



aerospace
 climate control
 electromechanical
filtration
 fluid & gas handling
hydraulics
 pneumatics
 process control
 sealing & shielding



Mobile Hydraulics

Innovative Products and System Solutions



ENGINEERING YOUR SUCCESS.

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Parker Hannifin Corporation

ENGINEERING YOUR SUCCESS.



A global Fortune 300 company with customers in 48 countries, Parker Hannifin is the world's leading supplier of hydraulic, pneumatic and electromechanical systems and components. Customers rely on Parker for engineering excellence, world-class manufacturing and outstanding customer service to provide comprehensive application solutions that are second to none.

The Parker Brand

Parker Hannifin is your trusted single source partner for all your motion and control solutions.

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

- More than \$12.2 billion in sales
- 298 plants worldwide
- 12,000 distributors
- 449,000 customers
- Serving 1,200 distinct markets

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

As the leader in the motion and control industry, Parker strives to be our customers' preferred single source partner. These relationships are cultivated by listening closely to our customers and repeatedly providing them with value measured in real dollars: saved time, reduced waste, gained efficiency, expanded output and increased profitability.





Customer-Driven Solutions

Customer-Driven Solutions

Parker mobile hydraulics is dedicated to providing its customers with engineered solutions that maximize machine performance, eliminate downtime, improve fuel efficiency, provide faster cycle times, reduce noise and heat and lower emissions while containing costs and improving their bottom line.

Parker Mobile Hydraulic Systems Engineering Centers are strategically located

throughout the world and are staffed by application and systems engineers with expertise in mobile machines and applications. Using the industry's leading edge technology and proven solution processes, Parker can provide customers with any combination of components, sub-assemblies or complete motion and control systems for any mobile application.

Mobile Markets Served

- Aerial Devices
- Agriculture
- Construction
- Off-Highway
- Forestry
- Material Handling
- Mining and Drilling
- Turf Care
- Waste Handling

Making Sure We Get It Right... Together

Communication

Know application and plan scope

Determination

Baseline test and benchmark

Rationalization

Evaluate options

Optimization

Choose the right system

Evaluation

Prototype

Qualification

Prove the benefits

Validation

Meet or exceed requirements

Implementation

Release design



We support customers with a firm process for identifying, designing and implementing mobile solutions.





Hydraulic Products for Every Application

At the heart of every mobile hydraulics solution is Parker's 75-year reputation for innovation and quality manufacturing. Parker maintains more than 200,000 hydraulic model numbers in its inventory to meet any mobile requirement. Additionally, Parker believes that it takes more than great products, competitive prices and on-time delivery to satisfy customer demands. It takes a commitment to provide exceptional value.

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

- Machine Analysis and Troubleshooting
- Design-Engineering Support
- Component Selection
- New Product Development
- Custom-Component Manufacturing
- Prototyping and Testing
- Bill of Material
- Assemblies and Kits
- Sub-Systems
- Training
- Global Support and Service



Parker's Value Proposition



Support and Service

When it comes to mobile hydraulics, Parker's worldwide network of degreed field-sales engineers are the best trained in the business and can be your single-point of contact. Our field-sales teams coordinate Parker's vast global resources including platform and technology experts to satisfy any mobile application.



Parker's ultimate competitive advantage in serving customers has been built with a global network of 12,000 distributors that can provide Parker products and services nearly anywhere, anytime.



Mobile Technology Service

At the core of Parker's hydraulic distribution is a select group of Mobile Technology Centers. MTCs are Parker distributors who offer a one-stop shop for a wide range of products, engineering services, computer-aided design, fabrication and assembly. MTCs can assist with equipment design, prototyping along with the integration of electronic controls.

Locate your nearest Parker MTC by calling 1-800-C-PARKER or via our web site at www.parker.com/distloc.

Centralized Order Management (COM)

Parker's Centralized Order Management (COM) service provides one-call ordering, scheduling and logistic solutions that expedite the supply-chain process. COM is also your resource for customized kits and provides sub-assemblies and components in one complete, ready-to-install package.



Parker's Value Proposition



Training Excellence

Parker technical training for hydraulic, pneumatic and electromechanical technology is the best in the world. We offer complete and comprehensive texts, web-based training and hands-on classes for employees, distributors and customers.

Hundreds of North American colleges and universities use Parker textbooks in motion and

control courses. In addition to texts, Parker provides these institutions instructor guides, computer-based training discs, digital images, final exams, drafting and simulation software, lab manuals and trainer stands.

Find out more about Parker's Involvement Training by visiting: www.parker.com/training, or call 216-896-2495.



A Click Away

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

Additionally, the accompanying DVD contains a full line of catalogs for

individual products that can be searched in Adobe Acrobat. Obtain the relevant catalog information quickly by typing the product code printed next to the DVD icon in the brochure into Acrobat's search field.

Accumulators
 Compact Hydraulics
 Control Systems
 Cylinders

Compact Hydraulics

108 Series

www.parker.com/hydr/108.jsp



- 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 .45 to 5.6 L (28 cu. in. to 1.5 gallons)
- 241 Bar (3500 PSI) capability





Parker is your partner when it comes to increased productivity and profitability. No matter what your needs, Parker is your single source provider of all your mobile hydraulic motion and control solutions.

Parker - Engineering your Success.



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.

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.

Compact Power Systems

Compact, powerful and efficient performance is delivered from Parker Oildyne products. Robust, simple designs provide power density, easy installation and flexibility for use across a wide variety of applications. Reliable solutions for your design challenges include electro-hydraulic actuators, miniature power units, fluid power systems, piston pumps, cartridge piston pumps and hand pumps. High quality and smooth, quiet operation make these products a durable fit in the design arena. Locking circuits and manual release availability enable safe, secure operation in critical situations and harsh environments. Extended service life dramatically lowers maintenance requirements and costs.

Control Systems

With nearly three decades of worldwide Parker experience in advanced electronics and mobile hydraulics, we can provide solutions ranging from simple driver cards to sophisticated, distributed display and control systems. We offer full custom design capabilities, operator instrument clusters and specialized sensors. In addition to custom designs, Parker also has robust standard sensors, controllers and displays combined with easy to use software tools. This allows Parker to present a full spectrum of products to fit every customer's needs and technological requirements.



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.

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 hydraulic, pneumatic 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.

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.

Motors

Our full line of high and low speed motors provide power ranging up to 15,000 inch-pounds of torque with speeds ranging from 1/2 rpm (Calzoni) to 13,000 rpm (Bent Axis). A complete range of sizes is offered in gear, gerotor, vane 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-Offs (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 served 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-Offs system, you need Chelsea Products from Parker.

Pumps

Parker's broad line of energy-efficient hydraulic pumps includes fixed or variable displacement models of 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.

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

Hydraulic Valves

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.

Cartridge Valves & Integrated 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 software, state-of-the-art HC machining centers and complete automated testing to maximize application performance.



Accumulators

Piston Accumulators

www.parker.com/hyd/pistonaccum



- Low temperature solutions to -50°F
- 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
- CRN/CSA, AS1210, DNV, ABS, ASME, CE and other certifications available
- Specials up to 200 gallons and 20,000 psi
- Stainless steel models for water/seawater/chemical service

ACP Series Non-Repairable Piston Accumulators

www.parker.com/hyd/acp



- 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

Bladder Accumulators

www.parker.com/hyd/bladder



- 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
- CRN/CSA, AS1210, DNV, ABS, ASME, CE and other certifications available
- 24 Hour Emergency Bladder Kit program

Accumulators

Diaphragm Accumulators

www.parker.com/hyd/diaphragm



- 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

www.parker.com/hyd/pulsetone



- 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

www.parker.com/hyd/accumkit



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

Compact Hydraulics

108 Series

www.parker.com/hyd/108fps



- 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 .45 to 5.6 L (28 cu. in. to 1.5 gallons)
- 241 Bar (3500 PSI) capability

165 Series

www.parker.com/hyd/165



- 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

Compact EHA (Electro-Hydraulic Actuator)

www.parker.com/hyd/eha



- Compact, power dense, low noise "Plug 'N Play" solution
- Robust, leak free one piece housing design
- Speed range up to 130 mm/sec (5.1"/sec)
- Force range up to 22,200 N (5000 lbs)
- Cylinder stroke length of 102, 152 and 203 mm (4", 6" and 8")
- Variety of pump displacements, cylinder rod and bore sizes
- 12 or 24 VDC motor, .18 kW to .56 kW (1/4 to 3/4 hp) for intermittent duty
- Comes pre-flushed, filled & sealed
- Compatible with hostile environments, can be washed down

Cylinders Mobile

Cylinders



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 telescopic cylinders 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.

www.parker.com/hyd/mobcylinders

Our standard single-acting telescopic cylinders can be used with almost any mounting setup: doghouse, 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 reduced 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

www.parker.com/hyd/standbuild

- Piston includes 2 wear rings and bronze filled PTFE seal designed for leak-free service life
- 1045/1050 chrome plated, induction hardened, 100K yield 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



Control Systems Electronic

Mobile Electronic Control

The Electronic Controls Division provides a full spectrum of system solutions comprising control modules, displays, sensors, harnesses and electromechanical products. We offer a complete line of custom designed products as well as standard components to fulfill virtually any customer's needs.

Electronic control systems offer customers numerous benefits and cost savings in diagnostic capabilities, speed of application development, ease of operation and improved functionality. User programmability with Windows™ based software tools reduces programming cost and development time. The control products are extremely flexible; some displays support multiple languages and many parts can be "branded" with custom overlays.

Our system experts can assist you in writing specifications, selecting components, developing applications and performing system integration.



Rugged Hardware

A wide range of rugged modules with flexible I/O are available to ensure a fit with practically any mobile machine application. Our hardware is tested for robust operation and compatibility with mobile hydraulic equipment. Products are designed to interface with mobile communication protocols and tested to industry

and government standards for operation in severe conditions including vibration, high or low temperatures, mechanical impact, or electromagnetic interference.

Systems are created by selecting and combining from our range of products to design a custom solution for your mobile equipment. The available software packages enhance a manufacturer's ability to quickly develop their system, reducing time and expense.



Control Systems Electronic



Simple Software

Programming is easy with software tools for IQAN or VMM. Both offer complete freedom to design customized applications without having advanced programming skills. A graphical programming interface and diagnostic tools allow rapid application development, helping you design simple to complex functionality for your mobile machine.

The IQAN software studios cover all phases of a machine's life cycle, from development through production to after sales. There are three different studios available; IQAN Creative Studio, a user programmable software for the R&D department; IQAN Productive Studio, an automation tool for production and maintenance; and IQAN Active Studio, a service software for diagnostics and adjustments. VMMS is a ladder-logic based programming tool that allows users to define the logic for their VMM system as well as perform real-time diagnostics.



Displays and Panels

Parker has developed numerous rugged displays, monitors, and instrument clusters for the heavy equipment industries. These products communicate with other devices using industry standard protocols, including CAN, J1939, ISO 11783, RS 232, J1708, and Power Line Carrier (PLC). Our displays feature color TFT or monochrome LCD technology. Instrument panels have LCD, LED, and/or stepper motor gauges. Many of our displays, monitors, and instrument clusters support digital and analog inputs and protected digital and proportional outputs.

Parker employs a wide range of button and switch technologies, including membrane, mechanical rocker, toggle, and backlit styles. For custom and semi custom products the enclosure and mounting options, including ball-joints and breathable membranes, can be matched to each application. Two families of display products are offered.

Intelligent, programmable master modules incorporate powerful computing capacity with high processing speeds and multiple CAN bus interfaces. These features make the units extremely flexible and adaptable to a variety of applications with a wide range of hydraulic components and input devices such as joysticks, pedals and sensors.

Monitors and instrument clusters are highly customizable and are used for operator information display in vehicle cabs. From basic user configurable display panels, up to shaped, cabin pillar or dash clusters for OEM's, Parker's displays and panels are offered to meet a variety of design requirements.



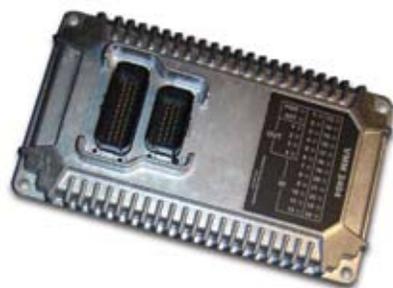
Control Systems **Electronic**



Controllers

Parker's range of robust control modules with flexible I/O are available with a variety of input and output types. The controllers range from stand alone master units and simple valve drivers to multiplexed module systems and CANbus controllers.

The Parker systems offer a building-block approach that simplifies component design and installation and reduces development time and expense. Our hardware is tested for robust operation and compatibility with mobile hydraulic equipment. In addition, the controllers



meet industry and government standards for operation in severe conditions that include extremely high or low temperatures, vibrations, mechanical impact and electromagnetic interference. Dedicated diesel engine controllers mount right on the engine block. Transmission controls, that can be customized for any transmission, help with the design of the entire driveline.

Joysticks and Levers

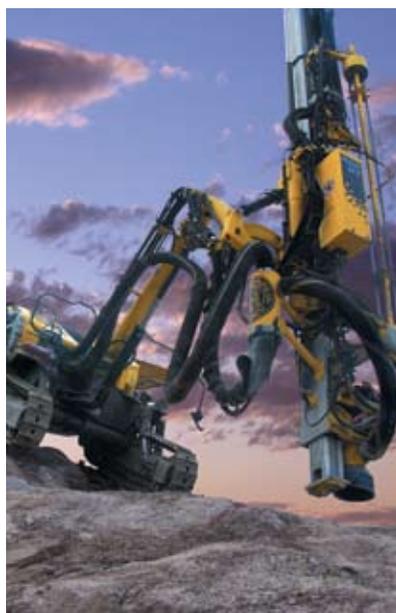
Parker's large, coordinate joystick is available in analog or CAN interfaces. All Parker control devices incorporate ruggedness, functionality and light-weight with high flexibility for mobile market applications. The joysticks and single axis levers are extremely robust, able to withstand aggressive conditions during outdoor use and in outdoor installations, including EMI, vibrations and a wide temperature range. All signals are from dual, contactless, Hall effect sensors to provide redundancy for high safety and reliability. The units feature a compact ergonomic design making them ideal for armrest and panel installations in mobile equipment.



