contaminants. Our comprehensive line of pressure and return line filters enhances machine life, reduces maintenance and lowers costs. High, medium and low pressure filters are offered, as well as portable filter carts and replacement elements.

## Fluid Connectors

Parker has a complete line of fluid connector products and services for hydraulics, pneumatics and fluid systems. Products range from high-quality, state-of-the-art fittings, valves, and quick couplings, to pressure hose that is available in a wide range of core-tube materials, reinforcement designs and outer covers. Our global distribution network and strategically located service centers ensure that you can get the products you need when and where you need them.

## PAVC Series



- High strength cast iron housing
- Built in supercharger
- High sideload capacity
- Sealed shaft bearing option
- Two piece housing
- Cartridge controls
- Airbleed valve
- Thru-shaft option (PAVC100)
- Optional port location
- Full pressure rating on water glycol fluids
- Control drain may be filtered and/or cooled

Frame size <b>PAVC</b>	<b>-33</b>	<b>-38</b>	<b>-65</b>	<b>-100</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	33 2.0	38 2.3	65 4.0	100 6.1
Max continuous pressure (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000
Max self priming speed at 0 PSI gauge (rpm)	3000	3000	3000	3000

[www.parker.com/hyd/pavc](http://www.parker.com/hyd/pavc)

## PVP Series



- High strength cast iron housing
- Modular controls
- Fast response times
- Thru-shaft options
- Optional port location
- 9 and 11 piston design
- English and metric mounting features
- Low control pressures

Frame size <b>PVP</b>	<b>-16</b>	<b>-23</b>	<b>-33</b>	<b>-41</b>	<b>-48</b>	<b>-60</b>	<b>-76</b>	<b>-100</b>	<b>-140</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	16 1.0	23 1.4	33 2.0	41 2.5	48 2.9	60 3.7	76 4.6	100 6.1	140 8.5
Max continuous pressure (Bar) (PSI)	248 3600	248 3600	248 3600	248 3600	248 3600	248 3600	248 3600	248 3600	248 3600
Max self priming speed at 0 PSI gauge (rpm)	3000	3000	3000	2800	2600	2200	2200	1800	1800

[www.parker.com/hyd/pvp](http://www.parker.com/hyd/pvp)

## PVplus Series



- High strength cast iron housing
- Modular controls
- Large control piston
- Thru-shaft option
- 9 piston design
- Multiple pressure control
- English and metric mounting features
- Reduced flow and pressure ripple

Frame size <b>PVplus</b>	<b>-16</b>	<b>-20</b>	<b>-23</b>	<b>-32</b>	<b>-40</b>	<b>-46</b>	<b>-63</b>	<b>-80</b>	<b>-92</b>	<b>-140</b>	<b>-180</b>	<b>-270</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	16 .98	20 1.2	23 1.4	32 1.9	40 2.4	46 2.8	63 3.8	80 4.8	92 5.6	140 8.5	180 10.9	270 16.5
Max continuous pressure (Bar) (PSI)	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000
Max self priming speed at 0 PSI gauge (rpm)	2750	2750	2750	2400	2400	2400	2400	2300	2200	2400	2200	1800

[www.parker.com/hyd/pvplus](http://www.parker.com/hyd/pvplus)

## PHP Series



- High strength cast iron housing
- Modular controls
- Fast response times
- Thru-shaft options
- Optional port location
- 9 and 11 piston design
- English and metric mounting features
- Low control pressures

Frame size <b>PHP</b>	<b>-10</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	10 0.6
Max continuous pressure (Bar) (PSI)	345 5000
Max self priming speed at 0 PSI gauge (rpm)	3000

[www.parker.com/hyd/php](http://www.parker.com/hyd/php)

## RCM Series



RCM Series remote compensator control modules are designed specifically for remotely controlling pressure compensated pumps. Available with single, two or three pressure controls as well as single or two pressure with low pressure standby.

- Direct-acting cartridge type
- Excellent repeatability and stability
- Low leakage, 2-way poppet type solenoid valves
- Replaceable coils with 120VAC or 24VDC option
- Manual override is standard
- Steel bodies with black oxide finish
- Panel mountable

Frame size <b>RCM</b>	<b>1</b>	<b>1L</b>	<b>2/2P</b>	<b>2LP</b>	<b>3P</b>
Rated flow (LPM) (GPM)	0.19 0.5	0.19 0.5	0.19 0.5	0.19 0.5	0.19 0.5
Max pressure (Bar) (PSI)	345 5000	276 4000	276 4000	276 4000	276 4000

[www.parker.com/hyd/rcm](http://www.parker.com/hyd/rcm)

## PE Series



- Compact design (small envelope size) and unique port layout for easy installation
- Rigid housing design
- Reduced pressure ripple
- Short response times
- Long service life
- Flexible, modular design

Frame size <b>PE</b>	<b>060</b>	<b>075</b>	<b>105</b>	<b>145</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	60 3.66	75 4.58	105 6.41	145 8.85
Max continuous pressure (Bar) (PSI)	320 4600	320 4600	320 4600	320 4600
Max self priming speed at 0 PSI gauge (rpm)	2800	2500	2300	2200

[www.parker.com/hyd/pe](http://www.parker.com/hyd/pe)

## PD Series



- Compact-small package size
- Quiet operation
- Low flow ripple to further reduce noise
- Elastomer seals that eliminate gaskets and external leakage
- High operating efficiency for lower power consumption and reduced heat generation
- Simple hydraulic controls with “no-leak” adjustments
- SAE standard mounting flanges and ports
- Long life, tapered-roller shaft bearings
- Long life, low friction, hydrostatically balanced cam bearings
- Full power through-drive capability
- End or side inlet and outlet ports
- Case drain ports for horizontal or vertical, shaft-up mounting
- Optional minimum and maximum displacement adjustments
- Optional case-to-inlet check valve to extend shaft seal life
- Easy to service

## Pumps Gear

### PGP 500 Series



- Superior performance
- High efficiency
- Low noise operation at high operating pressures
- International mounts and connections
- Integrated valve capabilities
- Common inlet multiple pump configurations

[www.parker.com/hyd/pgp500](http://www.parker.com/hyd/pgp500)

Frame size <b>PGP505</b>	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	2 .12	3 .18	4 .24	5 .31	6 .37	7 .43	8 .49	9 .55	10 .61	11 .67	12 .73
Max continuous pressure (Bar) (PSI)	275 3988	275 3988	275 3988	275 3988	275 3988	275 3988	275 3988	250 3625	250 3625	250 3625	220 3190
Max speed at 0 inlet & max outlet pressure (rpm)	4000	4000	4000	4000	3600	3300	3000	2900	2800	2400	2400

Frame size <b>PGP511</b>	-6	-7	-8	-10	-11	-14	-16	-18	-19	-21	-23	-27	-28	-31
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	6 .37	7 .43	8 .49	10 .61	11 .67	14 .85	16 .98	18 1.10	19 1.16	21 1.28	23 1.40	27 1.65	28 1.71	31 1.89
Max continuous pressure (Bar) (PSI)	275 3988	275 3988	275 3988	275 3988	275 3988	275 3988	275 3988	275 3988	275 3988	235 3408	235 3408	200 2900	195 2828	195 2828
Max speed at 0 inlet & max outlet pressure (rpm)	4000	4000	4000	3600	3600	3300	3000	3000	3000	2800	2800	2400	2300	2300

Frame size <b>PGP517</b>	-14	-16	-19	-23	-25	-28	-33	-36	-38	-44	-52
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	14 .85	16 .98	19 1.16	23 1.40	25 1.53	28 1.71	33 2.01	36 2.20	38 2.32	44 2.68	52 3.17
Max continuous pressure (Bar) (PSI)	250 3625	250 3625	250 3625	250 3625	250 3625	250 3625	250 3625	250 3625	250 3625	220 3190	200 2900
Max speed at 0 inlet & max outlet pressure (rpm)	3400	3400	3300	3300	3100	3100	3100	3000	3000	2800	2700

## PGP300 Series



- Three-piece cast iron construction
- Low friction bushing design
- Single, multiple, piggyback and thru-drive assemblies
- Heavy duty applications
- Long life in severe operating environments
- Integrated or bolt-on valve options available
- Can be configured as pump or motor

[www.parker.com/hyd/pgp300](http://www.parker.com/hyd/pgp300)

Frame size <b>PGP315/PGM315</b>	<b>-05</b>	<b>-06</b>	<b>-07</b>	<b>-08</b>	<b>-10</b>	<b>-11</b>	<b>-12</b>	<b>-13</b>	<b>-15</b>	<b>-16</b>	<b>-17</b>	<b>-18</b>	<b>-20</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	10.2 .620	12.7 .775	15.2 .930	17.8 1.09	20.3 1.24	22.9 1.40	25.9 1.55	27.9 1.71	30.5 1.86	33.0 2.02	35.6 2.17	38.1 2.33	40.6 2.48
Max continuous pressure (Bar) (PSI)	241 3500	241 3500	241 3500	241 3500	241 3500	241 3500	241 3500	241 3500	228 3300	214 3100	200 2900	186 2700	172 2500
Max speed at 0 inlet & max outlet pressure (rpm)	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000

Frame size <b>PGP330/PGM330</b>	<b>-05</b>	<b>-07</b>	<b>-10</b>	<b>-12</b>	<b>-15</b>	<b>-17</b>	<b>-20</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	16.1 .985	24.2 1.47	32.3 1.97	40.4 2.46	48.4 2.95	56.5 3.44	64.6 3.94
Max continuous pressure (Bar) (PSI)	241 3500	241 3500	241 3500	241 3500	241 3500	224 3250	207 3000
Max speed (rpm)	3000	3000	3000	3000	3000	3000	3000

Frame size <b>PGP350/PGM350</b>	<b>-05</b>	<b>-07</b>	<b>-10</b>	<b>-12</b>	<b>-15</b>	<b>-17</b>	<b>-20</b>	<b>-22</b>	<b>-25</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	20.9 1.28	31.3 1.91	41.8 2.55	52.2 3.19	62.7 3.82	73.1 4.46	83.6 5.10	94.0 5.73	104.5 6.38
Max continuous pressure (Bar) (PSI)	241 3500	241 3500	241 3500	241 3500	241 3500	224 3250	207 3000	190 2750	172 2500
Max speed (rpm)	2400	2400	2400	2400	2400	2400	2400	2400	2400

Frame size <b>PGP365/PGM365</b>	<b>-07</b>	<b>-10</b>	<b>-12</b>	<b>-15</b>	<b>-17</b>	<b>-20</b>	<b>-22</b>	<b>-25</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	44.3 2.70	59.0 3.60	73.8 4.50	88.5 5.40	103.3 6.30	118.0 7.20	132.8 8.10	147.5 9.00
Max continuous pressure (Bar) (PSI)	241 3500	241 3500	241 3500	241 3500	241 3500	241 3500	224 3250	207 3000
Max speed (rpm)	2400	2400	2400	2400	2400	2400	2400	2400

## HP7 Series



- Aluminum or cast iron construction
- Clockwise or counter-clockwise rotation
- Flows to 116 GPM per section
- Journal bearings
- Available with fluorocarbon seals
- Also available as tandem and piggy-back configuration pump

[www.parker.com/hyd/hp7](http://www.parker.com/hyd/hp7)

Frame size <b>HP7</b>	<b>-250</b>	<b>-300</b>	<b>-350</b>	<b>-400</b>	<b>-450</b>	<b>-500</b>	<b>-550</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	82.9 5.06	99.1 6.05	115.9 7.07	128.3 7.83	143.4 8.75	159.8 9.75	176.0 10.74
Max continuous pressure (Bar) (PSI)	276 4000	276 4000	276 4000	276 4000	255 3700	228 3300	207 3000
Max speed (rpm)	2500	2500	2500	2500	2500	2500	2500

## HP8 Series



- Aluminum construction
- Clockwise or counter-clockwise rotation
- Flows to 177 GPM per section
- Journal bearings
- Available with fluorocarbon seals
- Also available as tandem pump

[www.parker.com/hyd/hp8](http://www.parker.com/hyd/hp8)

Frame size <b>HP8</b>	<b>-400</b>	<b>-450</b>	<b>-500</b>	<b>-550</b>	<b>-600</b>	<b>-660</b>	<b>-770</b>	<b>-850</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	128.3 7.83	143.4 8.75	159.8 9.75	176.0 10.74	193.0 11.78	213.9 1.05	246.0 15.01	268.4 16.38
Max continuous pressure (Bar) (PSI)	276 4000	276 4000	276 4000	276 4000	276 4000	248 3600	228 3300	207 3000
Max speed* (rpm)	2500	2500	2500	2500	2500	2500	2500	2500

\*Speeds above 2000 RPM require the suction to be pressurized to 5 PSI minimum.

