



# Mobile Hydraulics

Innovative Products and  
System Solutions

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# Parker Hannifin Corporation

Parker Hannifin is a Fortune 300 corporation listed on the New York Stock Exchange as PH. Parker is the leading global company manufacturing the widest variety of components and systems designed to control motion, flow and pressure in all types of machinery and other equipment.



Parker offers over 1,400 product lines that control motion in over 1,000 mobile, industrial and aerospace markets. We are the only manufacturer to offer our customers a choice of hydraulic, pneumatic, electro-mechanical and computer motion control solutions. And we have the largest distribution network in our field, with over 7,500 distributors serving more than 422,000 customers worldwide.

Parker products are found around the globe: in satellites orbiting the earth, machine tools, mobile equipment, oil rigs and refineries, laboratories and hospitals—any place where machines depend on motion or fluid control.



**Engineering Expertise**



**Worldwide Network of Distributors**



**Industry-Leading Technical Support and Training**



**Premier Customer Service**

# Mobile Hydraulic Products & Systems



The Parker Hannifin Corporation is the most dynamic mobile supplier in the industry today. With vast resources of hydraulic technology

at our disposal, Parker is the most qualified supplier to fulfill all your hydraulic needs.

With our qualified factory support and network of distributors, choosing your supplier for components, kits and solutions has never been easier. With such benefits as vendor reduction, application engineering, cost reduction, innovative designs, and state-of-the-art technology, you will have everything you need right at your fingertips. And with thousands of experienced distributors, being your single source supplier has never been easier.

## Range of Capabilities

Parker's breadth of products forms the cornerstone of providing customers with unlimited solutions. Our hydraulic engineering, and application and manufacturing expertise are second to none. Offering customers the opportunity to select the level of integration that they believe will provide the best hydraulic solution, Parker can provide expertise in the following areas:

- Component Selection
- Sub-Systems
- Completely Integrated Systems
- Application Analysis
- Machinery Evaluation
- High Level Data Acquisition
- Design Engineering Assistance
- Custom Component Manufacturing
- Assemblies and Kits
- Global Support and Service



# Mobile Hydraulic Products & Systems



## Prototype/Testing

After we have designed your solution together, Parker Hydraulics will prototype the actual system. Parker continues to invest in our world class ISO 9001 certified manufacturing facilities, assuring you a high and consistent level of quality. At Parker, we put our engineering and testing expertise to work for you every day.

## Total Systems from the Ground Up

By utilizing the latest in CAD technology, we help bring advanced new products to market faster. Our factories are equipped with the best in modern technology to meet the stringent demands of both quality and delivery. Our manufacturing is backed by a highly qualified engineering staff, working with today's latest tools and technology.

At Parker, we have dedicated ourselves to providing complete customer satisfaction. We will continue to lead the way in manufacturing everything you need to fulfill any mobile system requirement.



## Fluid Power Focus

Although Parker Hydraulics serves numerous industrial, mobile and truck industries, we are exclusively concentrated on controlling fluid motion and pressure. Because we are solely focused on fluid power, we clearly understand each and every need of our mobile customers.



# Value Added Programs



Parker's Premier Customer Service leads the industry in response. In addition to assured product quality, Parker provides engineering assistance, electronic ordering, consolidated shipments, on-time

delivery, extensive product information and customer training. Our employees are empowered to do whatever it takes to exceed customer expectations.

## [www.parker.com/mobilesystems](http://www.parker.com/mobilesystems)

Parker's extensive web site is your on-line resource for mobile hydraulic technology. It is the industry's most comprehensive site and includes product information, downloadable catalogs, contact information, training materials, product selection software and RFQ capabilities. The user-friendly interface allows you to search by general product families, specific product type, division, or keywords.

## Training

Parker is the industry leader in the development and presentation of technical training for hydraulic and pneumatic technology. We offer complete and comprehensive texts and hands-on classroom opportunities for our employees, distributors and customers. This includes web-based, on-site and classroom training at various Parker locations.

Hundreds of college and universities in North America have adopted Parker's textbooks as the foundation for motion and control courses offered at their institutions. Training support materials include textbooks, instructor guides, computer-based training CDs, digital overheads on CD, final exams, drafting and simulation software, lab manuals and trainer stands.



# Value Added Programs

## Field Sales Team

With a highly trained field sales force, strategically located throughout the world, knowledgeable assistance can be provided within hours. Linked by global communication systems, these experts will work together with a local Parker distributor on any product application to fulfill your needs.



## COPS and Kitting

COPS (Central Order Processing Service) is an innovative program designed to streamline customer service by centralizing the order processing functions. Customers can now place a single order for all of Parker's quality motion and control products at one time, at one location, with one consolidated invoice.

In those instances where you require multiple components and sub-assemblies for a specific application, Parker offers the added benefit of a kitting service. Within a kit, everything you need is delivered in one convenient package, ready for installation.



## Mobile Technology Centers

Parker Mobile Technology Centers meet the changing needs of hydraulics customers, while increasing the level of services provided by a Parker distributor.

Parker MTCs carry the largest inventory of mobile hydraulic components, local and worldwide, to ensure fast delivery and less down time. Additionally, these centers are staffed with specialists who can provide advanced design and technology, engineering assistance, technical help, and full systems service, along with technical support and training. A Parker MTC can provide assistance with rapid equipment development, prototype verification, and the immediate, yet smooth integration of state-of-the-art hydraulic and electronic systems.



**MOBILE**  
**Technology Center**

To locate your nearest Parker MTC and fulfill all your mobile hydraulic needs, call 1-800-CPARKER.



# Mobile Hydraulic Systems

## The Mobile Systems Team

The Mobile Systems Team can be instrumental in the development of fine-tuned system proposals and solutions to match customer applications. Parker's broad product range supplies an unparalleled capability to optimize systems for our customers. Our engineers have years of experience in advanced system design and will be your partners all the way. We will take on an entire project, or one of our system experts can participate on your development team. The Mobile Systems Team makes Parker your most competent partner when developing a new generation of machines.

## A Focused Organization

### System proposals

Optimal performance at a low total cost

### Training

Regular open courses in basic hydraulics and electronics; specific training related to custom systems

### Design

Prototyping and development of system performance to match target specifications

### Documentation

In support of customer service and spare parts documentation for total systems

### Function development

Rigorous testing of components to provide proven, high-performing solutions

CD file includes system solutions for applications pictured on page 7.

## Reach Stacker





# Mobile Hydraulic Systems

**Telehandler**



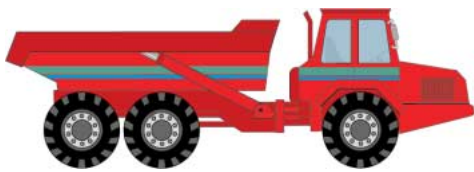
**Drill Rig**



**Fork Lift**



**Hauler**



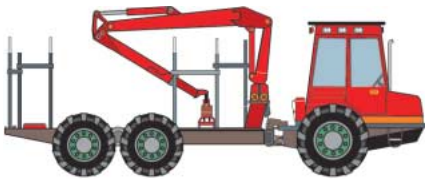
**Truck Mounted Crane**



**Harvesting Head**



**Forest Machine**



**Wheel Loader**



**Backhoe Loader**



**Skip Loader**



**Roll-Off**



**Truck Mounted Log Loader**



**Snow Plow**



**Turf Care**



**Refuse Collecting**



# Mobile Hydraulic Components

Parker offers one of the world's most extensive mobile 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 mobile 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 provide power ranging up to 15,000 inch-pounds 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 Take Off (PTOs)

Whether you're pulling, pushing or lifting, you need performance you can count on everyday—performance and reliability you will get from Chelsea auxiliary power systems. Chelsea has been serving the auxiliary power market since 1945 with the broadest coverage in the industry. This industry-leading engineering, innovation and performance is now available from Parker, and offers value-added and premier customer service. When you need a power take off system, you need Chelsea products from Parker.



# Mobile Hydraulic Components

## Hydrostatic Steering Units

Parker offers a full line of hydrostatic steering units for a wide range of off-road equipment applications. These rugged components are designed to withstand system contaminants and engineered to handle higher oil pressure and temperatures than competitive products. A choice of sizes is offered in open center, closed center and load sense configurations.

## Mobile Cylinders

Parker is a leading manufacturer of hydraulic cylinders for mobile equipment applications. Our cylinders keep on performing like you would only expect from Parker. By offering you more power per pound and more power per dollar over millions of trouble-free cycles, Parker cylinders have proven to be the most reliable and cost effective cylinders available.

## Hydraulic Valves and Controls

Parker makes hydraulic valves for virtually every mobile equipment application, from simple on/off functions to precise motion control. These include bankable control valves, motion control valves, remote controllers, directional valves, and manifold mounted directional and proportional valves.

## Integrated Hydraulic Circuits

Parker is the world leader in the design and manufacture of integrated hydraulic circuits. We provide solutions for 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.

## Electronics

With nearly three decades of worldwide Parker experience in advanced electronics and mobile hydraulics, we can provide simple or complex control systems to fit every need. Our most advanced IQAN product combines sturdy, well-tested hardware that meets or surpasses international standards with user-friendly, flexible software. Simple IQAN systems may be built from a large selection of components. More complex systems are made up of master/display units and expansion modules communicating on a CANbus.

## Rotary Actuators

Parker rotary actuators are recognized for their durability and life, and are used wherever reliability is critical to the application. Our broad product range offers performance features to meet all common mobile applications. We will work with customers on special designs to meet unique needs. Rotary actuators offer the mobile equipment designer a unique solution for developing high torque from a compact, self-contained, precision machined, drop-in package.

## Accumulators

Parker is the industry's most complete source for 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/Fluid Analysis

Parker filtration products are designed to 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 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, whenever and wherever you need them.

