Industrial Hydraulics
Innovative Products and System Solutions
Table of Contents

Introduction
Parker Hannifin Corporation ................................................................. 2
Industrial Hydraulics ........................................................................... 3
Custom Made Partnerships ................................................................. 4
Value-Added Service & Support ........................................................... 4
Hydraulic Technology Centers ......................................................... 5
Training Excellence ............................................................................ 5
Industrial Hydraulic Components ....................................................... 6

Products
Accumulators/Coolers ....................................................................... 8
Compact Hydraulics .......................................................................... 10
Cylinders .......................................................................................... 12
Filtration ............................................................................................. 16
Fluid Connectors
- Fluid System Connectors ............................................................... 20
- Thermoplastic/Fluoropolymers ...................................................... 21
- Tube Fittings ................................................................................. 22
- Quick Couplings .......................................................................... 23
- Hose Products ............................................................................... 25

Motors
- Calzoni Radial Piston LSHT .......................................................... 26
- Low Speed High Torque ................................................................ 28
- Fixed Displacement Vane ............................................................. 31
- High Speed ................................................................................... 32
- Fixed Displacement Bent-Axis Piston .......................................... 33
- Fixed Displacement Low Speed High Torque .............................. 35
- Variable Displacement Axial Piston ............................................. 36
- Power Units .................................................................................. 37

Pumps
- Piston ............................................................................................ 37
- Hybrid ........................................................................................... 42
- Fixed Displacement Vane ............................................................. 43

Pump/Motors
- Gear .............................................................................................. 45

Rotary Actuators ................................................................................. 50

Valves
- Hydraulic ........................................................................................ 52
- Electrohydraulic ............................................................................. 60
- Threaded Cartridge ....................................................................... 64
- Integrated Hydraulic Circuits ....................................................... 66

ENGINEERING YOUR SUCCESS.
Parker Hannifin Corporation

Parker Hannifin is the world’s leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of commercial, mobile, industrial and aerospace markets. Parker’s products are vital to virtually everything that moves or requires control, including the manufacture and processing of raw materials, durable goods, infrastructure development and all forms of transport.

Customers rely on Parker for engineering excellence, world-class manufacturing and outstanding customer service to provide comprehensive application solutions. As the leader in motion and control technologies, Parker partners with its customers to increase their productivity and profitability.
Industrial Hydraulics

At the heart of every industrial hydraulic solution is Parker’s 85-year reputation for innovation and quality manufacturing. With more than 200,000 hydraulic models numbers in inventory, Parker’s breadth of product is unmatched - whether designing new applications or retrofitting older ones, Parker is positioned to meet customer needs.

Industrial Markets Served:
- Amusement rides and simulators
- Balers and compactors
- Hydraulic presses
- Industrial machinery
- In-Plant automotive
- Machine tool
- Marine
- Medical equipment
- Oil and gas exploration and drilling
- Paper
- Plastics and rubber
- Power generation
- Testing machines

Parker’s engineered solutions are designed to maximize machine performance, eliminate downtime, improve energy efficiency, provide faster cycle times, reduce noise and heat while containing cost and improving the customer’s bottom line. And buying from a single quality source saves both time and money while allowing easier ordering and faster deliveries.
Custom Made Partnerships

Dedicated to increasing customers’ productivity and profitability, Parker offers customers the widest array of solutions and services available. Using the industry’s leading edge technology and proven processes, Parker can provide customers with any combination of components, sub-assemblies or complete motion and control systems for any industrial application.

Voice of the customer programs, market knowledge and engineering expertise combine to develop new products to meet evolving customer needs. Parker’s new product innovation process includes a number of stages, starting with brainstorming product ideas, and continues to the actual product launch. Customers benefit from Parker’s lean thinking and six sigma analysis applied during the process – ensuring high quality.

As the leader in the motion and control industry, Parker strives to be a preferred single source partner. These relationships are cultivated by listening closely to our customers and repeatedly providing them with measurable value.

Value-Added Service & Support

Parker knows that it takes more than innovative products, competitive prices and on-time delivery to satisfy customer needs – it takes a commitment to provide exceptional value. At Parker, value is not a commodity; instead, it is the result of personal interaction and dedicated resources partnering with customers. Our value-added services include:

- Machine analysis and troubleshooting
- Design engineering support
- System design
- Component selection
- New product development
- Custom component manufacturing
- Assemblies and kits
- Sub systems
- Global support and service
- Technical training

When it comes to 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 industrial application.

