

OEM Precision Valveless Fluid Control Solutions



Dispensing & Metering Pumps
Medical, Instrumentation & Industrial



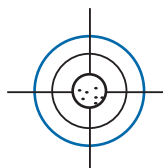
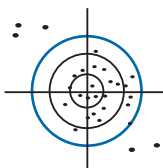
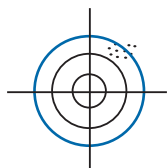
Why FMI? Ultra-Precise Fluid Control... from Microliters to Liters

- Patented "No-Valve" Design**
 Eliminates problems and errors caused by valves which clog, leak, hang up, and require service.
- One Moving Part!**
 CeramPump® design utilizes a single, dimensionally stable, chemically inert CERAMIC piston and cylinder ensuring long term, drift free fluid control.
- Proven Performance!**
 Over 50 years OEM experience and more than 250,000 OEM pumps in service.
- Accuracy, Precision, & Reliability**
 Better than $\pm 1\%$ Measured in millions of "trouble-free" cycles.

Precision
Repeatability & degree of variation of a set of values

Accuracy
How close the average value is to the true value

FMI Pumps
Accuracy: 1%
Precision: 0.5% (% C.V.)



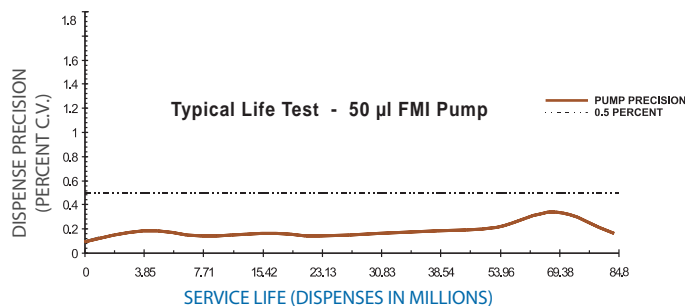
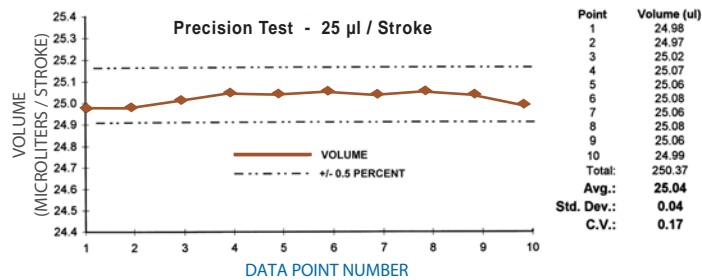
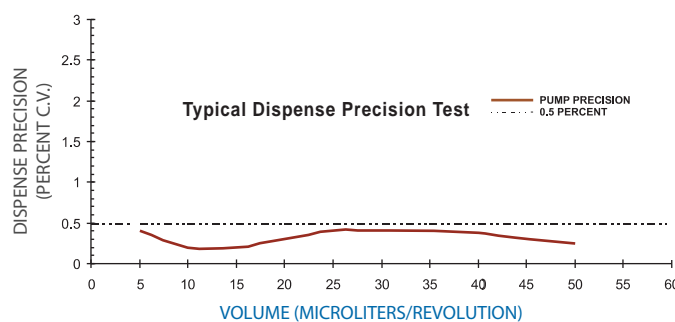
How Our Pump Works

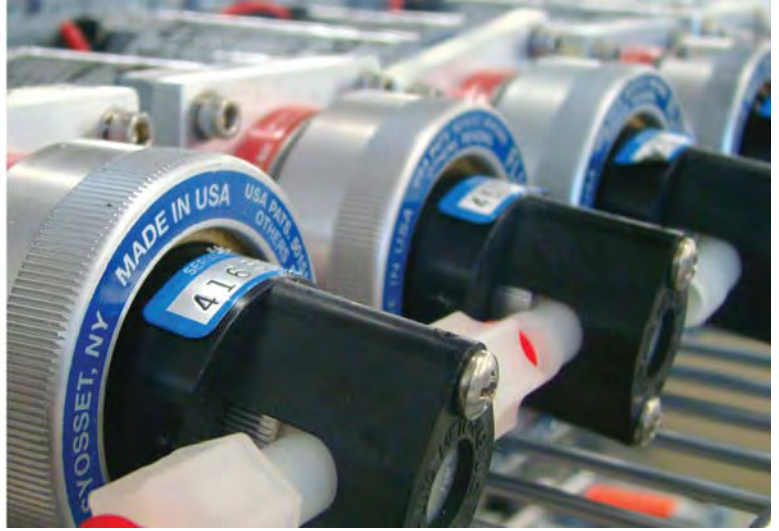
The valveless pumping function is accomplished by the synchronous rotation and reciprocation of a ceramic piston in a precisely mated ceramic cylinder liner.