# Mobile Hydraulic Product Applications

	Reach Stackers				Aerial Work Platforms				Aerial Devices			
	Wheel Loaders		Forklifts		Waste Handling		Agriculture		Turf Care		Construction	
				Mining			Truck Crane				Forestry	
Piston Pumps	•	•	•	•	•	•	•	•	•	•	•	
Gear Pumps	•	•	•	•	•	•	•	•	•	•	•	
Power Take Off	•	•	•	•	•	•	•	•	•	•	•	
Motors	•	•	•	•	•	•	•	•	•	•	•	
Compact Hydraulics	•	•	•	•	•	•	•	•	•	•	•	
Hydraguide™ Hydrostatic Steering Units	•	•	•	•	•	•	•	•	•	•	•	
Mobile Cylinders	•	•	•	•	•	•	•	•	•	•	•	
Directional Control Valves	•	•	•	•	•	•	•	•	•	•	•	
Hydraulic Valves	•	•	•	•	•	•	•	•	•	•	•	
Accessory Valves	•	•	•	•	•	•	•	•	•	•	•	
Threaded Cartridge Valves	•	•	•	•	•	•	•	•	•	•	•	
Integrated Hydraulic Circuits	•	•	•	•	•	•	•	•	•	•	•	
Specialty Valves	•	•	•	•	•	•	•	•	•	•	•	
Remote Control Systems	•	•	•	•	•	•	•	•	•	•	•	
Mobile Electronics	•	•	•	•	•	•	•	•	•	•	•	
Rotary Actuators	•	•	•	•	•	•	•	•	•	•	•	
Hydraulic Accumulators	•	•	•	•	•	•	•	•	•	•	•	
Hydraulic Filters	•	•	•	•	•	•	•	•	•	•	•	
Reservoir Accessories	•	•	•	•	•	•	•	•	•	•	•	
Fluid Analysis	•	•	•	•	•	•	•	•	•	•	•	
Fluid Connectors	•	•	•	•	•	•	•	•	•	•	•	

## PAVC



- High strength cast iron housing
- Built in supercharger
- High sideload capacity
- Sealed shaft bearing option
- Two piece housing
- Cartridge controls
- Airbled 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	2600

## PVP



- 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>
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
Max continuous pressure (Bar) (PSI)	248 3600	248 3600	248 3600	248 3600	248 3600
Max self priming speed at 0 PSI gauge (RPM)	3000	3000	3000	2800	2600

## PHP



- 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

## VP1



- Pressures up to 345 Bar (5000 PSI)
- Suitable for all load-sensing systems
- Splined shaft DIN 5462
- Mounting flange ISO 7653-1985

- Light and compact
- Strong and reliable
- Less energy—less fuel—less heat
- Self-priming

Frame size* VP1	-45	-75	-120
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	45 2.75	75 4.58	120 7.32
Max continuous pressure (Bar) (PSI)	300 4350	300 4350	300 4350
Self-priming speed* (rpm)	2100	2400	1800

\*2½" suction line

## F1/F2



- Pressures up to 345 Bar (5000 PSI)
- High power capability
- Twin flow version available
- High self-priming speed
- Easy to install
- Easy to service

Frame size F1/F2	F1				F2	
	-25	-41	-51	-61	-53/53	-70/35
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	24 1.46	38 2.32	49 2.99	61 3.72	54/54 3.30/3.30	69/36 4.21/2.20
Max continuous pressure (Bar) (PSI)	345 5000	345 5000	345 5000	345 5000	345 5000	345 5000
Shaft speed (RPM)	2600	2400	2200	2200	1800	1800
Input torque (lb ft)	101	160	206	257	583	583
Input power (hp)	39	57	67	84	119	119

## P2/P3



- Designed for rugged duty mobile applications
- Compact packaging
- Low noise, low vibration
- P2: Side porting standard; rear porting available on 060 and 075
- P3: Side porting
- SAE spline shafts, SAE flanges
- High self-priming speed

- Load sense, pressure limiter, horsepower options available
- Easy to install, service friendly
- P3 has built-in impeller to suit applications requiring high self-priming speeds or high altitudes

Frame size P2	P2				P3		
	-060	-075	-105	-145	-075	-105	-145
Displacement (cc/rev) (in <sup>3</sup> /rev)	60 3.7	75 4.6	105 6.4	145 8.8	75 4.6	105 6.4	145 8.8
Max continuous pressure (Bar) (PSI)	317 4600	317 4600	317 4600	317 4600	317 4600	317 4600	317 4600
Self priming speed @ 1 Bar inlet pressure	2800	2500	2300	2200	3000	2600	2500

## F11



- Very high motor operating speeds
- Pressures to 413 Bar (6000 PSI)
- Efficient (low losses)
- Accepts high external shaft loads
- SAE, ISO and Cartridge mount available
- Integral anti-cavitation valves available on certain displacements
- Good resistance to vibrations and temperature shocks
- Proven reliability
- Easy to service

Frame size* <b>F11</b>	<b>-05</b>	<b>-10</b>	<b>-14</b>	<b>-19</b>	<b>-150</b>	<b>-250</b>
Displacement (cm <sup>3</sup> /rev)	4.88	9.84	14.3	19.0	150.0	242.0
(in <sup>3</sup> /rev)	0.30	0.60	0.87	1.16	9.15	14.80
Max continuous pressure (Bar)	350	350	350	350	350	350
(PSI)	5000	5000	5000	5000	5000	5000
Max operating speed** (RPM)	12,000	11,000	10,000	9000	3000	2700

\* Use F12 for medium range displacement

\*\*Functioning as motor

## F12



- Very high motor operating speeds
- Pressures to 482 Bar (7000 PSI)
- High starting torque
- Very high power capability
- High overall efficiency
- Small envelope size
- Motor and pump versions available
- Accessory valves available
- ISO, SAE and cartridge versions available
- Proven reliability
- Easy to service
- Super-shockless swing relief valve

Frame size <b>F12</b>	<b>-30</b>	<b>-40</b>	<b>-60</b>	<b>-80</b>	<b>-110</b>
Displacement (cm <sup>3</sup> /rev)	30.0	40.0	59.8	80.4	110.1
(in <sup>3</sup> /rev)	1.83	2.44	3.65	4.90	6.72
Max continuous pressure (Bar)	420	420	420	420	420
(PSI)	6000	6000	6000	6000	6000
Max operating speed* (RPM)	7100	6400	5600	5200	4700

\*Functioning as motor

# Pump/Motors Gear

## PGP300 Series



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

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 1.711	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 (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



## PGP 500 Series



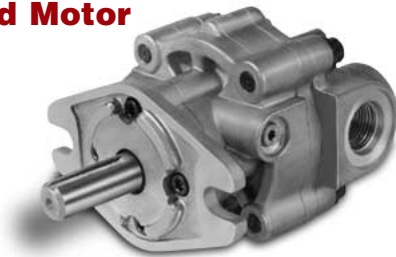
- Superior performance
- High efficiency
- Low noise operation at high operating pressures
- International mounts and connections
- Integrated valve capabilities
- Common inlet multiple pump configurations
- Can be configured as a pump or motor

Frame size <b>PGP505/PGM505</b>	<b>-2</b>	<b>-3</b>	<b>-4</b>	<b>-5</b>	<b>-6</b>	<b>-7</b>	<b>-8</b>	<b>-9</b>	<b>-10</b>	<b>-11</b>	<b>-12</b>
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/PGM511</b>	<b>-6</b>	<b>-7</b>	<b>-8</b>	<b>-10</b>	<b>-11</b>	<b>-14</b>	<b>-16</b>	<b>-18</b>	<b>-19</b>	<b>-21</b>	<b>-23</b>	<b>-27</b>	<b>-28</b>	<b>-31</b>
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	190 2755	185 2683	165 2393
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/PGM517</b>	<b>-14</b>	<b>-16</b>	<b>-19</b>	<b>-23</b>	<b>-25</b>	<b>-28</b>	<b>-33</b>	<b>-36</b>	<b>-38</b>	<b>-44</b>	<b>-52</b>
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 and max outlet pressure (RPM)	3400	3400	3300	3300	3100	3100	3100	3000	3000	2800	2600

## Gerotor Pump and Motor



- Gerotor design (HSLT)\*
- Aluminum construction for optimum power to weight ratio
- Bi-directional – designed for fan drive and cut off applications
- High-pressure mechanical seals available for series application to 1000 PSI back pressure
- Roller bearings for long life and high OHL capacity
- Buna-N Seals are standard for petroleum and glycol based fluids
- MGG-Motor  
–Shaft speeds to 5000 RPM
- PGG-Pump  
–Shaft speeds to 3500 RPM
- Up to 17 HP output for motors

Frame size <b>MGG2/PGG2</b>	<b>0010</b>	<b>0016</b>	<b>0020</b>	<b>0025</b>	<b>0030</b>
Displacement (cm <sup>3</sup> /rev) (in <sup>3</sup> /rev)	3.572 .218	6.096 .372	7.374 .450	9.505 .580	11.471 .700
Max. cont. pressure (Bar) (PSI)	138 2000	138 2000	138 2000	138 2000	104 1500
MGG2 Max. speed at 0 inlet & Max. outlet pressure (RPM)	5000	5000	5000	5000	5000
PGG2 Max. speed at 0 inlet & Max. outlet pressure (RPM)	3500	3500	3500	3500	3000

*\*High Speed/Low Torque*

## P16



- 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 <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 0.89	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

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	172 2500	172 2500	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

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

## HP7



- 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

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)	82.9	99.1	115.9	128.3	143.4	159.8	176.0
(in <sup>3</sup> /rev)	5.06	6.05	7.07	7.83	8.75	9.75	10.74
Max continuous pressure (Bar)	276	276	276	276	255	228	207
(PSI)	4000	4000	4000	4000	3700	3300	3000
Max speed (RPM)	2500	2500	2500	2500	2500	2500	2500

## HP8



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

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)	128.3	143.4	159.8	176.0	193.0	213.9	246.0	268.4
(in <sup>3</sup> /rev)	7.83	8.75	9.75	10.74	11.78	13.05	15.01	16.38
Max continuous pressure (Bar)	276	276	276	276	276	248	228	207
(PSI)	4000	4000	4000	4000	4000	3600	3300	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.