Control Systems Electronic

Sensors

The latest range of advanced sensors has been introduced to help manufacturers and end users of mobile hydraulic systems improve long term operating performance while reducing overall life cycle costs. Parker offers a full range of pressure, temperature, proximity, speed, rotary, tilt and specialty sensors. The sensors use proven, reliable technology, and are extremely compact and lightweight. They have been developed to meet the needs of the mobile and industrial sectors, where they can enhance equipment productivity and profitability.



Parker offers a variety of switches and sensors to meet your leveling needs. The switch type will indicate a 10° or less tilt in any direction. For proportional indication of the degree of tilt, use our single axis or dual axis Hall effect sensors.



Our rotary sensors are robust and reliable. A variety of working angles and drive types are available to fit your specifications. Parkers extensive line includes friction rotary controls and springloaded sensors. For added safety and reliability, we offer rotary sensors with redundant outputs.

Speed sensors come with different mounting styles for the versatility to be used in any application. Geartooth type speed sensors come in two mounting styles. The flange mounted speed proximity sensor has an integral o-ring for sealed installations. The threaded barrel speed proximity sensor makes installation and adjustment simple. Our true ground speed RADAR is a rugged sensor that uses a microwave signal and the Doppler effect to provide an accurate, true ground speed indication, even under the most adverse environmental conditions.

Ferrous proximity sensors use reliable, simple, but effective reed switch technology for superior mechanical and electronic characteristics. These flange mounted proximity switches activate when a ferrous metal object comes into range. There is even a high powered version with an internal relay.

Active temperature sensors provide better resolution and easier installation for your system. Multiple interface and connector choices to fulfill your requirements. The temperature sensors cover a range of -50°C to +150°C.

Our reliable pressure transducers monitor the condition of your hydraulic system. Two pressure ranges meet your low and high pressure needs. The sensors are offered with two interface and connector combinations.

Parker sensors are mounted in tough stainless steel or plastic housings, complete with all signal conditioning electronics and are fully protected against shock, vibration and electromagnetic interference (EMI). Most sensors are IP67 rated, for exposed outdoor installations. These features work together to make Parker sensors suitable for use in many different mobile and off-highway applications, from construction and forestry, to lift trucks, buses and commercial vehicles.



Control Systems Electronic



Mobile Electronic Control Displays

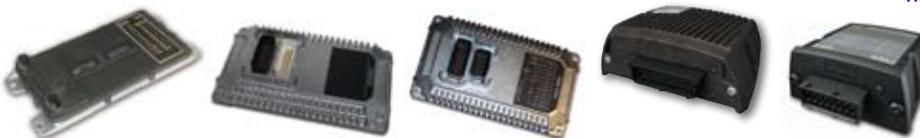
www.parker.com/hyd/displays



Display Types	Models
Color TFT Master	IQAN-MDL2, IQAN-MD3, LINUX 6.5, LINUX 10.4
Monochrome LCD Master	Universal terminal, ISObus terminal
Monochrome LCD Monitor	VMD1216
Panel, Configurable	DPS
Light Array	LIM-16H, LIM-24C
Custom	Contact Parker

Mobile Electronic Control Module Types

www.parker.com/hyd/modules



Control Module Types	Models
CAN Master	IQAN-MC2, CM3620
CAN Expansion	IQAN-XA2, IQAN-XS2, IQAN-XT2
Multiplexing Module	VMM0604, VMM1210, VMM2404
Standalone Driver	IQAN-TOC2
Custom	Contact Parker



Control Systems Electronic



Mobile Electronic Control Joysticks and Levers

www.parker.com/hyd/joysticks



Joysticks and Levers	Models
CAN Joystick	IQAN-LC5-C01
Analog Joystick	IQAN-LC5-X05
Analog Lever	IQAN-LSL
Analog Paddle	IQAN-LST, IQAN-LF1
Custom	Contact Parker

Mobile Electronic Control Sensors

www.parker.com/hyd/sensors



Sensor Types	Models
Tip, Tilt, Level	RM50, ATS50, ATS90, ACC50
Rotary	RF50, RS52, RS53-360, RS60, RS70
Proximity	FP2000, FP3000, FP4000
Speed	GS50, GS60, 740RADAR
Temperature	IQAN-ST-G-B, IQAN-ST-U-D, IQAN-ST-M-B
Pressure	IQAN-SP035, IQAN-SP500
Custom	Contact Parker



Filtration

Low Pressure

www.parker.com/hyd/filterlow



- 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

Model	Max Flow LPM (GPM)	Max Pressure Bar (PSI)	Mounting Style
12AT	64 (17)	10.3 (150)	Spin-on
50AT	190 (50)	10.3 (150)	Spin-on
12AS	94 (25)	34.5 (500)	Inline
50AS	220 (60)	34.5 (500)	Inline
PT	190 (50)	10.3 (150)	Tank top
KLT/KLS	455 (120)	10.3 (150)	Tank top
RF7	1136 (300)	10.3 (150)	Tank top
ILP, RFP	452 (120)	13.8 (200)	Inline, In-tank
BGTS	2400 (640)	10.3 (150)	Return in-tank

Medium Pressure

www.parker.com/hyd/filtermed



- 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)	82.8 (1200)	Duplex
IL8	1609 (425)	34.5 (500)	Inline, duplex, quadplex

High Pressure

www.parker.com/hyd/filterhigh



- 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 15P/30P and WPF 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
WPF1	40 (10)	483 (7000)	Inline
WPF2	100 (26)	483 (7000)	Inline
WPF3	160 (42)	483 (7000)	Inline
WPF4	360 (95)	483 (7000)	Inline
WPF5	520 (137)	483 (7000)	Inline
ServoSaver	115 (30)	275 (4000)	Manifold, sandwich plate
12S	95 (25)	1380 (20,000)	Inline



Filtration

Portable/Offline Systems

www.parker.com/hyd/guardian • www.parker.com/hyd/filtercart • www.parker.com/hyd/pvs



- 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:
 - 19 LPM (5 GPM) flow; ½ hp electric motor
 - 38 LPM (10 GPM) flow; ¾ hp electric motor

Par Gel

www.parker.com/hyd/pargel



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

Par Fit Elements

www.parker.com/hyd/parfit



- 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

www.parker.com/hyd/resacc



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



Accumulators
Compact Hydraulics
Control Systems
Cylinders
Fluid Analysis & Conditioning
Fluid Connectors
Hydrostatic Transmission & Steering Units
Motors
PTOs
Pumps
Pumps/Motors
Rotary Actuators
Valves & Controls

Filtration

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

www.parker.com/hyd/lcm

- 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

www.parker.com/hyd/partest

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.

www.parker.com/hyd/ms100

- Simple LEDs 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

Icount PD



The Icount Particle Detector from Parker represents the most up-to-date technology in solid particle detection. The design dynamics, attention to detail and small size of the permanently mounted, on-line particle detector brings a truly innovative product to all industry.

The laser based, leading-edge technology is a cost effective market solution to fluid management and contamination control.

- Independent monitoring of system contamination trends
- Moisture % RH LED indicator (optional)

www.parker.com/hyd/icountpd

- Early warning LED or digital display indicators for Low, Medium and High contamination levels
- Cost effective solution in prolonging fluid life and reducing machine downtime
- Visual indicators with power and alarm output warnings
- Continuous performance for dependable analysis
- Hydraulic, phosphate ester and fuel fluid compatible construction
- Self diagnostic software
- Fully PC/PLC integration technology such as: RS232 and 0-5 Volt, 4-20mA.



Fluid Connectors Rubber Hose Products

Low Pressure, Medium Pressure, High Pressure

www.parkerhose.com

Parker offers the largest selection of hoses plus more fitting sizes and configurations than any other manufacturer. You'll find a wide variety of hoses including braided, spiral, specialty and multi-purpose and more than 750 Parkrimp fittings. Parker products have been designed, tested and approved to meet and exceed global standards, including SAE, DIN, ISO, ABS, DNV, USCG among others.

Parker Parkrimp assemblies consist of No-Skive hose and fittings, permanently joined by one of

the Parkrimp crimp machines. The teeth in Parker's crimped fittings "bite down" to the hose wire providing a metal-to-metal grip with maximum integrity. Parker's Monoblok™ fittings are manufactured from a single piece of steel as compared to a two-piece fitting. Their lack of brazed or soldered joints provides the maximum in leak protection, eliminating any potential leak paths. Parker Monoblok fittings are available in a wide variety of end configurations and fitting series.

Parker one-piece fittings are designed, manufactured and tested to work with our low, medium and high pressure hoses to help keep your equipment up and running.

The right product is available for your application - including hoses that feature a variety of abrasion-resistant cover choices, flexibility, a wide range of media compatibility and more - characteristics that make Parker your hose supplier of choice.



Low Pressure

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

manufactures the Push-lok Plus multipurpose hose line which can be assembled in seconds without the need for clamps or bands using Parker 82 Series fittings or HY Series crimped fittings.



Medium Pressure

From SAE 100R1 and 100R2 to compact and abrasion resistant one- and two-wire braided hoses, Parker offers high performance

hose and fittings for your medium pressure needs. Parker's 43 Series fittings provide a broad offering to 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 best in leak-free operation. A variety of abrasion-

resistant covers, inner tube compounds and accessories enhance many of Parker's high pressure hoses to maximize their performance in your application.

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

Fluid Connectors Thermoplastic Products

Straight and Formed Thermoplastic Hydraulic Products

www.parker.com/pfd/cat4660



- Mobile and industrial hydraulic applications
- Thermoplastic hoses up to 5000 PSI
- Non-conductive, low temperature and flame resistant hoses
- Rubber/Thermoplastic Hybrid™ hoses
- High pressure diagnostic and lubrication products
- Preformed and coiled hose
- Twinline and Multi-line products
- Crimpers, tooling and accessories

Fluoropolymer Hose Products

www.parker.com/pfd/page



- High temperature/high pressure hydraulic applications
- Corrosive environments and/or media
- Metal lined hoses
- Specialty hoses for food/beverage and pharmaceutical
- Sizes: .250" up to 4"

Ultra High Pressure Products

www.parker.com/epd/cat4900



- Hydraulics up to 55,000 PSI
- Water blast products
- Adapters, fittings and valves
- Umbilicals for subsea applications
- Multitube™ bundled products for energy and processing markets

Fluoropolymer Tubing Products

www.parker.com/pfd/texlok



PEEK™ is a registered trademark of Victrex

- Materials PTFE, FEP, PFA, HP PFA, ETFE, ECTFE and PEEK™
- Smoothbore, convoluted, corrugated, coiled and heat shrink
- High temperature, chemical resistant applications
- FDA and USP Class IV compliant
- Custom tubing and profile extrusions
- Sizes: .004" ID up to 4" OD

Pneumatic and Transportation Products

www.parker.com/pfd/cat4660



- Industrial pneumatics
 - Tubing and coils in polyethylene, nylon, polypropylene, polyurethane and clear vinyl
- Transportation products
 - Airbrake tubing, Airbrake coils, fuel tubing and harnesses

Industrial Pneumatics

Transportation

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



Fluid Connectors Brass Products

Manifolds



- Multiple connections
- Composite body
- Lightweight
- Push-to-connect ports

www.parker.com/bpd/manifolds

Hose Barbs



- All brass construction
- SAE straight threads
- Metric threads
- Viton O-ring standard

www.parker.com/bpd/hosebarbs

- Compact forged shapes
- Use with hose clamp

Ball Valves



- Available in brass, carbon steel, stainless steel
- Sizes from 1/8"-3"
- Pressures from 200 – 6,000 PSI
- Various handle options

www.parker.com/bpd/ballvalves

- Full flow available
- NPT, SAE straight threads, ISO 6149 ports, BSPP threads

45 Degree Flare Fittings



- Reusable
- Resist vibration
- Resist mechanical pullout

www.parker.com/bpd/flarefittings

- 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

www.parker.com/bpd/pipefittings

- Extrusions and forgings available

Vibra-Lok



- Excellent vibration resistance
- Viton sleeve for higher temperatures
- Used with wide range of tubing
- Simple to assemble

www.parker.com/bpd/vibrlok

- NPTF threads and SAE straight threads standard
- Optional threads available

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

Fluid Connectors Quick Couplings

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.

www.parker.com/qcd/gpqcouplings

- 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.

www.parker.com/qcd/nsqcouplings

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

Swivels



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

www.parker.com/qcd/swivels

- Sizes from 1/4" to 2"
- Steel, stainless steel
- Pressures to 5000 PSI
- Inline and 90° (PS Series); 90° (S Series)
- Standard zinc with clear trivalent, plating, nickel plating

Check Valves



Check valves are available in several 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.

www.parker.com/qcd/checkvalves

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

Diagnostic Equipment and Test Port Couplings



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

www.parker.com/qcd/diagequipment

- Equipment:
- **ServiceJunior** – measures pressure to 8700 PSI
 - **Serviceman** – measures pressure, temperature, RPM and flow
 - **The Parker Service Master** – measures and stores pressure, temperature, RPM, and flow



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

Fluid Connectors Tube Fittings

O-Ring Face Seal Fittings



www.parker.com/tfd/seallok

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

37° Flare Fittings



www.parker.com/tfd/triplelok

- 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



www.parker.com/tfd/ferulok

- 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



www.parker.com/tfd/eoeo2

- 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



www.parker.com/tfd/pipeandport

- 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



www.parker.com/tfd/hydraulicflange

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

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

Hydrostatic Transmission

Gold Cup

www.parker.com/hyd/goldcup



The Gold Cup Hydrostatic Transmission pumps are variable displacement piston pumps of an unparalleled rugged design. Rated to 5000 PSI continuous pressure and continuous duty, the Gold Cup design has the unique feature of an internal servo/replenish and the ability to utilize system over pressure to directly control the stroking chambers. This affords the fastest and most stable control strategy available.

The controls are completely modular in design and can be configured to meet most any system requirements with standard factory options.

All internal wear surfaces are hydrostatically balanced and/or hydraulically linked allowing for a long and serviceable life. The Gold Cup pump also has the ability to run in many open loop applications and also has digital (Flow/Pressure) capability for the most difficult of control requirements.

The Gold Cup Series has been designed to operate in a wide range of industries needing closed-loop control, high pressure, high power density such as Blast Hole Drill Rigs, Shredding, Cranes, Mining, Hydraulic Test Stands, Pulp and Paper, Military, Marine and Power Generation.