And whether they are crawling inside your machine during business hours, or working weekends, Parker engineers are there when you need them.
Hydraulic Technology Centers

Parker’s ultimate competitive advantage in serving customers is its global network of 13,000 distributors that can provide Parker products and services nearly anywhere, anytime.

At the core of Parker’s hydraulic distribution is a select group of Hydraulic Technology Centers (HTC). HTCs are Parker distributors who offer a one stop shop for a wide range of products, engineering services, computer-aided design, fabrication and assembly. HTCs can assist with equipment design, prototyping and the integration of electronic or pneumatic components with hydraulic systems.

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

Training Excellence

Parker’s Motion and Control Training Department offers a full range of training equipment and curriculum to support the teaching of hydraulic and electromechanical motion and control technologies. Utilized by colleges, universities, technical schools and industry around the world, Parker’s training systems, textbooks, lab manuals, instructor’s guides and teaching aids have been educating technology students for decades.
Industrial Hydraulic Components

Parker offers the world’s most extensive line of industrial hydraulic products. From pumps and valves to motors and motion controllers, all of Parker’s products share a common heritage of advanced technology and are designed to deliver precise and reliable control.

Accumulators
A complete range of accumulators including piston, bladder and diaphragm type as well as gas bottles, Kleenvent reservoir isolators and other accessories are available. Sturdy construction makes for reliable components that improve hydraulic system efficiency by maintaining pressure, supplementing pump flow and absorbing system shocks.

Compact Power Systems
Efficient performance in a robust compact design best describes Parker’s Oildyne products. These compact power systems deliver power density, are easy to install and allow for flexibility across a wide variety of applications. Locking circuit and manual release availability enable safe, secure operation in critical situations and harsh environments as well as an extended service life dramatically lowers maintenance requirements and costs. Electrohydraulic actuators, miniature power units, fluid power systems, piston pumps, cartridge piston pumps and hand pumps are all reliable solutions for design challenges.

Cylinders
The cylinder product offering provides more power per pound and per dollar over millions of trouble-free cycles. These products have proven to be the most reliable and cost effective cylinders available.

Filtration and Fluid Analysis
Complementing the reliability of hydraulic systems and components are filtration products which provide protection against fluid contaminants. High, medium and low pressure filters are offered, as well as portable filter carts and replacement elements. The comprehensive line of pressure and return line filters enhances machine life and reduces machine maintenance.

Coolers
Parker’s industrial cooler product offers global designs for a variety of industrial applications. Parker prides itself on cooler designs that optimize the highest heat duty per pound for the most efficient, space saving cooler on the market. In comparison to competition, Parker coolers are quiet, compact and lightweight, yet constructed for reliability and long life. Custom and combination coolers are available for most applications.
Fluid Connectors
A complete spectrum of fluid connector products for hydraulic, pneumatic and fluid systems is available with products ranging 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.

Cartridge Valves and Integrated Circuits
Solutions for complex circuits by matching threaded cartridge valves and integrating them into a single manifold is a core competency.

Motors
A broad range of high and low speed motors deliver excellent performance with high efficiency, true wear compensation and longer service life. Parker’s motors provide power ranging up to 15,000 inch-pounds of torque with speeds ranging from ½ RPM (Calzoni) to 13,000 RPM (bent access). A complete range of sizes is offered in gear, gerotor, vane and piston style operating configurations. Fixed and variable displacement motors are available.

Power Units
All power units are backed by complete engineering support including control documentation on the shop floor. Parker’s complete line of standard pre-engineered and cataloged hydraulic power units include everything from 28 cubic inch to 80 gallon reservoir sizes and are available in five working days.

Pumps
Parker’s hydraulic pumps are available in fixed or variables displacement models of piston, vane and gear pumps. Engineered to handle a wide range of applications, they are available with a full complement of electronic and computer controls. Hydraulic pumps are manufactured with the finest materials under strict quality control, resulting in a pump that delivers high efficiency and low maintenance under the toughest operating conditions.