## CHELSEA® Power Take Off

## 522



- Robust modular design
- Compact size
- Easy to install
- Internal air shift
- Positive engagement

Series	<b>522</b>
Standard output shaft size	1¼"
Intermittent torque rating (lbs. ft)	258
Horsepower rating for intermittent Service: at 500 RPM of output shaft	24.5
at 1000 RPM of output shaft	49

# Power Take Off **CHELSEA®**

## 442, 489 (6-Bolt)



442

- Two-gear
- For virtually all transmissions
- Economical workhorse
- Cast iron housing and tapered cone bearing
- Easy to interchange between transmissions
- 489 6-bolt design with an integral 8-bolt flange casting; needs no adapter plate

Series	442*A 489*A	442*C 489*C	442*F 489*F	442*L 489*L	442*Q 489*Q	442*R 489*R	442*S 489*S	442*U 489*U	442*W 489*W	442*X 489*X
Standard output shaft size	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"
Intermittent torque rating (lbs. ft)	250	250	250	250	225	225	200	195	175	140
Horsepower rating for intermittent service: at 500 RPM of output shaft	23.5	23.5	23.5	23.5	21.4	21.4	19	18.6	16.7	13.2
at 1000 RPM of output shaft	47	47	47	47	42.8	42.8	38	37.2	33.3	26.5

## 880 (8-Bolt)



- Two-gear
- High and low speed applications, high torque capacity
- Three shift options
- Dual pump output available

Series	880*B	880*D	880*G	880*J	880*M	880*P	880*R	880*T
Standard output shaft size	1½" 10 spline with 1410 flange							
Intermittent torque rating (lbs. ft)	500	500	500	500	500	500	400	350
Service: at 500 RPM of output shaft	47	47	47	47	47	47	38	33
at 1000 RPM of output shaft	94	94	94	94	94	94	76	66

## 230/231, 270/271 (6-Bolt)



230 270

- Power shift
- Standard housing (230/231) and low profile housing (270/271)
- 230/231 electric-over-air shifting; 270/271 hydraulically operated
- Optional pressure lubrication
- Shaft brake option "BD"

Series	230*A, B, D, K & Q 270*A, B, D w/Pressure Lube	230*A, B, D, K & Q 270*A, B, D w/Standard Lube	231 & 271 All Units All Lube Types	230*U/231*U All Lube Types
Standard output shaft size	1¼"	1¼"	1¼"	1¼"
Intermittent torque rating (lbs. ft)	300	250	250	225
Horsepower rating for intermittent service: at 500 RPM of output shaft	28.5	23.5	23.5	21.4
at 1000 RPM of output shaft	57	57	57	42.8

## 236, 250, 251 (6-Bolt)



- 236 fits virtually all currently produced transmissions
- 250 features latest technology for automatic transmissions including Controlled Compression Interface Gasket
- 251 features weather-tight electrical connectors for under-the-vehicle connections; electronic overspeed control available

Series	236*D	236*K	236*Q	236*U	250*D	251*D
Standard output shaft size	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"
Intermittent torque rating (lbs. ft)	250	250	250	225	120	120
Horsepower rating for intermittent service:						
	at 500 RPM of output shaft	23.8	23.8	23.8	21.4	13.3
at 1000 RPM of output shaft	47.6	47.6	47.6	42.8	26.6	26.6

## 242/244, 243, 245 (6-Bolt)



- 242/244 Series for Ford Super Duty transmissions
- 243 Series for Mitsubishi
- 245 Series for Ford 5-speed TorqShift transmission
- Controlled Compression Interface Gasket eliminates setting gear backlash
- Electronic Overspeed Control available
- Lightweight housing for maximum heat dissipation

Series	242F	243	244F	245F
Standard output shaft size	1"			
Intermittent torque rating (lbs. ft)	112	85	112	120
Horsepower rating for intermittent Service:				
	at 500 RPM of output shaft	–	8.1	–
	at 1000 RPM of output shaft	–	16.2	–
at 1200 RPM of output shaft	39	–	39	42

## 800, 852, 885 (8-Bolt)



- The only 8-bolt power shift PTOs on the market today
- 800 is compact in size; 852 is used for heavy-duty applications on automatic transmissions
- Electric-over-hydraulic shifting and pressure lubrication

Series	800*M Single Gear	852*B, G, J Two Gear	885*B, G, J, M
Standard output shaft size	1⅝" rd.	1½" 10 spline w/1410 flange	–
Intermittent torque rating (lbs. ft)	250	500	500
Horsepower rating for intermittent service:			
	at 500 RPM of output shaft	23.5	47
at 1000 RPM of output shaft	47	94	94

## For Allison World Transmissions 267 (10-Bolt)



- Two gear, constant mesh mechanical unit
- Non-shiftable
- Ideal for applications requiring continuous power whenever the engine is running
- Five speed ratios

Series	267*B	267*D	267*G	267*M	267*S
Standard output shaft size	1¼"	1¼"	1¼"	1¼"	1¼"
Intermittent torque rating (lbs. ft)	325	325	300	265	250
Horsepower rating for intermittent service: at 500 RPM of output shaft at 1000 RPM of output shaft	31.8	30.9	28.5	25.2	21.4
	63.6	61.8	57.0	50.4	42.8

## 277, 278 (10-Bolt)



277

- Approved for use with Allison World transmissions
- Helical gears for quieter operation
- Exclusive shimming gaskets
- Simplified plumbing
- Pressure lubrication standard
- Powershift

Series	277*B 278*B	277*D 278*D	277*G 278*G	277*M 278*M	277*S 278*S	278*T
Standard output shaft size (Rd.)	1¼"	1¼"	1¼"	1¼"	1¼"	1¼"
Intermittent torque rating (lbs. ft)	335	325	300	265	250	250
Horsepower rating for intermittent service: at 500 RPM of output shaft at 1000 RPM of output shaft	31.8	30.9	28.5	25.2	23.8	21.4
	63.6	61.8	57	50.4	47.6	42.8

## 859 (8-Bolt)



- Highest torque capacity of any PTO offered for Allison World transmissions
- Compact design
- Three speed ratios
- Powershift

Series	859*G	859*M	859*R	859*T
Standard output shaft size	1½" 10 spline with 1410 flange			
Intermittent torque rating (lbs. ft)	575	490	415	350
Horsepower rating for intermittent service: at 500 RPM of output shaft at 1000 RPM of output shaft	54.7	46.6	39.5	33.3
	109.4	93.2	79	66.4

# Low Speed High Torque Motors

## Nichols



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

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

Series 110A W/M	088	106	129	164	189	241
Geometric displacement (cm <sup>3</sup> /rev)	144	174	211	269	310	395
(in <sup>3</sup> /rev)	8.8	10.6	12.9	16.4	18.9	24.1
Max continuous pressure (Bar)	170	155	155	140	140	120
(PSI)	2500	2250	2250	2000	2000	1750
Max operating speed (rev/min)	524	440	368	291	247	197

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

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

# Motors Fixed Displacement Low Speed High Torque

## TorqLink Small Frame



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

Frame size <b>TC</b>	-0036	-0045	-0050	-0065	-0080	-0100	-0130	-0165	-0195	-0230	-0260	-0295	-0330	-0365	-0390
Displacement (cm <sup>3</sup> /rev)	36	41	49	65	82	98	130	163	195	228	260	293	328	370	392
(in <sup>3</sup> /rev)	2.2	2.5	3.0	4.0	5.0	6.0	8.0	10.0	11.9	13.9	15.9	17.9	20.0	22.6	24.0
Max cont pressure (Bar)	86	86	86	86	86	86	86	86	86	76	66	59	52	45	45
(PSI)	1250	1250	1250	1250	1250	1250	1250	1250	1250	1100	950	850	750	650	650
Max op speed (rpm)	902	810	688	517	413	460	429	346	287	246	217	193	173	152	144

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

Frame size <b>TE</b>	-0036	-0045	-0050	-0065	-0080	-0100	-0130	-0165	-0195	-0230	-0260	-0295	-0330	-0365	-0390
Displacement (cm <sup>3</sup> /rev)	36	41	49	65	82	98	130	163	195	228	260	293	328	370	392
(in <sup>3</sup> /rev)	2.2	2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.6	24.0
Max cont pressure (Bar)	140	140	140	140	140	140	140	140	140	123	116	109	102	93	88
(PSI)	2030	2000	2000	2000	2000	2000	2000	2000	2000	1750	1650	1550	1450	1325	1250
Max op speed (rpm)	1141	1024	1020	877	695	582	438	348	292	328	287	256	228	203	191

## TorqLink Medium Frame



- 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

TJ

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



# Fixed Displacement Low Speed High Torque Motors

## TorqLink Large Frame



- 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

Frame size <b>TF</b>	<b>-0080</b>	<b>-0100</b>	<b>-0130</b>	<b>-0140</b>	<b>-0170</b>	<b>-0195</b>	<b>-0240</b>	<b>-0280</b>	<b>-0360</b>	<b>-0405</b>	<b>-0475</b>
Displacement (cm <sup>3</sup> /rev)	81	100	128	141	169	197	238	280	364	405	477
(in <sup>3</sup> /rev)	4.9	6.1	7.8	8.6	10.3	12.0	14.5	17.1	22.2	24.7	29.1
Max cont pressure (Bar)	207	155	138	138	138	138	138	138	130	128	113
(PSI)	3000	2250	2000	2000	2000	2000	2000	2000	1880	1850	1645
Max op speed (rpm)	693	749	583	530	444	381	394	334	258	231	195