- Quick change valve block – easy to service or replace
- Modular controls – easy to service and change
- Versatile controls – can be located on either side of pump or motor for maximum freedom of design
- Dampened low inertia rocker cam – more stable, quieter and faster than other designs
- Exclusive zero-backlash rotary servo design – lifetime accuracy
- Field adjustable compensator override – easily adjusted without removing from machinery
- Precision barrel bearing, a distinctive Parker Denison Hydraulics feature for over 30 years – permits high speeds, high pressure and provides long life
- Patented ring style replenishing checks fastest operation with no sliding poppets or parts and low pressure drop
- Hot oil shuttle available – fast, reliable operation
- Auxiliary pump can be changed without disassembling the transmission
- Standard SAE keyed or splined drive shafts are available
- High pressure mechanical shaft seals can be changed without disassembling the transmission. Double lip seals are also available
- One piece stroking vane/cam means no lost motion, zero backlash, better control, and no linkages to wear out
- Stroking vane seals are pressure loaded for longer life
- Standard compensator vent ports allow for a wide variety of controls (See applications manual)
- Rocker cam displacement indicator helps troubleshoot the system
- Modulated servo pressure saves power
- Standard Code 62 SAE split flange connections
- Conforms to SAE mounting standards. These products are qualified to meet Military specifications MIL-P-17869A and MIL-S-901-C Grade A
- Fastest compensator response: Gives maximum of 10% pressure overshoot at rated conditions (guaranteed times under all conditions; faster response times possible depending upon application)

Frame Size P/M	6	7	8	11	14	24	30
Displacement (cm ³ /rev) (in ³ /rev)	98.3 6	118.8 7.25	131.1 8	180.3 11	229.5 14	403.2 24.6	501.5 30.6
Max. continuous pressure (Bar) (PSI)	350 5000	350 5000	250 3600	350 5000	350 5000	350* 5000*	350* 5000*
Max. intermittent pressure** (Bar) (PSI)	420 6000	420 6000	250 4500	420 6000	420 6000	350* 5000*	350* 5000*
Max. rated drive speed (RPM)	3000	3000	2100	2400	2400	1800	1800

*Variable speed. Higher servo pressure may be required.

**10% of operating time, not exceeding 6 successive seconds.



Accumulators
Compact Hydraulics
Control Systems
Cylinders
Fluid Analysis & Conditioning
Fluid Connectors
Hydrostatic Transmission & Steering Units
Motors
PTOs
Pumps
Pumps/Motors
Rotary Actuators
Valves & Controls

Hydraguide™ Hydrostatic Steering Units

HGF

www.parker.com/hyd/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 HGF	-08	-10	-12	-16	-20	-24
Displacement (cm ³ /rev) (in ³ /rev)	54.1	67.7	81.1	108.2	135.2	162.3
	3.30	4.13	4.95	6.60	8.25	9.9
Max continuous pressure (Bar) (PSI)	124	124	124	124	124	124
	1800	1800	1800	1800	1800	1800
Flow (LPM) (GPM)	30	30	30	30	30	30
	8	8	8	8	8	8

Accumulators

Compact
Hydraulics

Control
Systems

Cylinders

Fluid Analysis
& Conditioning

Fluid
Connectors

Hydrostatic
Transmission &
Steering Units

Motors

PTOs

Pumps

Pumps/Motors

Rotary
Actuators

Valves &
Controls



Motors Low Speed High Torque

Nichols

www.parker.com/hyd/700 • www.parker.com/hyd/110a • www.parker.com/hyd/716



- Single and two-speed styles
- Rugged, compact design
- Unique IGR power element
- Integral selector valve on two-speed styles
- Maximum supply pressure 276 Bar (4000 PSI)

Series 700	072	108	142	176	212	258
Geometric displacement Series (cm ³ /rev)	59	88	116	144	174	211
(in ³ /rev)	3.6	5.4	7.1	8.8	10.6	12.9
Parallel (cm ³ /rev)	118	177	233	288	347	423
(in ³ /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	138
(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 110A	036	054	071	088	106	129	164	189	241
Geometric displacement (cm ³ /rev)	59	89	116	144	174	211	269	310	395
(in ³ /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 716	072	108	142	176	212	258
Geometric displacement Series (cm ³ /rev)	59	88	116	144	174	211
(in ³ /rev)	3.6	5.4	7.1	8.8	10.6	12.9
Parallel (cm ³ /rev)	118	177	233	288	347	423
(in ³ /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

Torqmotor™ Small Frame

www.parker.com/hyd/tc • www.parker.com/hyd/tb • www.parker.com/hyd/te



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

Frame size TC	-0036	-0045	-0050	-0065	-0080	-0100	-0130	-0165	-0195	-0230	-0260	-0295	-0330	-0365	-0390
Displacement (cm ³ /rev) (in ³ /rev)	36 2.2	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0	195 11.9	228 13.9	260 15.9	293 17.9	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	86 1250	86 1250	76 1100	66 950	59 850	52 750	45 650	45 650							
Max operating speed (rpm)	902	794	688	517	413	460	429	346	287	246	217	193	173	152	144

Frame size TB	-0036	-0045	-0050	-0065	-0080	-0100	-0130	-0165	-0195	-0230	-0260	-0295	-0330	-0365	-0390
Displacement (cm ³ /rev) (in ³ /rev)	36 2.2	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0	195 11.9	228 13.9	260 15.9	293 17.9	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	125 1800	103 1500	100 1450	97 1400	93 1350	86 1250	83 1200								
Max operating speed (rpm)	932	805	678	511	409	454	430	343	287	246	216	191	171	151	143

Frame size TE	-0036	-0045	-0050	-0065	-0080	-0100	-0130	-0165	-0195	-0230	-0260	-0295	-0330	-0365	-0390
Displacement (cm ³ /rev) (in ³ /rev)	36 2.2	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0	195 11.9	228 13.9	260 15.9	293 17.9	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	140 2030	120 1740	110 1595	100 1450	100 1450	95 1378	85 1233								
Max operating speed (rpm)	1141	1024	1020	877	695	582	438	348	292	328	287	256	228	203	191

Torqmotor™ Medium Frame

www.parker.com/hyd/tj



- 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 TJ	-0045	-0050	-0065	-0080	-0100	-0130	-0165	-0195	-0230	-0260	-0295	-0330	-0365	-0390
Displacement (cm ³ /rev) (in ³ /rev)	41 2.5	49 3.0	65 4.0	82 5.0	98 6.0	130 8.0	163 10.0	195 11.9	228 13.9	260 15.9	293 17.9	328 20.0	370 22.6	392 24.0
Max cont pressure (Bar) (PSI)	140 2030	120 1740	110 1595	100 1450	100 1450	95 1378	85 1233							
Max operating speed (rpm)	1024	1020	877	695	582	438	348	292	328	287	256	228	203	191



Motors Fixed Displacement Low Speed High Torque

Torgmotor™ Large Frame

www.parker.com/hyd/tf • www.parker.com/hyd/tg • www.parker.com/hyd/th • www.parker.com/hyd/tl • www.parker.com/hyd/tk



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

Frame size TL	-0140	-0170	-0195	-0240	-0280	-0310	-0360
Displacement (cm/rev) (in/rev)	140 8.6	169 10.3	195 11.9	238 14.5	280 17.1	310 18.9	364 22.2
Max cont pressure (Bar) (PSI)	190 2750	190 2750	190 2750	190 2750	190 2750	190 2750	172 2500
Max operating speed (rpm)	613	512	484	399	335	310	255

Frame size TG	-0140	-0170	-0195	-0240	-0280	-0310	-0335	-0405	-0475	-0530	-0625	-0785	-0960
Displacement (cm/rev) (in/rev)	141 8.6	169 10.3	195 11.9	238 14.5	280 17.1	310 18.9	337 20.6	405 24.7	477 29.1	528 32.3	623 38.0	786 48.0	959 58.5
Max cont pressure (Bar) (PSI)	207 3000	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000						
Max operating speed (rpm)	660	554	477	393	334	303	277	232	237	213	182	143	118

Frame size TH	-0140	-0170	-0195	-0240	-0280	-0310	-0335	-0405	-0475	-0530	-0625	-0785	-0960
Displacement (cm/rev) (in/rev)	141 8.6	169 10.3	195 11.9	238 14.5	280 17.1	310 18.9	337 20.6	405 24.7	477 29.1	528 32.3	623 38.0	786 48.0	959 58.5
Max cont pressure (Bar) (PSI)	207 3000	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000						
Max operating speed (rpm)	660	554	477	393	334	303	277	232	237	213	182	143	118

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



Motors Fixed Displacement Low Speed High Torque

Torqmotor™ and Brake Motors

www.parker.com/hyd/df • www.parker.com/hyd/dg • www.parker.com/hyd/bg • www.parker.com/hyd/bh



DF, DG

BG, BH

- 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

Mechanical Brakes

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

Max holding torque: 497 Nm (4400 in lbs)

Frame size DG	-0140	-0170	-0195	-0240	-0280	-0310	-0335	-0405	-0475	-0530	-0625	-0785	-0960
Displacement (cm/rev) (in/rev)	141 8.6	169 10.3	195 11.9	238 14.5	280 17.1	310 18.9	337 20.6	405 24.7	477 29.1	528 32.3	623 38.0	786 48.0	959 58.5
Max cont pressure (Bar) (PSI)	207 3000	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000						
Max operating speed (rpm)	660	554	477	393	334	303	277	232	237	213	182	143	118

Max holding torque: 497 Nm (4400 in lbs)

Spring Applied, Hydraulically Released Brakes

Frame size BG	-0140	-0170	-0195	-0240	-0280	-0310	-0335	-0405	-0475	-0530	-0625	-0785	-0960
Displacement (cm/rev) (in/rev)	141 8.6	169 10.3	195 11.9	238 14.5	280 17.1	310 18.9	337 20.6	405 24.7	477 29.1	528 32.3	623 38.0	786 48.0	959 58.5
Max cont pressure (Bar) (PSI)	207 3000	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000						
Max operating speed (rpm)	660	554	477	393	334	303	277	232	237	213	182	143	118

Rated holding capacity: 1350 Nm (12,000 in lbs)

Frame size BH	-0140	-0170	-0195	-0240	-0280	-0310	-0335	-0405	-0475	-0530	-0625	-0785	-0960
Displacement (cm/rev) (in/rev)	141 8.6	169 10.3	195 11.9	238 14.5	280 17.1	310 18.9	337 20.6	405 24.7	477 29.1	528 32.3	623 38.0	786 48.0	959 58.5
Max cont pressure (Bar) (PSI)	207 3000	172 2500	138 2000	138 2000	121 1750	103 1500	69 1000						
Max operating speed (rpm)	660	554	477	393	334	303	277	232	237	213	182	143	118

Rated holding capacity: 1800 Nm (16,000 in lbs)



Motors Variable Displacement Axial Piston

V12

www.parker.com/hyd/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 V12	-60	-80
Displacement: 35° (max): (cm ³ /rev) (in ³ /rev)	60 3.66	80 4.88
6.5° (min): (cm ³ /rev) (in ³ /rev)	12 0.73	16 0.98
Max continuous pressure (Bar) (PSI)	420 6000	420 6000
Max operating speed* (RPM)	5600	5000

*At reduced displacement

V14

www.parker.com/hyd/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* V14	-110	-160
Displacement: 35° (max): (cm ³ /rev) (in ³ /rev)	110 6.71	160 9.76
6.5° (min): (cm ³ /rev) (in ³ /rev)	22 1.34	32 1.95
Max continuous pressure (Bar) (PSI)	420 6000	420 6000
Max operating speed** (RPM)	5700	5000

*Additional frame sizes in preparation.

**At reduced displacement

T12

www.parker.com/hyd/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 T12	-60	-80
Displacement: 35° (max): (cm ³ /rev) (in ³ /rev)	60 3.66	80 4.88
10° (min): (cm ³ /rev) (in ³ /rev)	18 1.10	24 1.46
Max continuous pressure (Bar) (PSI)	420 6000	420 6000
Max operating speed* (RPM)	5600	5000

*At reduced displacement



Motors Fixed Displacement Bent-Axis Piston

F11

www.parker.com/hyd/f11



F11 is the well proven bent-axis, fixed displacement heavy-duty motor/pump series. They can be used in numerous applications in on both open and closed loop circuits.

- Very high motor operating speeds
- Pressures to 420 Bar (6000 PSI)
- Efficient (low losses)
- Accepts high external shaft loads
- SAE, ISO and Cartridge mount available

- Compact, lightweight motor and pump
- Integral anti-cavitation valves available on certain displacements
- Good resistance to vibrations and temperature shocks
- Proven reliability
- Easy to service with very few moving parts
- Heavy duty roller bearings

Frame size* F11	-05	-10	-12	-14	-19	-150	-250
Displacement (cm ³ /rev) (in ³ /rev)	4.9 0.30	9.8 0.60	12.5 0.76	14.3 0.87	19.0 1.16	150.0 9.15	242.0 14.80
Max continuous pressure (Bar) (PSI)	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000
Max operating speed** (RPM)	12,800	10,200	9400	9000	8100	3200	2700

*Use F12 for medium range displacement

**Functioning as motor

F12

www.parker.com/hyd/f12



Series F12 is the high performance bent-axis, fixed displacement heavy-duty motor/pump Series. They can be used in numerous applications at unusually high shaft speeds.

- Very high motor operating speeds
- Pressures to 480 Bar (7000 PSI)
- High starting torque
- Very high power capability
- High overall efficiency
- Compact, lightweight motor and pump

- Laminated piston ring provides low internal leakage and thermal shock resistance
- Accessory valves available
- ISO, SAE and cartridge versions available
- Proven reliability
- Easy to service with very few moving parts
- Super-shockless swing relief valve

Frame size F12	-30	-40	-60	-80	-90	-110	-125
Displacement (cm ³ /rev) (in ³ /rev)	30.0 1.83	40.0 2.44	59.8 3.65	80.4 4.90	93.0 5.7	110.1 6.72	125.0 7.6
Max continuous pressure (Bar) (PSI)	420 6000	420 6000	420 6000	420 6000	420 6000	420 6000	420 6000
Max operating speed (RPM)	6700	6100	5300	4800	4600	4400	4200

Motors High Speed

M2

www.parker.com/hyd/m2



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

Frame size M2	-085	-127	-169	-254	-339	-508
Displacement (cm ³ /rev) (in ³ /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
- Bi-directional operation
- High pressure shaft seal
- Standard SAE mounting
- Long life and quiet operation
- Heavy duty bearings

Frame size M4	-015	-030	-045	-060	-075
Displacement (cm ³ /rev) (in ³ /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.