Rotary Actuators
Recognized for their durability and used wherever reliability is critical to the application, rotary actuation provides performance features to meet all common mobile applications. The product range offers a unique solution for developing high torque from a compact, self-contained, precision machined, drop-in package. Special designs are available.

Valves and Controls
From simple on/off functions to precise motion control, valves and controls are used on all types of mobile equipment. Inline and bankable control valves, motion controllers, pressure control valves, servo valves and manifold mounted directional and proportional valves are all available.
## Cylinders

### 2H Series
- Heavy duty service with industrial tie rod construction
- Nominal pressures up to 3000 psi (207 bar)
- Standard bore sizes 1.50" – 6.00"
- Piston rod diameters 0.625" – 4.000"
- Strokes available in any practical length
- 18 standard mounting styles
- Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
- Parker stepped cushion for increased performance and productivity
- Rod ends: four standard choices, specials to order

### 3H Series
- Heavy duty service with industrial tie rod construction
- Nominal pressures up to 3000 psi (207 bar)
- Standard bore sizes 7.00" – 20.00"
- Piston rod diameters 3.000" – 10.000"
- Strokes available in any practical length
- 16 standard mounting styles
- Parker stepped cushion for increased performance and productivity
- Rod ends: four standard choices, specials to order

### 3L Series
- Medium duty service with industrial tie rod construction
- Nominal pressure up to 1000 psi (70 bar)
- Standard bore sizes 1.00" – 8.00"
- Piston rod diameters 0.500" – 5.500"
- Strokes available in any practical length
- 15 standard mounting styles
- Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
- Parker stepped cushion for increased performance and productivity
- Rod ends: four standard choices, specials to order

### CHD Series
- Compact hydraulic cylinder
- Repairable construction, steel body design
- Bore sizes from 20 mm – 80 mm
- Strokes in 1mm increments up to 100mm dependent on bore size
- Piston rod diameters 12 mm – 45 mm
- Single and double rod designs
- 13 standard mounting styles
- Nominal pressures up to 207 bar (3000 psi)
- Four standard rod end styles with special ends available
- Available with SAE, NPTF and BSPP ports
- Manifold ports available on foot mounting
Cylinders

CHE Series

• Compact hydraulic cylinder
• Repairable construction, aluminum alloy extruded design
• Bore sizes from 20 mm – 100 mm
• strokes in 1 mm increments up to 150 mm dependent on bore size
• Piston rod diameters 12 mm – 56 mm
• Single and double rod designs
• 6 standard mounting styles

HMI Series

• Nominal pressures up to 140 bar (2030 psi) dependent on bore size
• Four standard rod end styles with special ends available
• Available with SAE, NPTF and BSPP ports
• Magnetic piston and position sensing switches available
• Piston rod diameters 12 mm – 140 mm
• Single and double rod designs
• 12 standard mounting styles
• Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
• Seal types to suit a wide variety of operating environments
• Parker stepped cushion for increased performance and productivity

RDH Series

• Heavy duty hydraulic roundline cylinder
• Standard threaded head and welded cap construction
• Nominal pressures up to 3000 psi (207 Bar)
• Bore sizes from 1.50” – 8.00”
• Piston rod diameters 0.625” – 5.500”
• Strokes available in any practical length
• Rod ends: five standard choices, specials to order
• Nine standard mounting styles

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**Cylinders**

**ETH**
- Frame sizes ETH032 / ETH050 / ETH080 / ETH100 / ETH125
- Screw pitch 5, 10, 16, 20, 32 mm
- Precision Class 7 Ball Screw
- Stroke up to 79" (2000 mm)
- Traction/thrust force up to 25, 600 lbs. (114 kN)
- Speed up to 60 Inches per second (1.7 m/s)
- Acceleration up to 15 m/s²
- Equivalent dynamic axial force at a lifetime of 2500 km up to 49.6 kN
- Efficiency up to 90%
- Position Repeatability up to ±0.03 mm

**XFC Series**
- All steel construction
- Elastomeric seals throughout
- Standard metric hydraulic type tie rod construction
- Opposed preloaded angular contact bearings
- Roller screw drive system
- Inline and parallel gear drive configurations
- Speeds up to 40 inches per second (1 m/s)
- Continuous thrust ratings up to 80,000 lbs. (356 kN)
- Strokes from 50 mm to 2000 mm in 1 mm increment
- Anti-rotate and rotatable rod configurations
- Other motor mounts available