Frame size <b>TG</b>	<b>-0140</b>	<b>-0170</b>	<b>-0195</b>	<b>-0290</b>	<b>-0295</b>	<b>-0335</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)	140	169	195	237	280	337	405	476	529	624	786	958
(in <sup>3</sup> /rev)	8.6	10.3	11.9	14.5	17.1	20.6	24.7	29.1	32.3	38.0	48.0	58.5
Max cont pressure (Bar)	207	207	207	207	207	207	172	138	138	121	103	69
(PSI)	3000	3000	3000	3000	3000	3000	2500	2000	2000	1750	1500	1000
Max op speed (rpm)	660	554	477	393	334	277	232	237	213	182	143	118

Frame size <b>TH</b>	<b>-0140</b>	<b>-0170</b>	<b>-0195</b>	<b>-0290</b>	<b>-0295</b>	<b>-0335</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)	140	169	195	237	280	337	405	476	529	624	786	958
(in <sup>3</sup> /rev)	8.6	10.3	11.9	14.5	17.1	20.6	24.7	29.1	32.3	38.0	48.0	58.5
Max continuous pressure (Bar)	207	207	207	207	207	207	172	138	138	121	103	69
(PSI)	3000	3000	3000	3000	3000	3000	2500	2000	2000	1750	1500	1000
Max operating speed (rpm)	660	554	477	393	334	277	232	237	213	182	143	118

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

# Motors Variable Displacement

## V12



- Very high operating speeds
- Displacement ratio 5:1
- Pressures to 482 Bar (7000 PSI)
- Very high power capability
- High starting torque
- Low weight
- High overall efficiency
- Axial or side ports
- Controls available for most needs
- ISO, SAE and cartridge versions

Frame size <b>V12</b>	<b>-60</b>	<b>-80</b>	<b>-110</b>
Displacement: 35° (max): (cm³/rev)	60	80	110
(in³/rev)	3.66	4.88	6.71
6.5° (min): (cm³/rev)	12	16	22
(in³/rev)	0.73	0.98	1.34
Max continuous pressure (Bar)	420	420	420
(PSI)	6090	6090	6090
Max operating speed* (RPM)	7000	6250	5600

\*At reduced displacement

## V14



- For open or closed circuits
- High starting torque and smooth operation
- Increased shaft speeds and improved support
- Improved sealing
- Faster control response
- Enlarged setting piston
- Tapered roller bearings
- Wide displacement range—5:1
- Small envelope size and high power-to-weight ratio
- Robust motor with long service life and proven reliability

Frame size* <b>V14</b>	<b>-110</b>	<b>-160</b>
Displacement: 35° (max): (cm³/rev)	110	160
(in³/rev)	6.71	9.76
6.5° (min): (cm³/rev)	22	32
(in³/rev)	1.34	1.95
Max continuous pressure (Bar)	420	420
(PSI)	6090	6090
Max operating speed** (RPM)	6500	5700

\*Additional frame sizes in preparation.

\*\*At reduced displacement

## T12



- Designed specifically for track drives
- Very high operating speeds
- Pressures to 482 Bar (7000 PSI)
- Very high power capability
- High starting torque
- Low weight
- High overall efficiency
- Axial or side ports
- Two-position control
- Cartridge version available

Frame size <b>T12</b>	<b>-60</b>	<b>-80</b>
Displacement: 35° (max): (cm³/rev)	60	80
(in³/rev)	3.66	4.88
10° (min): (cm³/rev)	18	24
(in³/rev)	1.10	1.46
Max continuous pressure (Bar)	420	420
(PSI)	6090	6090
Max operating speed* (RPM)	7000	6250

\*At reduced displacement

## M2



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

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* (Bar) (PSI)	166 2400	166 2400	166 2400	166 2400	166 2400	97 1400
Max transient pressure** (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

\*Intermittent conditions are to be less than 10% of each minute.

\*\*Transient conditions are to be less than 1% of every minute.

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

## M4



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

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* (Bar) (PSI)	166 2400	166 2400	166 2400	166 2400	166 2400
Max transient pressure** (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

\*Intermittent conditions are to be less than 10% of each minute.

\*\*Transient conditions are to be less than 1% of every minute.

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

# Compact Hydraulics

## 108 Series



- AC or DC motor
- 4 pump sizes: up to 2.8 LPM (.75 GPM)
- Single or bidirectional rotation
- Adjustable relief valve(s)
- Locking check valves available on all models

- Variety of hydraulic circuits
- Reservoirs from 28 cu. in. to 1.5 gallons
- 241 Bar (3500 PSI) capability

## 165 Series



- 1 HP, 12 VDC motor
- Up to 5.4 LPM (1.4 GPM)
- Variety of circuits including reversible locking
- Soft seat load hold check valves
- 241 Bar (3500 PSI) capability
- Many reservoir choices

# Hydraguide™ Hydrostatic Steering Units

## HGF



- Compact package size
- Patented pressure dams
- Removable upper column
- Full pressure shaft seal
- Internal relief valve
- Low noise option
- Manual emergency steering

Frame size <b>HGF</b>	<b>-08</b>	<b>-10</b>	<b>-12</b>	<b>-16</b>	<b>-20</b>	<b>-24</b>
Displacement (cm <sup>3</sup> /rev)	54.1	67.7	81.1	108.2	135.2	162.3
(in <sup>3</sup> /rev)	3.30	4.13	4.95	6.60	8.25	9.9
Max operating pressure (Bar)	124	124	124	124	124	124
(PSI)	1800	1800	1800	1800	1800	1800
Flow (LPM)	30	30	30	30	30	30
(GPM)	8	8	8	8	8	8



Parker offers single or double-acting telescopic cylinders and single or double-acting “rod type” mobile cylinders, available with:

- Bore sizes from 3"–14"
- Stroke up to 1270 cm (500")
- Operating pressures up to 689 Bar (10,000 PSI)
- Various materials and coatings including chrome, nitriding, stainless steel and double chrome

- Typical Options
  - Load holding valves
  - Flow controls and fuses
  - End of stroke cushions

Single-acting telescopics are available off the shelf or in production quantities. Parker can also design and manufacture cylinders to customer specifications from one piece to production quantities.

Our standard single-acting telescopic cylinders can be used with almost any mounting setup: dog-house, bail, side frame, underbody, inverted mounts or inverted mount design. These cylinders allow you to mount it and forget it.

## Design Features

- Longer sleeve overlap for stability
- External packing nuts add strength
- Beveled steel stop rings for superior strength
- Hi-strength tubing has up to 27% greater cross-section area
- Chevron packing and self-adjusting wave springs
- Wide rod bearings and improved, longer life urethane wiper rings
- Steel pin-eye mount
- Cylinder design that allows for easy repacking and repair

## Standard Build



Our Standard Build program offers the benefit of standard tube and rod sizes with custom design options to create a highly engineered, quality cylinder configurable to provide quick delivery. Various mounting options are available. The configurable menu provides same day assembly drawings and same day pricing. Bill of materials and manufacturing processes support a one to two week lead time.

Seal kits are available on same day delivery for consistent quality and standardization in service needs.

Standard Build cylinders are manufactured with Parker “Zero Leak” sealing technology which offers the following benefits:

- Additional outside diameter lip that prevents contaminants from entering the system by bypassing the OD of the wiper body.

- Superior BTU rod seal increases the conformity of the seal to the rod. The second lip on the seal improves stability, limiting the rocking motion of the seal to reduce seepage
- Buffer ring acts as a primary seal and pressure spike suppressor. The combination of rod seal and buffer ring results in an exceptionally dry rod for longer life.
- Piston includes 2 wear rings and bronze filled PTFE seal designed for extension free, leak proof service
- 1045/1050 chrome plated, induction hardened, 100K rod is more resistant to damage to rod and seal
- 1026 DOM cylinder tube bores are skived and roller burnished to provide precision finishes for extended seal life

# Directional Control Valves

## Constant Flow, Constant Pressure Constant Pressure Unloaded

### VDP12



### F130CF



### MV3



### VA20



### P70CF



### V20



### VPL



Parker offers two types of directional valves for the mobile industry: open-center valves (CFO) and closed-center valves (CFC). The two types result in completely different control characteristics.

CFO valves are intended for applications in which simple, uncomplicated components are required and where the demands for simultaneous-operation characteristics are moderate. CFC valves are intended for applications in which the demands on control characteristics are great, while at the same time a system with a fixed pump is required.

CP and CPU valves are used when there is a high demand for good control precision, with little interference between functions, during simultaneous operation. The system is of simple construction, but requires a certain adaptation to the application in order to give an ideal combination of function, operating economy and control characteristics

Parker valves can be obtained with a large number of optional components and mountings such as:

- A main pressure relief
- Individually adjusted port-relief and anti-cavitation valves
- Separate replenishing valves with counterpressure valves
- Application adapted spools
- A large selection of spool actuators
- Single or multi-pump operation by stacked valves
- Subplate, stackable or manifold styles
- Load hold checks
- Crossover reliefs
- Flow controls
- Power beyond feature
- Proportional inlets for fine metering
- E-stop: pump channel blocked in emergency

Options vary for different valves.

