

*Medical Fluid Management*

*Clinical Diagnostics & Imaging*

*Laboratory Instruments*

*Anesthesia, Respiratory & Patient Monitoring*

*Cardiovascular & Surgical*

*Bioprocess & Pharmaceutical Manufacturing*

■ ■ ■ **Life Sciences**

# Medical Fluid Management

Together with Parker, we provide complete fluidic solutions for fluid control and conveyance, ranging from tubing and connectors to molded components, control valves, pumps, and pressure/flow controllers. For over 30 years, Parker has been supplying innovative solutions for dialysis, IV therapy, drug infusion, advanced wound care, compression therapy, blood collection, and nutrition. You may look to us for:

- Filtration systems
- Electronic pressure and vacuum control
- Anti-thrombolytic materials
- Catheter components and assembly
- USP Class VI certified silicone and thermoplastic elastomers



## **Biocompatible Components**

*Custom solutions for stoppers, septums, syringe seals and more are developed in compliance with USP Class VI and ISO 10993 requirements.*



## **Multi-Coupling Solution**

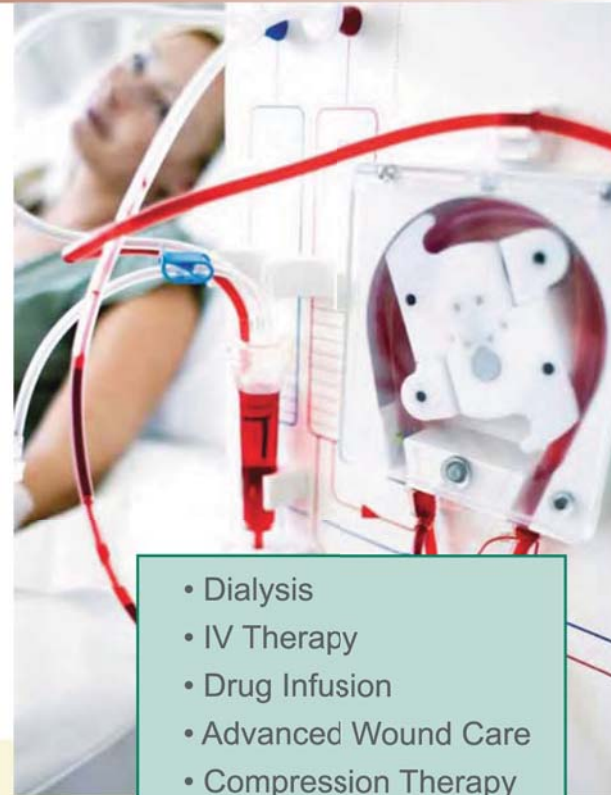
*Used during surgery, this innovative multi-coupling fluid control system allows easy and reliable docking of waste fluid collection and disinfection stations.*



## OUR PRODUCTS

We can provide components, custom assemblies, and custom USP Class VI materials such as:

- EMI shielding and thermal management
- Luer and quick-connect fittings
- Manual valves and check valves
- Proportional and directional valves
- Diaphragm pumps
- Custom molded components
- Silicone, TPU, and TPE multi-lumen tubing
- Filtration solutions



- Dialysis
- IV Therapy
- Drug Infusion
- Advanced Wound Care
- Compression Therapy
- Blood Collection
- Nutrition



## **Silicon Device Assembly**

*Complete fluidic solutions for fluid control and conveyance include catheters for Cardiovascular, Endotracheal, Feeding, Pediatric, Peritoneal Dialysis, and Tracheostomy applications.*

# Clinical Diagnostics & Imaging



- Clinical Chemistry Analysers
- CT, MRI, & PET Scanners
- Ultrasound
- X-ray
- Image-Guided Radiation Therapy

Whether for imaging devices or clinical chemistry instruments, Parker technologies and services support device makers in the areas of gas and liquid handling, EMI shielding, motion control, and temperature control. Parker systems, modules, and components advance the performance of diagnostic tools in the laboratory, hospital, and clinic. Capabilities include:

- Valves, tubing, and fittings for temperature control
- EMI shielding
- Control, dispensing, and pumping of fluid media
- Electromechanical positioning solutions
- Filtration solutions



## Single Source Solution

From simple large diameter hose and fittings for imaging devices and cooling systems to miniature fluidics for controlling aggressive media in diagnostic instruments, you can rely on Parker for the right solution.

## Precise Device Positioning

Today's sophisticated medical requirements are supported through Parker's wide range of rotary and linear motion solutions for MRI, CT, and PET scanner patient handling and device positioning.



