

MICROPUMP®

Fluid Thinking

Gear Pumps
Piston Pumps
Peristaltic Pumps
Centrifugal Pumps



IDEX
HEALTH & SCIENCE

Precision Engineered Fluidics™



Keep Your Solutions Flowing with Innovative Designs from Micropump

Put Our Fluid Thinking to Your Advantage!

Turn to the best minds in the business to meet your critical requirements for cost-efficiency, reliability, and flexibility in fluid handling. Micropump is the recognized leader in the design of miniature, sealless, positive-displacement pumps and systems.

With more than 40 years of experience in small-volume fluidics, Micropump has the skills, knowledge, tools, and expertise to develop innovative liquid-handling solutions tailored to your needs. Micropump is the originator of magnetic drive gear pump technology—the “leak-free” pumping solution. We continue to innovate, adding new technologies, capabilities, and revolutionary product designs that are changing the way liquids are moved and dispensed.

The IDEX Health & Science Advantage—Single Source Capability

As a unit of IDEX Corporation in the Health & Science group, Micropump is your one source resource for OEM liquid subassemblies and gas management systems as well as precision components. Working with IDEX Health & Science, you have one point of contact—one vendor, yet a full spectrum of fluidic components and experts for a totally integrated assembly or module.

Products and technologies include: gear, peristaltic, dispense, and air-operated double diaphragm pumps; air motors, compressors, and vacuum generators; high and low pressure valves; degassers and debubblers; manifolds and precision machined components; and fittings and tubing.



Capabilities

Engineering

Micropump recognizes the need for reliable and efficient pump designs within your space and cost constraints. Whether you require an integrated fluid-handling package or have a novel application need, we are uniquely positioned to understand and rapidly develop pumps and systems to meet any small-volume dispensing, transfer, circulation, or dosing challenge.

Our engineering team blends flexible thinking with a systematic, customer-focused approach to meet your needs. For every project, we employ Design for Six Sigma or other continuous improvement processes to integrate customer requirements with Micropump's capabilities, including:

- Rapid integration of diverse fluid-handling components and assemblies
- Short cycle-time innovation with reduced overall development times
- Expert data-driven problem solving
- High-volume manufacturing

Applications

Micropump has the broadest application experience in the industry. Our knowledgeable engineers can evaluate any situation, develop an optimum solution for your application, and help design it into your system. Our major markets include:

Aircraft Galley

Analytical Instrumentation

Beverage Dispensing

Chemical Processing

Consumer Printing

Continuous Ink Jet Printing

Drug & Pharmaceutical

Electronics Cooling

Food Processing

Fuel Cells

Medical Equipment

Mining

Petrochemical

Pulp & Paper

Semiconductor Equipment Mfg

Textiles

Water Treatment

A Wide Range of Products

Micropump offers a complete line of technologies for diverse requirements. We manufacture exceptionally reliable pumps featuring smooth, pulseless delivery and accurate, repeatable flow. Our pump families provide excellent chemical and biological compatibility, and most feature static seals for long life, low maintenance, and leak-free performance.

We can meet the following specifications:

- Flow rates from 0.4 $\mu\text{L}/\text{min}$ to 42 L/min (11.1 gpm)
- Differential pressures to 80 bar (1160 psi)
- System pressures to 345 bar (5000 psi)
- Minimum dispense volumes down to 0.25 μL
- Pumping fluids to 5000 cps



Pumping Solutions

External Gear

Gear pumps provide a continuous, pulseless flow. The rigid design of the gears and housing allows for high pressures and the ability to pump a wide range of fluids. Manufactured in an assortment of chemically resistant material options, these compact, magnetically driven gear pumps provide accurate fluid delivery in a durable, leak-free design that can be customized to fit many OEM applications.



Micro-Annular Gear

No other technology offers the same high-pressure and low flow rate in such a small package. Tiny micro-annular pumps are suitable for low viscosity liquids such as deionized water, methanol, solvents, oil, and lubricants. High-precision rotors provide accurate flow rate control, helping conserve valuable liquids. Internal gear technology keeps pulsation to an absolute minimum for smooth, constant flow.



Valveless Piston

Valveless piston pumps offer a high-level of accuracy and reproducibility when pumping both high-viscosity fluids, or thick and abrasive media. Pump designs feature a no-check valve construction that virtually eliminates clogging and maintenance concerns in a compact package size.



Peristaltic

Peristaltic pumps are the optimal choice to pump live cells, sterile fluids, and aggressive media. Special pump roller designs prevent cell damage. A wide-range of tubing provides both a sterile environment for sensitive fluids and a safe environment for aggressive fluids. Peristaltic pumps are easy to sterilize, not sensitive to dry-running, and are available in single- and multi-channel designs.



Centrifugal

Centrifugal pumps offer a reliable, simple, long-lasting design for higher flow applications. Using the unique leak-free magnetic drive technology, centrifugal pumps provide excellent chemical resistance and energy-efficient fluid delivery. Integrated impeller and magnet assemblies reduce the number of rotating parts to maximize pump life.

Innovation and Technologies

Electromagnetic Drives

Micropump® patented electromagnetic drives use rare earth magnets to increase motor torque capabilities while reducing total pump/drive package size. Surface mount technology improves reliability and enables higher efficiency motor performance. Variable speed electronic controllers offer thermal and overload protection with the option of a 0-5 VDC input signal, a 4-20 mA current loop, or a manually controlled drive. Closed-loop speed control allows for quick and easy setting of speed.



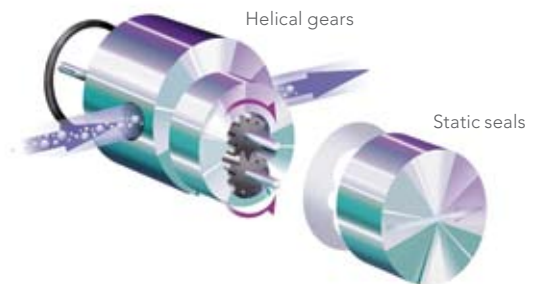
Suction Shoe Design

Developed by Micropump, the suction shoe pressure-loaded gear pump design features a “suction shoe” that allows the pump to self-compensate for wear. Suction shoe pumps maintain high-volumetric efficiency, even at elevated pressures. Additional benefits include near zero slip for accurate metering, long life, and stable performance as pump components wear or thermally expand.



Cavity Design

Cavity-style gear pumps feature a conventional design that uses gears rotating within a precision cavity to carry fluid from the pump’s inlet to the outlet. Benefits of the cavity-style pumps include excellent lift, moderate differential pressure capabilities, high system pressure on selected models, and exceptional chemical resistance.



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