## Constant Pressure/Constant Pressure Unloaded

Valve	Pump Flow LPM (GPM)	Pressure Bar (PSI)	Operation			
			Manual	Pneumatic	Hydraulic	Solenoid
V10	57 (15)	241 (3500)	X		X	X
P70CF	75 (20)	317 (4600)	X	X	X	X
V20	94 (25)	241 (3500)	X	X	X	X
F130CP	151 (40)	320 (4600)	X	X	X	X
VA/VG20	151 (40)	241 (3500)	X	X	X	X
VPL	189 (50)	345 (5000)	X		X	X
VA/VG35	264 (70)	241 (3500)	X	X	X	X
VP/VPO	377 (100)	276 (4000)	X		X	X
300/400	61 (16)	173 (2500)	X		X	

**Constant Flow**

Valve	Pump Flow LPM (GPM)	Pressure Bar (PSI)	Operation			
			Manual	Pneumatic	Hydraulic	Solenoid
<b>Open-Center</b>						
<b>VY13</b>	15 (4)	138 (2000)	X			
<b>BV06</b>	38 (10)	207 (3000)				X
<b>MV3</b>	30 (8)	207 (3000)	X			
<b>MV4</b>	45 (12)	207 (3000)				X
<b>MV5</b>	23 (6)	207 (3000)				X
<b>V10</b>	57 (15)	241 (3500)	X		X	X
<b>V11</b>	57 (15)	241 (3500)	X			
<b>V12</b>	45 (12)	207 (3000)	X			
<b>BV18</b>	75 (20)	345 (5000)	X		X	X
<b>MD04</b>	30 (8)	207 (3000)				X
<b>MD06</b>	45 (12)	207 (3000)				X
<b>MD12</b>	188 (50)	207 (3000)	X		X	X
<b>P70CF</b>	75 (20)	317 (4600)	X	X	X	X
<b>VDP11</b>	75 (20)	138 (2000)	X			
<b>V20</b>	94 (25)	241 (3500)	X	X	X	X
<b>VDP12</b>	94 (25)	241 (3500)	X			
<b>F130CF</b>	128 (34)	320 (4600)	X	X	X	X
<b>VA/VG20</b>	151 (40)	241 (3500)	X	X	X	X
<b>H170CF</b>	170 (45)	317 (4600)	X	X	X	X
<b>VA/VG35</b>	264 (70)	241 (3500)	X	X	X	X
<b>V70</b>	263 (70)	241 (3500)	X	X	X	
<b>V90</b>	377 (100)	241 (3500)	X	X	X	
<b>V20HR/HRO</b>	94 (25)	241 (3500)	X		X	
<b>SP/SPK/SSK</b>	76 (20)	138 (2000)	X			
<b>Closed-Center</b>						
<b>V10</b>	57 (15)	241 (3500)	X		X	X
<b>V20</b>	94 (25)	241 (3500)	X	X	X	X
<b>VA/VG20</b>	151 (40)	241 (3500)	X	X	X	X
<b>VPL</b>	189 (50)	345 (5000)	X		X	X
<b>VA/VG35</b>	264 (70)	241 (3500)	X	X	X	X
<b>HV08</b>	302 (80)	317 (4600)	X	X	X	X
<b>VP/VPO</b>	377 (100)	276 (4000)	X		X	X

# Directional Control Valves Load Sensing

## MMV6



## L90LS



## K220LS



The directional control valve in the load sense system regulates the displacement of a variable displacement pump via a load signal line. The pump maintains a pressure difference between its outlet port and the highest load signal to supply pressure and flow to match demand. These systems are the most advanced in the industry, offering optimum control characteristics with good efficiency/fuel economy.

Parker valves can be obtained with a large number of optional components and mountings such as:

- Main pressure relief

- Individually adjusted port-relief and anti-cavitation valves
- Separate replenishing valves with counterpressure valves
- Application adapted spools
- A large selection of spool actuators
- Single or multi-pump operation by stacked valves
- Subplate, stackable or manifold styles
- Load hold checks
- Crossover reliefs
- Flow controls
- Variable or fixed pumps

Options vary for different valves.

## M400LS



## PC25



## Load Sensing

Valve	Pump Flow LPM (GPM)	Pressure Bar (PSI)	Operation			
			Manual	Pneumatic	Hydraulic	Solenoid
MMV6	30 (8)	276 (4000)				X
V16	57 (15)	241 (3500)	X	X	X	X
V20PC	75 (20)	241 (3500)	X	X	X	X
MMV10	79 (21)	345 (5000)	X			X
V20LS	94 (25)	241 (3500)	X	X	X	X
V26	98 (26)	241 (3500)	X	X	X	X
MMV12	128 (34)	345 (5000)	X		X	X
L90LS	150 (40)	317 (4600)	X	X	X	X
PC25	170 (45)	276 (4000)	X	X	X	X
VPL	189 (50)	345 (5000)	X		X	X
MMV16	196 (52)	345 (5000)	X		X	X
K170LS	226 (60)	317 (4600)	X	X	X	X
K220LS	245 (65)	345 (5000)			X	X
PC55	264 (70)	276 (4000)	X	X	X	X
HV08	302 (80)	317 (4600)	X		X	X
V86	339 (90)	241 (3500)	X	X	X	X
VP/VPO	377 (100)	276 (4000)	X		X	X
M400LS	900 (238)	275 (4000)			X	
VF	95 (25)	207 (3000)				X



## Directional Control Valves

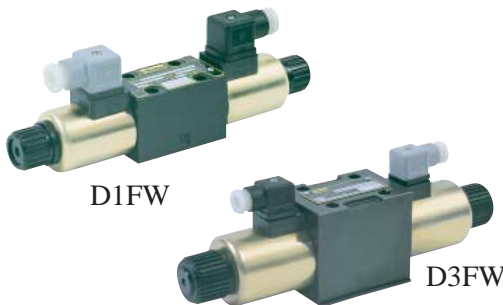


- NFPA manifold or subplate mounting
- Rugged spools with four control lands; up to 21 spool styles available depending on operator
- Solenoid, lever, cam, air or oil pilot operated
- Soft-shift available on D1 and D3 solenoid valves
- Low pressure drop
- Phosphate finish body
- Easy access mounting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

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

\*Depending on spool

## Proportional Directional Valves



- Optional integrated control electronics with ramp adjustment
- Progressive flow characteristics for improved low flow resolution
- Wide selection of spool options and flow capacity

## Manapak Sandwich Valves



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

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

# Valves Hydraulic

## Cartpak Sandwich Valves



- 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
- Each Cartpak body offers a wide range of hydraulic control functions

- Functions include:
  - Pressure relief
  - Pressure reducing
  - Pressure sequencing
  - Flow control
  - Directional control (two-way, three-way)
  - Proportional flow control
  - Proportional pressure control

## 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

## 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

## 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

## 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

## ParTrol Valves



- Inline mounted flow, needle and check valves
- Port sizes up to 1/2" NPT, SAE (-8) thd.
- Pressure ranges up to 345 Bar (5000 PSI) in steel, 138 Bar (2000 PSI) in brass
- Prestolok ports available up to 3/8"
- Available in brass, steel and stainless steel
- Needle valves and flow controls available with a fine needle option

## Ball Valves



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

Valve	Function	Pressure Bar (PSI)	Port Sizes	Material
BVAM	2-way	138 (2000)	2½" – 4"	Steel
BVHP	2-way	414 (6000)	¼" – 1"	Steel
BVAH	2-way	414 (6000)	¼" – 2"	Steel
BVHH	2-way	993 (14,000)	½" – 2"	Steel
BVMM	2 & 3-way (manifold)	414 (6000)	¼" – 1½"	Steel
BV3D	3-way	207 (3000)	¼" – 2"	Steel
BV3H/BV4H	3 & 4-way	414 (6000)	¼" – 2"	Steel
BVAL	2-way (suction)	28 (400)	2½" – 4"	Steel
590	2-way (right angle)	17 (250)	¼" – ½"	Brass
500	2-way	41 (600)	¼" – 2"	Brass
500CS	2-way	138 (2000)	¼" – 1"	Steel
500SS	2-way	138 (2000)	¼" – 1"	Stainless steel

# Valves Hydraulic

- Volume and Check Valves**
- Hydraulic velocity fuse valves
  - Low cost check valves
  - Restrictor check valves
  - Priority flow control valves



- Auxiliary Valves**
- Small dimensions
  - Easy to install



Valve	Valve Type	Max. Working Pressure Bar (PSI)	Max. Setting Pressure Bar (PSI)	Flow Capacity LPM (GPM)
PLC	Direct-Acting pressure relief	420 (6000)	420 (6000)	350 (93)
PLD	Direct-Acting pressure relief	300 (4350)	300 (4350)	40 (11)
PRS6	Pressure reducing	250 (3625)	250 (3625)	30 (8)
QDS6	Sequence, 3-way	250 (3625)	250 (3625)	20 (5.3)
VV6	Shuttle	250 (3625)	250 (3625)	20 (5.3)



- Flow controls, flow dividers, pilot operated check valves, relief valves, selector valves and bankable/stackable directional control valves
- Flows to 225 LPM (60 GPM)
- Pressures to 207 Bar (3000 PSI)
- Cast iron bodies