Motors Calzoni Radial Piston LSHT

Calzoni Motors

The outstanding performance of this robust product is the result of our original, patented design. Used widely in the mining, off shore drilling, oil field, and marine winch markets; the Parker Calzoni motor is produced in sizes from 32cc up to 6 gallons per revolution. The efficiency of our design allows

for a smaller installed product for the same displacement vs our competitors. Since there are no internal connecting rods we have greatly reduced frictional drag as well as most thrust loading. By creating a static balance on the shaft we have extended the expected lifetime as well.

MR-MRE Series-Fixed Displacement

www.parker.com/hyd/calzoni



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

Frame size MR/E*	33	57	73	93	110	125	160	190	200	250	300
Displacement (cm ³ /rev) (in ³ /rev)	32.1 2.0	56.4 3.4	72.6 4.4	92.6 5.7	109.0 6.7	124.7 7.6	159.7 9.8	191.6 11.7	199.2 12.2	250.9 15.3	304.4 18.6
Max pressure (Bar) (PSI)	300 4350	300 4350	300 4350								
Max speed (RPM)	1400	1300	1200	1150	1100	900	900	850	800	800	750
Frame size MR/E*	330*	350	450	500*	600	700	800*	1100	1400*	1600	1800
Displacement (cm ³ /rev) (in ³ /rev)	332.4 20.1	349.5 21.3	451.6 27.6	497.9 30.4	607.9 37.1	706.9 43.1	804.2 49.1	1125.8 68.7	1369.5 83.6	1598.4 97.5	1809.6 110.4
Max pressure (Bar) (PSI)	250 3626	300 4350	300 4350	250 3626	300 4350	300 4350	250 3626	300 4350	250 3626	300 4350	300 4350
Max speed (RPM)	750	640	600	600	520	500	450	330	280	260	250
Frame size MR/E*	2100*	2400	2800	3100*	3600	4500	5400*	6500	7000*	8200	
Displacement (cm ³ /rev) (in ³ /rev)	2091.2 127.6	2393.1 139.9	2792.0 170.4	3103.7 189.4	3636.8 221.9	4502.7 274.8	5401.2 329.6	6460.5 394.2	6967.2 408.7	8226.4 502	
Max pressure (Bar) (PSI)	250 3626	300 4350	300 4350	250 3626	300 4350	300 4350	250 3626	300 4350	300 4350	250 3626	
Max speed (RPM)	250	220	215	215	180	170	160	130	130	130	

Motors Calzoni Radial Piston LSHT

MRT-MRTE-MRTF Series-Fixed Displacement

www.parker.com/hyd/calzoni



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

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

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

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

www.parker.com/hyd/calzoni



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

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

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



Motors Vane

M3-M5 Fixed Displacement

www.parker.com/hyd/m3m5



- Low ripple torque
- Low starting torque
- Low noise
- Bi-rotational technology
- Various pilot, threaded port and porting configurations
- External/internal drain option
- Many displacement combinations for double motor

M5AF-M5BF Fan Drive Vane Motors

www.parker.com/hyd/m5af-m5bf



- Low noise
- Designed for severe duty applications
- High efficiency
- High starting torque
- Low torque ripple
- Long life
- Interchangeable rotating groups
- Cross port check valve on M5BF/1

Series M	3B	4C	4SC	4D	4SD	4E	4SE
Displacement (cm ³ /rev) (in ³ /rev)	9.2-37.1 .5-2.3	24.4-80.1 1.4-4.9	24.4-80.1 1.4-4.9	65.1-144.4 3.9-8.8	65.1-144.4 3.9-8.8	158.5-222 9.6-13.6	158.5-222 9.6-13.6
Max pressure* (Bar) (PSI)	210 3000	175 2535	230 3335	175 2535	230 3335	175 2535	190 2795
Max speed* (rpm)	4000	4000	4000	4000	4000	3600	3600

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

Frame size M	5AF	5B/S	5BF
Displacement (cm ³ /rev) (in ³ /rev)	6.3-25 0.3-1.5	12-45 0.7	12-45 2.8
Max pressure* (Bar) (PSI)	300 4350	320 4650	320 4650
Max speed* (rpm)	6000	6000	6000

*Intermittent conditions are to be less than 10% of each minute.
Minimum speeds based on constant load. Consult factory for speeds outside range.



Power Take Off CHELSEA®

252 Series 6-Bolt

www.parker.com/hyd/252



- The 252 Series features the latest PTO technology for automatic transmissions
- The Controlled Compression Interface Gasket - Eliminates the setting of gear backlash
- The lightweight housing design - Allows for maximum heat dissipation
- Excellent gear contact ratio - Quiet operation
- Integrated Catridge Valve - Reduced Installation Time
- Torque up to 120 Lbs.ft - Able to power your application requirements

Series	252*D	252*M
Standard output shaft size	1" Round w/key	
Intermittent torque rating (lbs. ft)	120	50
Intermittent torque rating (Nm)	163	68
Horsepower rating for intermittentService:		
at 500 RPM of output shaft (HP)	11	5
at 1000 RPM of output shaft (HP)	23	10
at 500 RPM of output shaft (Kw)	9	4
at 1000 RPM of output shaft (Kw)	17	7
Approximate Weight	25 lbs. (11 kg)	

236 Series 6-Bolt

www.parker.com/hyd/236



- Powershift
- Patent pending internal self adjusting shaft brake option
- Wide selection of input gears for virtually all currently produced transmissions
- Inspection cove for adjusting backlash
- Helical gears and optional pressure lubrication to extend P.T.O. service life
- Air or electric/air shift unit

Series	236*D	236*K	236*Q	236*U
Standard output shaft size	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Intermittent torque rating (lbs. ft)	250	250	250	225
Horsepower rating for intermittent Service:				
at 500 RPM of output shaft	23.8	23.8	23.8	21.4
at 1000 RPM of output shaft	47.6	47.6	47.6	42.8

880 Series 8-Bolt

www.parker.com/hyd/880



- Two-gear
- Wide coverage for tough applications
- Speed ratios for high and low speed applications
- Removable shift cover for adjusting backlash
- Dual-pump output for mounting a pump on each end of the P.T.O.

Series	880*B	880*D	880*G	880*J	880*M	880*P	880*R	880*T
Standard output shaft size	1 1/2" 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



Power Take Off CHELSEA®

230/231, 270/271 Series 6-Bolt

www.parker.com/hyd/230-231 • www.parker.com/hyd/270-271



230

271

230/231 Series

- Powershift
- Designed for both manual and automatic transmissions
- 231 offers low profile housing for avoiding clearance problems
- Pressure lubrication option available for both units
- Patent pending internal self adjusting shaft brake option
- Air or electric/air shift unit

270/271 Series

- Powershift
- Designed for automatic transmissions
- 271 offers low profile housing for avoiding clearance problems
- Pressure lubrication available for both units
- Patent pending internal self adjusting shaft brake option
- Electric/hydraulic shift unit

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 w/Pressure Lube	230*U/231*U All Lube Types
Standard output shaft size	1 1/4"	1 1/4"	1 1/4"	1 1/4"
Intermittent torque rating (lbs. ft)	300	250	250	225
Horsepower rating for intermittent Service: at 500 RPM of output shaft at 1000 RPM of output shaft	28.5 57	23.5 47	23.5 47	21.4 42.8

277 & 278 Series 10-Bolt

www.parker.com/hyd/277 • www.parker.com/hyd/278



277



278

- Exceeds the torque capacity of a 6-bolt PTO, while offering the tighter sealing of a 10-bolt pattern
- Available in five speed ratios and fourteen output options, including Chelsea's popular 360° rotatable flange
- SuperTorque™ gears available for 20% higher intermittent torque ratings
- Electronic Overspeed Control (EOC) available to protect driven equipment from overspeeding
- Electric/Hydraulic Shift w/ new cartridge valve for better transmission/chassis fitment
- PTO/Dump pump combo valve options available
- Shaft brake option (patent # 7159701) available for product pump applications
- Wet spline option available which increases spline life by a factor of 10

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	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
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 63.6	30.9 61.8	28.5 57	25.2 50.4	23.8 47.6	21.4 42.8

Power Take Off CHELSEA®

247 Series 6-Bolt (for Ford TorqShift™ Transmissions)

www.parker.com/hyd/247



- The only Ford tested tough P.T.O. for the TorqShift™ transmission
- Operates in all gears
- Specially matched P.T.O. and pumps for superior work load capabilities
- One P.T.O. for 4 x 2 and 4 x 4 applications
- One wiring harness for both gas and diesel engines
- Speed ratio of 154% of engine speed
- Intermittent torque rating of 120 lbs.-ft.

Series	247
Standard output shaft size	1.25"
Intermittent torque rating (lbs. ft)	120
Horsepower rating for intermittent Service: at 500 RPM of output shaft	–
at 1000 RPM of output shaft	–
at 1200 RPM of output shaft	42

800, 852, 885 Series 8-Bolt

www.parker.com/hyd/800 • www.parker.com/hyd/852 • www.parker.com/hyd/885



800 Series

- Only single gear powershift P.T.O. on the market today
- Compact size makes it a good solution when space is limited
- Pressure lubrication standard
- Electric/hydraulic shift unit

852 Series

- Designed for heavy duty applications
- Three speed ratios to choose from
- Pump flanges to fit most popular hydraulic pumps
- Pressure lubrication standard
- Electric/hydraulic shift unit

885 Series

- Designed for heavy duty applications such as pneumatic blowers
- Rugged cast iron housing
- Four speed ratios to choose from
- Pressure lubrication available
- Electric/air shift unit

Series	800*M Single Gear	852*B, G, J Two Gear	885*B, G, J, M
Standard output shaft size	1 1/2", rd.	1 1/2" 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	47
at 1000 RPM of output shaft	47	94	94



Power Take Off CHELSEA®

890 Series

www.parker.com/hyd/890



- Fits Allison 3000/4000 Series Transmissions
- Moves the P.T.O. mounting flange to the rear of the transmission
- Allows direct mounting of larger pumps
- P.T.O. torque ratings up to 670 lbs-ft. - able to transmit the maximum torques allowable from the Allison Transmissions
- Wet spline outputs - extends shaft life and eliminates the need to disassemble the PTO/pump to frequently grease the shaft splines
- Electric Overspeed Control (EOC) available to protect driven equipment from overspeeding
- Heavy duty gears, bearings, shafts and housing - tested to withstand the severest applications such as refuse, cranes and fire/rescue
- Electric/hydraulic shift w/ new cartridge valve - better transmission/chassis fitment

Series	890*A	890*E	890*F
Standard output shaft size	S.A.E. "C" ("XS") Output		
Intermittent torque rating (lbs. ft)	600	600	600
Intermittent torque rating (N.m.)	813	813	813
Horsepower rating for intermittent Service: at 500 RPM of output shaft (HP) at 1000 RPM of output shaft (HP) at 500 RPM of output shaft (Kw) at 1000 RPM of output shaft (Kw)	57	57	57
	114	114	114
	43	43	43
	85	85	85
Approximate weight	86 lbs. (39 kg)		

*Check application pages for actual torque ratings

442 Series 6-Bolt & 489 Series 8-Bolt

www.parker.com/hyd/442 • www.parker.com/hyd/489



442

442 Series

- Two-gear
- Engineered to work with virtually all existing transmission applications
- Economical workhorse features a cast iron housing
- Tapered cone bearings for high torque rating and long service life
- Slip fit idler pin for easy interchange from one transmission to another
- Easy to set backlash
- Wide range of shift, output options

489 Series

- Two-gear
- 442 Series family, but with an 8-bolt mounting flange
- No adapter plate needed
- Less installation time, less expense and less chance of leakage
- Wide range of shifters options and pump flanges

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	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1 1/4"
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 at 1000 RPM of output shaft	23.5	23.5	23.5	23.5	21.4	21.4	19	18.6	16.7	13.2
	47	47	47	47	42.8	42.8	38	37.2	33.3	26.5



Accumulators
Compact Hydraulics
Control Systems
Cylinders
Fluid Analysis & Conditioning
Fluid Connectors
Hydrostatic Transmission & Steering Units
Motors
PTOs
Pumps
Pumps/Motors
Rotary Actuators
Valves & Controls

Power Take Off CHELSEA®

859 Series 10-Bolt

www.parker.com/hyd/859



- Highest torque capacities of any P.T.O. offered for the Allison World transmissions
- P.T.O. torque ratings from 285 to 575 Ft. lbs
- Electronic overspeed control available to protect driven equipment from overspeeding
- Advanced gear design for increased tooth-contact ratio for quieter operation
- Electric/hydraulic shift

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	54.7	46.6	39.5	33.3
at 1000 RPM of output shaft	109.4	93.2	79	66.4

267 & 269 Series 10-Bolt

www.parker.com/hyd/267 • www.parker.com/hyd/269



- 267 Series**
- Approved for use with Allison World Transmissions
 - Constant Mesh (non-shiftable) P.T.O. that is ideal for applications requiring continuous power
 - Three speed ratios and ten output options
 - SuperTorque™ gears available for 20% higher intermittent torque ratings
 - No backlash to adjust
 - Wet spline output options available
- 269 Series**
- Wet spline design virtually eliminates spline fretting
 - Increases shaft life by a factor of 10
 - Two year warranty
 - Standard intermittent torque rating of 300 lbs-ft and 360 lbs-ft for Super Torque gears
 - P.T.O. output shaft speed of 96% (G ratio) on Allison MD transmissions
 - Three other speeds to choose from, see ALL-13 & 14 application pages
 - Available with an "XY" output (DIN 5462) flange
 - Specially designed to Direct Mount a Parker VP1 Series pump or similar style pump on Allison MD and HD transmissions