## P16 Series



- Aluminum flange and cover
- Cast iron gear plate
- Clockwise or counter-clockwise rotation
- Flows to 38 GPM per section
- Journal bearings
- Available with fluorocarbon seals
- Available in tandem and piggy-back configurations
- Integral priority valve available
- Electric clutches available

[www.parker.com/hyd/p16](http://www.parker.com/hyd/p16)

Frame size <b>P16</b>	<b>-45</b>	<b>-65</b>	<b>-85</b>	<b>-100</b>	<b>-115</b>	<b>-150</b>	<b>-180</b>	<b>-200</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	14.4 .89	20.8 1.27	27.3 1.67	32.2 1.96	36.7 2.24	48.1 2.93	57.5 3.51	63.9 3.90
Max continuous pressure (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	207 3000	207 3000	152 2200	138 2000
Max speed (rpm)	3600	3600	3400	3300	3100	2800	2500	2200

## 20 Series



- Aluminum or cast iron construction
- Clockwise or counter-clockwise rotation
- Flows to 98 GPM per section
- Journal bearings
- Available with fluorocarbon seals
- Available in tandem and piggy-back configurations
- Available with integral logic valves

[www.parker.com/hyd/20series](http://www.parker.com/hyd/20series)

Frame size <b>20</b>	<b>-100</b>	<b>-150</b>	<b>-200</b>	<b>-250</b>	<b>-300</b>	<b>-350</b>	<b>-400</b>	<b>-450</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	32.9 2.01	49.5 3.02	66.2 4.04	82.9 5.06	99.1 6.05	115.9 7.07	132.4 8.08	149.1 9.10
Max continuous pressure (Bar) (PSI)	172 2500	172 2500	172 2500	172 2500	145 2100	124 1800	172 2500	172 2500
Max speed (rpm)	2500	2500	2500	2500	2500	2500	2500	2500

## 25 Series



- Aluminum or cast iron construction
- Clockwise or counter-clockwise rotation
- Flows to 208 GPM per section
- Journal bearings
- Available with fluorocarbon seals
- Available in tandem and piggy-back configurations

[www.parker.com/hyd/25series](http://www.parker.com/hyd/25series)

Frame size <b>25</b>	<b>-300</b>	<b>-350</b>	<b>-400</b>	<b>-450</b>	<b>-500</b>	<b>-550</b>	<b>-660</b>	<b>-770</b>	<b>-950</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	99.1 6.05	115.9 7.07	132.4 8.08	149.1 9.10	164.7 10.05	181.2 11.06	219.9 13.42	254.4 15.50	315.0 19.22
Max continuous pressure (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	172 2500	172 2500	172* 2500*	172* 2500*	172* 2500*
Max speed (rpm)	2500	2500	2500	2500	2500	2500	2500	2500	2500

\*Consult factory

# Pumps Fixed Displacement Vane

## PFVI Series



- 12 vane cartridge design
- Design facilitates field service and conversions
- Wide selection of pumps to meet complex circuit requirements
- Efficient, simple design
- High tolerance to system contamination
- Hydraulically balanced for reduced bearing loads and long pump life
- Mount piston, gear and other vane pumps on common drive shaft
- Ideal for “HI/LO” pump circuits

Frame size <b>PFVI</b>	<b>25</b>	<b>35</b>	<b>45</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	38-66 2.3-4.0	79-120 4.8-7.3	132-189 8.1-11.6
Max continuous pressure (Bar) (PSI)	172 2500	172 2500	172 2500
Max speed (rpm)	1800	1800	1800

[www.parker.com/hyd/pfvi](http://www.parker.com/hyd/pfvi)

## PFV Series-Single



- Silent technology
- Wide range of displacements
- User friendly - easy conversions and evolutions
- Wide number of shafts available
- Double shaft seal option possible
- Drive train options available (SAE-A/B/C)

Frame size <b>PFV</b>	<b>7B</b>	<b>6C</b>	<b>7D/S</b>	<b>7E/S</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	5.8-50 .35-3.1	10.8-100 .66-6.1	44-158 2.7-9.6	132.3-268.7 8.1-16.4
Max pressure (Bar) (PSI)	320 4650	275 4000	300 4350	240 3500
Max speed (rpm)	3600	2800	3000	2200

[www.parker.com/hyd/pfvsingle](http://www.parker.com/hyd/pfvsingle)



# Fixed Displacement Vane Pumps

## PFV Series-Double



- Low noise
- SAE or ISO standards
- One piece shaft (no internal torque limitations)
- One inlet
- 32 porting orientations available
- Wide displacement possibility
- High power to weight ratio
- Wide range of options available - shafts, threads and pilots

[www.parker.com/hyd/pfvdouble](http://www.parker.com/hyd/pfvdouble)

Frame size	PFV	7BB/S	6CC	67CB	7DB/S	67DC	7DD/S	7EB/S	67EC	7ED/S	7EE/S
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	11.6-100 .7-6.2	21.6-200 1.3-12.2	16.6-150 1.0-9.2	49.8-208 3.0-12.7	54.8-258 3.3-15.7	88-316 5.4-19.2	138.1-318.7 8.4-19.5	143.1-368.7 8.8-22.5	176.3-426.7 10.8-26	264.6-537.4 16.2-32.8	
Max pressure (Bar) (PSI)	320 4650	275 4000	300 4350	300 4350	275 4000	250 3630	300 4350	275 4000	250 3630	240 3500	
Max speed (rpm)	2200*	2200*	2200*	2200*	2200*	2200*	2200*	2200*	2200*	2200*	2200*

\*Consult factory for higher speeds

## PFV Series-Triple



- Low noise
- SAE or ISO standards
- One piece shaft (no internal torque limitations)
- One inlet
- 128 porting orientations available
- Many displacement combinations per stage
- High power to weight ratio
- Wide range of options available - shafts, threads and pilots

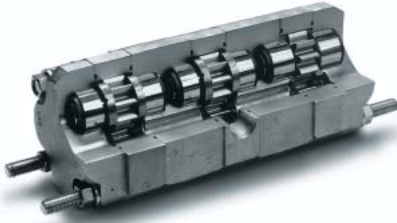
[www.parker.com/hyd/pfvtriple](http://www.parker.com/hyd/pfvtriple)

Frame size	PFV	67DBB	67DCB	67DCC	7DDB/S	67DDCS	7EDB/S	67EDC/S
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	55.6-258 3.4-15.8	60.6-308 3.7-18.8	65.6-358 4.0-21.8	93.8-366 5.7-22.3	98.8-416 6.0-25.3	182.1-476.7 11.1-29.1	187.1-526.7 11.4-32.1	
Max pressure (Bar) (PSI)	300 4350	300 4350	275 4000	300 4350	275 4000	300 4350	275 4000	
Max speed (rpm)	2200*	2200*	2200*	2200*	2200*	2200*	2200*	2200*

\*Consult factory for higher speeds

## Flow Dividers/Intensifiers

### FD30/50/75



- Used to synchronize the operation of multiple cylinders or motors, to distribute pump flow or to increase the pressure available to a system
- Available with 2–5 sections
- Gear widths from ½"–3"
- Self-lubricating; can be mounted in any position
- Operates most efficiently at speeds from 700–1300 RPM
- Eliminates costly components and the problems common in feeding multiple pumps
- Extended studs provided for easy mounting

## Electric Motors Close Coupled

### ME Series



- Pump installed directly to motor: saves cost of mounting adaptor, couplings, installation labor and results in very compact package
- Available with steel band or cast iron housing, providing excellent heat dissipation
- Internal spline: accepts either SAE "AA", "A", or "B" pilots with spline shafts, and offers superior engagement characteristics
- Available in:
  - ¼, ½ and 1 HP, 1 Phase  
115/230 VAC
  - 1, 2, 3, 5, 7.5, 10 HP, 3 Phase  
230/460 VAC @ 60 HZ  
190/380 VAC @ 50 HZ

[www.parker.com/hyd/me](http://www.parker.com/hyd/me)

# Low Speed High Torque Motors

## Nichols



- Single speed, wheel motor and two-speed styles
- Rugged, compact design
- Unique IGRT power element
- Integral selector valve on two-speed styles
- Maximum supply pressure 225 Bar (3250 PSI)

[www.parker.com/hyd/110A](http://www.parker.com/hyd/110A)

Series 110A	036	054	071	088	106	129	164	189	241
Geometric displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	49 3.6	89 5.4	116 7.1	144 8.8	174 10.6	211 12.9	269 16.4	310 18.9	395 24.1
Max continuous pressure (Bar) (PSI)	170 2500	170 2500	170 2500	170 2500	155 2250	155 2250	140 2000	140 2000	120 1750
Max operating speed (rev/min)	858	740	684	622	519	437	415	350	279

[www.parker.com/hyd/700](http://www.parker.com/hyd/700)

Series 700	072	108	142	176	212	258
Geometric displacement Series (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	59 3.6	88 5.4	116 7.1	144 8.8	174 10.6	211 12.9
Parallel (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	118 7.2	177 10.8	233 14.2	288 17.6	347 21.2	423 25.8
Max cont. differential pressure Series (Bar) (PSI)	170 2500	170 2500	170 2500	170 2500	155 2250	155 2250
Parallel (Bar) (PSI)	170 2500	170 2500	170 2500	170 2500	155 2250	140 2000
Max operating speed Series (rev/min)	890	843	695	688	580	440
Parallel (rev/min)	782	656	481	419	352	268

[www.parker.com/hyd/716](http://www.parker.com/hyd/716)

Series 716	072	108	142	176	212	258
Geometric displacement Series (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	59 3.6	88 5.4	116 7.1	144 8.8	174 10.6	211 12.9
Parallel (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	118 7.2	177 10.8	233 14.2	288 17.6	347 21.2	423 25.8
Max cont. differential pressure Series (Bar) (PSI)	170 2500	170 2500	170 2500	170 2500	155 2250	120 1750
Parallel (Bar) (PSI)	170 2500	140 2000	100 1500	85 1250	85 1250	70 1000
Max operating speed Series (rev/min)	890	843	695	688	580	440
Parallel (rev/min)	782	656	481	419	352	268

# Motors Low Speed High Torque

## TC Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- Long life

[www.parker.com/hyd/tc](http://www.parker.com/hyd/tc)

Frame size <b>TC</b>	<b>-0045</b>	<b>-0050</b>	<b>-0065</b>	<b>-0080</b>	<b>-0100</b>	<b>-0130</b>	<b>-0165</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0
Max cont pressure (Bar) (PSI)	86 1250	86 1250	86 1250	86 1250	86 1250	86 1250	86 1250
Max op speed (rpm)	810	688	517	413	460	429	346
Frame size <b>TC</b>	<b>-0195</b>	<b>-0230</b>	<b>-0260</b>	<b>-0295</b>	<b>-0330</b>	<b>-0365</b>	<b>-0390</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	195 11.9	228 13.9	260 15.9	293 17.9	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	86 1250	76 1100	66 950	59 850	52 750	45 650	45 650
Max op speed (rpm)	287	246	217	193	173	152	144

## TB Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- Long life

[www.parker.com/hyd/tb](http://www.parker.com/hyd/tb)

Frame size <b>TB</b>	<b>-0036</b>	<b>-0045</b>	<b>-0050</b>	<b>-0065</b>	<b>-0080</b>	<b>-0100</b>	<b>-0130</b>	<b>-0165</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	36 2.2	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0
Max cont pressure (Bar) (PSI)	124 1800	124 1800	124 1800	124 1800	124 1800	124 1800	124 1800	124 1800
Max op speed (rpm)	932	785	678	511	409	454	430	343
Frame size <b>TB</b>	<b>-0195</b>	<b>-0230</b>	<b>-0260</b>	<b>-0295</b>	<b>-0330</b>	<b>-0365</b>	<b>-0390</b>	
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	195 11.9	228 13.9	260 15.9	293 17.9	328 20.0	370 22.6	392 24.0	
Max cont pressure (Bar) (PSI)	124 1800	103 1500	100 1450	97 1400	93 1350	86 1250	83 1200	
Max op speed (rpm)	287	246	216	191	171	151	143	

# Low Speed High Torque **Motors**

## TE Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- High side load capacity
- Balanced performance in both directions of rotation
- Long life

[www.parker.com/hyd/te](http://www.parker.com/hyd/te)

Frame size <b>TE</b>	<b>-0045</b>	<b>-0050</b>	<b>-0065</b>	<b>-0080</b>	<b>-0100</b>	<b>-0130</b>	<b>-0165</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0
Max cont pressure (Bar) (PSI)	140 2000	140 2000	140 2000	140 2000	140 2000	140 2000	140 2000
Max op speed (rpm)	1024	1020	877	695	582	438	348
Frame size <b>TE</b>	<b>-0195</b>	<b>-0230</b>	<b>-0260</b>	<b>-0295</b>	<b>-0330</b>	<b>-0365</b>	<b>-0390</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	195 12.0	228 14.0	260 16.0	293 18.0	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	140 2000	123 1750	116 1650	109 1550	102 1450	93 1325	88 1250
Max op speed (rpm)	292	328	287	256	228	203	191

## TJ Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- High side load capacity
- Long life

[www.parker.com/hyd/tj](http://www.parker.com/hyd/tj)