Valve	Function	Pressure Flow	Pressure (SAE Porting)	Pressure (NTPF Porting)
<b>CFQ</b>	30 Liters/Min (8 GPM) Adjustable Flow Control 113 Liters/Min (30 GPM)	60 Liters/Min (16 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>CFD</b>	Priority-Type Flow Control	56 Liters/Min (15 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>CFDA</b>	Pressure Compensated Priority-Type Flow Control	56 Liters/Min (15 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
<b>DC</b>	Pressure Compensated Priority-Type Flow Control	98 Liters/Min (26 GPM)	241 Bar (3500 PSI)	138 Bar (2000 PSI)
<b>PD/PDC</b>	Flow Divider/Combiner	75 Liters/Min (20 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
<b>LO</b>	Sgl./Db. Pilot Operated Check	94 Liters/Min (25 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>LOA</b>	Sgl./Db. Pilot Operated Check	38 Liters/Min (10 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>WJT/WJL</b>	Diff. Area Poppet Relief	94 Liters/Min (25 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>RPJT/RPJL</b>	Pilot Operated Relief	94 Liters/Min (25 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
<b>JT/JL</b>	Ball-Type Relief	75 Liters/Min (20 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
<b>KCL</b>	Ball-Type Relief	142 Liters/Min (38 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
<b>RPL</b>	P. O. Poppet Type Relief	225 Liters/Min (60 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
<b>DXV</b>	Ball-Type Crossover Relief	38 Liters/Min (10 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
<b>DWV</b>	Diff. Area Crossover Relief	113 Liters/Min (30 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
<b>HP 20</b>	Hydraulic Pilot Pressure	75 Liters/Min (20 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>HP 50</b>	Hydraulic Pilot Pressure	188 Liters/Min (50 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
<b>S-50</b> <b>S-75</b> <b>S-100</b>	Manual Selector	75 Liters/Min (20 GPM) 113 Liters/Min (30 GPM) 225 Liters/Min (60 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>SM</b>	Manual Selector	75 Liters/Min (20 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>HM</b>	Manual Selector	38 Liters/Min (10 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
<b>DS12</b> <b>DS75</b> <b>DS71</b>	Manual Double Selector Valve	94 Liters/Min (25 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
<b>MA06</b>	2-Way, Sol. Op. Stackable Valve	30 Liters/Min (8 GPM)	207 Bar (3000 PSI)	–
<b>MA10</b>	Cam Operated 2-Way	23 Liters/Min (6 GPM)	207 Bar (3000 PSI)	–
<b>MA12</b>	2-Way, Solenoid Op, Bankable/Stackable	188 Liters/Min (50 GPM)	207 Bar (3000 PSI)	–
<b>MD04</b>	2-Position & 3-Position 4-Way Bankable/Stackable	30 Liters/Min (8 GPM)	207 Bar (3000 PSI)	–
<b>MD06</b>	2-Position & 3-Position 4-Way Bankable/Stackable	45 Liters/Min (12 GPM)	207 Bar (3000 PSI)	–
<b>MD12</b>	2-Position & 3-Position 4-Way Bankable/Stackable	188 Liters/Min (50 GPM)	207 Bar (3000 PSI)	–
<b>MS06</b>	2-Position, 6-Ported Selector 4-Way Bankable/Stackable	30 Liters/Min (8 GPM)	207 Bar (3000 PSI)	–

# 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 cavities 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)

## Check/Shuttle Valves

Valve Type	Max Working Pressure Bar (PSI)	Max Flow Capacity Liters/Min (GPM)
Check valves	207 (3000) 345 (5000)	83 (22) 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)

# Threaded Cartridge Valves

## Directional Control Valves

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)

## Proportional Control Valves

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 pressure control valves	207 (3000)	151 (40)
Solenoid operated, two-way NC throttle valve	207 (3000)	19 (5)
Solenoid operated, proportional pressure reducing valves	207 (3000)	38 (10)
Solenoid operated, three-way, proportional pressure control	207 (3000)	11 (3)

## Load/Motor Controls

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

# Threaded Cartridge Valves

## Pressure Control Valves

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)

## Flow Control Valves

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 with relief	241 (3500)	34 (9)	57 (15)
Velocity fuses	207 (3000)	-	30 (8)



# 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. Some 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.

## Specialty Valves

Valve Type	Max Working Pressure Bar (PSI)	Flow Capacity Liters/Min (GPM)
Flow Control Spreader Valve	172 (2500)	151 (40)
Filter Cartridge	241 (3500)	57 (15)

## Specialty Valves

# Remote Control Systems

## Hydraulic



PCL4



PCL4-N

The PCL4 is a hydraulic pilot system for the proportional remote control of directional valves, pumps, motors, etc. It is available with coordinate lever-units, as well as linear units for hand or foot control.

The PCL4 is intended primarily for the remote control of hydraulically operated spool actuators and pump regulators in all kinds of mobile and industrial applications.

All connection ports can be obtained with G $\frac{1}{4}$ , M14x1.5 or  $\frac{9}{16}$  UNF connection threads. The coordinate valve is available in a version with all connections in the base plate. Up to 6 linear units can be built together in a block.

System Type	Hydraulic Pilot Pressure
Control pressure range	1–69 Bar (14–1000 PSI)
Control flow	Max 4 LPM (1 GPM)
Individual control characteristics for each direction	X
Selectable start and final pressures	X
Selectable lever force	X
Curves with straight characteristics	X
Curves with two-step characteristics	X
Curves with forced opening (final step)	X
Friction brake for retention in any position	X
Mechanical or electromagnetic end-position detent	X

## Pneumatic



VP04

The VP04 is a pneumatic pilot valve for the proportional remote control of directional valves, positioning cylinders, etc. Either linear or coordinate-lever versions of the VP04 are available.

Principal applications include the proportional remote control of pneumatic spool-actuators and positioning cylinders in mobile or industrial hydraulic systems.

All connections are furnished with couplings of the plug-in type. The signal ports can be obtained for 6 mm or  $\frac{1}{4}$ " O.D. hoses. The primary ports and tank ports are available in 6 mm, 8 mm,  $\frac{1}{4}$ " or  $\frac{5}{16}$ " I.D.

System Type	Pneumatic Pilot Pressure
Control pressure range	0–8 Bar (0–115 PSI)
Control flow	Max 7 NI/s (14.8 cfm)
Control curves with straight characteristics	X
Mechanical end-position detent	X



IQAN is a new concept, based on user-friendly, immensely flexible software. IQAN makes it possible to develop better machinery more quickly, at a much lower cost. The unique IQAN approach combines sturdy, well-tested hardware with intelligent, flexible computing power.

With IQAN you will be able to integrate all control systems into one. On a mobile machine this opens up a whole array of new possibilities, without adding complexity. Being user-friendly means that it is possible to alter or add functions at the development stage as well as later on. All this can be done with a laptop or a palmtop computer and the master module, without any programming skills.

### Design Features

- New level of user-friendliness
- Better safety
- Higher productivity
- More powerful diagnostics
- Improved ergonomics
- Easy to add options
- Error handling support
- Intuitive graphic interface

### Component Concept

### Stand-alone Concept

### System Concept



*Task oriented control systems with software tools to build functionality*

*An expandable modular control system with software tools to add modules and build functionality*

Product Types	Model Codes
CANbus Master	IQAN-MDM
CANbus Modules	IQAN-XP, IQAN-XS, IQAN-XP2, IQAN-XT2
CANbus Joysticks	IQAN-LL, IQAN-LM
Stand-alone Controls	IQAN-TOC8, IQAN-TOC2
Analog Joysticks	IQAN-LSL, IQAN-LST, IQAN-LF1, ICL4, ICM4
Sensors	IQAN-SP035, IQAN-SP500, IQAN-ST

More information is available at our website [www.iqan.com](http://www.iqan.com)

# Rotary Actuators

## HTR Series



The HTR is a rack and pinion rotary actuator in a compact package, providing high power at low rotational speed. The gearing and cylinders are self-contained and protected against contamination, all within a precision machined housing

that can be integrated into the end user's product. Heavy duty bearings support large externally applied shaft loads. Standard and custom rotations are available with a variety of options.

## LTR Series



The LTR Series is suitable for low-pressure applications. High strength alloy steel rack and pinion gearing is combined with lightweight aluminum housings to provide an effective, compact solution over a wide range of rotation and power needs. Three positions of rotation available with a full range of options.

## M (Mill) Series



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

The Mill (M) Series is the non-tiered version of the rack and pinion actuator that provides dependability features, improved durability and enhanced ease of maintenance. Encompassing a wide range of performance and special features, offers custom configurations to fit special needs for materials, and performance provisions for power, speed, and duty cycle.

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	207 (3000)	145 (8.8)	2486 (22,000)
30	207 (3000)	186 (11.3)	3390 (30,000)
45	207 (3000)	290 (17.7)	5084 (45,000)
75	207 (3000)	480 (29.3)	8474 (75,000)
150	207 (3000)	960 (58.6)	16,948 (150,000)
300	207 (3000)	1863 (113.3)	33,896 (300,000)
600	207 (3000)	3716 (226.0)	67,791 (600,000)

### LTR Series

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)

### M (Mill) Series

75	207 (3000)	453 (27)	8474 (75,000)
150	207 (3000)	907 (55)	16,948 (150,000)
300	207 (3000)	1836 (112)	33,896 (300,000)
600	207 (3000)	3662 (224)	67,791 (600,000)
1000	207 (3000)	5800 (354)	113,000 (1,000,000)
50000	207 (3000)	285,523 (17,423)	5,650,000 (50,000,000)

## HRN Series



The HRN Series provides an additional range of vane actuator technology, allowing more options in optimum torque and pressure. Single and double vane options provide high torque in a compact package for the medium to high operating pressure range. The rugged construction assures long life and reliability. The units are precision machined from high grade materials and the compact size offers maximum flexibility in mounting and packaging. Unique cushion options are available for applications where control of high inertia loads is critical.