One complete piston revolution is required for each suction/discharge cycle.

Check out our web site at www.fmipump.com for an animation of our unique pumping principle.

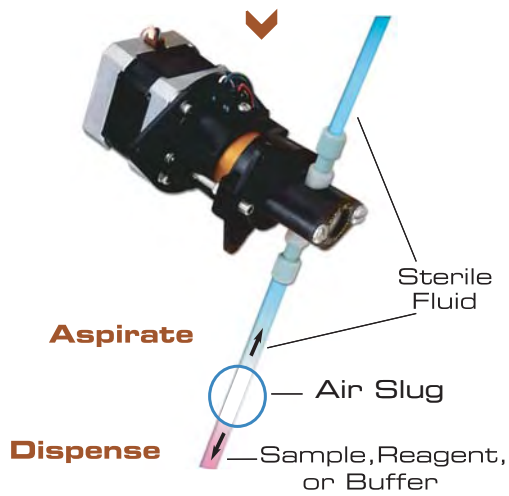
Accuracy, Precision, & Reliability... FMI Pump Typical Flow Data



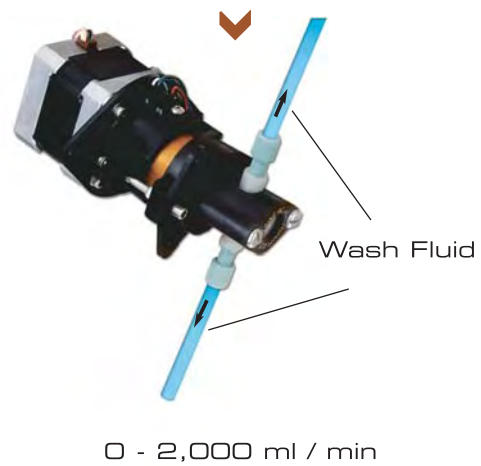


One Dispenser / Pump... ...for All OEM Applications

Valveless Syringing Aspirate & Dispense



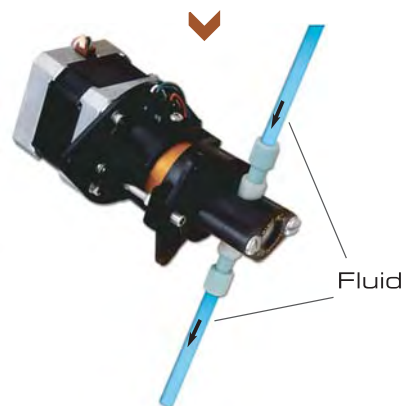
Fast Prime Flush & Wash



Continuous Dispensing



Continuous Metering



Over 50 years
of Precision
Valveless
Fluid
Control



“STRH” Precision Adjustment Stepper Pump

Ideal for Prototyping & Applications Requiring Frequent, Accurate Changes in Dispense Volume

- Precision RH adjustable pump with integral stepper motor & opto sensor.
- Pump head displacement is variable using an easy-grip flow ring.
- Low dead-volume design ensures maximum bubble clearing.
- Sample, Dispense, Aspirate, Flush.
- Special “SMTRH” Sub-microliter version available.



“STQP” Adjustable High Flow Stepper Pump

Ideal for Prototyping

- Precision, variable displacement “Q” Pump with integral stepper motor.
- Accommodates all “Q” style pump heads and RH pump heads (with RH/Q adaptor).
- Ideal for OEM applications where accurate & frequent displacement changes are expected.
- Available in ST2QP Duplex Ratio:Matic® configurations.
- Can be driven by FMI’s SCST-01, ICST-01, or a variety of commercially available stepper driver boards.

"STH" Low Flow & "STQ" High Flow OEM Pumps & Dispensers

Ideal for Medical, Analytical, & OEM Instrumentation Applications

- "STH" Models: 0 - 25 uL, 0 - 50 uL, 0 - 100 uL, & 0 - 200 uL displacement.
- "STQ" Models: 0 - .32 mL, 0 - .72 mL, & 0 - 1.28 mL displacement.
- Isolation Gland now available for both STH & STQ models for handling crystallizing fluids.
- Duplex models available for dual channel or proportional metering & dispensing.
- Compact design.
- Factory calibrated.