Series	267*B	267*G	267*S	267*SB	267SG	267*SS
	Super Torque					
Standard output shaft size	1¼"					
Intermittent torque rating (lbs. ft)	335	300	250	402	360	265
Intermittent torque rating (Nm)	454	407	339	545	488	359
Horsepower rating for intermittent Service: at 500 RPM of output shaft	32	29	24	38	34	25
at 1000 RPM of output shaft	64	57	48	77	69	50
at 500 RPM of output shaft	24	21	18	29	26	19
at 1000 RPM of output shaft	48	43	36	57	51	38
Approximate weight	35 lbs. (16 kg)					

Series	269*B	269*D	269*G	269*M	269SB	269SD	269SG	269SM
	Super Torque							
Standard output shaft size	DIN 5462/ISO 14 ("XY" Output)							
Intermittent torque rating (lbs. ft)	335	325	300	265	402	390	360	318
Intermittent torque rating (Nm)	454	441	407	359	545	529	488	431
Horsepower rating for intermittent Service: at 500 RPM of output shaft (HP)	32	31	29	25	38	37	34	30
at 1000 RPM of output shaft (HP)	64	62	57	50	77	74	69	61
at 500 RPM of output shaft (Kw)	24	23	21	19	29	28	26	23
at 1000 RPM of output shaft (Kw)	48	46	43	38	57	56	51	45



Pumps Piston

P1



- Variable displacement, axial piston pump for open-circuit applications
- Medium pressure, continuous operation at pressures up to 280 Bar
- Quiet and efficient control capability
- Low ripple to further reduce noise
- Compact overall package size
- Elastomer seals that eliminate gaskets and external leakage
- High operating efficiency results in lower power consumption and reduced heat generation
- Simple “no-leak” hydraulic controls

www.parker.com/hyd/p1

Frame size P1	-018	-028	-045	-060	-075	-100	-140
Displacement (cm ³ /rev) (in ³ /rev)	18 1.10	28 1.71	45 2.75	60 3.7	75 4.6	100 6.0	140 8.5
Max continuous pressure (Bar) (PSI)	280 4000						
Self priming speed @ 1 Bar inlet pressure	3200	3200	2600	2500	2300	2100	2000

P2



The newly developed variable displacement piston pumps from Parker Hannifin, designated “P2,” are intended for mobile applications, featuring a very compact design, low noise level and low pressure ripple. Stable and quick to respond to system demands in many different types of mobile

machinery, the P2 is designed for cost effective installation within the limited space available on modern mobile machines.

- Sealed shaft bearing
- High self-priming speed
- Flexible, reliable, service friendly

www.parker.com/hyd/p2

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

P3



P3 piston pumps are ideal for mobile applications that require high self-priming speed and operating pressure up to 4600 PSI. These high performance pumps are suited for mobile applications where inlet fill characteristics are not ideal; i.e. high altitudes, long inlet lines, cold

weather and high pump drive speeds.

- Sealed shaft bearing
- Compact packaging
- Low noise level
- Easy to install
- Flexible, reliable, service friendly

www.parker.com/hyd/p3

Frame size P3	-075	-105	-145
Displacement (cm ³ /rev) (in ³ /rev)	75 4.6	105 6.4	145 8.8
Max continuous pressure (Bar) (PSI)	317 4600	317 4600	317 4600
Self priming speed @ 1 Bar inlet pressure	3000	2600	2500

Pumps Piston

PAVC

www.parker.com/hyd/pavc



PAVC piston pumps are ideal for many industrial applications with operating pressure up to 3000 PSI. These compact pumps feature convenient cartridge style controls and carry a full pressure rating on most water glycol fluids.

- High strength cast-iron housing
- Built-in supercharger
- High speed capability - 3000 RPM (2600 RPM PAVC100)
- Sealed shaft bearing
- Two piece design for ease of service

- Cartridge bronze clad port plate
- Airbleed standard for quick priming
- Hydrodynamic cylinder barrel bearing
- Thru-shaft (PAVC100 only)
- Full pressure rating on water glycol fluids
- Pump case and shaft seal - see inlet pressure only
- Filter and/or cool drain line (100 PSI Max.)

Frame size PAVC	-33	-38	-65	-100
Displacement (cm ³ /rev) (in ³ /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

www.parker.com/hyd/pvp



PVP piston pumps are ideal for medium duty industrial applications with operating pressure up to 3600 PSI. These service friendly pumps are quiet and respond quickly to flow demand changes.

- High strength cast-iron housing
- Optional inlet/outlet locations

- Replaceable bronze port plate
- Replaceable piston slipper plate
- Low noise levels
- Fast response times
- Metric pilot, shaft and ports available

Frame size PVP	-16	-23	-33	-41	-48
Displacement (cm ³ /rev) (in ³ /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	2400

Pumps Piston

H3 & H4

www.parker.com/hyd/h3h4



The H3 and H4 Series are manually controlled closed loop axial piston pumps. When paired with Parker's low speed, high torque orbit - type hydraulic motors, they create highly efficient hydrostatic transmissions. These cost effective transmissions are often used as drive systems for the propulsion of off - highway vehicles under 50 horsepower

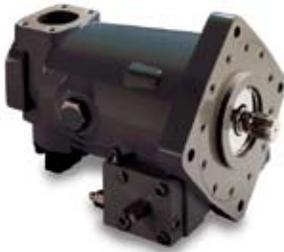
- H3**
- Closed loop
 - High strength aluminum housing and endcap
 - Forged trunnion shaft
 - Bi-metal bronze/steel valve plate
 - Large area cooling fins

- H4**
- Closed loop
 - Robust, higher pressure design
 - Heavier drive shaft and radial bearing
 - High strength aluminum housing and endcap
 - Forged trunnion shaft
 - Bi-metal bronze/steel valve plate
 - Large area cooling fins

Frame size	-10 (H3)	-10 (H4)	-12 (H4)	-14 (H4)
Displacement (cm ³ /rev) (in ³ /rev)	10.2 0.62	10.1 0.62	11.5 0.7	14.1 0.86
Max continuous pressure (Bar) (PSI)	69 1000	104 1500	90 1300	104 1500
Max operating speed (RPM)	3600	3600	3600	3600

Premier

www.parker.com/hyd/premier



The open-loop Premier Series pumps are variable displacement piston pumps with emphasis on superior design with few maintenance requirements. Low inlet velocity requirements allow the pumps to run faster than competitive models without the added expense of boosting the inlet. Modified pistons that reduce the amount of trapped fluid volume result in improved efficiency.

The Premier Series pumps have been designed to operate in a wide range of industries where variable flow, high pressure and/or high speeds are required; such as: presses, construction machinery, injection molding, wood, aircraft, drilling, mining, steel and cranes.

Frame Size P	05/080	07/110	09/140	12/200	16/260
Displacement (cm ³ /rev) (in ³ /rev)	80.3 4.9	109.8 6.7	140.9 8.6	200.0 12.2	262.2 16.0
Max. continuous pressure (Bar) (PSI)	414 6000	414 6000	414 6000	414 6000	414 6000
Max. intermittent pressure (Bar) (PSI)	500 7250	500 7250	500 7250	500 7250	500 7250
Max. rated drive speed (RPM)	2550	2450	2300	2100	1850

Pumps **Piston**

VP1

www.parker.com/hyd/vp1



The VP1 is the world's first variable displacement pump for truck applications. It can be close-coupled to a gearbox PTO (power take-off) or to a coupling independent PTO (e.g. an engine PTO) which meets ISO standard 7653-1985.

- **Variable, Load Sense Control**
- **Low noise level**
- **High power-to-weight ratio**
- **Compact and lightweight**
- **Withstands low temperatures**
- **Sturdy design**
- **Highly efficient**

Frame size VP1	-45	-75	-95	-120
Displacement (cm ³ /rev) (in ³ /rev)	45 2.75	75 4.58	95 5.8	120 7.32
Max continuous pressure (Bar) (PSI)	300 4350	300 4350	400 5800	300 4350
Self priming speed* (RPM)	2400	2100	2200	1800

*2½" suction line

F1/F2

www.parker.com/hyd/f1f2



F1 fixed displacement piston pumps are widely used on truck applications with operating pressure up to 5000 PSI. These lightweight, efficient pumps were designed specifically for truck applications including cargo cranes, hook loaders, forest cranes and concrete mixers.

- **Pressures up to 350 Bar (5000 PSI)**
- **High power capability**
- **Twin flow version available**
- **High self-priming speed**
- **Easy to install**
- **Easy to service**

Series F1	25	41	51	61	81	101
Displacement (cm ³ /rev) (in ³ /rev)	25.6 1.59	40.9 2.50	51.1 3.11	59.5 3.66	81.6 5.00	102.9 6.29
Max. operating pressure (Bar) (PSI)	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000
Shaft speed (RPM): unloaded at 350 Bar ²	2700 2600	2700 2400	2700 2200	2700 2200	2300 2000 ³	2300 1800 ³
Torque ¹ at 350 Bar (Nm) (lb-in)	142 1261	227 2016	284 2522	331 2939	453 4023	572 5079
Input power, continuous (kW) (hp)	31 39	46 57	52 67	61 84	76 102	86 115

¹ Theoretical value

² Valid at an inlet pressure of 1.0 Bar (abs.) when operating on mineral oil at a viscosity of 30 mm²/s (cSt).

³ Valid with 2½" inlet (suction) line. With 2" suction line: F1-80 – max 1400 RPM, F1-101 – max 1200 RPM.

Series F2	42/42	55/28	53/53	70/35	70/70
Displacement, Port A/Port B (cm ³ /rev) (in ³ /rev)	43/41 2.62/2.50	55/28 3.36/1.71	54/52 3.30/3.17	69/36 4.27/2.14	68/68 4.15/4.15
Max. operating pressure (Bar) (PSI)	350 5000	350 5000	350 5000	350 5000	300 4350
Max. shaft speed, unloaded (RPM)	2550	2550	2550	2550	2550
Max. self-priming speed (RPM): Ports A ^{1,2} and B ^{1,2} pressurized Port A ² unloaded, pressure in Port B	1800 2100	1800 2100	1800 2100	1800 2100	1650 2100
Input power, continuous (kW) (hp)	70 118	70 118	88 147	88 147	112 150

¹ Valid with 2½" inlet line, q = 120 l/min. With 2" inlet line: max 1400 RPM.

² Measured at 1.0 bar abs. inlet pressure.



Pumps Vane

SDV Single



The SDV Series includes fixed displacement vane pump ideal for low to mid pressure applications. Their compact design and low noise features make them well suited for filter carts, test stands and remote pilot pumps.

www.parker.com/hyd/sdvsingle

- **Two compact frame sizes**
- **Low noise**
- **100% tested**
- **Easy to convert or repair**

Series SDV10	-1	-2	-3	-4	-5	-6	-7
Displacement (cm ³ /rev) (in ³ /rev)	3.3 0.2	6.6 0.4	9.8 0.6	13.1 0.8	16.4 1.0	19.5 1.2	22.8 1.4
Max. continuous pressure (bar) (PSI)	175 2500	175 2500	175 2500	175 2500	175 2500	150 2200	140 2000
Max. speed (RPM)	1800	1800	1800	1800	1800	1800	1800

Series SDV20	-6	-7	-8	-9	-11	-12	-13
Displacement (cm ³ /rev) (in ³ /rev)	19.5 1.2	22.8 1.4	26.5 1.6	29.7 1.8	36.4 2.2	39.0 2.4	42.4 2.6
Max. continuous pressure (bar) (PSI)	175 2500	175 2500	175 2500	175 2500	175 2500	150 2200	150 2200
Max. speed (RPM)	1800	1800	1800	1800	1800	1800	1800

SDV Double



The SDV Series includes fixed displacement vane pumps ideal for low to mid-pressure applications. A double pump provides the flexibility of two different displacements within one housing. Compact design and low-noise features make them well

www.parker.com/hyd/sdvdouble

sued for filter carts, test stands, remote pilot pumps, and for hi/lo circuits.

- **Two compact frame sizes**
- **Low noise**
- **100% tested**
- **Easy to convert or repair**

Series SDV2010	-7	-8	-9	-11	-12	-13
Displacement* (cm ³ /rev) (in ³ /rev)	26.1 - 45.6 1.6 - 2.8	29.8 - 49.3 1.8 - 3.0	33.0 - 52.5 2.0 - 3.2	39.7 - 59.2 2.4 - 3.6	42.3 - 61.8 2.6 - 3.8	45.7 - 65.2 2.8 - 4.0
Max. continuous pressure (Bar) (PSI)	175 2500	175 2500	175 2500	175 2500	150 2200	150 2200
Max. speed (RPM)	1800	1800	1800	1800	1800	1800

*Range calculated by adding displacement for SDV20 to range of displacements for SDV10.

Series SDV2020	-7	-8	-9	-11	-12	-13
Displacement* (cm ³ /rev) (in ³ /rev)	42.3 - 52.5 2.6 - 3.2	46.0 - 56.2 2.8 - 3.4	49.2 - 59.4 3.0 - 3.6	55.9 - 72.8 3.4 - 4.4	58.5 - 75.4 3.6 - 4.6	61.9 - 78.8 3.8 - 4.8
Max. continuous pressure (Bar) (PSI)	175 2500	175 2500	175 2500	175 2500	150 2200	150 2200
Max. speed (RPM)	1800	1800	1800	1800	1800	1800

*Range calculated by adding displacement for SDV20 (shaft end) to range of SDV20 (cover end).



Pumps Vane

T Series

www.parker.com/hyd/tseries



T Series-Double

T Series-Single

T Series-Triple

The T Series fixed displacement vane pump is the highest performance pump of its kind. The balanced design and double lip vane technology are key features in providing a contamination resistant and reliable pump.

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

Frame Size T-Single	6CM	6CP	6DM	6EM
Displacement* (cm ³ /rev) (in ³ /rev)	10.8 - 100 0.66 - 6.1	46 - 100 2.8 - 6.1	47.5 - 158 2.9 - 9.6	132.3 - 227 8.1 - 13.8
Max pressure** (Bar) (PSI)	275 4000	275 4000	300 3500	240 3500
Max speed** (RPM)	2800	2800	2500	2200

Frame Size T-Double	6CCM	6DCM	6ECM	6EDM
Displacement* (cm ³ /rev) (in ³ /rev)	21.6 - 200 1.3 - 12.2	58.3 - 258 3.6 - 15.7	143.1 - 327 8.7 - 19.9	179.7 - 385 11.0 - 23.5
Max pressure** (Bar) (PSI)	275 4000	275 4000	275 4000	275 4000
Max speed (RPM)	2800	2500	2200	2200

Frame Size T-Triple	6DCCM	6EDCM/S
Displacement* (cm ³ /rev) (in ³ /rev)	69.1 - 358 4.2 - 21.8	190.5 - 485 11.6 - 29.6
Max pressure** (Bar) (PSI)	275 4000	275 4000
Max speed (RPM)	2500	2200

*Available range based on various combinations of displacements.