## OUR PRODUCTS

We can provide gas and liquid media solutions and electromechanical positioning equipment such as:

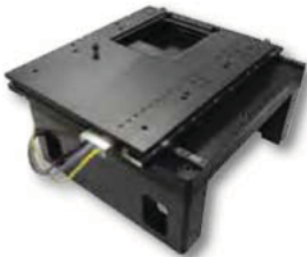


- High performance valves and pumps
- EMI shielding and thermal management
- Temperature control technologies
- Chemically resistant custom molded shapes
- Motors, drives, and electromechanical positioning equipment

# Laboratory Instruments

Parker has many years of experience working closely with drug discovery and development companies, which are challenged to meet stringent government regulations, to operate Lean, and to successfully deliver their products to market. This partnership has increased the pace of DNA and protein research, and exploration of biopharmaceutical opportunities. Together with Parker we can provide:

Fluidic systems  
Control modules  
Microfiltration systems  
Miniaturized precision components and systems



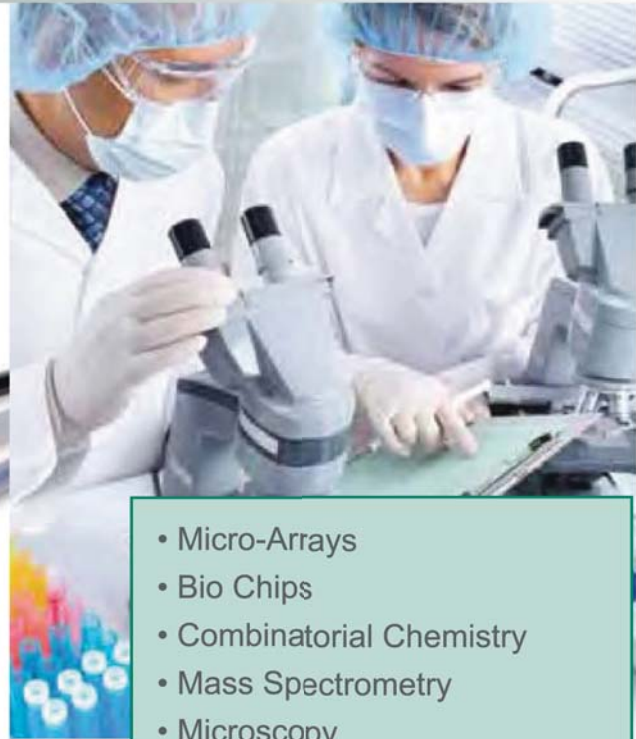
### **Advanced Imaging Capability**

*You can rely on Parker's precision XY stages, which can be optimized to meet any OEM instrument need, including platform stability, high precision and smaller footprints.*



### **Electronic Pressure/Flow Control**

*This fluidic subsystem independently controls gas flows for different ion sources. The unit provides a wide range of flows with excellent stability, repeatability, and linearity characteristics.*



- Micro-Arrays
- Bio Chips
- Combinatorial Chemistry
- Mass Spectrometry
- Microscopy
- Gas & Liquid Chromatography
- High Throughput Screening
- Liquid Handling & Dispensing

We can provide everything from components to integrated fluidic modules, custom motion control systems, and synchronized motion and fluidic control such as:

Temperature control technologies

EMI shielding and thermal management

Pumps, precision valves, and controllers

Fittings for high pressure and low vacuum

Chemically resistant custom molded shapes

PTFE, FEP, silicone, and urethane tubing

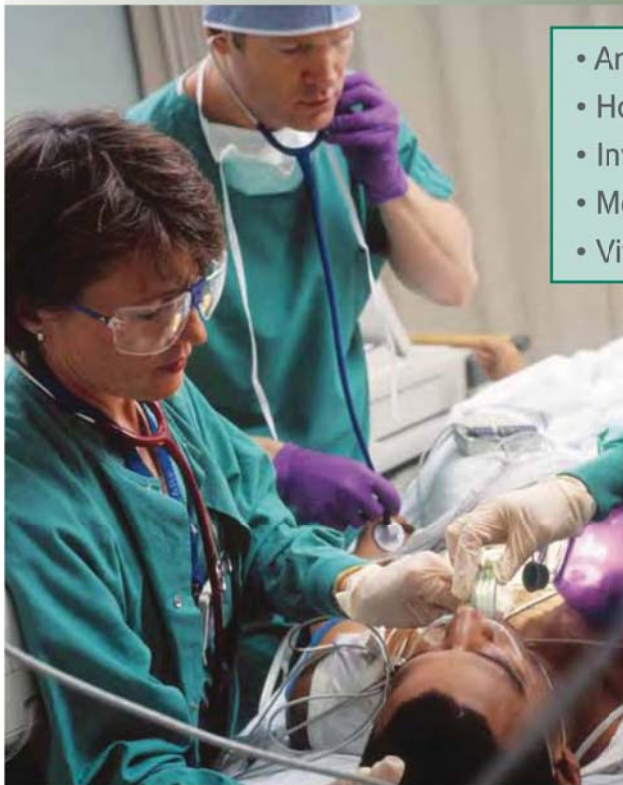
Motors, drives, electromechanical positioning equipment



