Aerospace Technology

Parker can engineer your success with efficient, cost-effective off-the-shelf solutions. With more than 100 years of experience, Parker also offers military and aerospace grade components that meet demanding applications without needing to be custom-manufactured. Here is a sample of high quality solutions that save time and money.

Aircraft engine-driven pumps
- Provide primary hydraulic power for many of today’s leading military and commercial aircraft
- Ranging in size from 0.03 to 5.5 in³/rev and capable of operation at system pressures between 1,000 and 8,000 psi
- Unmatched efficiency and reliability
- Superior power-to-weight ratio

Electric motor-driven positive-displacement pumps
- Engine oil cooling systems and military electronics cooling systems applications
- Accept a variety of dielectric fluids
- Fixed-speed devices
- Easily adjustable flow by changing width of the gerotor to meet the specific application
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- Pressure switch for hydraulic system
- Jam tolerant with fail-safe operating modes
- Ballistic tolerant
- Main rotor pitch and roll control
- Black Hawk main rotor flight control actuators
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Medium- and high-pressure PTFE hoses
- Reliable fuel, oil, and hydraulic fluid conveyance
- Most hose assemblies are available with FAA, TSO, cTla, cTla, AS, and ABB approvals

Hydraulic accumulators
- Piston-type hydraulic accumulators meet stringent weight, envelope, and performance requirements
- Double end-cap accumulators designed in accordance with MS28700 and MS28797

Bootsrap reservoirs
- Supply system pressure to the reservoir connection and acts on the small piston
- Designed to meet the specific application
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Cold plates
- Thermal management
- Unique macro-milling construction
- Transports coolant with complex liquid paths

Advanced liquid-cooled enclosures
- Thermal management
- Anser-to-reset (ATR) format
- High-power, high-density electronic connectors
- Suitable for ruggedized military, aerospace, industrial, and commercial applications

Naval Technology

Electromechanical actuator
- Safety barrier positioning, platform locking, door and hatch latching
- Stainless steel construction for corrosion resistance
- Improved sealing to prevent environmental moisture contamination
- Mechanical overloads for emergency operation
- Multiple move profiles
- Absolute positioning
- Adjustable acceleration

Drive control system
- High-powered variable-speed drive for AC motors available as either stand-alone unit or complex multi-axis motor control system
- Power range: 160-800 hp (100-400 kW)
- Modular design, low maintenance
- Dynamic braking

Multitube bundling
- Numbered or color-coded bundled stainless steel or copper tubing for fluid conveyance
- Design assessed by ABS
- Outer jacket and tube coatings are flame-resistant PVC material
- Round profile ensures ease of sealing around panel entry and bulkhead penetrations

Surface ship and submarine reverse osmosis systems
- Potable and high purity water filtered from the sea
- Single, dual, and triple pass systems for maximum filtration
- Fully qualified for shock, vibration, and electromagnetic interference
- Exotic materials for light weight and corrosion resistance
- Sound attenuated to meet critical low noise requirements

Defence Systems from Parker Hannifin Corporation

Parker’s industry-leading engineers draw on the corporation’s enormous breadth of technologies to create system solutions addressing the most challenging needs and optimizing platforms for weight, cost, power, and reliability.

Collaborating with our customers, Parker designs advanced components and technologies more quickly and efficiently compared to other global organizations. At Parker, we engineer your success.
Pumps and Motors
Efficient and powerful hydraulic pumps and motors to ensure your systems work at their peak for years to come
• Piston
• Gear
• Vane
• Screw
• Hydrostatic
• Bent axis
• Power units

Valves
Precisely and easily control hydraulic or pneumatic systems
• Hydraulic or pneumatic
• Manual or powered
• Manifolds
• Cartridge
• Needle
• Air brake controls

Actuators
A complete offering of robust actuators designed to withstand the rigors of defense use
• Hydraulic or pneumatic cylinders
• Electrohydraulic
• Electromechanical
• Linear or rotary
• Global shield corrosion coating

Hydraulic System Accessories
Complete offering of all components needed for a turn-key and reliable hydraulic system
• PTO
• Accumulators
• Coolers
• Reservoir components

Electrical
Simplified control of electronics and world-leading hybrid drive solutions
• Hybrid drive motors/ generators
  - 1kw to 1MW
  - Industry-leading power density
• Gear boxes
• Displays
• Sensors
• Joysticks
• Controllers
• Cameras
• System health monitoring
• Diagnostics and calibration

Filtration
Ensure the continued and safe operation of equipment anywhere in the globe
• Air and gas
• Fuel
• Filters
• Pumps
• On-engine or transfer
• Oil
• On engine
• Hydraulic
• Water purification
  - Desalination
  - Portable or fixed
  - 140 to 100,000 gallons per day

Fluid Connectors
Flexible, reliable, and lightweight solutions for all platforms of fluid conveyance
• Rubber hose
• Industrial hose
• Thermoplastic hose and tubing
• Fittings and adapters
• Quick disconnects

Seals and Elastomers
Reliable and engineered sealing systems ensure leak-free and trouble-free operation
• O-rings
• Static, dynamic, linear and rotary designs
• Doors
• Hatchways
• Turrets
• OBRM wash down
• Amphibious applications
• Track pads/road wheels

Systems
Proven systems engineered for ease of use and safety of the warfighter

Water purification systems
• Portable or fixed systems
  - Fresh water jerrican-sized solution produces 900 GPD
  - Rugged platoon-sized portable desalination system
• Desalination or fresh water

Central tire inflation system
• Two-times faster deflation speeds
• Independent wheel control and pressures down to 0 psi
• Optional automatic terrain detection

Quick oil change system
• Reduced maintenance and vehicle down time

Amphibious swim drives
• Proven hydrostatic swim drive
• Hydraulic power for an extremely power dense and robust solution

Winch systems
• Lightweight and powerful solutions
• 10k-100k lb sizes
• Lightweight synthetic rope
• Higher line pull strength available

Armored door assist systems
• Thousands of fielded systems across many platforms
• Damper, passive speed control with locking mechanism, configurable for speeds and loads
• Egress damper system, damper system plus emergency egress power actuation for a simple and effective solution
• Pneumatic door assist system, lightweight active system powered by vehicle pneumatics
• Electrohydraulic actuator door assist system, self-contained active system with the easy hook up of electronics and power density of hydraulics
• Helac, a robust rotary hydraulic actuator that replaces the existing hinge

Systems Engineering
Utilizing our global engineering expertise to ensure that systems work right every time
• Design
• Troubleshooting
• Training

Steering systems
• Linear or rotary systems
• Redundant design for added safety

Fan drive systems
• Hydraulic or electromechanical solutions
• Improved cooling at lower engine RPMs

Automated trailer hitch
• Three-axis articulating hitch
• Operator protection while connecting or disconnecting trailer

EMI Shielding
Complete EMI protection for vehicles and equipment
• Environmental seals
• Thermal coatings
• Heat shrink
• Vents
• Window film
• Paint additives
• Grease and adhesives
• Molded plastic enclosures

Filtration
Ensure the continued and safe operation of equipment anywhere in the globe
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**IndiLok™ quick-disconnect (QD) couplings**
- Provide reliable performance in cooling, fuel, hydraulic, and pneumatic systems across a wide range of temperatures and pressures
- Push-to-connect, pull-to-disconnect style
- Self-sealing action and superior performance during operation and maintenance of fluid systems
- Quick connect/disconnect action

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**Javelin control actuation system**
- Missile pitch, roll, and yaw control
- Integrated control electronics
- Independent fin control

**Cold plates**
- Thermal management
- Unique macro laminite construction
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