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)	9.8 (86.7)
<b>10D</b>	69 (1000)	4.14 (0.25)	19.6 (173.5)
<b>15S</b>	69 (1000)	3.61 (0.2)	19.6 (173.5)
<b>15D</b>	69 (1000)	7.00 (0.4)	39.2 (346.9)
<b>20S</b>	69 (1000)	5.09 (0.3)	29.4 (260.2)
<b>20D</b>	69 (1000)	10.19 (0.6)	58.8 (520.4)
<b>30S</b>	69 (1000)	10.82 (0.7)	58.8 (520.4)
<b>30D</b>	69 (1000)	21.65 (1.3)	117.6 (1040.8)
<b>100S</b>	69 (1000)	23.55 (1.4)	123 (1088.6)
<b>100D</b>	69 (1000)	47.11 (2.9)	245 (2168.3)
<b>200S</b>	69 (1000)	46.90 (2.9)	314 (2779.0)
<b>200D</b>	69 (1000)	93.58 (5.7)	627 (5549.2)
<b>400S</b>	69 (1000)	92.31 (5.6)	539 (4770.4)
<b>400D</b>	69 (1000)	184.62 (11.3)	1078 (9540.7)
<b>700S</b>	69 (1000)	165.52 (10.1)	980 (8673.4)
<b>700D</b>	69 (1000)	331.04 (20.2)	1960.1 (17,346.7)

## Tork-Mor Series



The Tork-Mor Series converts fluid pressure to rotational power using vane actuator technology. Torque output is provided within a limited range of rotation, either 100 degrees on a double vane or 280 degrees for a single vane unit. The compact, cylindrically shaped housing can be easily integrated. Bearing capacity is limited and seal bypass leakage flow compensation is required to hold position. Units can be selected with a variety of options for mounting, shaft configuration, seals, stops and switches.

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)	29.17 (0.36)	90 (800)
<b>DS33</b>	34 (500)	58.21 (0.7)	184 (1625)
<b>S42</b>	68 (1000)	60.02 (1.5)	381 (3370)
<b>DS42</b>	68 (1000)	120.18 (2.0)	762 (6740)
<b>S44</b>	51 (750)	106.63 (3.1)	463 (4100)
<b>DS44</b>	34 (500)	212.19 (4.0)	621 (5500)
<b>S46</b>	34 (500)	159.95 (5.7)	458 (4050)
<b>DS46</b>	17 (250)	320.17 (8.8)	424 (3750)
<b>S74</b>	68 (1000)	355.45 (11.3)	2260 (20,000)
<b>DS74</b>	51 (750)	710.76 (17.7)	3344 (29,600)
<b>S77</b>	51 (750)	623.71 (29.3)	2859 (25,300)
<b>DS77</b>	34 (3000)	1248.75 (58.6)	3819 (33,800)
<b>S105</b>	68 (1000)	1093.16 (113.3)	6926 (61,300)
<b>DS105</b>	68 (1000)	2187.67 (226.0)	14,010 (124,000)
<b>S108</b>	51 (750)	1747.05 (226.0)	8022 (71,000)
<b>DS108</b>	51 (750)	3492.75 (226.0)	16,383 (145,000)
<b>S1012</b>	34 (500)	2618.90 (226.0)	7943 (70,300)
<b>DS1012</b>	34 (500)	5239.13 (226.0)	16,044 (142,000)

# Accumulators



## 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



## 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



## GREER Bladder Accumulators

- Standard capacities from 10 cu. in. (.16 liters) to 15 gallons (56 liters)
- Maximum operating pressures up to 414 Bar (6000 PSI)
- Bladders manufactured in-house
- Six bladder compound 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

## 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

## 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

## 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

# Filtration

## Low Pressure



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

Model	Max Flow LPM (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
IL2, RF2	452 (120)	13.8 (200)	Inline, L-style
BGTS	2400 (640)	10.3 (150)	Return in-tank

## Medium Pressure



- NPT, SAE or flange ports
- High capacity/high efficiency Microglass III media

- Cartridge style bypass valve
- Visual and electrical indicators with several connector styles

Model	Max Flow LPM (GPM)	Max Pressure Bar (PSI)	Mounting Style
15CN	94 (25)	69 (1000)	Inline
40CN	302 (80)	69 (1000)	Inline
80CN	452 (120)	69 (1000)	Inline
MPD	581 (150)	82 (1200)	Duplex
IL8	1609 (425)	34.5 (500)	Inline, duplex, quadplex

## High Pressure



- SAE, flange or ISO ports
- High capacity/high efficiency Microglass III 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

Model	Max Flow LPM (GPM)	Max Pressure Bar (PSI)	Mounting Style
15P	75 (20)	207 (3000)	Inline, manifold
30P	170 (45)	207 (3000)	Inline, manifold
30PD	94 (25)	207 (3000)	Inline, duplex
50P	377 (100)	345 (5000)	Inline, bowl up
50PR	264 (70)	345 (5000)	Inline, reverse flow
18P	94 (25)	414 (6000)	Inline
28P	207 (55)	414 (6000)	Inline
38P	415 (110)	414 (6000)	Inline
272/372	455 (120)	414 (6000)	Inline, reverse flow
1000	1000 (265)	414 (6000)	Inline
ServoSaver	115 (30)	275 (4000)	Manifold, sandwich plate
12S	95 (25)	1380 (20,000)	Inline



## Portable/Offline Systems



Guardian

- Provide flexibility for removing contaminants from hydraulic fluid
- Guardian hand-held purification system with 15 LPM (4 GPM) flow rate
- Choice of five portable purification systems including 18, 37, 75, 113 and 170 LPM (5, 10, 20, 30 and 45 GPM) flow rates

- Choice of two filter carts:
  - 18 LPM (5 GPM) flow; 1892 LPM (500 GPM) SUS max; ½ HP motor
  - 37 LPM (10 GPM) flow; 11,356 LPM (3000 GPM) SUS max; ¾ HP motor



PVS



Filtercart

## Par Gel



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

## 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

## Reservoir Accessories



- Metallic and non-metallic breathers and filler breathers
- Triceptor™ desiccant breathers
- Spin-on breathers

- Diffusers
- Fluid level/temperature gauges
- Suction strainers

# Fluid Analysis

## PLC-3000



The fully portable PLC-3000 particle counter can perform both on-line and bottle sampling, with the same unit, while reporting counts at 2, 5, 15, 25, 50 and 100 microns. Features include:

- RS232 serial port with Windows-based software

- Particle counting in ISO or NAS format in less than one minute
- On-line sampling up to 414 Bar (6000 PSI)
- Petroleum based and phosphate ester (Skydrol®) fluid compatible with the same unit

## 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 minutes 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

## 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 mailing container. The standard tests included with the service are:

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

## 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

## 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



## 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



## 45 degree Flare Fittings

- Reusable
- Resist vibration
- Resist mechanical pullout
- Easy to assemble and disassemble
- Extrusions and forgings available



## Pipe Fittings

- SAE standards
- Large range of sizes and styles
- Pre-applied sealant available
- Threads made to dryseal standards
- Extrusions and forgings available



## Vibra-Lok

- Excellent vibration resistance
- Viton sleeve for higher temperatures
- Used with wide range of tubing
- Simple to assemble
- NPTF threads and SAE straight threads standard
- Optional threads available

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

# Fluid Connectors Quick Couplings

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

available in steel, brass, stainless steel and plastic 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.

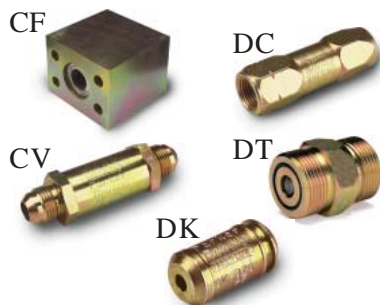
- Sizes from 1/4" to 2"
- Steel, stainless steel, plastic
- Pressures to 10,000 PSI
- Flows up to 50 GPM
- Temp. range from -40° to +400°F



## 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 offset bearing races reduce swivel wear while 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*)
- Standard zinc with Yellow Chromate plating, nickel plating



## 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 several unique features that will ensure years of trouble-free operation.

- Configurations include standard inline, cartridge style and split-flange mounting units
- Sizes from 1/4" to 2"
- Pressures to 5000 PSI
- Crack pressures: 5–130 PSI



## Diagnostic Nipples and Equipment

Parker's complete 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.

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.

With a wide variety of inner tubes, reinforcement and cover combinations to meet your specific application requirements, our hoses range in size from 1/4" to 3" I.D. and have the same reputation for quality as our fittings do.



## Low Pressure

Pneumatic, specialty, air conditioning, and heavy duty truck/mobile equipment hose make up the bulk of the low pressure market. In addition to diesel engine and return line

hoses, Parker manufactures Push-Lok hoses. They 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 or exceed your medium

pressure needs. Parker's 43 Series fittings provide a broad 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, provides 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.

# Fluid Connectors Thermoplastic Products



## Thermoplastic Tubing and Fittings

- Thermoplastic fittings
  - TrueSeal™
  - Fast & Tite®
  - Par-Barb
- Fast-Stor® hose & fittings
  - Nylon Fast-Stor
  - NoMar Polyurethane Fast-Stor
- Tubing products
  - Polyethylene
  - Nylon
  - Polypropylene
  - Clear vinyl



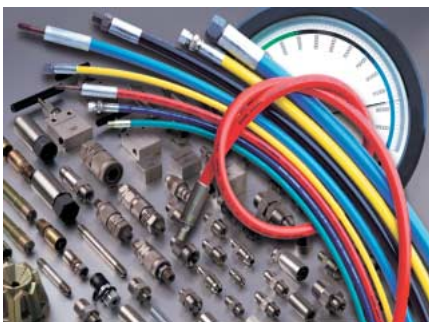
## Thermoplastic Hydraulic and Pneumatic Hose

- 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
- FEP core tube



## polyflex® Hose Products

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

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



## O-Ring Face Seal Fittings

- Leak-free connections 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

# Sales Offices

## North America

### USA

**Mobile Systems  
Hydraulics Group**  
595 Schelter Road  
Lincolnshire, IL 60069  
Tel: (847) 821 1500  
Fax: (847) 821 7600

### Canada

**Motion & Control Canada**  
8485 Parkhill Dr.  
Milton, Ontario L9T5E9  
Tel: (905) 693 3020  
Fax: (905) 876 1958

### México

**Parker Hannifin de México, S.A. de C.V.**  
Via de Ferrocarril a Matamoros #730  
Apodaca, N.L. Mexico  
C.P. 66600  
Tel: (52) (81) 8156 6000  
Fax: (52) (81) 8156 6076