Frame size <b>TJ</b>	<b>-0045</b>	<b>-0050</b>	<b>-0065</b>	<b>-0080</b>	<b>-0100</b>	<b>-0130</b>	<b>-0165</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0
Max cont pressure (Bar) (PSI)	140 2030	140 2030	140 2030	140 2030	140 2030	140 2030	140 2030
Max op speed (rpm)	1024	1020	877	695	582	438	348
Frame size <b>TJ</b>	<b>-0195</b>	<b>-0230</b>	<b>-0260</b>	<b>-0295</b>	<b>-0330</b>	<b>-0365</b>	<b>-0390</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	195 12.0	228 14.0	260 16.0	293 18.0	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	140 2030	120 1740	110 1595	100 1450	100 1450	95 1378	85 1233
Max op speed (rpm)	292	328	287	256	228	203	191

# Motors Low Speed High Torque

## TF Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- High side load capacity
- Long life

[www.parker.com/hyd/tf](http://www.parker.com/hyd/tf)

Frame size <b>TF</b>	<b>-0080</b>	<b>-0100</b>	<b>-0130</b>	<b>-0140</b>	<b>-0170</b>	<b>-0195</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	81 4.9	100 6.1	128 7.8	141 8.6	169 10.3	197 12.0
Max cont pressure (Bar) (PSI)	207 3000	155 2250	138 2000	138 2000	138 2000	138 2000
Max op speed (rpm)	693	749	583	530	444	381

Frame size <b>TF</b>	<b>-0240</b>	<b>-0280</b>	<b>-0360</b>	<b>-0405</b>	<b>-0475</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	238 14.5	280 17.1	364 22.2	405 24.7	477 29.1
Max cont pressure (Bar) (PSI)	138 2000	138 2000	130 1880	128 1850	113 1645
Max op speed (rpm)	394	334	258	231	195

## TG Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- High side load capacity
- Long life

[www.parker.com/hyd/tg](http://www.parker.com/hyd/tg)

Frame size <b>TG</b>	<b>-0140</b>	<b>-0170</b>	<b>-0195</b>	<b>-0290</b>	<b>-0295</b>	<b>-0335</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	140 8.6	169 10.3	195 11.9	237 14.5	280 17.1	337 20.6
Max cont pressure (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	207 3000	207 3000
Max op speed (rpm)	660	554	477	393	334	277

Frame size <b>TG</b>	<b>-0405</b>	<b>-0475</b>	<b>-0530</b>	<b>-0625</b>	<b>-0785</b>	<b>-0960</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	405 24.7	476 29.1	529 32.3	624 38.0	786 48.0	958 58.5
Max cont pressure (Bar) (PSI)	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000
Max op speed (rpm)	232	237	213	182	143	118

## TH Series



- High volumetric efficiency
- Full flow spline cooling
- High pressure shaft seal
- High flow shaft seal cooling
- High starting torque
- High side load capacity
- Long life

[www.parker.com/hyd/th](http://www.parker.com/hyd/th)

Frame size TH	-0140	-0170	-0195	-0290	-0295	-0335
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	140 8.6	169 10.3	195 11.9	237 14.5	280 17.1	337 20.6
Max continuous pressure (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	207 3000	207 3000
Max operating speed (rpm)	660	554	477	393	334	277

Frame size TH	-0405	-0475	-0530	-0625	-0785	-0960
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	405 24.7	476 29.1	529 32.3	624 38.0	786 48.0	958 58.5
Max continuous pressure (Bar) (PSI)	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000
Max operating speed (rpm)	232	237	213	182	143	118

## TK Series



- High volumetric efficiency
- Flow through internal spline and shaft seal cooling
- High pressure shaft seal
- High starting torque
- High side load capacity
- Long life

[www.parker.com/hyd/tk](http://www.parker.com/hyd/tk)

Frame size TK	-0250	-0315	-0400	-0500	-0630	-0800	-1000
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	250 15.3	315 19.2	400 24.4	500 30.5	630 38.4	800 48.8	1000 61
Max continuous pressure (Bar) (PSI)	241 3500	241 3500	207 3000	207 3000	207 3000	190 2750	172 2500
Max operating speed (rpm)	523	413	373	298	237	276	218

## MR-MRE Series-Fixed Displacement



- 5 piston design
- Wide range of displacement
- Starting torque from 90-95% theoretical
- Total efficiency up to 96%
- Resistance to thermal shocks  $\Delta T=176^{\circ}F$
- Speed feedback accessories optional

[www.parker.com/hyd/mr](http://www.parker.com/hyd/mr)

Frame size MR/E*	33	57	73	93	110	125	160	190	200	250	300
Displacement (cm <sup>3</sup> /rev)	32.1	56.4	72.6	92.6	109.0	124.7	159.7	191.6	199.2	250.9	304.4
(in <sup>3</sup> /rev)	2.0	3.4	4.4	5.7	6.7	7.6	9.8	11.7	12.2	15.3	18.6
Max pressure (Bar)	300	300	300	300	300	300	300	300	300	300	300
(PSI)	4350	4350	4350	4350	4350	4350	4350	4350	4350	4350	4350
Max speed (rpm)	1400	1300	1200	1150	1100	900	900	850	800	800	750

Frame size MR/E*	330*	350	450	500*	600	700	800*	1100	1400*	1600	1800
Displacement (cm <sup>3</sup> /rev)	332.4	349.5	451.6	497.9	607.9	706.9	804.2	1125.8	1369.5	1598.4	1809.6
(in <sup>3</sup> /rev)	20.1	21.3	27.6	30.4	37.1	43.1	49.1	68.7	83.6	97.5	110.4
Max pressure (Bar)	250	300	300	250	300	300	250	300	250	300	300
(PSI)	3626	4350	4350	3626	4350	4350	3626	4350	3626	4350	4350
Max speed (rpm)	750	640	600	600	520	500	450	330	280	260	250

Frame size MR/E*	2100*	2400	2800	3100*	3600	4500	5400*	6500	7000*	8200
Displacement (cm <sup>3</sup> /rev)	2091.2	2393.1	2792.0	3103.7	3636.8	4502.7	5401.2	6460.5	6967.2	8226.4
(in <sup>3</sup> /rev)	127.6	139.9	170.4	189.4	221.9	274.8	329.6	394.2	408.7	502
Max pressure (Bar)	250	300	300	250	300	300	250	300	300	250
(PSI)	3626	4350	4350	3626	4350	4350	3626	4350	4350	3626
Max speed (rpm)	250	220	215	215	180	170	160	130	130	130



## MRT-MRTE-MRTF Series-Fixed Displacement



- Hydraulically balanced 10 and 14 piston twin row design
- Wide range of displacements
- Starting torque from 91% theoretical
- Total efficiency up to 96%
- Speed feedback accessories optional

[www.parker.com/hyd/mrt](http://www.parker.com/hyd/mrt)

Frame size <b>MRT/E*/F**</b>	<b>7100</b>	<b>7800**</b>	<b>8500*</b>	<b>9000</b>	<b>9900**</b>	<b>10800*</b>	<b>14000</b>	<b>15500**</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	7100.4 433.5	7808.4 476.5	8517.3 519.8	9005.4 549.5	9903.9 604.4	10802.4 659.2	14010 854.9	15276 932.3
Max pressure (Bar) (PSI)	300 4350	250 3626	250 3626	300 4350	250 3626	250 3626	300 4350	250 3626
Max speed (rpm)	150	130	120	130	120	110	80	75

Frame size <b>MRT/E*/F**</b>	<b>16500*</b>	<b>17000</b>	<b>18000**</b>	<b>19500</b>	<b>20000*</b>	<b>21500**</b>	<b>23000*</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	16542 1009.5	16759 1022.7	18025 1100	19508 1190.5	19788 1207.5	21271 1298	23034 1405.6
Max pressure (Bar) (PSI)	250 3626	300 4350	250 3626	300 4350	250 3626	250 3626	250 3626
Max speed (rpm)	70	70	65	60	60	55	50

## MRD-MRDE Series-Dual Displacement MRV-MRVE Series-Variable Displacement



- 5 piston design
- Displacement ratios of 1:2 or 1:3
- Starting torque from 90-95% theoretical
- Total efficiency up to 96%
- Resistance to thermal shocks  $\Delta T=176^{\circ}F$
- Speed feedback accessories optional

[www.parker.com/hyd/mrd-mrv](http://www.parker.com/hyd/mrd-mrv)

Frame size <b>MRV/E*</b> <b>MRD/E*</b>	<b>300</b>	<b>330*</b>	<b>450</b> <b>450</b>	<b>500*</b>	<b>700</b> <b>700</b>	<b>800*</b> <b>800*</b>	<b>1100</b> <b>1100</b>	<b>1400*</b> <b>1400*</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	304.1 18.6	332.4 20.3	451.6 27.6	497.9 30.4	706.9 43.1	804.2 49.1	1125.8 68.7	1369.5 83.6
Max pressure (Bar) (PSI)	300 4350	250 3626	300 4350	250 3626	300 4350	250 3626	300 4350	250 3626
Max speed (rpm)	1000	1000	850	800	700	650	580	550

Frame size <b>MRV/E*</b> <b>MRD/E*</b>	<b>1800</b> <b>1800</b>	<b>2100*</b> <b>2100*</b>	<b>2800</b> <b>2800</b>	<b>3100*</b> <b>3100*</b>	<b>4500</b> <b>4500</b>	<b>5400*</b> <b>5400*</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	1809.6 110.4	2091.2 127.6	2792.0 170.4	3103.7 189.4	4502.7 274.8	5401.2 329.6
Max pressure (Bar) (PSI)	300 4350	250 3626	300 4350	250 3626	300 4350	250 3626
Max speed (rpm)	400	370	280	280	250	210

# Motors Fixed Displacement Vane

## MFV Series-Single



- Low ripple torque
- Low starting torque
- Low noise
- Bi-rotational technology
- Various pilot, threaded ports and porting configurations
- External/internal drain options

[www.parker.com/hyd/mfvsingle](http://www.parker.com/hyd/mfvsingle)

Frame size <b>MFV</b>	<b>5AF</b>	<b>5B/BS/BF</b>	<b>3B</b>	<b>4C</b>	<b>4SC</b>	<b>4D</b>	<b>4SD</b>	<b>4E</b>	<b>4SE</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	6.3-25 .3-1.5	12-45 .7-2.8	9.2-37.1 .5-2.3	24.4-80.1 1.4-4.9	24.4-80.1 1.4-4.9	65.1-144.4 3.9-8.8	65.1-144.4 3.9-8.8	158.5-222 9.6-13.6	158.5-222 9.6-13.6
Max pressure (Bar) (PSI)	300 4350	320 4650	210 3000	175 2535	230 3335	175 2535	230 3335	175 2535	190 2755
Max speed (rpm)	6000	6000	4000	4000	4000	4000	4000	3600	3600

## MFV Series-Double



- Many displacement combinations
- Three different possible speeds for each combination
- Three different possible torques for each combination
- Bi-rotational technology
- Low noise
- Low ripple torque

[www.parker.com/hyd/mfvdouble](http://www.parker.com/hyd/mfvdouble)

Frame size <b>MFV</b>	<b>4DC</b>	<b>4SDC</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	89.5-224.5 5.4-13.7	89.5-224.5 5.4-13.7
Max pressure (Bar) (PSI)	175 2535	230 3335
Max speed (rpm)	4000	4000

## M2 Series



- High starting torque typically 90% of running torque
- Smooth output torque throughout the entire speed range
- Bi-directional operation
- High pressure shaft seal
- Standard SAE mounting
- Long life and quiet operation
- Heavy duty bearings

[www.parker.com/hyd/m2](http://www.parker.com/hyd/m2)

Frame size <b>M2</b>	<b>-085</b>	<b>-127</b>	<b>-169</b>	<b>-254</b>	<b>-339</b>	<b>-508</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	13.9 0.85	20.8 1.27	27.7 1.69	41.6 2.54	55.6 3.39	83.2 5.08
Max continuous pressure (Bar) (PSI)	138 2000	138 2000	138 2000	138 2000	138 2000	69 1000
Max intermittent pressure <sup>†</sup> (Bar) (PSI)	166 2400	166 2400	166 2400	166 2400	166 2400	97 1400
Max transient pressure <sup>‡</sup> (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	207 3000	117 1700
Recommended speeds (rpm)	50-5000	40-4000	36-3600	30-3000	20-2000	15-1500

<sup>†</sup> Intermittent conditions are to be less than 10% of each minute.

<sup>‡</sup> Transient conditions are to be less than 1% of each minute.

Minimum speeds based on constant load. Consult factory for speeds outside range.