**WaveScale**
- Linear displacement transducer (LDT) feedback
- WaveScale embedded design maintains NFPA dimensions 2.00" – 6.00" bores
- Eliminates need for limit switches, deceleration valves, shock absorbers and mechanical linkages in many applications
- Nominal pressures up to 3000 psi (207 bar)
- Piston rod diameters 1.000" – 4.000"
- Wide variety of stroke lengths available
- Exclusive “Jewel” Rod Gland with TS-2000 Rod Seal
- Parker stepped cushion for increased performance and productivity
- Low friction seals available
- Seven bolt-on and four integral manifolds available
- Simplifies machine design and reduces number of hydraulic lines
- Integral mounted valve eliminates assembly time and fittings

**Intellinder**
- Suitable for hydraulic pneumatic and electromechanical cylinder applications
- Eliminates need for limit switches, deceleration valves, shock absorbers and mechanical linkages in many applications
- Nominal pressures up to 3000 psi (207 bar)
- Piston rod diameters 1.000" – 10.000"
- Stroke lengths to 20.00'
- 0-10v, 4-20mA – J1939 outputs
- Sustains performance in applications exposed to vibration, dust, gravel, corrosives, chemicals, axial load, side load, and immersion
- Features highly sensitive health monitoring to detect and diagnose potential cylinder malfunctions before they can disrupt operations
Cylinders

Custom

- Bores to 48.00" (1219 mm)
- Strokes to 876" (22250 mm)
- Operating pressures to 15,000 psi (1034 bar)
- Intensifier pressures to 60,000 psi (4138 bar)
- Welded, bolted/mill-type, tie rod, telescopic and crimped construction styles
- Many construction materials:
  - Carbon steels
  - Stainless steels
  - Exotic steels
  - Aluminum
  - Composite
- Wide variety of rod coatings:
  - Hard Chrome
  - Chrome-Over-Nickel
  - Global Shield
  - Nitrotec/Nitride
  - Ceramic
  - Laser Clad

- Cylinder assemblies can integrate other hydraulic products:
  - Fluid connectors, manifolds, valves, accumulators, filtration, etc.
- Available third party approvals and certifications include: ABS, DNV, BV, USCG, Lloyd’s Register, ASME, Nuclear and MIL-I-45208
- Common options include cartridge/counterbalance valves, epoxy paint, continuous feedback devices, low friction seals, mechanical linkage, etc.
- Custom cylinders are designed to the customer application and specifications

View Specs  View Product PDF
WARNING - USER RESPONSIBILITY

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

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product 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.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.

OFFER OF SALE

The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributor. This offer and its acceptance are governed by the provisions stated in the detailed “Offer of Sale,” available at www.parker.com/saleterms/.
Industrial Hydraulics

Innovative Products and System Solutions

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.

Sales
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Distributor Locator
Call: 1-800-C-PARKER
Online: www.parker.com/distloc

Literature
Call: 1-800-C-PARKER
e-mail: c-parker@parker.com
Online: www.parker.com/hydraulics

Training Software and Training Programs
Call: 216-896-2495
Online: www.parker.com/training

Industrial Hydraulic Solutions Guide Web Interactive

Parker’s Industrial Hydraulics Innovative Products and Systems Solutions Web Interactive can be viewed on-line at www.parker.com/industrialsolutionsguide. In addition to the summary produced for this printed guide, the industrial solutions web interactive links to detailed product bulletins in each category and are available for individual or mass download.
At Parker, we’re guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 1 800 C-Parker (1 800 272 7537)

Parker’s Motion & Control Technologies

**Aerospace**

**Key Markets**: Aftermarket services, commercial transports, engines, general & business aviation, helicopters, launch vehicles, military aircraft, missiles, power generation, regional transports, unmanned aerial vehicles

**Key Products**: Control systems & actuation products, engine systems & components, fluid conveyance systems & components, fluid metering, delivery & atomization devices, fuel systems & components, fuel tank venting systems, hydraulic systems & components, thermal management, wheels & brakes

**Climate Control**

**Key Markets**: Agriculture, air conditioning, construction machinery, food & beverage, industrial machinery, life sciences, oil & gas, precision cooling, process, refrigeration, transportation

