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 via a single phone number to 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.

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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 fractional Micropump has the skills, knowledge, tools, and expertise to develop innovative fluid 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.

Keep Your Solutions Flowing with Innovative Designs from Micropump

Fluid Thinking

Gear Pumps
Piston Pumps
Peristaltic Pumps
Centrifugal Pumps

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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 “fluid-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.

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Keep Your Solutions Flowing with Innovative Designs from Micropump (Page 1 of 2)
Capabilities

Engineering
Micropump recognizes the need for reliable and efficient pump design 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 brings flexible thinking with a systematic, customer-focused approach to meet your needs. For every project, we employ Design for Six Sigma or other systematic, customer-focused approaches to meet your needs. Our engineering team blends flexible thinking with a systematic, customer-focused approach to meet your needs.

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:

- Aerospace
- Automotive
- Chemical Processing
- Consumer Printing
- Continuous Ink Jet Printing
- Medical Equipment
- Micro-Peristaltic Pumps
- Oil and Gas
- Pharmaceutical
- Peristaltic Pumps
- Petrochemical
- Peristaltic Pumps

Pumping Solutions

A Wide Range of Products
Micropump offers a reliable 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 are designed for long life, low maintenance, and leak-free performance.

We can meet the following specifications:
- Flow rates from 0.4 L/min to 42 L/min (11.1 gpm)
- Minimum dispense volumes down to 0.25 µL
- System pressures to 160 bar (2320 psi)
- Differential pressures to 80 bar (1160 psi)
- Flow rates from 0.4 µL/min to 42 L/min (11.1 gpm)
- Pumping fluids to 5000 cps

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 investment of chemically resistant material options, these compact, magnetically driven gear pumps provide accurate fluid delivery in a durable, high-volume design that can be customized to fit many OEM applications.

- Flow rates from 0.4 L/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

Valveless Piston
Valveless piston pumps offer a high-level of efficiency and reproducibility when pumping both high viscosity and abrasive media. Pump design feature a check valve mechanism that actually eliminates slippage and maintenance concerns in a compact package size.

- Flow rates from 0.4 L/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

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 static and magnetic assembly reduce the number of rotating parts to maximize pump life.

- Flow rates from 0.4 L/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

Innovation and Technologies

Electromagnetic Drives
Micropump’s patented electromagnetic drives use rare earth magnets to increase motor torque capabilities while removing traditional packaging size. Surface mounted 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 a 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 precise cavity to carry fluid from the pump’s intake to the outlet. Benefits of the cavity style pumps include excellent flow rate, moderate differential pressure capabilities, high system pressure on selected models, and exceptional chemical resistance.

Applications
- Aircraft Galley
- Automotive
- Beverage Dispensing
- Chemical Processing
- Consumer Printing
- Continuous Ink Jet Printing
- Drug & Pharmaceutical
- Electronics Cooling
- Food Processing
- Fuel Cells
- Medical Equipment
- Mining
- Pharmaceutical
- Semiconductor Equipment Mfg
- Textiles
- Water Treatment
- Petrochemical
- Pump & Paper
- Servocontrol Equipment Mfg

RPM
throughput
of
Reciprocating
Design
No other technology offers the same high-pressure and 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-pressure rotors provide accurate flow rate control, helping conserve valuable liquids. Internal gear technology keeps pulsation to an absolute minimum for smooth, constant flow.

Micro-Annular Gear
No other technology offers the same high-pressure and 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-pressure rotors provide accurate flow rate control, helping conserve valuable liquids. Internal gear technology keeps pulsation to an absolute minimum for smooth, constant flow.

- Flow rates from 0.4 L/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

Peristaltic
Peristaltic pumps are the optimal choice for pump lots where static seals are necessary. The special pump roller design prevents cell damage. A wide-range of tubing provides both a soft-safe environment for sensitive fluids and a safe environment for aggressive fluids. Peristaltic pumps are easy to maintain, not sensitive to dry running, and are available in single- and multi-channel designs.

- Flow rates from 0.4 L/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

Capabilities
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 continuous improvement process to integrate customer requirements with Micropump’s capabilities, including:

- Rigid 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

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:

- Pumping fluids to 5000 cps
- System pressures to 345 bar (5000 psi)
- Differential pressures to 80 bar (1160 psi)
- Flow rates from 0.4 µL/min to 42 L/min (11.1 gpm)

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:

- Aerospace
- Medical Equipment
- Semiconductor Equipment Mfg
- Food Processing
- Water Treatment
- Nitrogen
- Electrical
- Fuel Cells
- Textiles
- Peristaltic
- Centrifugal
- Helical gears
- Suction shoe
- Peristaltic
- Centrifugal
- Helical gears
- Suction shoe

Electromagnetic Drives
Micropump’s™ patented electromagnetic drives are 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.

Innovation and Technologies

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 investment 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.

Peristaltic
Peristaltic pumps are the optimal choice for pump tests, sterile fluids, and aggressive media. Special pump design prevents 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 clean, 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 pumps and motor assembly reduce the number of rotating parts to minimize pump life.

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

Engineering
Micropump recognizes the need for reliable and efficient pump design 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.

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

We can meet the following pump features:
- Flow rates from 0.4 L/min to 42 L/min (11.1 gpm)
- Differential pressures to 345 bar (5000 psi)
- System pressures to 450 bar (6500 psi)
- Minimum dispense volumes down to 0.25 µL
- Pumping fluids to 5000 cps
- Pumping solutions

Applications
Micropump has the broadest application experience in the industry. Our knowledgeable engineers can evaluate any requirements with Micropump’s capabilities, including:

- Chemical Processing
- Food Processing
- Medical Equipment
- Pharmaceutical
- Pulp & Paper
- Petrochemical
- Water Treatment

Pumping Solutions

External Gear
Gear pumps provide a continuous, pulsation-free flow. The rigid design of the gears and housing allows for high-pressure and high efficiency. Our pump families provide excellent chemical and biological compatibility, and must feature static seals for long life, low maintenance, and leak-free performance.

We can meet the following pump features:
- Flow rates from 0.4 L/min to 42 L/min (11.1 gpm)
- Differential pressures to 345 bar (5000 psi)
- System pressures to 450 bar (6500 psi)
- Minimum dispense volumes down to 0.25 µL
- Pumping fluids to 5000 cps

Micro-Annular Gear
Our 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-pressure rotors provide accurate flow rate control, ensuring compatible liquid flow. Internal gear technology keeps pulsations to an absolute minimum for smooth, constant flow.

Innovation and Technologies

Electromagnetic Drives
Micropump’s patented electromagnetic drive uses rare earth magnets to increase motor torque capabilities while reducing total pump/drive package size. Surface mounted technology improves reliability and enables higher efficiency motor performance. Variable speed electronic control offers thermal overload protection with the option of 0-5 VDC input signal, 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
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Centrifugal
Centrifugal pumps offer a reliable, simple, long-lasting design for higher flow applications. Using the unique leaf-type 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.

Cavity Design
Centrivity 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 Centrivity design include excellent heat-dissipating properties, high system pressure on selected models, and exceptional chemical resistance.

Applications
Micropump has the broadest application experience in the industry. Our knowledgeable engineers can evaluate any requirements with Micropump’s capabilities, including:

- Aerospace
- Automotive
- Chemical Processing
- Consumer Products
- Entertainment
- Food Processing
- Medical Equipment
- Pulp & Paper
- Petrochemical
- Semiconductor Equipment Manufacturing
- Textiles
- Water Treatment
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