## M4 Series



- High starting torque typically 90% of running torque
- Smooth output torque throughout the entire speed range
- Bi-directional operation
- High pressure shaft seal
- Standard SAE mounting
- Long life and quiet operation
- Heavy duty bearings

[www.parker.com/hyd/m4](http://www.parker.com/hyd/m4)

Frame size <b>M4</b>	<b>-015</b>	<b>-030</b>	<b>-045</b>	<b>-060</b>	<b>-075</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	2.45 0.15	4.91 0.30	7.37 0.45	9.83 0.60	12.29 0.75
Max continuous pressure (Bar) (PSI)	138 2000	138 2000	138 2000	138 2000	138 2000
Max intermittent pressure <sup>†</sup> (Bar) (PSI)	166 2400	166 2400	166 2400	166 2400	166 2400
Max transient pressure <sup>‡</sup> (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	207 3000
Recommended speeds (rpm)	75-7500	50-5000	50-5000	36-3600	30-3000

<sup>†</sup> Intermittent conditions are to be less than 10% of each minute.

<sup>‡</sup> Transient conditions are to be less than 1% of each minute.

Minimum speeds based on constant load. Consult factory for speeds outside range.

# Power Units

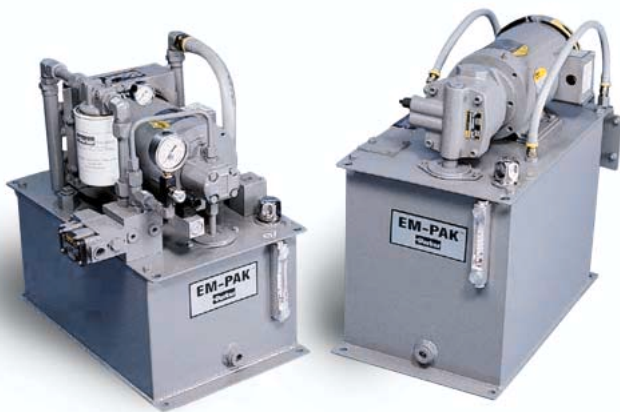
## Low-Profile V-Pak



- Vertical design saves floor space
- Submerged pump for quiet operation and elimination of potential leak point
- Precision pump mounting adaptors to ensure proper alignment and operation
- Suction strainer on inlet protects pump from contamination
- Pressure gauge with shut-off and oil level gauge with thermometer for improved diagnostics
- Standard safety relief valve to protect pump from system shock
- Breather/fill cap used to control ingress of contaminants
- SAE straight thread connections and ports used to prevent leaks
- Cleanout cover for easy access to reservoir

[www.parker.com/hyd/vpak](http://www.parker.com/hyd/vpak)

## EM-Pak



- Horizontal design allows easy maintenance
- Close coupled pump/motor: eliminates mounting adaptor for tank top space saving, eliminates potential for pump misalignment
- Suction strainer protects pumps from contamination
- Pressure gauge with shut-off and oil level gauge with thermometer for improved diagnostics
- Relief valve to protect pump against system shock
- Breather/fill cap used to control ingress of contaminants
- SAE straight thread connections and ports used to prevent leaks
- Available with either pressure compensated piston pump or fixed displacement gear pump

[www.parker.com/hyd/empak](http://www.parker.com/hyd/empak)

Series	Design	Pressure Bar (PSI)	Max. Flow LPM (GPM)	Tank (Gallons)	Motor (HP)
<b>D-Pak</b>	Vertical	207 (3000)	10.2 (2.7) @ 1725 RPM	5	0.5–3
<b>H-Pak</b>	Vertical	207 (3000)	47 (12.3) @ 1725 RPM	10, 20, 30, 40	0.5–20
<b>V-Pak</b>	Vertical	207 (3000)	59 (15.6) @ 1725 RPM	10, 20, 30, 40	2–20
<b>V-Pak</b>	Low Profile	207 (3000)	42 (11)–136.7(36.1) @ 1725 RPM	60, 80	7.5–40
<b>EM-Pak</b>	Horizontal	207 (3000)	10.2 (2.7) @ 1725 RPM with gear pump 27.5 (7.3) @ 1725 RPM with piston pump	8, 14	0.5–3

## D, H and V-Pak



- Vertical design saves floor space
- Submerged pump for quiet operation and elimination of potential leak point
- Precision pump mounting adaptors to ensure proper alignment and operation
- Suction strainer on inlet protects pump from contamination
- Pressure gauge with shut-off and oil level gauge with thermometer for improved diagnostics
- Remote compensator to adjust system pressure
- Standard safety relief valve to protect pump from system shock
- Breather/fill cap used to control ingress of contaminants
- 1800 RPM motor supplies more flow at less cost
- SAE straight thread connections and ports used to prevent leaks
- Single removable topplate for easy access and service

[www.parker.com/hyd/dhvpak](http://www.parker.com/hyd/dhvpak)

# Compact Hydraulics

## Fluid Power Systems

108



550



Our compact fluid power systems let you put the power where you need it. They are completely self-contained with motor, pump, reservoir, internal valving, load hold checks and relief valves. They often eliminate the need for other components and plumbing in the system to keep costs down.

The 108 Series models are designed for intermittent service and come in four standard pump sizes. Units are available with single or bi-directional rotation and a choice of several hydraulic circuits.

The 550 Series offers top-quality industrial power in an economical package. The wide range of Parker cartridge and D03 directional control valves available provides great flexibility in offering a hydraulic power unit to match your system requirements.

[www.parker.com/hyd/108fps](http://www.parker.com/hyd/108fps)

[www.parker.com/hyd/550fps](http://www.parker.com/hyd/550fps)

Series	Operating Bar (PSI)	Max. Flow LPM (GPM)	Tank (Gallons)	Motor (HP)
108	241 (3500)	3 (0.75)	28 cu.in.-1.5	1/3
550	207 (3000)	11 (3)	1/2-5	1/2-2

## Gear Motor

- Concentric center drive
- Bi-directional rotation
- Instantly reversible
- Variety of shaft options
- Flange or face mounting



Frame size 09	
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	1.48 .09
Max continuous pressure (Bar) (PSI)	345 5000
Max speed (rpm)	25,000

[www.parker.com/hyd/gearmotor](http://www.parker.com/hyd/gearmotor)

## Piston Pumps



- Designed for open circuit systems
- Fixed displacement
- Clockwise, counter-clockwise, or bi-directional rotation
- Naturally aspirated to 5000 rpm
- Porting on sides or rear
- Operate efficiently on thin (1 cS) fluid
- Operating temperature: -40° to 300°F

[www.parker.com/hyd/ppumps](http://www.parker.com/hyd/ppumps)

Frame size H	-156	-206	-259	-311	-346	-417	-519	-692	-865
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	0.156 0.0095	0.206 0.0126	0.259 0.0158	0.311 0.0190	0.346 0.0211	0.417 0.0255	0.519 0.0317	0.692 0.0422	0.865 0.0527
Max continuous pressure (Bar) (PSI)	241 3500	241 3500	241 3500	241 3500	241 3500	241 3500	241 3500	224 3250	207 3000
Max speed (rpm)	4400	4200	4000	3800	3800	3700	3700	3600	3500

## Cartridge Pumps



- Three-piston design
- Fixed displacement determined by internal cam angle
- Uni-directional
- Designed to fit specially machined manifolds

[www.parker.com/hyd/cpumps](http://www.parker.com/hyd/cpumps)

Displacement (cc/rev) (in <sup>3</sup> /rev)	0.1 to 0.33 0.006 to 0.020
Max continuous pressure (Bar) (PSI)	207 3000
Max speed (rpm)	5000

## Hand Pumps



750-1

750-2

- 8 cc/stroke (.50 in<sup>3</sup>/stroke)
- Excellent backup power supply
- Flexible mounting
- Buna-N seals
- Operating pressure of 172 Bar (2500 PSI)

### Model 750-1

- Controls single acting cylinder
- Includes manual release valve

### Model 750-2

- Controls double acting cylinder
- 2-position, 4-way selector valve
- Integral double P.O. check valves

# Cylinders

## 3L Series



- Medium duty service with industrial tie rod construction
- Nominal pressure 70 Bar (1000 PSI) dependent on bore size
- Standard bore sizes 1"–8"
- Case hardened, chrome plated piston rod diameters ½"–5½"
- Strokes available in any practical length
- 18 standard mounting styles
- Exclusive Jewel Gland with TS2000 Rod Seal
- Rod ends: 4 standard choices, specials to order

[www.parker.com/hyd/3L](http://www.parker.com/hyd/3L)

## 2H Series



- Heavy duty service with industrial tie rod construction
- Nominal pressures up to 210 Bar (3000 PSI), depending on bore size
- Standard bore sizes 1½"–6"
- Piston rod diameters ⅝"–4"
- Strokes available in any practical length
- 19 standard mounting styles
- Exclusive Jewel Gland with TS2000 Rod Seal
- Parker Stepped Cushion for increased performance and productivity
- Rod ends: 3 standard choices, specials to order

[www.parker.com/hyd/2h](http://www.parker.com/hyd/2h)

## 3H Series



- Heavy duty service with industrial tie rod construction
- Nominal pressures up to 210 Bar (3000 PSI)
- Standard bore sizes 7"–20"
- Piston rod diameters 3"–10"
- Strokes available in any practical length
- 15 standard mounting styles
- Parker Stepped Cushion for increased performance and productivity
- Rod ends: 3 standard choices, specials to order

[www.parker.com/hyd/3h](http://www.parker.com/hyd/3h)

## WaveScale



- Designed for use with servo and proportional valves in closed-loop applications
- Nominal pressures up to 210 Bar (3000 PSI)
- Standard bore sizes 1½"–8"
- Piston rod diameters ⅝"–5½"
- WaveScale embedded design maintains NFPA dimensions 2"–8" bores 2HX and 3HX
- Seven bolt-on and four integral manifolds available
- Linear displacement transducer (LDT)
- Wide variety of stroke lengths available
- Exclusive Jewel Gland with TS2000 Rod Seal
- Parker Stepped Cushion for increased performance and productivity
- Simplifies machine design and reduces number of hydraulic lines
- Eliminates need for limit switches, deceleration valves, shock absorbers and mechanical linkages in many applications
- Integral mounted valve eliminates assembly time and fittings
- Intrinsically safe and explosion-proof sensors available
- Low friction seals available

[www.parker.com/hyd/wavescale](http://www.parker.com/hyd/wavescale)



## HMI Series



- Nominal pressures up to 210 Bar (3000 PSI)
- Metric cylinders with bore sizes 25 mm–200 mm
- ISO 6020/2 mounting interchangeable
- Up to three rod sizes per bore
- Wide range of mounting accessories
- Up to three male and three female rod end threads per bore
- Strokes available in any practical length
- Piston rod diameters 12 mm–140 mm
- Single and double rod designs
- 12 standard mounting styles
- Exclusive Jewel Gland with TS2000 Rod Seal
- Seal types to suit a wide variety of operating environments
- Parker Stepped Cushion for increased performance and productivity

[www.parker.com/hyd/hmi](http://www.parker.com/hyd/hmi)

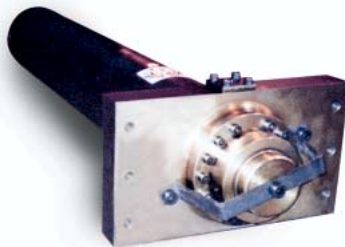
## MH Series



- Rated pressure hydraulic series 137 Bar (2000 PSI)
- Standard temperature: 10°–165°F
- Bore sizes from 1½"–14"
- Piston rod diameters from 5/8"–10"
- Cushions optional at either end
- Standard fluid: mineral oil
- 14 mounting styles
- Four standard rod end styles
- Specials made to order

[www.parker.com/hyd/mh](http://www.parker.com/hyd/mh)

## Custom



- Bores to 48"
- Single stage strokes in excess of 75 feet
- Pressures to 689 Bar (10,000 PSI)
- Intensifier pressures up to 4,130 Bar (60,000 PSI)
- Welded, threaded head and ram designs
- Telescopic cylinders
  - Single acting
  - Double acting
- Single stage “rod type” cylinders
  - Single acting
  - Double acting
- Various materials and coatings
  - Stainless steel
  - Electroless nickel
  - Nitriding
  - Chrome, double chrome
- Typical options
  - Load holding valves
  - Electrohydraulic transducers
  - End of stroke hydraulic cushions
  - Protective rod boots
  - Proximity switches
  - Flow controls, flow fuses
- Agency approvals such as ABS, DNV, Coast Guard approval, MIL-I-45208, can be met and exceeded
- Feedback devices available in all designs
- Custom cylinder designs for your specific application

[www.parker.com/customactuators](http://www.parker.com/customactuators)

## Directional Control Valves



- NFPA manifold mounted
- Rugged spools with four control lands; up to 21 spool styles available depending on operator
- Solenoid, lever, cam, air or oil pilot operated
- Soft-shift available on D1 and D3 solenoid operated valves
- Low pressure drop
- Phosphate finish body
- Easy access mounting bolts

[www.parker.com/hyd/dcv](http://www.parker.com/hyd/dcv)

[www.parker.com/hyd/manifolds](http://www.parker.com/hyd/manifolds)