**Lower for larger displacements; see catalog on CD.

Pumps Hybrid/Piston/Cartridge

Variable Piston/Fixed Vane

www.parker.com/hyd/t6h



T6H Series

The hybrid pump is a combination of fixed displacement vane pump B, C, D cartridges combined with a variable cartridge of PV20 or PV29 piston pump. The cartridges are driven by a common shaft without coupling in between. They have a large common suction port and two or three independent outlet ports: One for the piston, one or two for the vane pump.

- **Very compact**
- **High pressure ratings**
- **Low noise**
- **Independent outlets for fixed and variable flow allow simultaneous cycles**
- **Internal or external drain**
- **Choice of controls**
- **Wide range of acceptable fluids**

Frame Size T6H***	T6H20B***	T6H20C***	T6H29B***	T6H29C***	T6H29D ***	T6H29DB ***
Displacement* (cm ³ /rev) (in ³ /rev)	5.7 - 92.9 2.97 - 5.67	10.8 - 142.9 3.28 - 8.72	5.7 - 111.9 4.13 - 6.83	10.8 - 161.9 4.44 - 9.88	47.5 - 219.9 6.68 - 13.42	53.2 - 269.9 7.03 - 16.47
Max pressure** (Bar) (PSI)	241 3500	241 3500	207 3000	207 3000	207 3000	207 3000
Max speed** (RPM)	2600	2600	2400	2400	2400	2400

*Piston pump at full displacement

**Lower for larger displacements. See catalog

***See catalog on CD for complete information

Piston Pumps

www.parker.com/hyd/ppumps



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

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

Cartridge Pumps

www.parker.com/hyd/cpumps



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

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

Pumps/Motors Gear

Gerotor Pump and Motor

www.parker.com/hyd/mgg • www.parker.com/hyd/pgg



- Gerotor design (HSLT- High Speed/Low Torque)
- 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 MGG2/PGG2	0010	0016	0020	0025	0030
Displacement (cm ³ /rev) (in ³ /rev)	3.572 .218	6.096 .372	7.374 .450	9.505 .580	11.471 .700
Max continuous 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

P16 Series

www.parker.com/hyd/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 P16	-45	-65	-85	-100	-115	-150	-180	-200
Displacement (cm ³ /rev) (in ³ /rev)	14.4 0.88	20.8 1.27	27.3 1.67	32.1 1.96	36.7 2.24	48.1 2.93	57.4 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



Pumps/Motors Gear

20 Series

www.parker.com/hyd/20series



- 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 20	-150	-200	-250	-300	-350	-400	-450
Displacement (cm ³ /rev) (in ³ /rev)	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
Max speed (RPM)	2500	2500	2500	2500	2500	2500	2500

25 Series

www.parker.com/hyd/25series



- 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 25	-300	-350	-400	-450	-500	-550	-660	-770	-950
Displacement (cm ³ /rev) (in ³ /rev)	99.1 6.05	115.9 7.07	132.4 8.08	149.1 9.10	164.7 10.05	181.22 11.06	219.9 13.42	254.4 15.50	315.0 19.22
Max continuous pressure (Bar) (PSI)	207 3000	207 3000	207 3000	207 3000	172 2500	172 2500	172* 2500*	172* 2500*	172* 2500*
Max speed (RPM)	2500	2500	2500	2500	2500	2500	2500	2500	2500

*Consult factory



Pumps/Motors Gear

HP7 Series

www.parker.com/hyd/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 HP7	-250	-300	-350	-400	-450	-500	-550
Displacement (cm ³ /rev) (in ³ /rev)	82.9 5.06	99.1 6.05	115.9 7.07	128.3 7.83	143.4 8.75	159.8 9.75	176.0 10.74
Max continuous pressure (Bar) (PSI)	276 4000	276 4000	276 4000	276 4000	255 3700	228 3300	207 3000
Max speed (RPM)	2500	2500	2500	2500	2500	2500	2500

HP8 Series

www.parker.com/hyd/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 HP8	-400	-450	-500	-550	-600	-660	-770	-850
Displacement (cm ³ /rev) (in ³ /rev)	128.3 7.83	143.4 8.75	159.8 9.75	176.0 10.74	193.0 11.78	213.9 13.05	246.0 15.01	268.3 16.38
Max continuous pressure (Bar) (PSI)	276 4000	276 4000	276 4000	276 4000	276 4000	248 3600	228 3300	207 3000
Max speed* (RPM)	2500	2500	2500	2500	2500	2500	2500	2500

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

Pumps/Motors Gear

PGP 300 Series

www.parker.com/hyd/pgp300



- 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 PGP315/PGM315	-05	-06	-07	-08	-10	-11	-12	-13	-15	-16	-17	-18	-20
Displacement (cm ³ /rev) (in ³ /rev)	10.2 .620	12.7 .775	15.2 .930	17.8 1.09	20.3 1.24	22.9 1.40	25.9 1.55	27.9 1.71	30.5 1.86	33.0 2.02	35.6 2.17	38.1 2.33	40.6 2.48
Max continuous pressure (Bar) (PSI)	245 3500	225 3300	215 3100	200 2900	190 2700	175 2500							
Max speed (RPM)	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000

Frame size PGP330/PGM330	-05	-07	-10	-12	-15	-17	-20
Displacement (cm ³ /rev) (in ³ /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)	245 3500	245 3500	245 3500	245 3500	245 3500	225 3250	210 3000
Max speed (RPM)	3000	3000	3000	3000	3000	3000	3000

Frame size PGP350/PGM350	-05	-07	-10	-12	-15	-17	-20	-22	-25
Displacement (cm ³ /rev) (in ³ /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)	245 3500	245 3500	245 3500	245 3500	245 3500	225 3250	210 3000	190 2750	175 2500
Max speed (RPM)	2400	2400	2400	2400	2400	2400	2400	2400	2400

Frame size PGP365/PGM365	-07	-10	-12	-15	-17	-20	-22	-25
Displacement (cm ³ /rev) (in ³ /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)	245 3500	245 3500	245 3500	245 3500	245 3500	245 3500	225 3250	210 3000
Max speed (RPM)	2400	2400	2400	2400	2400	2400	2400	2400

*Functioning as motor

Pumps/Motors Gear

PGP 500 Series

www.parker.com/hyd/pgp500



- 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 PGP505/PGM505	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
Displacement (cm ³ /rev) (in ³ /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	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 PGP511/PGM511	-6	-7	-8	-10	-11	-14	-16	-18	-19	-21	-23	-27	-28	-31
Displacement (cm ³ /rev) (in ³ /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	260 3770	260 3770	235 3408	235 3408	200 2900	190 2705	170 2465						
Max speed at 0 inlet & max outlet pressure (RPM)	4000	4000	4000	3600	3600	3300	3000	3000	3000	2800	2800	2400	2300	2300

Pumps/Motors Gear

PGP 600 Series

www.parker.com/hyd/pgp600



610



620



640



620 Tandem

- Patented, interlocking body design
- 12 tooth gears, bronze thrust plates
- Tandem, triple and cross-frame pumps available
- Common inlets available for tandem and triple pumps
- Continuous operating pressures up to 275 bar
- Production run-in available to suit OEM application conditions and to provide optimized volumetric efficiencies
- Pressure balanced design for high efficiency
- Reduced system noise levels compared to earlier models and competitor's pumps
- High power through-drive capability
- Wide range of integral valves for power steering, power brakes, fan drives and implement hydraulics
- Load-sense and solenoid-operated unloading valves

Frame Size PGP/PGM610	0070	0100	0140	0160	0180	0210	0230	0260	0280	0320
Displacement (cc/rev) (in ³ /rev)	7 .43	10 .61	14 .85	16 1.04	18 1.10	21 1.28	23 1.40	26 1.59	28 1.71	32 1.95
Continuous pressure (Bar) (PSI)	275 3989	275 3989	275 3989	275 3989	265 3843	245 3553	235 3408	215 3118	200 2901	175 2538
Intermittent pressure (Bar) (PSI)	300 4351	300 4351	300 4351	300 4351	290 4206	270 3916	260 3771	240 3480	220 3190	175 2538

Frame Size PGP/PGM620	0190	0230	0260	0290	0330	0370	0410	0440	0500
Displacement (cc/rev) (in ³ /rev)	19 1.16	23 1.40	26 1.59	29 1.77	33 2.01	37 2.26	41 2.50	44 2.68	50 3.05
Continuous pressure (Bar) (PSI)	275 3989	275 3989	275 3989	275 3989	275 3989	250 3626	220 3191	210 3046	210 3046
Intermittent pressure (Bar) (PSI)	300 4351	300 4351	300 4351	300 4351	300 4351	275 3989	245 3553	230 3336	210 3046

Frame Size PGP/PGM640	0300	0350	0450	0550	0650	0750	0800
Displacement (cc/rev) (in ³ /rev)	30 1.83	35 2.14	45 2.75	55 3.36	65 3.97	75 4.58	80 4.88
Continuous pressure (Bar) (PSI)	275 3989	275 3989	275 3989	275 3989	275 3989	235 3408	215 3118
Intermittent pressure (Bar) (PSI)	300 4351	300 4351	300 4351	300 4351	300 4351	260 3771	240 3481

Rotary Actuators

HTR Series, LTR Series, M(Mill) Series

www.parker.com/hyd/htr • www.parker.com/hyd/ltr • www.parker.com/hyd/mill



HTR Series



LTR Series



M (Mill) 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.

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.

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, it 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 ³ /rad (in ³ /rad)	Torque Newton Meter (lb-in)
.9	207 (3000)	6 (0.36)	102 (900)
1.8	207 (3000)	12 (0.7)	203 (1800)
3.7	207 (3000)	25 (1.5)	418 (3700)
5	207 (3000)	33 (2.0)	565 (5000)
7.5	207 (3000)	51 (3.1)	847 (7500)
10	207 (3000)	65 (4.0)	1130 (10,000)
15	207 (3000)	93 (5.7)	1695 (15,000)
22	138 (2000)	145 (8.8)	1695 (15,000)
30	207 (3000)	186 (11.3)	3390 (30,000)
45	138 (2000)	290 (17.7)	3390 (30,000)
75	207 (3000)	480 (29.3)	8474 (75,000)
150	207 (3000)	960 (58.6)	16,948 (150,000)
300	207 (3000)	1856 (113.3)	33,896 (300,000)
600	207 (3000)	3701 (226.0)	67,791 (600,000)
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)	442 (27)	8474 (75,000)
150	207 (3000)	901 (55)	16,948 (150,000)
300	207 (3000)	1836 (112)	33,896 (300,000)
600	207 (3000)	3669 (224)	67,791 (600,000)
1000	207 (3000)	5800 (354)	113,000 (1,000,000)
50000	207 (3000)	285,523 (17,423)	5,650,000 (50,000,000)



Rotary Actuators

HRN Series

www.parker.com/hyd/hrn

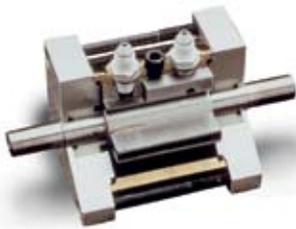


The HRN Series provides an additional range of vane actuator technology, allowing more options in optimum torque and pressure. Single and double vane options provide high torque in a compact package for the medium to high operating pressure range. The rugged construction assures long life and reliability. 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 ³ /rad (in ³ /rad)	Torque Newton Meter (lb-in)
10S	69 (1000)	2.12 (0.13)	9.8 (86.7)
10D	69 (1000)	4.14 (0.25)	19.6 (173.5)
15S	69 (1000)	3.61 (0.2)	19.6 (173.5)
15D	69 (1000)	7.00 (0.4)	39.2 (346.9)
20S	69 (1000)	5.09 (0.3)	29.4 (260.2)
20D	69 (1000)	10.19 (0.6)	58.8 (520.4)
30S	69 (1000)	10.82 (0.7)	58.8 (520.4)
30D	69 (1000)	21.65 (1.3)	117.6 (1040.8)
100S	69 (1000)	23.55 (1.4)	123 (1088.6)
100D	69 (1000)	47.11 (2.9)	245 (2168.3)
200S	69 (1000)	46.90 (2.9)	314 (2779.0)
200D	69 (1000)	93.58 (5.7)	627 (5549.2)
400S	69 (1000)	92.31 (5.6)	539 (4770.4)
400D	69 (1000)	184.62 (11.3)	1078 (9540.7)
700S	69 (1000)	165.52 (10.1)	980 (8673.4)
700D	69 (1000)	331.04 (20.2)	1960.1 (17,346.7)

Tork-Mor Series

www.parker.com/hyd/torkmor



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 on 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 ³ /rad (in ³ /rad)	Torque Newton Meter (lb-in)
S33	34 (500)	29.48 (1.8)	90 (800)
DS33	34 (500)	58.97 (3.6)	184 (1625)
S42	68 (1000)	60.61 (3.7)	381 (3370)
DS42	68 (1000)	168.71 (10.3)	762 (6740)
S44	51 (750)	106.47 (6.5)	463 (4100)
DS44	34 (500)	298.12 (18.2)	621 (5500)
S46	34 (500)	160.52 (9.8)	458 (4050)
DS46	17 (250)	319.41 (19.5)	424 (3750)
S74	68 (1000)	355.45 (21.7)	2260 (20,000)
DS74	51 (750)	710.89 (43.4)	3344 (29,600)
S77	51 (750)	624.08 (38.1)	2859 (25,300)
DS77	51 (750)	1764.11 (106.6)	3819 (33,800)
S105	68 (1000)	1092.55 (66.7)	6926 (61,300)
DS105	68 (1000)	2186.73 (133.5)	14,010 (124,000)
S108	51 (750)	1746.11 (103.6)	8022 (71,000)
DS108	51 (750)	3490.58 (213.1)	16,383 (145,000)
S1012	34 (500)	2617.52 (159.8)	7943 (70,300)
DS1012	34 (500)	5236.69 (319.7)	16,044 (142,000)

Valves Open-Center Directional Control

MV3, VA/VG20, P70CF/P70CP, VA/VG35, V70/V90, VO40, V20

www.parker.com/hyd/oc-dcv



MV3

Parker offers a wide range of open-center directional control valves for mobile markets that also can be used as closed-center, constant-pressure and constant-pressure unloaded valves. Each valve technology offers unique features for improved machine performance and cost.