**Key Products**: Accumulators, advanced actuators, CO2 controls, electronic controllers, filter driers, hand shut-off valves, heat exchangers, hose & fittings, pressure regulators, refrigeration distributors, safety relief valves, smart pumps, solenoid valves, thermostatic expansion valves

**Electromechanical**

**Key Markets**: Aerospace, factory automation, life science & medical, machine tools, packaging machinery, paper machinery, plastic machinery & converting, primary metals, semiconductor & electronics, textile, wire & cable

**Key Products**: AC/DC drives & systems, electric actuators, robotic devices & slides, electrohydraulic actuation systems, electromechanical actuation systems, human machine interface, linear motors, stepper motors, servo motors, drives & controls, structural extrusions

**Filtration**

**Key Markets**: Aerospace, food, beverage, industrial plant & equipment, life sciences, marine, mobile equipment, oil & gas, power generation & renewable energy, process, transportation, water purification

**Key Products**: Analytical gas generators, compressed air filters & dryers, engine air, coolant, fuel & oil filtration, fluid condition monitoring systems, hydraulic & lubrication filters, hydrogen, nitrogen & zero air generators, instrumentation filters, membranes & fiber filters, microfiltration, sterile air filtration, water desalination & purification filters & systems

**Fluid & Gas Handling**

**Key Markets**: Aerial lift, agriculture, bulk chemical handling, construction machinery, food & beverage, fuel & gas delivery, industrial machinery, life sciences, marine, mining, mobile, oil & gas, renewable energy, transportation

**Key Products**: Check valves, checkers for low pressure fluid conveyance, deep sea umbilicals, diagnostic equipment, hose couplings, industrial hose, measuring systems & power cables, PTFE hose & tubing, quick couplings, rubber & thermoplastic hose, tube fittings & adapters, tubing & plastic fittings

**Hydraulics**

**Key Markets**: Aerial lift, agriculture, alternative energy, construction machinery, forestry, Industrial machinery, machinery tools, marine, material handling, mining, oil & gas, power generation, refuse vehicles, renewable energy, truck hydraulics, turf equipment

**Key Products**: Accumulators, Cardiag valves, electrohydraulic actuators, human machine interfaces, hybrid drives, hydraulic cylinders, hydraulic motors & pumps, hydraulic systems, hydraulic valves & controls, hydrostatic steering, integrated hydraulic circuits, motor controls, power take-offs, power units, rotary actuators, sensors

**Pneumatics**

**Key Markets**: Aerospace, compressed air & material handling, factory automation, industrial machinery, life science & medical, machine tools, packaging machinery, transportation & automotive

**Key Products**: Air preparation, brass fittings & valves, manifold, pneumatic accessories, pneumatic actuators & grippers, pneumatic valves & controls, quick disconnects, rotary actuators, rubber & thermoplastic hose & coupling, structural extrusions, thermostatic tubing & fittings, vacuum generators, valves & sensors

**Process Control**

**Key Markets**: Alternative fuels, biopharmaceuticals, chemical & refining, food & beverage, marine & fishing, medical & dental, microelectronics, nuclear power, offshore oil exploration, oil & gas, pharmaceuticals, power generation, pulp & paper, steel, water/wastewater

**Key Products**: Analytical instruments, analytical sample conditioning products & systems, chemical injection fittings & valves, fluoropolymer chemical delivery fittings, valves & pumps, high purity gas delivery fittings, valves, regulators & digital flow controllers, industrial mass flow meters/ controllers, permanent no-weld tube fittings, precision industrial regulators & flow controllers, process control double block & bleed, process control fittings, valves, regulators & manifold valves

**Sealing & Shielding**

**Key Markets**: Aerospace, chemical processing, consumer, Fluent power, general industrial, information technology, life sciences, microelectronics, military, oil & gas, power generation, renewable energy, telecommunications, transportation

**Key Products**: Dynamic seals, elastomeric O-rings, electro-medical instrumentation design & assembly, EMI shielding, Eutectic & precision etched, fabricated elastomeric seals, high-temperature metal seals, homogeneous & inertial elastomeric shapes, medical device fabrication & assembly, metal & plastic retained composite seals, shielded optical windows, silicone tubing & extrusions, thermal management, vibration dampening

**Engineering your success.**
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