Valve Size	D1	D3	D31	D61	D81	D101
Maximum flow* (LPM) (GPM)	83 22	150 40	175 45	390 100	622 180	946 250
Max operating pressure (Bar) (PSI)	345 5000	345 5000	345 5000	207 3000	345 5000	207 3000
Mounting style (NFPA) (CETOP) (NG)	D03 3 6	D05 5 10	D05H 5H -	D08 8 25	D08 8 25	D10 10 32

\*Depending on spool

## Manapak



- Mounted between directional control valves and their mounting surface
- Steel bodies and internal hardened steel components for strength and durability

[www.parker.com/hyd/manapak](http://www.parker.com/hyd/manapak)

Mounting Style	D03	D05	D08
Check	X	X	X
Pilot operated check	X	X	X
Flow control	X	X	X
Direct op pressure reducing	X	X	
Pressure reducing		X	X
Relief	X	X	X

## Cartpak



- Standard ISO4401-03, NFPA D03, CETOP3 size bodies designed to accept common -10 size cavity cartridge valves
- Mounted between D1 Series valves and their mounting surface
- Aluminum body for 210 Bar (3000 PSI) operation; ductile iron body for 350 Bar (5000 PSI) operation
- Wide range of hydraulic control functions, including:
  - Pressure relief, pressure reducing, pressure sequencing
  - Directional control (Two-Way, Three-Way)
  - Flow control
  - Proportional flow control
  - Proportional pressure control

[www.parker.com/hyd/cartpak](http://www.parker.com/hyd/cartpak)

## Pressure Control Valves



- Inline or manifold mounted (NFPA P03, P06 and P10)
- 207 Bar (3000 PSI) in 1/4" (*relief only*), 3/8", 3/4" and 1 1/4" sizes
- 345 Bar (5000 PSI) in 3/4" and 1 1/4" sizes
- Functions include relief, pressure reducing and sequence in both pressures; counterbalance and unloading in 207 Bar only

[www.parker.com/hyd/pcv](http://www.parker.com/hyd/pcv)

## Republic Specialty and Manatrol Valves



- Needle valves
- Check valves
- Plug valves
- Lo-Torque manual directional control valves
- Exectrol high performance directional control valves
- Pressure control valves
- Hand pumps
- Adjustable velocity fuses
- Volume control valves
- Two-way valves

[www.parker.com/hyd/republic](http://www.parker.com/hyd/republic)

[www.parker.com/hyd/manatrol](http://www.parker.com/hyd/manatrol)

## Volume and Check Valves



- Hydraulic velocity fuse valves
- Low cost check valves
- Restrictor check valves
- Priority flow control valves

[www.parker.com/hyd/volchk](http://www.parker.com/hyd/volchk)

## Colorflow Valves



- Inline mounted flow, check, needle, gauge isolator and snubber valves
- Flow controls available in pressure compensated models
- Sizes 1/8"-2"
- Choice of NPTF, SAE, BSPP and ISO 6149 metric ports
- Maximum operating pressures up to 345 Bar (5000 PSI)
- Flows up to 568 LPM (150 GPM)
- Steel bodies; some models also available with brass or stainless steel

[www.parker.com/hyd/colorflow](http://www.parker.com/hyd/colorflow)

## Ball Valves



- Designed for hydraulic, pneumatic and other media
- Features full-port design for low pressure drop and maximum system efficiency
- Blow-out proof stems
- Assortment of port configurations including threaded, manifold mounted, SAE split flange and a unique 4-bolt rotating SAE flange design

[www.parker.com/hyd/ball-low](http://www.parker.com/hyd/ball-low)

[www.parker.com/hyd/ball-high](http://www.parker.com/hyd/ball-high)

Series	Function	Pressure Bar (PSI)	Port Sizes	Material
BVAM	2-Way	138 (2000)	2 1/2"-4"	Steel
BVHP	2-Way	414 (6000)	1/4"-1"	Steel
BVAH	2-Way	414 (6000)	1/4"-2"	Steel
BVHH	2-Way	993 (14000)	1/2"-2"	Steel
BVMM	2 & 3-Way (Manifold)	414 (6000)	1/4"-1 1/2"	Steel
BV3D	3-Way	207 (3000)	1/4"-2"	Steel
BV3H/BV4H	3 & 4-Way	414 (6000)	1/4"-2"	Steel
BVAL	2-Way (Suction)	28 (400)	2 1/2"-4"	Steel
590	2-Way (Right Angle)	17 (250)	1/4"-1/2"	Brass
500	2-Way	41 (600)	1/4"-2"	Brass
500CS	2-Way	138 (2000)	1/4"-1"	Steel
500SS	2-Way	138 (2000)	1/4"-1"	Stainless Steel

## Electrohydraulic Pressure Switches



- Four separate adjustable pressure range options: Enables operator to precisely select the desired pressure setting
- Hydraulically dampened piston: Provides accurate response and extended service life
- Flange type mounting style: Provides great flexibility for mounting with manifolds, sandwich plates or direct line connections
- Optional keylock adjustment: Prevents tampering or unauthorized adjustments in critical applications
- Robust cast iron construction: Rugged design to provide long service life in demanding applications
- IP 65 (Nema 4) class electrical protection: Maintains integrity against moisture in spray or splashdown situations

[www.parker.com/hyd/epswitches](http://www.parker.com/hyd/epswitches)

## DIN Cartridge Valves



- Available in sizes 16 mm, 25 mm, 32 mm, 40 mm, 50 mm, 63 mm, 80 mm, 100 mm
- Flows up to 17,000 LPM (4500 GPM)
- Maximum operating pressures up to 350 Bar (5000 PSI)
- Proportional throttle, relief and pressure controls
- Complete selection of pressure controls
- Variety of direct and pilot operated checks
- Directional controls to 7500 LPM (2000 GPM)

[www.parker.com/hyd/din](http://www.parker.com/hyd/din)

# Valves Electrohydraulic

## Proportional Control Valves



- Maximum operating pressures to 345 Bar (5000 PSI)
- Manifold and inline mounting styles
- On-board and remote electronics available
- Zero lap servo spools offered for closed loop applications

[www.parker.com/hyd/pdcv](http://www.parker.com/hyd/pdcv)

Proportional Directional Control	Series	Direct Operated		Pilot Operated				Spool Feedback	Integrated Electronics
		06	10	10	16	25	32		
Size: NG Size: ISO/CETOP		3	5	5	7	8	10		
Std. performance	D*FW	X	X						
	D*FT	X	X						X
	D*1FW			X	X	X	X		
	D*1FT			X	X	X	X		X
Std. performance w/motion control	D**FL	X	X		X	X			X
High performance	D*FX	X	X					X	
	D*1FS			X	X	X	X	X	X
Servo performance	D*FH	X	X					X	X
	D*1FH			X	X	X	X	X	X
	D1FP	X						X	X
	D1FP*S	1						X	X
Servo performance w/dual gain	D1FM	X						X	X
	D3FM		X					X	X
Proportional throttle	TDA						X		

1. ISO 10372 size 4 servovalve pattern, 22 mm (0.875 in) part circle

[www.parker.com/hyd/ppcv](http://www.parker.com/hyd/ppcv)

Proportional Pressure Control	Series	Direct Operated		Pilot Operated			Integrated Electronics
		06	10	10	25	32	
Size: NG Size: ISO/CETOP		3	5	5	8	10	
Proportional relief	RE06*T	X					X
	RE06*W	X					
	RE*T			X	X		X
	RF*W			X	X		
Proportional reducing	PC			X	X	X	
	DWE			X	X	X	X
Proportional reducing w/check valve	PE			X	X	X	
	DWU			X	X	X	X

## Servovalves



- Robust and reliable industrial strength valves for motion control applications
- Explosion-proof models available
- Intrinsically safe models available
- Valves meet CSA, FM and Cenelec standards

[www.parker.com/hyd/servo](http://www.parker.com/hyd/servo)

[www.parker.com/hyd/se](http://www.parker.com/hyd/se)

Valve Type	PH76	BD	DY	SE
Maximum flow* (LPM)	57	151	230	230
(GPM)	15	40	60	60
Max operating pressure (Bar)	207	207	345	315
(PSI)	3000	3000	5000	4500

\*At 1000 PSID

## Electronics



- Valve drivers provide ramping, setpoints and deadband compensation
- Feedback amplifiers provide advantages of closed loop control
- Power supplies for a variety of valve applications
- DIN card holders

[www.parker.com/hyd/electronics](http://www.parker.com/hyd/electronics)

## PMC Motion Controllers



- Stand-alone, digital closed loop controllers
- Single or dual axis control
- Encoder or magnetostrictive feedback
- Remote kit available

[www.parker.com/hyd/pmc](http://www.parker.com/hyd/pmc)

# Threaded Cartridge Valves



Parker offers the broadest line of threaded cartridge valves, specialty valves and integrated packages in the industry. Parker is staffed with experienced cartridge and application engineers to design and specify products to meet customer applications.

## Product Highlights

- Standard cavity sizes from 4–20
- Pressures to 345 Bar (5000 PSI)
- Flows up to 378 LPM (100 GPM)
- Steel and aluminum bodies
- New RESILON™ D-Ring Seal eliminates need for back-up rings; improves wear, extrusion and spiral failure resistance
- Spherical Poppet design assures accurate alignment and reduces leakage rating on many valves
- New crimp design eliminates adhesive between adapter and cage

## Solenoid Valves

- 10 standard termination options (and many specials)
- Many DC and AC voltages available
- Waterproof coil options
- Optional manual overrides

## Pressure Controls

- Zinc-coated (protection from salt spray)
- Knob and tamper-proof options
- Low profile design (fits in tight spaces)

## Flow Control Valves

[www.parker.com/hyd/tfcv](http://www.parker.com/hyd/tfcv)

Valve Type	Max Working Pressure Bar (PSI)	Max Flow Setting LPM (GPM)	Flow Capacity LPM (GPM)
Needle valves	241 (3500)	–	189 (50)
Rotary adjust needle valves	241 (3500)	–	57 (15)
Flow divider/combiner valves	207 (3000)	–	45 (12)
Pilot control flow control valves	207 (3000)	–	57 (15)
Flow control valves	241 (3500)	–	45 (12)
Restrictive-type, pressure compensated valves	241 (3500)	–	151 (40)
Priority-type, pressure compensated valves	241 (3500)	38 (10)	57 (15)
Restrictive-type, pressure compensated flow regulator valves	241 (3500)	–	57 (15)
Priority-type, pressure compensated flow regulator valves	241 (3500)	34 (9)	57 (15)
Priority-type, pressure compensated flow regulator relief	241 (3500)	34 (9)	57 (15)
Velocity fuses	207 (3000)	–	30 (8)



# Threaded Cartridge Valves

## Pressure Control Valves

[www.parker.com/hyd/tpcv](http://www.parker.com/hyd/tpcv)

Valve Type	Max Working Pressure Bar (PSI)	Max Setting Pressure Bar (PSI)	Flow Capacity LPM (GPM)
Direct acting relief valves	345 (5000)	345 (5000)	151 (40)
Cross-over relief valves	241 (3500)	241 (3500)	75 (20)
Dual relief with anti-cavitation checks	345 (5000)	345 (5000)	60 (16)
Pilot operated relief valves	345 (5000)	345 (5000)	377 (100)
Pressure sensing valves	345 (5000)	–	189 (50)
Reducing/relieving valves	345 (5000)	345 (5000)	151 (40)
Direct acting pressure reducing valves	345 (5000)	345 (5000)	57 (15)
Pressure reducing valves	345 (5000)	345 (5000)	57 (15)
Pressure reducing spools	345 (5000)	–	189 (50)
Sequence valves	345 (5000)	345 (5000)	151 (40)
Unloading relief valves	241 (3500)	207 (3000)	6 (1.5)
Logic elements	248 (3600)	248 (3600)	189 (50)
Thermal relief	248 (3600)	248 (3600)	30 (8)

## Directional Control Valves

[www.parker.com/hyd/tdcv](http://www.parker.com/hyd/tdcv)

Valve Type	Max Working Pressure Bar (PSI)	Flow Capacity LPM (GPM)
Manual valves	241 (3500)	49 (13)
Manual three-way valves	241 (3500)	23 (6)
Manual four-way valves	241 (3500)	8 (2)
Pilot operated valves	241 (3500)	38 (10)
Solenoid, poppet-type, two-way valves	345 (5000)	264 (70)
Solenoid, poppet-type, bidirectional valves	345 (5000)	19 (5)
Solenoid, spool-type, two-way valves	345 (5000)	75 (20)
Solenoid, spool-type, three-way valves	345 (5000)	64 (17)
Solenoid, spool-type, four-way valves	345 (5000)	30 (8)
Double solenoid, spool-type, four-way valves	345 (5000)	23 (6)

# Threaded Cartridge Valves

## Proportional Control Valves

[www.parker.com/hyd/tpcv](http://www.parker.com/hyd/tpcv)