Parker's valve models come with a wide selection of special metering spools designed to optimize machine control and enhance operator comfort. Our market experience in machine control will direct you to the right solution.



VA/VG20

Parker also provides machine designers with a broad choice of circuitries, spool positioners and port accessories within each valve model. Field-proven differential area and pilot-operated relief valves also are available.

A full line of pilot controllers with spring packs matched to our remote-actuated directional control valves ensures predictable and reliable machine performance. For electrohydraulic operation, all of our valves are designed to interface with our IQAN electronics package.



P70CF/P70CP



VA/VG35



V70/V90



V20



VO40

Open-Center Technology

Series	Max Input Flow LPM (GPM)	Max Work Port Flow LPM (GPM)	Max Pressure PSI	Max Pressure Bar	Open Center	Closed Center	Constant Pressure	Constant Pressure Unloaded	Load Sense
MV3	30 (8)	30 (8)	3000	207	X	X			
BV06-solenoid only	38 (10)	38 (10)	3000	207	X				
V10	57 (15)	57 (15)	3500	240	X	X			
BV18	76 (20)	76 (20)	3500	241	X				
P70CF, P70CP	76 (20)	76 (20)	4600	315	X	X	X	X	X
MD06-solenoid only	95 (25)	95 (25)	3000	207	X				
V20	95 (25)	95 (25)	3500	240	X	X	X		
VA20 VG20	170 (45)	170 (45)	2500 3500	172 240	X	X	X		
VA35 VG35	246 (65)	246 (65)	2500 3500	172 240	X	X	X		
V70, V90	379 (100)	379 (100)	3500	240	X				
VO40	40 (11)	40 (11)	4350	300	X	X			



Accumulators
Compact Hydraulics
Control Systems
Cylinders
Fluid Analysis & Conditioning
Fluid Connectors
Hydrostatic Transmission & Steering Units
Motors
PTOs
Pumps
Pumps/Motors
Rotary Actuators
Valves & Controls

Valves Load-Sense Directional Control

M400LS, PC25/55, VPL, L90LS, K220LS, VP170

www.parker.com/hyd/lis-dcv



M400LS



PC25/55



L90LS



VPL



K220LS



VP170

Parker's range of load-sensing control valves includes three models of load-sense only valves, five models of pre-compensated valves, and three models of post-compensated valves. All of our load-sense control valves offer improved machine control and efficiency. Market demands for improved productivity and reduced horsepower consumption make all of these control valves excellent candidates for your machines.

Pre-compensated valves use traditional technology for load-sense pressure-compensation, and can limit pressure on selected work ports without flow loss.

Post-compensated valves share flow during pump over-demand conditions. All models have a full line of manual, hydraulic pilot, and electrohydraulic spool positioners. Additionally, a wide variety of special metering spools are available to maximize machine control or to limit the speed of a function.

A full line of pilot controllers with spring packs matched to our remote-actuated directional control valves ensures predictable and reliable machine performance. For electrohydraulic operation, all of our valves are designed to interface with our IQAN electronics package.

Load-Sense – Pre & Post Compensated

Series	Max Input Flow LPM (GPM)	Max Work Port Flow LPM (GPM)	Max Pressure PSI	Max Pressure Bar	Load Sense	Load Sense Post-Pressure Compensated	Load Sense Pre-Pressure Compensated
V20LS	114 (30)	114 (30)	3500	240	X		
VG80LS	454 (120)	379 (100)	3500	240	X		
M200LS, M400LS	901 (238)	454 (120)	4000	275	X		
PC25	227 (60)	170 (45)	4000	275		X	
PC55	284 (75)	246 (65)	4000	275		X	
VP170	227 (60)	170 (45)	5000	345		X	
V86	416 (110)	341 (90)	3500	240		X	
VPL	189 (50)	114 (30)	5000	345			X
VP, VPO	379 (100)	208 (55)	4000	275			X
L90LS	151 (40)	91 (24)	4600	315			X
K170LS	284 (75)	170 (45)	3800	262			X
K220LS	379 (100)	220 (58)	5000	345			X



Valves Hydraulic

Directional Control Valves

www.parker.com/hyd/dcv • www.parker.com/hyd/manifolds



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

Series	D1SE	D1V	D3V	D31V	D61V	D81V	D101V
Maximum flow* (LPM) (GPM)	20 4	83 22	150 40	175 45	390 100	622 180	946 250
Max operating pressure (Bar) (PSI)	350 5000	345 5000	345 5000	345 5000	207 3000	345 5000	207 3000
Mounting style (NFPA) (CETOP) (NG)	D03 3 6	D03 3 6	D05 5 10	D05H 5H -	D08 8 25	D08 8 25	D10 10 32

*Depending on spool

Proportional Directional Control Valves

www.parker.com/hyd/d1fw-d3fw



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

Sandwich Valves

www.parker.com/hyd/manapak



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

Series	CM	CPOM	FM	PRDM	PRM	RM	SPC
Type	Check	P.O. Check	Flow control	Direct operating pressure reducing	Pressure reducing	Pressure relief	Compensator
Maximum flow LPM (GPM) D03 Mounting, Size 2 D05 Mounting, Size 3 D08 Mounting, Size 6	76 (20) 113 (30) 340 (90)	53 (14) 76 (20) 227 (60)	76 (20) 113 (30) 340 (90)	151 (40) 303 (80)	64 (17) 189 (50)	53 (14) 76 (20) 340 (90)	33 (9) 85 (22)
Max optional pressure: (Bar) (PSI)	345 5000	345 5000	345 5000	315 4560	345 5000	345 5000	350 5075



Valves Hydraulic

Exectrol Directional Control Valves

www.parker.com/hyd/exectrol



- One and 2-stage versions
- Shear-type positive seal
- Low leakage (one drop/minute per port)
- Ideal for both hydraulic oil and water soluble fluids
- Standard valves are interflow
- High tolerance to contamination and silting
- Manual overrides standard
- Operating temperature range -40° to +225° with nitrile o-rings
- One version offers centralized lubricating system
- Self-cleaning and dirt resistant
- Shear-type positive seal

Series	21100	21200	25100	25200	21353	21356
Port Size	Subplate	Subplate	Subplate	Subplate	3/8"	3/4"
Maximum flow (LPM) (GPM)	11.3 3	38 10	94 25	169 45	30 8	30 8
Working pressure (Bar) (PSI)	414 6000	414 6000	414 6000	414 6000	310 4500	310 4500
Operation Solenoid Air/Oil	X	X	X	X	X X	X X
Body material Steel Aluminum	X	X	X	X	X	X

Lo-Torg Directional Control Valves

www.parker.com/hyd/lo-torg



- Shear-type positive seat
- Zero leakage
- High contamination tolerance
- Standard valves are interflow
- Low turning torque
- Side, bottom or subplate mounted
- Panel mounting standard
- Lubricated air, hydraulic oil and water
- Operating temperature -40° to +250°F

Series	8000E	8100E	8000C	8100C	8400E	8500
Size, NPT	1/8" - 3/4"	1/8" - 1"	1 1/4" - 1 1/2"	1 1/4" - 1 1/2"	1/8" - 1/4"	1/8" - 1"
Working Pressure (Bar) (PSI)	207 3000	414 6000	207 3000	414 6000	207 3000	207 3000
Body Material Steel Aluminum Alloy	X	X	X	X	X	X

Valves Hydraulic

Pressure Control Valves

www.parker.com/hyd/pcv



62**, 63**, 64**



665

In-Line Mounted

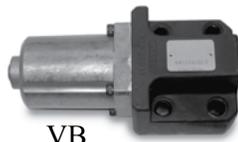
- Right angle or in-line-style valves
- Pressure ranges between 0.25 and 250 Bar (4 and 3600 PSI)
- Soft-seat poppets in brass or stainless steel for near zero leaks
- Non-standard and special port styles available on request

Manifold-Mounted

- Pilot operated, normally closed, quick response and spool-type valves available
- Pressure range of 25 to 350 Bar (363 to 5075 PSI)
- Subplate or slip-in mounting offered
- 2 or 3 adjustment modes



VM



VB



VBY



R, RS



UR*M, US*M



PR*M



VS



S*M



R5V



R4V



R5P



R5U



R5S



R5R



R5A

Series	620	63x	64x	665
Size NPT	1/4" - 3/4"	1/4" - 3/4"	1/4" - 3/4"	1/4" - 1"
SAE	-4 thru -12	-4 thru -12	-4 thru -12	-4 thru -16
Direct acting				X
Pilot operated				
Working pressure (Bar)	0.3 - 248	0.3 - 248	0.3 - 248	0.3 - 248
(PSI)	4 - 3600	4 - 3600	4 - 3600	4 - 3600
Body material				
Aluminum	X			X
Brass		X		
Stainless steel			X	X
Soft seat	X	X	X	X

Valves Hydraulic

Series/Function	R*M	R*R	RS*M	RS*R	PR*M	S*M	UR*M	US*M	VS	VM	VBY	VB
Relief	X	X	X	X					X	X		
Sequence						X					X	X
Pressure Reducer					X							
Unloader							X					
Max. Operating Pressure (Bar) (PSI)	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000	350 5000
Maximum Flow NG06 LPM (GPM)									25 (7)	25 (7)	40 (11)	25 (7)
NG10 LPM (GPM)	150 (40)	250 (67)	150 (40)	250 (67)	150 (40)	150 (40)	150 (40)	150 (40)		60 (16)	160 (43)	60 (16)
NG25 LPM (GPM)	300 (80)	500 (133.3)	300 (80)	500 (133.3)	350 (80)	350 (80)	350 (80)	350 (80)				
NG32 LPM (GPM)	650 (173)	650 (173)	650 (173)	650 (173)	650 (173)	650 (173)	650 (173)	650 (173)				

Series/Function	R5V	R5R	R5U	R5S	R5A	R5P	R4V
Relief	X						
Sequence				X			X
Pressure Reducer		X					
Unloader			X				
Compensator					X	X	
Max. Operating Pressure (Bar) (PSI)	210, 280, 350 3045, 4060, 5075	280, 350 3045, 4060, 5075	280, 350 3045, 4060, 5075	210, 280, 350 3045, 4060, 5075			
Maximum Flow (In-line) SAE 8 LPM (GPM)							90 (23.7)
SAE 16 LPM (GPM)							300 (79.2)
SAE 12 LPM (GPM)							300 (79.2)
SAE 20 LPM (GPM)							600 (158.5)
Maximum Flow (Flange) SAE 3/4" LPM (GPM)	90 (24)	90 (24)	90 (24)	90 (24)	90 (24)	90 (24)	90 (24)
SAE 1" LPM (GPM)	300 (79)	300 (79)	300 (79)	300 (79)	300 (79)	300 (79)	300 (79)
SAE 1 1/4" LPM (GPM)	600 (159)	600 (159)	600 (159)	600 (159)	600 (159)	600 (159)	600 (159)
SAE 1 1/2" LPM* (GPM)	600 (159)	600 (159)	600 (159)	600 (159)			

*3-port body only

Valves Hydraulic

Check Valves

www.parker.com/hyd/check



- Hydraulic velocity fuse valves
- Low cost check valves
- Restrictor and poppet-style check valves
- Double cylinder locking valves
- Military equivalent versions available
- Versions for high shock and high velocity applications
- Valves mount in a variety of positions
- Pilot operated types

Series	C	VCL	CP	LT, LTF	VLS	440, 450	480, 490	580, 590
Type	Check	Check	P.O. Check	Line Throttle	Velocity Fuse	High Press.	Soft Seat	Swing
Max flow range (LPM) (GPM)	11 - 569 3 - 150	23 - 189 5 - 50	30 - 95 8 - 25		2 - 341 .5 - 90			
Body material								
Brass	X						X	
Aluminum						X	X	X
Steel	X	X	X	X	X	X	X	
Stainless steel	X					X	X	
Port types/sizes:								
NPT	1/8" - 2"	1/4" - 1 1/4"	3/8", 3/4"	1/2", 3/4"	3/8" - 1"	1/8" - 2"	1/8" - 2"	1/8" - 2"
SAE	-4 thru -32			-8 thru -12	-6 thru -24	-4 thru -32	-4 thru -32	-4 thru -32
BSPP	1/8" - 2"							
BSPT	1/8" - 3/4"							
JIC		3/8" - 1 1/4"			3/8" - 1"	1/4" - 2"	1/4" - 2"	1/4" - 2"
Max operating press (Bar) (PSI)	345 5000	210 3000	210 3000	210 3000	210 3000	345 5000	210 3000	24 350

Series	C5P	C5V	SPR	SVLE	J416A, J417A	AVF	
						Pneu	Hyd
Type	P.O. Check	Check	Check	P.O. Check	Mini	Velocity Fuse	
Max flow range (LPM) (GPM)	180 - 600 48 - 159	100 - 700 27 - 185	180 - 585 48 - 155	180 - 585 48 - 155	4 - 110 1 - 29	5 - 60 SCFM	2 - 227 2 - 60
Body material							
Brass						X	
Aluminum							
Steel	X	X	X	X			X
Stainless steel					X		
Port types/sizes:							
NPT						1/4" - 3/4"	1/4" - 1"
SAE					-4 thru -16		
BSPP							
BSPT							
JIC					1/4" - 1"		
SAE 61	X	X					
SAE 62		X					
Subplate			3/8", 3/4", 1 1/2"	3/8", 3/4", 1 1/2"			
Max operating press (Bar) (PSI)	350 5075	420 6090	350 5075	350 5075	345 5000	136 2000	340 5000



Valves Hydraulic

Auxiliary Valves

www.parker.com/hyd/auxvalve



- Small dimensions
- Easy to install
- Hardened and ground parts
- High stability