### **Analytical Gas Generators**

*Parker generators are easily paired with gas chromatographs and mass spectrometers, as well as motion control solutions, leak-tight fittings and valves, and precision regulators.*

# Anesthesia, Respiratory & Patient Monitoring



- Anesthesia Delivery
- Home Oxygen Therapy
- Invasive & Non-Invasive Ventilators
- Medical Gas Analyzers
- Vital Signs Monitoring

Medical device manufacturers have relied on Parker for a complete range of critical components and services, including the ability to design and manufacture complex, integrated assemblies. From product launch to long-term sustainability, Parker has offered critical, risk-reducing solutions that include:

- Custom components
- Finite Element Analysis
- Rapid prototyping
- Integrated solutions
- Logistics management



## **Fetal Monitor Advantage**

*Parker's technology in patient monitoring extends to its fetal monitoring system (Tocodynamometry), which is less costly, weighs less, requires fewer spares at the monitor and is more comfortable for the patient.*

## **OUR PRODUCTS**

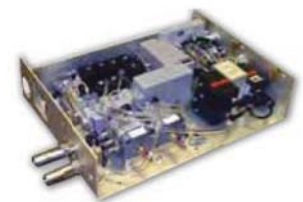
We can supply everything from flow control, fittings, and tubing to filtration, EMI shielding, and thermal management for the following:

- Anesthesia flow tubes
- Gas and liquid pumps
- Regulators and flow controllers
- EMI shielding and thermal management
- Proportional and directional valves
- Filtration solutions
- Fittings and tubing



## **Oxygen Therapy Solution**

*Parker has a range of filtration solutions and in-home oxygen therapy equipment that translate into improved life and greater value for patients.*



# Cardiovascular & Surgical

Parker has great experience responding quickly to design and manufacturing challenges of complex medical assemblies. By combining industry-leading advanced materials science, biocompatible materials, and systems manufacturing expertise and integration, Parker provides the following:

- Single-use assembled solutions
- Reusable assembled solutions
- Silicone medical solutions
- Minimally invasive surgical assemblies



- Cardiac Surgical Instruments
- Minimally Invasive Surgical Tools
- Vascular Access Products
- Endoscopic Devices
- Sterilization & Infection Control



## OUR PRODUCTS

We can supply a broad range of components and systems including:

- Quick couplings, fittings, and tubing
- Custom-molded and micro-molded components
- Mechanical and electromechanical assemblies
- PTFE, PFA, and FEP shrink tubing
- Gas and liquid pumps
- PEEK tubing and machined components
- Electromagnetic shielding and thermal management
- Proportional and directional valves



**Shrink-to-Fit Solutions**  
*Patients benefit from Parker's uniform heat shrink tubing coverage for endoscopic surgical devices, which is critical to maintaining cleanliness of the medical device.*

### **Multi-Platform Capability**

*From tubing to thermoplastic quick couplings – to innovative single-use devices, Parker's broad multi-platform capability allows quick response to design and manufacturing challenges.*

# Bioprocess & Pharmaceutical Manufacturing



- Pharmaceuticals
- Biopharmaceuticals
- Vaccines
- Ophthalmics
- Fill & Finish
- Bulk Fermentation
- Packaging Automation

Today's bioprocess and pharmaceutical manufacturers are looking for end-to-end solutions that drive Lean processes, streamlined workflow, and faster throughput, while meeting stringent quality, environmental, and safety regulations. We can help with:

- Automation technologies
- Fermentation solutions
- Buffer and media preparation
- Custom single-use systems
- Disposable filtration
- Integrity testing and validation
- Components for micronization, milling, micro dosing



## **Disposable Filters Reduce Risk**

*A range of disposable filters decreases the risk of product cross-contamination and revenue loss due to wasted product, reduces capital investment, and eliminates cleaning requirements.*



## **HMI Visualization Software**

*Manufacturers benefit from Parker's HMI visualization software and touch screens, which provide industry-leading tools to ease compliance with 21CFR11 and cGMP requirements.*

## **OUR PRODUCTS**

We can provide fully traceable components, integrated systems, and services including:

- Aseptic connectors
- Bioprocess bags, vessels, tubing, and valves
- Vent filtration
- Disposable filters, multi-element filters, and capsules
- Sanitary gaskets, seals, and o-rings
- Mixing systems
- Bio-fluid handling
- Membrane filters and filter discs
- Compressed air treatment
- Fittings and connectors

## **Fewer Suppliers More Capabilities**

When it comes to suppliers in Life Sciences, you want fewer companies with more capability.

That's why you should turn to The Hope Group and Parker as your partner. Parker's technology and The Hope Group's hands-on support provide the components, sub-systems and complete systems you need.

We offer you advanced motion and fluid control, filtration, fluid management, and temperature control systems and sub-systems form a single source:

### ***The Hope Group/Parker Team***

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