Valve Type	Max Working Pressure Bar (PSI)	Flow Capacity LPM (GPM)
Solenoid operated, two-way, NC or NO proportional flow control valves	207 (3000)	226 (60)
Solenoid operated, two-way, NO proportional flow control valves	207 (3000)	151 (40)
Solenoid operated, two-way NC throttle valves	207 (3000)	19 (5)
Solenoid operated, proportional pressure reducing valves	207 (3000)	38 (10)
Solenoid operated, three-way, proportional pressure control valves	207 (3000)	11 (3)

## Load/Motor Controls

[www.parker.com/hyd/TLMV](http://www.parker.com/hyd/TLMV)

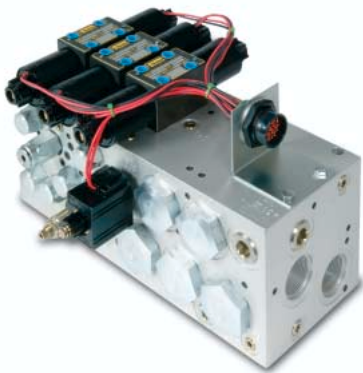
Valve Type	Max Working Pressure Bar (PSI)	Max Flow Capacity LPM (GPM)
Counterbalance valves	207 (3000)	113 (30)
	345 (5000)	681 (180)
Motor control valves	207 (3000)	757 (200)

## Check/Shuttle Valves

[www.parker.com/hyd/tcsv](http://www.parker.com/hyd/tcsv)

Valve Type	Max Working Pressure Bar (PSI)	Max Flow Capacity LPM (GPM)
Check valves	207 (3000)	83 (22)
	345 (5000)	378 (100)
Ball type check valves	207 (3000)	95 (25)
4-bolt flange check valves	207 (3000)	606 (160)
Single & dual P.O. check valves	207 (3000)	95 (25)
Decompression check valves	207 (3000)	189 (50)
Shuttle valves	207 (3000)	113 (30)

# Integrated Hydraulic Circuits



Integrated hydraulic circuits (hydraulic manifold blocks) are designed to meet the many demands on mobile hydraulic equipment. Manifold blocks offer the following benefits:

- Minimum number of tubing, hoses and couplings
- Fewer components
- Fewer leakage points
- Less space required
- Simplified assembly and service instructions
- Complete system solution with optimized functions

Manifold blocks can be flanged to one or more directional valves as well as to pumps, cylinders, motors and filters. Cartridge valve products offered by Parker include:

- Directional control valves
- Logic elements and flow controls
- Pressure controls
- Proportional valves
- Powershift transmission controls
- Load holding valves

Parker offers value-added services such as manifold design using 3D-CAD and CAM software, applica-

tion engineering assistance, and assembly and testing capabilities.

When you need finished integrated hydraulic circuits with extremely short lead times, the Parker Speed Shop is the place to go. Parker's expert application engineers, along with the latest computer-aided design technology, can deliver advanced, custom products to market faster.

The solution to your problem is only minutes away with Parker's quick design proposals and quotes that are created using 3D-CAD. Once the design is finalized, the Speed Shop process is further streamlined by utilizing electronic communications and approvals.

When design specifications meet customer requirements, Parker's CAD-linked prototype machining produces fully functional hydraulic integrated circuits. All prototypes are fully tested and documented before being released to production. In today's highly competitive market, speed and quality are critical for success.

[www.parker.com/hy/ihc](http://www.parker.com/hy/ihc)

# Rotary Actuators

## HTR Series



- Rack and pinion rotary actuator provides high power at low rotational speed
- Gearing and cylinders self-contained and protected against contamination
- Standard and custom rotations available
- Full range of options

[www.parker.com/hyd/htr](http://www.parker.com/hyd/htr)

HTR Series	Pressure Bar (PSI)	Displacement cm <sup>3</sup> /rad (in <sup>3</sup> /rad)	Torque Newton Meter (lb-in)
.9	207 (3000)	6 (0.36)	102 (900)
1.8	207 (3000)	12 (0.7)	203 (1800)
3.7	207 (3000)	25 (1.5)	418 (3700)
5	207 (3000)	33 (2.0)	565 (5000)
7.5	207 (3000)	51 (3.1)	847 (7500)
10	207 (3000)	65 (4.0)	1130 (10,000)
15	207 (3000)	93 (5.7)	1695 (15,000)
22	138 (2000)	145 (8.8)	1695 (15,000)
30	207 (3000)	186 (11.3)	3390 (30,000)
45	138 (2000)	290 (17.7)	3390 (30,000)
75	207 (3000)	480 (29.3)	8474 (75,000)
150	207 (3000)	960 (58.6)	16,948 (150,000)
300	207 (3000)	1856 (113.3)	33,896 (300,000)
600	207 (3000)	3701 (226.0)	67,791 (600,000)

## M (Mill) Series



- Non-tiered rack and pinion actuator provides dependability, improved durability and enhanced ease of maintenance
- Wide range of performance and features

[www.parker.com/hyd/mill](http://www.parker.com/hyd/mill)

M Series	Pressure Bar (PSI)	Displacement cm <sup>3</sup> /rad (in <sup>3</sup> /rad)	Torque Newton Meter (lb-in)
75	207 (3000)	442 (27)	8474 (75,000)
150	207 (3000)	901 (55)	16,948 (150,000)
300	207 (3000)	1836 (112)	33,896 (300,000)
600	207 (3000)	3669 (224)	67,791 (600,000)
1000	207 (3000)	5800 (354)	113,000 (1,000,000)
50000	207 (3000)	285,388 (17,423)	5,650,000 (50,000,000)

Contact the factory, many other sizes available

## LTR Series



- Rotary actuator for low pressure applications
- Rack and pinion gearing with lightweight aluminum housing
- Three positions of rotation
- Full range of options

[www.parker.com/hyd/LTR](http://www.parker.com/hyd/LTR)

LTR Series	Pressure Bar (PSI)	Displacement cm <sup>3</sup> /rad (in <sup>3</sup> /rad)	Torque Newton Meter (lb-in)
101	102 (1500)	7 (0.40)	67 (592)
102	68 (1000)	13 (0.80)	67 (592)
151	102 (1500)	20 (1.20)	200 (1770)
152	102 (1500)	39 (2.41)	399 (3530)
201	102 (1500)	46 (2.81)	479 (4240)
251	102 (1500)	70 (4.30)	728 (6443)
202	102 (1500)	93 (5.67)	957 (8470)
252	102 (1500)	141 (8.59)	1456 (12,885)
321	68 (1000)	187 (11.40)	1289 (11,407)
322	68 (1000)	374 (22.80)	2578 (22,813)



## HRN Series



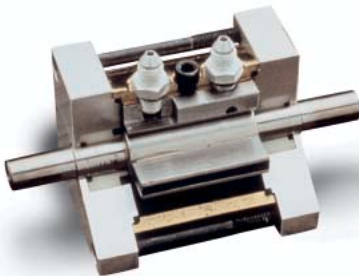
- Vane actuator provides many options in torque and pressure
- Rugged construction
- Compact size offers maximum flexibility in mounting and packaging

HRN Series	Pressure Bar (PSI)	Displacement cm <sup>3</sup> /rad (in <sup>3</sup> /rad)	Torque Newton Meter (lb-in)
<b>10S</b>	69 (1000)	2.12 (0.13)	10 (87)
<b>15S</b>	69 (1000)	3.61 (0.22)	20 (173)
<b>20S</b>	69 (1000)	5.09 (0.31)	29 (260)
<b>30S</b>	69 (1000)	10.82 (0.66)	59 (520)
<b>100S</b>	69 (1000)	23.55 (1.44)	123 (1089)
<b>200S</b>	69 (1000)	46.90 (2.86)	314 (2779)
<b>400S</b>	69 (1000)	92.31 (5.63)	539 (4770)
<b>700S</b>	69 (1000)	165.52 (10.1)	980 (8673)

S – Single vane performance is listed  
 D – Dual vane options can double the ratings  
 S – 270 degrees, D – 90 degrees rotation angles

[www.parker.com/hyd/hrn](http://www.parker.com/hyd/hrn)

## Tork-Mor Series



- Compact, single or double vane actuators
- 100 degrees rotation for double vane; 280 series rotation in single vane
- Wide range of options

Tork Mor	Pressure Bar (PSI)	Displacement cm <sup>3</sup> /rad (in <sup>3</sup> /rad)	Torque Newton Meter (lb-in)
<b>S33</b>	34 (500)	29.48 (1.8)	90 (800)
<b>S42</b>	69 (1000)	60.61 (3.7)	381 (3370)
<b>S44</b>	51 (750)	106.47 (6.5)	463 (4100)
<b>S46</b>	34 (500)	160.52 (9.8)	458 (4050)
<b>S74</b>	69 (1000)	355.45 (21.7)	2260 (20,000)
<b>S77</b>	51 (750)	624.08 (38.1)	2859 (25,300)
<b>S105</b>	69 (1000)	1092.55 (66.7)	6926 (61,300)
<b>S108</b>	51 (750)	1746.11 (106.6)	8022 (71,000)
<b>S1012</b>	34 (500)	2617.52 (159.8)	7943 (70,300)

S – Single vane performance is listed  
 DS – Dual vane options can double the ratings

[www.parker.com/hyd/torkmor](http://www.parker.com/hyd/torkmor)

## Custom Engineered Products



Mega-torque units to 64 million lb-in  
 Dimensions: 4¼ x 5½ x 1¼ m  
 (14 x 18 x 4 ft)

Durability features that provide 99% reliability in 10 million cycles. Custom designed to integrate as part of customer structure. Housing and shafting designed with special materials and features to carry high induced loads.

- Rotations to 1080°, variety of speeds, special shafting, mounting, and porting accommodations
- Units with minimal backlash, combined linear and rotational motion functions
- Integrated with control valve packages, position feedback for total system solutions

- Titanium, monel, stainless steels, bronzes
- Compliance to customer specs and agency certifications—ABS, FDA, UL/CE, SAE, military
- Special environments/applications – robotic, submerged, clean room, medical, PC chips
- Proprietary sizing analysis programs applied to assure safety margins, reliability predictions

[www.parker.com/customactuators](http://www.parker.com/customactuators)



## Piston Accumulators

- Over 50 standard capacities from 5 cu. in. (.075 liters) to 50 gallons (189 liters)
- 2", 3", 4", 6", 7", 8", 9" and 12" nominal bore sizes
- 207, 276 and 350 Bar (3000, 4000 and 5000 PSI) operating pressures
- Patented five-bladed V-O-ring piston seals in five standard seal compounds
- Accumulator and gas bottle configurations
- ASME, CE and other certifications available

[www.parker.com/hyd/pistonaccum](http://www.parker.com/hyd/pistonaccum)



## ACP Series Non-Repairable Piston Accumulators

- Piston design
- 1½", 2", 3" and 4" bore sizes (40, 50, 80, 100 mm)
- Standard capacities from 5 cu. in. (.075 liters) to 488 cu. in. (8 liters)
- 276 Bar (4000 PSI) operating pressure
- Low-cost, non-repairable design
- Multiple port options
- No gas valve option
- Fast delivery

[www.parker.com/hyd/acp](http://www.parker.com/hyd/acp)



## Greer Bladder Accumulators

- Standard capacities from 10 cu.in. (.16 liters) to 15 gallons (56 liters)
- Maximum operating pressures up to 455 Bar (6600 PSI)
- Bladders manufactured in-house
- Six bladder compounds to suit a variety of fluids and temperatures
- Bottom and top repairable; medium and high-flow, transfer barriers and gas bottles
- Water/chemical service available
- ASME, CE and other certifications available

[www.parker.com/hyd/bladder](http://www.parker.com/hyd/bladder)



## Diaphragm Accumulators

- Standard capacities from 5 cu. in. (.075 liters) to 170 cu. in. (2.8 liters)
- Maximum operating pressures up to 250 Bar (3600 PSI)
- Compact and lightweight
- Low-cost, non-repairable design
- Quick responding diaphragms of nitrile or hydrin

[www.parker.com/hyd/diaphragm](http://www.parker.com/hyd/diaphragm)



## Inline Pulse-Tone™ Shock Suppressors

- Reduces pulsations and shock
- Compact size, inline mounting
- 207 and 345 Bar (3000 and 5000 PSI) models
- NPT, BSPP, SAE and split flange connections
- Stainless steel model for water/chemical service

[www.parker.com/hyd/pulsetone](http://www.parker.com/hyd/pulsetone)



## KleenVent Hydraulic Reservoir Isolators

- Standard capacities from 2.5 gallons (9.5 liters) to 80 gallons (302 liters)
- Four bladder polymers for a wide range of fluids and temperatures
- Choice of steel or fiberglass shells
- Easy to use installation kits available
- Optional pressure/vacuum breaker
- Protects hydraulic system from contamination

[www.parker.com/hyd/kleenvent](http://www.parker.com/hyd/kleenvent)



## Gas Bottles

- Standard capacities from 40 gallons (151 liters) to 150 gallons (567 liters)
- Maximum operating pressures up to 380 Bar (5500 PSI)
- Both threaded and forged end construction
- High strength alloy steel
- Variety of port options