Series	Valve Type	Max Working Pressure Bar (PSI)	Max Setting Pressure Bar (PSI)	FlowCapacity LPM (GPM)
PLC	Direct-Acting pressure relief	241 (3500)	420 (6000)	350 (93)
PLD	Direct-Acting pressure relief	241 (3500)	300 (4350)	40 (11)
PRS6	Pressure reducing	241 (3500)	250 (3625)	30 (8)
QDS6	Sequence, 3-way	241 (3500)	250 (3625)	20 (5.3)
VV6	Shuttle	345 (5000)	250 (3625)	20 (5.3)

Ball Valves

www.parker.com/hyd/ball



- Designed for hydraulic, pneumatic and other media
- Fully ported for low pressure drop and maximum, system efficiency
- Polyamide thrust bearing and ball seal compounds
- Low actuation torque and high cycles
- Assortment of port configurations including threaded, manifold mounted, SAE split flange and a unique 4-bolt rotating SAE flange
- Options include locking handles, panel mounting and limit switches

Series	Function	Pressure Bar (PSI)	Port Sizes	Material
High Pressure				
BVHP	2-Way	414 (6000)	1/4" - 1"	Steel or Stainless Steel
BVAH	2-Way	414 (6000)	1 1/4" - 4"	Steel or Stainless Steel
BVHH	2-Way	689 (10,000)	1/2" - 2"	Steel or Stainless Steel
BV3H/BV4H	3 & 4-Way	414 (6000)	1/4" - 2"	Steel or Stainless Steel
BVMM	2 & 3-Way	414 (6000)	1/4" - 2"	Steel or Stainless Steel
Medium Pressure				
BV3D	3-Way (Diverter)	207 (3000)	1/4" - 2"	Steel or Stainless Steel
V500CS	2-Way	138 (2000)	1/4" - 1"	Steel
V502SS	2-Way	138 (2000)	1/4" - 2"	Stainless Steel
Low Pressure				
BVAL	2-Way (Suction)	28 (400)	1/4" - 4"	Aluminum
V500P	2-Way	41 (600)	1/4" - 2"	Brass
V590P	2-Way (Right Angle)	17 (250)	1/4" - 1/2"	Brass

Valves Hydraulic

Mobile Accessories

www.parker.com/hyd/accessories



- 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

Series	Function	Pressure Flow	Pressure (SAE Porting)	Pressure (NTPF Porting)
CFD	Priority-type flow control	56 Liters/Min (15 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
CFDA	P.C., Priority-type flow control	56 Liters/Min (15 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
DC	P.C., Priority-type flow control	98 Liters/Min (26 GPM)	241 Bar (3500 PSI)	138 Bar (2000 PSI)
PD/PDC	Flow divider/combiner	75 Liters/Min (20 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
LO	Sgl./Dbl. pilot operated check	94 Liters/Min (25 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
LOA	Sgl./Dbl. pilot operated check	38 Liters/Min (10 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
WJL	Diff. area poppet relief	94 Liters/Min (25 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
RPJL	Pilot operated relief	94 Liters/Min (25 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
RPL	P.O. poppet type relief	225 Liters/Min (60 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
DXV	Ball-type crossover relief	38 Liters/Min (10 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
DWV	Diff. area crossover relief	113 Liters/Min (30 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
HP 20	Hydraulic pilot pressure	75 Liters/Min (20 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
HP 50	Hydraulic pilot pressure	188 Liters/Min (50 GPM)	345 Bar (5000 PSI)	138 Bar (2000 PSI)
S-50 S-75 S-100	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)
SM	Manual selector	75 Liters/Min (20 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
HM	Manual selector	38 Liters/Min (10 GPM)	172 Bar (2500 PSI)	138 Bar (2000 PSI)
DS12,71,75	Manual double selector valve	94 Liters/Min (25 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)
CFQ	Priority-type flow control	113 Liters/Min (30 GPM)	207 Bar (3000 PSI)	138 Bar (2000 PSI)

Valves Hydraulic

Flow Control Valves

www.parker.com/hyd/flow



- Pressure and temperature compensated valves available
- Controlled flow in one or both directions
- Simple set screw locks valve settings
- Versions available with Color-flow scales
- Reverse flow checks optional on several valves
- Variety of metering needles
- Versions offered with tamper-proof option

Series	F	PC*K
Type	Flow	PC flow
Max flow (LPM) (GPM)	11 - 569 3 - 150	11 - 95 3 - 25
Body material		
Brass	X	
Steel	X	X
Stainless Steel	X	
Port types/sizes		
NPT	1/8" - 2"	1/4" - 3/4"
SAE	-4 thru -32	-6 thru -12
BSPP	1/8" - 2"	
BSPT	1/8" - 3/4"	
Max operating press (Bar) (PSI)	345 5000	210 3000

Series	PC*M	PC*MS	TPC	FG3PKC	N	MVI	MV	D	2F1C
Type	PC flow	PC flow	T & PC flow	T & PC flow	Needle	Cartridge Needle	Metering	Deceleration	PC flow
Max flow (LPM) (GPM)	11 - 189 3 - 50	11 - 189 3 - 50	3.8 - 95 .1 - 25	41.3 11	11 - 265 3 - 70	2 - 95 .5 - 25	4 - 110 .5 - 40	72 - 227 19 - 60	110 29
Body material									
Brass					X		X		
Steel	X	X	X	X	X	X	X	X	X
Stainless Steel	X				X				
Port types/sizes									
NPT	1/4" - 1 1/4"		3/8" - 3/4"		1/8" - 1 1/4"	1/4" - 3/4"	1/8" - 1"	3/8" - 3/4"	
SAE	-6 thru -16				-4 thru -20		-4 thru -16		
BSPP							1/8" - 1"		
BSPT					1/4" - 1/2"		1/4" - 1/2"		
Subplate		1/4" - 1"		3/8"				3/8" - 3/4"	3/8", 3/4"
Max operating press (Bar) (PSI)	210 3000	210 3000	210 3000	210 3000	345 5000	345 5000	345 5000	210 3000	350 5075

Industrial Accessories and Plug Valves

www.parker.com/hyd/indacc



- Valves isolate the gage from damage and pressure surges
- Pressure snubber offers one-piece construction; no maintenance
- Some valves provide partial snubbing while delivering instant pressure
- Spring-loaded spool on specific valves drains fluid to reservoir
- No power source required for double-acting, hand operated pumps
- Certain valves flange mount in any position

Valves Remote Control Systems

Hydraulic

www.parker.com/hyd/pcl4



PCL4

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 G¹/₄" , M14x1.5 or 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.



PCL4-N

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

www.parker.com/hyd/vp04



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.

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

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

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



Valves Threaded Cartridge

Threaded Cartridge Valves

www.parker.com/hyd/hcs



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 420 Bar (6000 PSI)
- Flows up to 378 LPM (100 GPM)
- Steel and aluminum line bodies
- New RESILON™ D-Ring Seal eliminates need for back-up rings; improves wear, extrusion and spiral failure resistance (Winner's Circle)
- Spherical Poppet design assures accurate alignment and reduces leakage rating on many valves
- New crimp design eliminates adhesive between adapter and cage
- Custom manifolds available
- Most products hex-chrome free zinc plated
- Adjustment options for pressure & flow controls

Solenoid Valves

- Optional manual overrides
- SUPER COIL exceeds IP69K specifications
 - Water dunk test qualified
 - Endurance tested
 - Water spray and chemical solvent compatibility
 - 10 standard termination options (and many specials)
 - Many DC and AC voltages available

Bodies and Cavities

www.parker.com/hyd/bc

Parker standard	industry standard, -4 through -20 sizes
Counterbalance	single and dual
Cavity Plugs	-8, -10, -12, -16 sizes
Special Bodies	unique Sterling and Waterman bodies

Check Valves

www.parker.com/hyd/cartcheck

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Poppet/Ball type	500 (132)	420 (6000)
Pilot operated	150 (40)	420 (6000)
Dual pilot operated	190 (50)	350 (5000)

Coils and Electronics

www.parker.com/hyd/ce

Supercoils	IP69K, standard voltages, molded connectors
Unicoils	standard voltages, molded connectors

Directional Controls

www.parker.com/hyd/dir

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Pilot operated spool	400 (105)	420 (6000)

Flow Controls

www.parker.com/hyd/cartflow

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Needle valves	225 (60)	420 (6000)
Pressure compensated	56 (15)	420 (6000)
Pressure compensated priority	90 (24)	420 (6000)
Flow dividers/combiners	320 (85)	420 (6000)

Valves Threaded Cartridge

Load Motor Controls

www.parker.com/hyd/lm

Valve Type	FlowCapacity Liters/Min (GPM)	Max Working Pressure Bar (PSI)
Standard pilot assisted	350 (90)	350 (5000)
Vented to atmosphere	180 (48)	350 (5000)

Logic Elements

www.parker.com/hyd/lc

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Poppet	303 (80)	240 (3500)
Spool	500 (132)	420 (6000)

Manual Valves

www.parker.com/hyd/mv

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Poppet	45 (12)	350 (5000)
Spool	17 (5)	350 (5000)

Pressure Controls

www.parker.com/hyd/pc

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Direct acting relief	100 (26)	420 (6000)
Pilot operated relief	400 (106)	420 (6000)
Direct acting sequence	47 (12)	420 (6000)
Pilot operated sequence	160 (42)	420 (6000)
Direct acting reducing	56 (13)	420 (6000)
Pilot operated reducing	150 (40)	350 (5000)

Proportional Valves

www.parker.com/hyd/pv

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Pressure relieving	95 (25)	350 (5000)
Pressure reducing	30 (8)	210 (3000)
Flow controls	325 (60)	210 (3000)
Directional control	38 (10)	350 (5000)

Shuttle Valves

www.parker.com/hyd/sv

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Insert	38 (10)	420 (6000)
Cartridge	50 (13)	420 (6000)
Spool	175 (46)	420 (6000)

Solenoid Valves

www.parker.com/hyd/sol

Valve Type	FlowCapacity LPM (GPM)	Max Working Pressure Bar (PSI)
Poppet	75 (20)	350 (5000)
Spool	285 (75)	350 (5000)



Valves Integrated Hydraulic Circuits

Integrated Hydraulic Circuits

www.parker.com/hyd/ihc



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 overall components**
- **Fewer leakage points**
- **Less space required**
- **Complete system solution with optimized functions**



Additionally, 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**
- **Check and shuttle valves**

Parker offers value-added services such as manifold design using in 3-D CAD and CAM software, application engineering assistance, and assembly and testing capabilities.

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 3-D CAD.

When you need finished integrated hydraulic circuits with extremely short lead times, the Parker Speed Shop is the place to go.

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 centers go into motion producing fully functional hydraulic integrated circuits. All prototypes are then fully tested and documented before being released to production. In today's highly competitive market, speed and quality are critical for success.

Cartpak Sandwich Valves

www.parker.com/hyd/cartpak

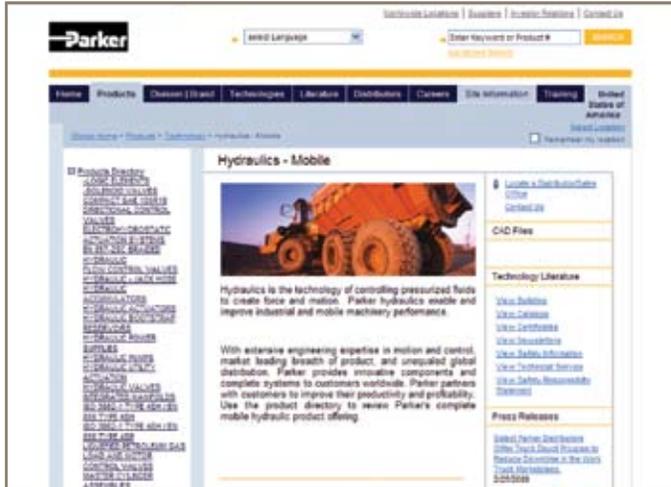


- **Standard ISO4401-03, NFPA D03, CETOP3 size bodies designed to accept common -10 size cavity cartridge valves**
- **Mounted between D1 Series valves and their mounting surface**
- **Aluminum body for 210 Bar (3000 PSI) operation; ductile iron body for 350 Bar (5000 PSI) operation**
- **Each Cartpak 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

Action Directory

Innovative Products and System Solutions



www.parker.com/hydraulicsgroup

When it comes to hydraulic components and solutions, no company offers more than Parker. Get a jump on your next solution by contacting Parker today.

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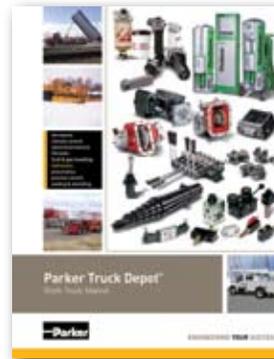
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Parker also has Solution Guides available for the Industrial and Truck markets, each paired with an interactive DVD, call 1-800-C-PARKER.



Industrial Bulletin
HY01-1001/US



Truck Bulletin
HY19-TD01/US



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This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

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DVD Catalog

**Use the DVD search codes provided in this catalog to go directly to the section for that product.*



**Use the web addresses provided with each product to go directly to that product or series on the Parker web site.*

www.parker.com/hyd/X

System Requirements

To view the DVD, the following are required:

- **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**
- **DVD player**

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Catalog files are viewed using Adobe Acrobat Reader. If you do not have Acrobat Reader installed on your PC, it will install from the DVD. If you have Acrobat Reader but do not have the search plug-in, you will be given the option to install Acrobat Reader 6.0 with search.

You must have the search plug-in to take advantage of the search feature described in the next section.

To View the DVD

The DVD is self-loading. Just place it in your DVD drive. Acrobat Reader will open (or install), and the opening page will appear on your monitor. From this page you can navigate to the following sections.

- **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 DVD.**
- **Product Overview takes you to a .pdf file of this Industrial Hydraulic Solutions Guide.**
- **Warning/Offer of Sale takes you to these legal documents.**
- **Getting Started provides a summary of how to navigate using Acrobat Reader.**
- **Contact Us provides you with phone, fax and online information.**

Text links are easily identified by blue type. The catalog files are fully bookmarked to make navigation quick and easy. Each catalog also has a bookmark which will take you to the Parker web home page for that division *if you are online while you are viewing the DVD*. You must first enter your web browser information into the Acrobat preferences.

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