## Europe

### Austria

**Parker Hannifin GmbH**  
Badener Strasse 12  
AT-2700 Wiener Neustadt  
Austria  
Tel: (43) 2622 23501  
Fax: (43) 2622 66212

### Belgium

**Parker Hannifin S.A.-N.V.**  
Parc Industriel Sud-Zone II  
Rue du Bosquet, 23  
B-1400 Nivelles  
Belgium  
Tel: (32) 67 280 900  
Fax: (32) 67 280 999

### Czech Republic

**Parker Hannifin s.r.o.**  
Dopravaku 723  
CZ-184 00 Prague 8, Czech Republic  
Tel: (420) 2 830 85 221  
Fax: (420) 2 830 85 360

### Germany-Sales Location

**Parker Hannifin GmbH**  
Gutenbergstrasse 38-40  
DE-41564 Kaarst  
Germany  
Tel: (49) 2131 4016 0  
Fax: (49) 2131 4016 9199

### Denmark

**Parker Hannifin Denmark A/S**  
Industriparken 37  
DK-2750 Ballerup  
Denmark  
Tel: (45) 4356 0400  
Fax: (45) 4373 8431

### United Kingdom

**Parker Hannifin plc**  
Tachbrook Park Drive  
Tachbrook Park  
Warwick, CV34 6TU  
England  
Tel: (44) 1926 317 878  
Fax: (44) 1926 317 855

### Finland

**Parker Hannifin Oy**  
Ylästöntie 16  
FI-01510 Vantaa, Finland  
Tel: (358) 9 4767 31  
Fax: (358) 0 4767 3200

### France

**Parker Hannifin S.A.**  
142, Rue de la Forêt  
FR-74130 Contamine-sur-Arve, France  
Tel: (33) 450 25 80 25  
Fax: (33) 450 03 67 37

### Hungary

**Parker Hannifin  
Hungarian Trade  
Representative Office**  
Vesér u. 156-158  
HU-1148 Budapest  
Hungary  
Tel: (36) 1 252 8137  
Fax: (36) 1 252 8129

### Italy

**Parker Hannifin SpA**  
Via Privata Archimede 1  
IT 1-20094 Corsico, Milano, Italy  
Tel: (39) 02 45 19 21  
Fax: (39) 02 4 47 93 40

### The Netherlands

**Parker Hannifin B.V.**  
Edisonstraat 1  
Postbus 340  
NL-7575 AT Oldenzaal  
Netherlands  
Tel: (31) 541 585000  
Fax: (31) 541 585459

### Norway

**Parker Hannifin A/S**  
Berghagen Langhus  
P.O. Box 3008  
NO-1402 Ski  
Norway  
Tel: (47) 64 91 10 00  
Fax: (47) 64 91 10 90

### Poland

**Parker Hannifin Sp.z.o.o**  
Parowcowa 8 B  
PL-02445 Warsaw, Poland  
Tel: (48) 22 863 49 42  
Fax: (48) 22 863 49 44

### 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  
Fax: (34) 91 675 77 11

### Sweden

**Parker Hannifin AB**  
Fagerstagatan 51  
Box 8314  
SE-16308 Spånga  
Sweden  
Tel: (46) 8 597 950 00  
Fax: (46) 8 597 951 10



## Asia Pacific

### Australia

**Parker Hannifin Australia**  
9 Carrington Road  
Castle Hill, N.S.W 2154, Australia  
Tel: (61) 2-9634 7777  
Fax: (61) 2-9842 5111

### China

**Parker Hannifin Hong Kong Ltd.**  
8/F King Yip Plaza  
9 Cheung Yee Street  
Cheung Sha Wan, Kowloon  
Hong Kong  
Tel: 852 2428 8008  
Fax: 852 2480 4256

### Parker Hannifin Shanghai Office

Room 1101, Peregrine Plaza  
1325 Huai Hai Road (M)  
Shanghai 200031, PR China  
Tel: 86 21 6445 9339  
Fax: 86 21 6445 9717

### India

**Parker Hannifin India Pvt. Ltd.**  
Plot No. EL 26, TTC Industrial Area,  
Mahape, Navi Mumbai 400 709  
India  
Tel: 91 22 55907081-85  
Fax: 91 22 5590 7080

### Korea

**Parker Korea, Ltd.**  
777 Jung-Ri  
Dongtan-Myeon, Hwaseong-City  
Kyunggi-do, Korea 445-813  
Tel: 82 31 379 2200  
Fax: 82 31 377 9710

### New Zealand

**Parker Hannifin NZ Ltd.**  
2 Timaru Place  
Mt. Wellington, New Zealand  
Tel: (64) 9 273 8944  
Fax: (64) 9 273 8943

### Japan

**Parker Hannifin Japan Ltd.**  
Shirokanedai Bldg. 2nd Floor  
3-2-10 Shirokanedai  
Minato-ku, Tokyo 108-0071 Japan  
Tel: 81 3 6408 3900  
Fax: 81 3 5449 7201

### Singapore

**Parker Hannifin Singapore Pte Ltd.**  
No. 11 Fourth Chin Bee Road  
Jurong Town, Singapore 619702  
Republic of Singapore  
Tel: 65 6887 6300  
Fax: 65 6265 5125

### Taiwan

**Parker Hannifin Taiwan, Ltd.**  
No. 4, Wu Chiuan 3rd Rd.,  
Wuku Industrial Park  
Taipei County, Taiwan 248, ROC  
Tel: 886 2 2298 8987  
Fax: 886 2 2298 8982

### Russia

**Parker Hannifin Corporation**  
Trekhrudniy Pereulok 9,  
Bld. 2, Office 101  
123001, Moscow, Russia  
Tel: (7) 095 234 00 54  
Fax: (7) 095 234 05 28

### Thailand

**Parker Hannifin (Thailand) Co., Ltd.**  
1023 3rd Floor, TPS Building  
Pattanakarn Road,  
Suanluang, Bangkok 10250  
Thailand  
Tel: 662 717 8140  
Fax: 662 717 8148

## Middle East

### United Arab Emirates

**Parker Hannifin Corporation**  
P.O. Box 46451  
Abu Dhabi  
United Arab Emirates  
Tel: (971) 2 67 88 587  
Fax: (971) 2 67 93 812

## Latin America

### Pan American Division

**Parker Hannifin Corporation**  
7400 N.W. 19th Street  
Suite A  
Miami, FL 33126  
Tel: (305) 470 8800  
Fax: (305) 470 8808

### Argentina

**Parker Hannifin Argentina S.A.I.C.**  
Stephenson 2711  
1667 Tortuguitas-Malvinas Argentinas  
Pcia. de Buenos Aires, Argentina  
Tel: (54) 3327 44 4129  
Fax: (54) 3327 44 4199

### Brazil

**Parker Hannifin**  
**Divisao Hidraulica**  
Av. Federico Ritter 1100  
94930-000 Cachoeirinha RS,  
Brazil  
Tel: (55) 51 470 2778  
Fax: (55) 51 470 6090

### Venezuela

**Parker Hannifin de Venezuela S.A.**  
Av. Principal con calle Miraima  
Edificio Draza  
Boleita Norte  
Caracas, Venezuela  
Tel: (58) 212 238 5422  
Fax: (58) 212 239 2272

## Africa

### South Africa

**Republic of South Africa**  
**Parker Hannifin Africa Pty. Ltd.**  
Parker Place  
10 Berne Ave., Aeroport  
Kempton Park  
Republic of South Africa  
Tel: (27) (0)11-961 0700  
Fax: (27) (0)11-392 7213

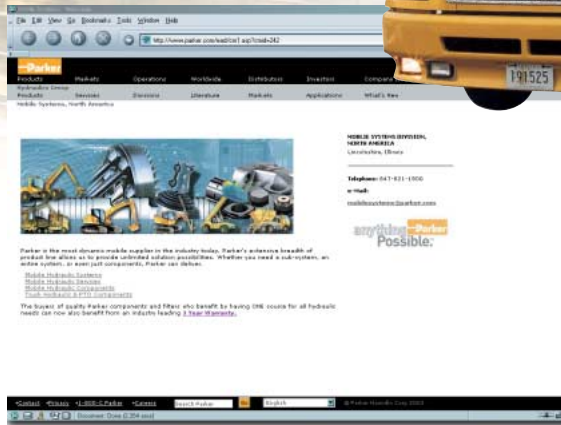
# Contact Information

Tel **1-800-CPARKER**

Fax **1-847-821-7600**

**www.parker.com/mobilesystems**

Email **mobilesystems@parker.com**



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- Pentium®-class processor
- Win® 95 OSR 2.0, Win 98 Sec. Ed., Win ME, Win NT 4.0 (with Service Pack 5 or 6), Win 2000 or Win XP
- 16 MB of RAM (32 recommended)
- 20 MB of available hard-disk space

## Acrobat Reader

Catalog files are viewed using Adobe Acrobat Reader. If you do not have Acrobat Reader installed on your PC, it will install from the CD. If you have Acrobat Reader but do not have the search plug-in, you will be given the option to either install Acrobat Reader 5.0 with search, leaving your existing version, or not install Acrobat Reader 5.0 with search.

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- **Search** takes you to the search feature. When the search window opens, type a word(s) or code\* and press enter. A list of pages where that word appears is shown. Select one and click the View button. Repeat as needed.
- **Contents** takes you to the selection of catalogs and products on the CD.
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**Parker Hannifin Corporation**  
Hydraulics Group  
595 Schelster Road  
Lincolnshire, IL 60069  
Tel: 847-821-1500  
Fax: 847-821-7600  
[www.parker.com/mobilesystems](http://www.parker.com/mobilesystems)

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