[www.parker.com/hyd/gasbottles](http://www.parker.com/hyd/gasbottles)



## Accumulator Charging Kit and Mounting Accessories

- Charging and gauging equipment
- Gauge adapters and assemblies
- Unloading valves
- Mounting clamps and base brackets
- U-Bolt mounting hardware
- Accumulator repair tools

[www.parker.com/hyd/accumkit](http://www.parker.com/hyd/accumkit)

# Filtration

## Low Pressure



- Various mounting configurations
- High capacity/high efficiency Microglass II media
- Visual and electrical indicators with several connector styles
- Flange options for low profile, easy mounting
- Integral breather (FT Series)

[www.parker.com/hyd/filterlow](http://www.parker.com/hyd/filterlow)

Model	Max Flow Liters/Min (GPM)	Max Pressure Bar (PSI)	Mounting Style
12AT	64 (17)	10.3 (150)	Spin-on
50AT	136 (36)	10.3 (150)	Spin-on
FTA	57 (15)	10.3 (150)	Tank top
FTB	132 (35)	10.3 (150)	Tank top
FTC	283 (75)	10.3 (150)	Tank top
RF4	452 (120)	10.3 (150)	Tank top
RF7	1131 (300)	10.3 (150)	Tank top
Moduflow	452 (120)	13.8 (200)	In-line, L-style
BGTS	2400 (640)	10.3 (150)	Return In-tank

## Medium Pressure



- NPT, SAE or flange ports
- High capacity/high efficiency Microglass II media
- Cartridge style bypass valve
- Visual and electrical indicators with several connector styles

[www.parker.com/hyd/filtermed](http://www.parker.com/hyd/filtermed)

Model	Max Flow Liters/Min (GPM)	Max Pressure Bar (PSI)	Mounting Style
15CN	94 (25)	69 (1000)	In-line
40CN	302 (80)	69 (1000)	In-line
80CN	452 (120)	69 (1000)	In-line
MPD	581 (150)	82 (1200)	Duplex
IL8	1609 (425)	34.5 (500)	In-line, Duplex

## High Pressure



- SAE, flange or ISO ports
- High capacity/high efficiency Microglass II media
- Visual and electrical indicators with several connector styles
- Manifold mount option (50P and 15/30P Series)
- Reverse flow option (50PR Series) for HST circuits

[www.parker.com/hyd/filterhigh](http://www.parker.com/hyd/filterhigh)

Model	Max Flow Liters/Min (GPM)	Max Pressure Bar (PSI)	Mounting Style
15P	75 (20)	207 (3000)	In-line, manifold
30P	170 (45)	207 (3000)	In-line, manifold
30PD	94 (25)	207 (3000)	In-line, duplex
50P	377 (100)	345 (5000)	In-line, bowl up
50PR	264 (70)	345 (5000)	In-line, reverse flow
18P	94 (25)	414 (6000)	In-line
28P	207 (55)	414 (6000)	In-line
38P	415 (110)	414 (6000)	In-line
272/372	455 (120)	414 (6000)	In-line, reverse flow
1000	1000 (265)	414 (6000)	In-line
ServoSaver	115 (30)	275 (4000)	Manifold, sandwich plate
12S	95 (25)	1380 (20000)	In-line





## Portable/Offline Systems

- Provide flexibility for removing contaminants from hydraulic fluid
- Guardian hand-held purification system with 4 GPM (15 LPM) flow
- Choice of five portable purification systems (PVS series) in 5, 10, 20, 30 and 45 GPM flow rates
- Choice of two filter carts:
  - 5 GPM flow (500 SUS max.) and ½ HP motor
  - 10 GPM flow (3000 SUS max.) and ¾ HP motor



[www.parker.com/hyd/guardian](http://www.parker.com/hyd/guardian)

[www.parker.com/hyd/pvs](http://www.parker.com/hyd/pvs)

[www.parker.com/hyd/filtercart](http://www.parker.com/hyd/filtercart)

## Reservoir Accessories



- Metallic and non-metallic breathers and filler breathers
- Triceptor™ desiccant breathers
- Spin-on breathers
- Diffusers
- Fluid level/temperature gauges
- Suction strainers

[www.parker.com/hyd/resacc](http://www.parker.com/hyd/resacc)

## Par Gel



- Water removal elements filter “free” water from mineral-base and synthetic fluids
- Fits many Parker filters and the Guardian filtration system

[www.parker.com/hyd/pargel](http://www.parker.com/hyd/pargel)

## Par-Fit Elements



- Extensive range of competitively priced Parker quality replacement filter elements for any filter brand
- Over 6500 competitive interchange listings help consolidate vendor base by allowing users to acquire all replacement elements from one source
- Provides proven Parker performance in competitive filter housings

[www.parker.com/hyd/parfit](http://www.parker.com/hyd/parfit)

# Fluid Analysis

## Laser CM (LCM)



The LCM laser particle counter is designed primarily for on-line particle counting with a user-programmable automatic count feature with data storage for continuous monitoring. Additional features include:

- Particle count test cycle in 2 mins. reported in ISO or NAS format

- On-line sampling up to 414 Bar (6000 PSI)
- RS232 serial port with data storage capacity up to 300 tests
- Integral printer with data graphing and Windows-based software

[www.parker.com/hyd/LCM](http://www.parker.com/hyd/LCM)

## Par-Test



A complete laboratory analysis performed on a small volume of fluid, Par-Test results are provided in an organized three-page format.

A water based fluid kit and a petroleum based fluid kit are available. Each kit includes a pre-cleaned sample bottle, data sheet and mail-

ing container. The standard tests included with the service are:

- Particle count
- Photomicrograph
- Viscosity analysis
- Water analysis
- Neutralization analysis

[www.parker.com/hyd/partest](http://www.parker.com/hyd/partest)

## MS100 Moisture Sensor



The MS100 Moisture Sensor provides a compact, real-time solution to continuous water contamination monitoring. Designed to work well in petroleum/synthetic hydraulic and lubricating oil applications, features include:

- Simple LED's provide local Go/No-Go indication

- Panel meter for local or remote display reports 0–100% saturation
- Meter scale is color coded for positive/easy identification
- 0–10 VDC analog and 120 VAC logic output

[www.parker.com/hyd/ms100](http://www.parker.com/hyd/ms100)

## IQ200



The IQ200 is specifically designed to provide continuous, on-line monitoring of the particulate contamination level of hydraulic and lubrication fluids. The small, compact IQ200 can connect to virtually any system to give the user real-time data from every 3 seconds to 24 hours. Features include:

- Adjustable contamination level alarms

- Laser accuracy and repeatability
- Integral flow and calibration check
- ISO 4406-1999 reporting format (4, 6, 14 micron) and correlation to NAS 1638
- Data displayed instantly in chronological or graphic form

[www.parker.com/hyd/iq200](http://www.parker.com/hyd/iq200)



## Microlok

- Compact design
- Push-to-connect
- Superior performance
- Nickel plated brass body
- Composite shapes
- Accepts wide range of tubing



## Flow Controls

- Miniature design
- Unidirectional
- Direct mounting
- One-piece construction
- Positional
- Full flow in both directions



## Prestolok/Prestolok II

- Push-to-connect
- Time-saving
- One-piece fitting
- Ease of assembly
- Brass and composite bodies
- Swivels on all male pipe threaded shapes
- Full flow
- Sealant as standard



## Manifolds

- Multiple connections
- Composite body
- Lightweight
- Push-to-connect ports
- Meets D.O.T. specifications



## Compress-Align

- Captive sleeve
- Ease of assembly
- All brass bodies
- Seals out-of-round tubing
- Bodies interchangeable with standard compression
- Economical



## Ball Valves

- Available in brass, carbon steel, stainless steel
- Sizes from 1/8"-3"
- Pressures from 200-6,000 PSI
- Various handle options
- Full flow available
- NPT, SAE straight threads, ISO 6149 ports, BSPP threads

For a complete review of Parker Brass Products, please reference Catalog 3501-E/USA.

[www.parker.com/brassprod](http://www.parker.com/brassprod)



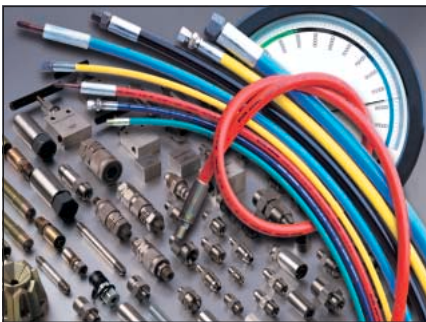
## Thermoplastic Hydraulic and Pneumatic Hose

- Low pressure: below 1000 PSI
- Medium pressure: 1000–3000 PSI
- High pressure: above 3000 PSI
- Specialty hose



## Teflon® (PTFE) Hose

- Stainless steel braid smooth-bore
- Convoluted core tube
- High pressure



## polyflex® Hose Products

- Polyflex hose and fittings
- High pressure adapters and valves
- Quick couplings
- Accessories/tooling



## Multitube® Instrument and Heat Trace Tubing Products

- Multitube metal and plastic
- Temptube®
- Temptrace™ steam

For a complete review of Parker Thermoplastic Products, please reference Catalog 4660/USA.

[www.parker.com/parflex](http://www.parker.com/parflex)



## O-Ring Face Seal Fittings

- O-ring seal for leak-free connections up to 9000 PSI
- Adaptable to inch and metric tube and hose assemblies
- Flat face design provides zero tube entry and excellent over torque resistance
- Offered with SAE, NPT, ISO 6149, BSPP and metric port ends
- Meets SAE J1453 and ISO 8434-3



## 37° Flare Fittings

- Metal to metal seal for wide temperature range application
- Adaptable to inch and metric tube and hose assemblies
- Offered with SAE, NPT, ISO 6149, BSPP, BSPT and metric port ends
- Meets SAE J514 and ISO 8434-2



## 24° Flareless Fittings

- Metal to metal seal for wide temperature range application
- Suitable for use with inch tube in wall thicknesses from medium to heavy
- Offered with SAE and NPT port ends
- Meets SAE J514



## Metric 24° Flareless Fittings

- Three pressure ranges for optimum compactness
- For use with metric tube and hose assemblies
- Offered with SAE, NPT, ISO 6149, BSPP, BSPT, metric parallel and tapered port ends
- Meets DIN 2353 and ISO 8434-1



## Pipe Fittings and Adapters

- Metric and BSP conversion adapters
- BSPP 60° cone fittings and adapters
- NPT fittings and adapters
- BSPP 30° flare fittings and adapters
- Metric 30° flare fittings and adapters



## 4-Bolt Flange Connections

- Forged construction for optimal performance
- Available in kit form with mounting hardware
- Flanges offered with female SAE, NPT, BSPP, socket-weld and butt-weld connections
- Flange adapters offered with O-ring face seal, 37° flare and 24° flareless connections
- Meets SAE J518 and ISO 6162

For a complete review of Parker Tube Fittings, please reference Catalog 4300/USA.

# Fluid Connectors Rubber Hose Products

Nobody offers more hose and fittings in more variations than Parker. With over 750 end configurations, our yellow zinc-dichromate coated steel and our brass and stainless fittings include: o-ring face seal, flare, straight thread, male pipe and metric designs in both crimp and field-attachable styles. All have been tested and approved to meet stringent worldwide standards such as SAE, ISO, and DIN.

Our high-quality hoses are a perfect compliment to our fittings, offering 1/4-in. to 3-in. inner diameters in a variety of inner-tube, reinforcement, and cover combinations to meet your specific application requirements.



## Low Pressure

Pneumatic, specialty, air conditioning and fleet hose make up the bulk of the low pressure market. In this category, Parker manufactures diesel engine, return line and Push-Lok

hoses that assemble in seconds without the need for clamps and bands using Parker 82 Series fittings.



## Medium Pressure

From SAE 100R1 and 100R2 to compact and abrasion-resistant one and two-wire braided hose, Parker offers a high performance product to meet and exceed your medium

pressure needs. Parker 43 Series fittings provide the broadest offering of configurations and connection sizes.



## High Pressure

The combination of Parker's high pressure, spiral-reinforced No-Skive hoses coupled with Monoblok one-piece fittings provide the utmost in

leak protection. Abrasion-resistant covers and high nitrile inner tubes enhance many high pressure hoses in this category.

For a complete review of Parker Rubber Hose Products, please reference Catalog 4400/USA.

[www.parkerhose.com](http://www.parkerhose.com)

# Quick Couplings Fluid Connectors

Parker offers one of the most complete lines of couplings, check valves and hose swivels available to the industrial marketplace. These products are

available in steel, brass and stainless steel for nearly every application. A wide variety of sealing and port options make them a very versatile choice.



## General Purpose Quick Couplings

General purpose couplings are used across the spectrum of hydraulic and pneumatic applications. They can also be custom engineered for more demanding applications and design challenges.

- Sizes from 1/8" to 2 1/2"
- Brass, steel, stainless steel, plastic
- Pressures to 6000 PSI
- Flows up to 200 GPM
- Temp. range from -40° to +400°F



## Non-Spill Quick Couplings

Non-spill couplings meet today's requirements for more environmentally and user-safe products. They eliminate excess spillage, reducing hazards in the workplace, as well as contamination to the environment.

- Sizes from 1/4" to 2"
- Steel, stainless steel, plastic
- Pressures to 10,000 PSI
- Flows up to 50 GPM
- Temp. range from -40° to +400°F



## Swivels

The S and PS Series swivels are designed to reduce torque and eliminate hose twist, dramatically increasing the service life of hose and fittings. The full flow design minimizes pressure drop for optimum system performance.

- Sizes from 1/4" to 2"
- Steel, stainless steel
- Pressures to 5000 PSI
- Inline and 90° (*PS Series*); 90° (*S Series*)
- Plating options available



## Check Valves

Check valves are available in several design configurations, so they can be easily adapted to nearly any hydraulic application. Parker check valves offer unique features that will ensure years of trouble-free operation.

- Sizes from 1/4" to 1-1/4"
- Pressures to 5000 PSI
- Crack pressures: 5–200 PSI



## Diagnostic Nipples and Equipment

Parker's complete line of diagnostic equipment can reduce machine downtime during set-ups, trouble shoot problems and provide critical information for preventative maintenance. Diagnostic nipples provide quick access for testing while diagnostic equipment measures system pressure, flow, RPM and temperature.

Equipment:

- ServiceJunior – measures pressure to 9600 PSI
- Serviceman – measures pressure, temperature, RPM and flow
- ServiceMaster - measures and stores pressure, temperature, RPM and flow

For a complete review of Parker Quick Coupling Products, please reference Catalog 3800/USA.

[www.parker.com/quickcouplings](http://www.parker.com/quickcouplings)

## North America

### USA

#### **Chicago Region**

1163 E. Ogden Avenue, Suite 705  
Naperville, IL 60563  
Tel: (630) 964 0796

#### **Great Lakes Region**

3700 Embassy Parkway  
Suite 260  
Fairlawn, OH 44333  
Tel: (330) 670 2680

#### **Northeast Region**

100 Corporate Drive  
Lebanon, NJ 08833  
Tel: (908) 236 4121

#### **Pacific Region**

16655 Noyes Avenue  
Irvine, CA 92714  
Tel: (949) 660 7033

#### **Southern Region**

1225 Old Alpharetta Road  
Suite 290  
Alpharetta, GA 30005  
Tel: (770) 619 9767

#### **Motion & Control Sales**

651 Robbins Drive  
Troy, MI 48007-3500  
Tel: (248) 589 2400

### Canada

#### **Motion & Control Canada**

160 Chisholm Drive  
Milton, Ontario L9T 3G9  
Tel: (905) 693 3000

#### **Eastern Region Office**

2001 rue de l'Aviation  
Dorval, Quebec H9P 2X6  
Tel: (514) 684 3000

#### **Western Regional Office**

3141B 16th Street, N.E.  
Calgary, Alberta T2E 7KB  
Tel: (403) 291 9284

### México

#### **Motion & Control México**

Eje Uno Norte No. 100  
Parque Industrial Toluca 2000  
Toluca, Edo. de México C.P. 50100  
Tel: (52) 72 2275 4200

## Europe

### Austria

**Parker Hannifin GmbH**  
Badener Strasse 12  
A-2700 Wiener Neustadt  
Austria  
Tel: (43) 2622 23501-0

### AZPAR

**Technical Representative  
for Parker Hannifin plc**  
140 Alovsat Guliyev st. Apt.10  
370 000 Baku, Azerbaijan  
Tel: 99 412 983966

### Belgium

**Parker Hannifin S.A.-N.V.**  
ZI Sud 2  
23, Rue du Bosquet  
B-1400 Nivelles  
Belgium  
Tel: (32) 67 280 900

### Czech Republic and Slovakia

**Parker Hannifin s.r.o.**  
Parkerova 623  
250 67 Klecany  
Czech Republic  
Tel: (420) 284 083 111

### Denmark

**Parker Hannifin Denmark A/S**  
Industriparken 37  
DK-2750 Ballerup  
Denmark  
Tel: (45) 4356 0400

### Finland

**Parker Hannifin Oy**  
Ylästöntie 16  
FIN-01510 Vantaa, Finland  
Tel: (358) 9 4767 31

### France

**Parker Hannifin SAS**  
Sales HQ France  
142, Rue de la Forêt  
F-741 30 Contamine-sur-Arve, France  
Tel: (33) 450 25 80 25

### Germany-Sales Location

**Parker Hannifin GmbH**  
Pat-Parker-Platz 1  
D-41564 Kaarst  
Germany  
Tel: (49) 2131 4016 0

### Greece

**Parker Hannifin Corporation**  
197 Syngrou Av.  
GR-171 21 Athens  
Tel: 30 210 933 6450

### Hungary

**Parker Hannifin Corporation  
Hungarian Trade Representative Office**  
HU-1149 Budapest  
Egressy u. 100, Hungary  
Tel: (36) 1 220 4155

### Ireland

**Parker Hannifin Ltd.**  
Blackthorn Close  
Stillorgan Industrial Park  
Blackrock, Co. Dublin  
Tel: 353 1 293 9999

### Italy

**Parker Hannifin SpA**  
Via Privata Archimede 1  
1-20094 Corsico, (MI) Italy  
Tel: (39) 02 45 19 21

### The Netherlands

**Parker Hannifin B.V.**  
Edisonstraat 1 Postbus 340  
NL-7575 AT Oldenzaal  
Netherlands  
Tel: (31) 541 585 000

### Norway

**Parker Hannifin A/S**  
Berghagen Langhus  
P.O. Box 3008  
N-1402 Ski  
Norway  
Tel: (47) 64 91 10 00

### Poland

**Parker Hannifin Sp.z.o.o**  
ul. Rownolegla 8  
PL-02 235 Warszawa, Poland  
Tel: (48) 22 57 32400

### Portugal

**Parker Hannifin Portugal, Lda**  
Travessa da Bataria 184 R/C  
Dto/1° Esq.  
Leça da Palmeira-4450-625  
Portugal  
Tel: (351) 22 999 7360

### Romania

**Hidro Consulting Impex SRL**  
Bld Ferdinand nr 27 Sect 2  
RO-00001 BUCHAREST  
Tel: 40 21 252 13 82

### Slovenia

**Parker Hannifin**  
Vel. Bucna vas 7  
SI-8000 Novo mesto  
Tel: 386 7 337 6650

### Spain

**Parker Hannifin España S.A.**  
P.I. Las Monjas  
Calle Estaciones, 8  
ES-28850 Torrejon de Ardoz (Madrid)  
Spain  
Tel: (34) 91 675 73 00



## Sweden

**Parker Hannifin AB**  
Fagerstagatan 51  
Box 8314  
SE-16308 Spånga  
Sweden  
Tel: (46) 8 597 950 00

## Turkey

**Parker Hannifin Liaison Office of Turkey**  
Merter Is Merkezi  
Gen. Ali Riza Gurcan cad. No: 2/67  
TR-34067 Merter/Istanbul  
Tel: 90 212 482 91 06 or 482 91 07

## Ukraine

**Parker Hannifin Corporation  
Representation Office in Ukraine**  
Vul. Velyka Vasylykivska 9/2 Office 59  
1004 Kiev  
Tel: 380 44 220 7432

## United Kingdom

**Parker Hannifin plc**  
Tachbrook Park Drive  
Tachbrook Park  
Warwick, CV34 6TU  
England  
Tel: (44) 1926 317 878

## Asia Pacific

### Australia

**Parker Hannifin (Australia) Pty Ltd.**  
9 Carrington Road  
AU-Castle Hill, N.S.W 2154, Australia  
Tel: (61) 2-9634 7777

### China

**Parker Hannifin Beijing Office**  
Suite B9-11  
21/F Han Wei Plaza  
7 Guang Hua Road,  
Chaoyang District  
Beijing 100004, China  
Tel: (86) 10 6561 0520

**Parker Hannifin Shanghai Office**  
Room 1101, Peregrine Plaza  
1325 Huai Hai Road (M)  
Shanghai 200031, China  
Tel: (86) 21 6445 9339

### Hong Kong

**Parker Hannifin Ltd.**  
8/F, Kin Yip Plaza  
9 Cheung Yee Street  
Cheung Sha Wan, Kowloon  
Hong Kong  
Tel: (852) 2428 8008

## India

**Parker Hannifin India Private Ltd.**  
Plot No. EL-26, TTC Industrial Area,  
Mahape,  
Navi Mumbai 400 709  
India  
Tel: (91) 22 5590 7081

## Japan

**Parker Hannifin Japan Ltd.**  
Shirokanedai Bldg. 2F  
3-2-10 Shirokanedai Minato-Ku  
Tokyo 108-0071 Japan  
Tel: (81) 3 6408 3900

## Korea

**Parker Korea Ltd.**  
Daehwa Venture Plaza 6th Floor  
169 Samsung-dong, Kangnam-ku  
Seoul, Korea 135-090  
Tel: (82) 2 559 0400

## Malaysia

**Parker Hannifin Singapore Pte. Ltd**  
Representative Office  
Suite E-08-16, Block E  
Plaza Mont Kiara  
50480 Kuala Lumpur  
Malaysia  
Tel: (60) 3 6203 4482

## New Zealand

**Parker Hannifin NZ Ltd.**  
3 Bowden Road  
Mt. Wellington, Auckland  
New Zealand  
Tel: (64) 9 574 1744

## Russia

**Parker Hannifin LLC**  
Trekhpudny Pereulok, 9, bldg 2, Office 101  
123001 Moscow, Russia  
Tel: (7) 095 234 0054

## Parker Hannifin Shanghai Office

Room 1101, Peregrine Plaza  
1325 Huai Hai Road (M)  
Shanghai 200031, China  
Tel: (86) 21 6445 9339

## Singapore

**Parker Hannifin Singapore**  
No. 11, Fourth Chin Bee Road  
Jurong Town  
Singapore 2261  
Republic of Singapore  
Tel: (65) 6887 6300

## Taiwan

**Parker Hannifin Taiwan, Ltd.**  
No. 40, Wu Chiuan 3rd Road  
Wuku Industrial Park  
Taipei County 248  
Taiwan R.O.C.  
Tel: (886) 2 2298 8987

## Thailand

**Parker Hannifin (Thailand) Co., Ltd.**  
1023 3rd Floor, TPS Building  
Pattanakarn Road, Suanluang  
Bangkok, 10250  
Thailand  
Tel: (662) 717 8140

## Middle East

### United Arab Emirates

**Parker Hannifin Corporation**  
P.O. Box 46451  
Abu Dhabi  
United Arab Emirates  
Tel: (971) 2 67 88 587

## Latin America

### Argentina

**Parker Hannifin Argentina S.A.I.C.**  
Stephenson 2711  
(1667) Tortuguitas-Malvinas Argentinas  
Pcia. de Buenos Aires, Argentina  
Tel: (54) 11 4752 4129

### Brazil

**Parker Hannifin  
Industria E Comercio Ltda**  
Av. Lucas Nogueira Garcez  
2181 Jacarei, SP Brazil 12300-000  
Brazil  
Tel: (55) 12 354 5100

### Pan American Division

**Parker Hannifin Corporation**  
7400 N.W. 19th Street  
Suite A  
Miami, FL 33126  
Tel: (305) 470 8800

### Venezuela

**Parker Hannifin Venezuela S.A.**  
Edf. Draza PB. Esq.  
Calle Miraima Con. Av.  
Principal de Boleita Norte  
Caracas, Venezuela  
Tel: (58) 2 2385422

## Africa

### South Africa

**Parker Hannifin Africa Pty. Ltd.**  
Parker Place  
10 Berne Ave., Aeroport  
Kempton Park  
Republic of South Africa  
Tel: (27) 11-961 0700

# Contact Information

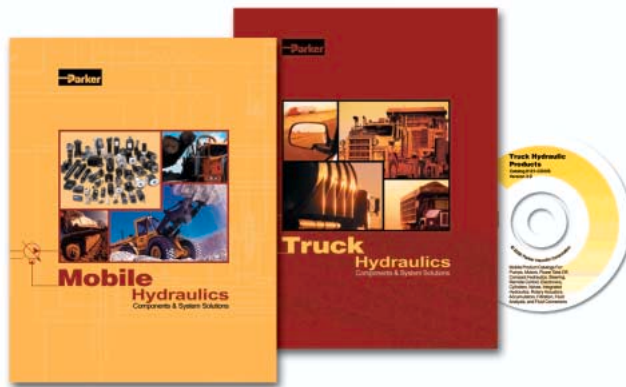
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**Parker Hannifin Corporation**  
Hydraulics Group  
6035 Parkland Blvd.  
Cleveland, OH 44124  
Tel: 216-896-3000  
Fax: 216-896-4031  
[www.parker.com/hydraulicsgroup](http://www.parker.com/hydraulicsgroup)

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