"STH" Low Flow

Complete Pump Assembly	Max. Dispense Range Microliters / Revolution
STH00CKCLF	0 - 25 µl
STH0CKCLF	0 - 50 µl
STH1CKCLF	0 - 100 µl
STH200CKC	0 - 200 µl



"STQ" High Flow

Complete Pump Assembly	Max. Dispense Range Milliliters / Revolution
STQ1CKC	0 - .32 ml
STQ2CKC	0 - .72 ml
STQ3CKC	0 - 1.28 ml



"RH" Miniature Adjustable Pump

For Low Flow - High Precision

- Miniature Motorless "RH" Pumps - Low Flow, High Precision
- Ceramic & PVDF standard wetted materials (also Tefzel).
- 0 - 100 Microliters per stroke.
- Precision 0.5% or better.
- Needs only 17 inch ounces of torque.
- Requires only 2 1/4" panel space.
- Easy grip flow control ring.



"QP" Motorless Pedestal Pump

Pedestal Design Used Extensively in Industrial, Laboratory, & OEM Applications

- Easily handles slurries, suspensions, emulsions, solvents, viscous concentrates, gases, and more...
- Typically driven by belt, chain, or shaft coupling connected to your special motor drive.
- Minimal torque requirement of 35 inch ounces.



"STF" Fixed Displacement Pump

Ideal for OEM Instrumentation & Equipment for Medical, Analytical, & Industrial Applications

- Economical design with fixed displacement link.
- Displacement link can be customized for individual requirements.
- Precision stepper motors with opto sensors.
- Isolation gland available for crystallizing fluids.



"RHB" DC Pump

"The Standard" for Agricultural Spraying, Mosquito Control, Medical Applications, and Fuel Cell

- Low Flows from 0 to 260 ml/min.
- Compact, close-coupled design.
- Easy grip flow control ring graduated in 450 divisions.
- Extended motor shaft can be used for user supplied tachometer.

Duplex Ratio:Matic® Pumps

Ideal for Metering reagents and dilution of buffers in OEM medical, laboratory, and environmental analyzers. Production fluid dispensing for manufacture of contact lenses, button cell batteries, and reagent test kits

- Two valveless pumps controlled by a single variable speed drive.
- Pump displacements independently variable for proportional metering.
- Vary flow rate while maintaining ratios of fluid dispensed or metered.
- Stepper motor and variable DC drive configurations.

"ST2QP"



"ST2RH"

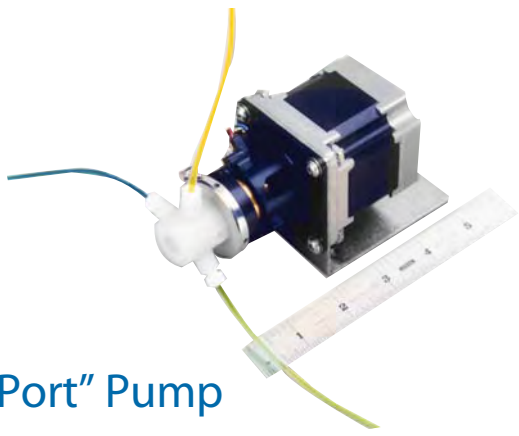


"ST2Q"



"ST2H"





"3-Port" Pump

Ideal for Low Volume Blending or Proportioning in Medical Diagnostic Instrumentation

- Single pump head will proportionally meter two separate fluids into a single stream, or proportionally divide a single stream into two outputs.
- Valveless 3-port pump design.
- Precision stepper motor control.
- Maximum output: 100 uL/dispense; 40 mL/min continuous flow.



"SQ" Pump

- Rugged stainless steel design.
- Precision stepper motor control.
- Pumps against 100 psi back-pressure.
- Ideal for fuel cell test stands.



"RO" Economical Fluid Control

- Economical, fixed displacement.
- Reciprocating/Oscillating Ceramic Piston.
- Valveless, Reversible, Self Priming.
- Transfer, Wash, Aspirate, Flush.



"SCST-01" Stepper Control Kit

Quick Start Control for All FMI Stepper Pumps

- Preset Fixed Speed Stepper Control using on-board DIP switches or variable RPM via 0-5 VDC input.
- 7 Dispense Modes.
- Automatic current reduction, with stall detection & restart.
- Compact Size: 3 1/2" x 3 1/4" x 1 1/4" high
- Forward, Reverse, Dispense, Aspirate.

"ICST-01" Intelligent Driver Kit

Programmable Control of FMI Stepper Pumps, Ideal for R&D and Prototyping

- Provides the ultimate in programming flexibility.
- Four "Pic-n-Run" ready-to-go programs or create your own.
- Includes FMI's "PLE Programming Software for Windows".
- Control: forward, reverse, speed, purge, suck back, ramp up/down, & profile.



"STH" with Integral Electronics

- Custom design, low volume fluid control for medical and analytical instrumentation.

Who We Are

FMI pioneered the first patented valveless rotating and reciprocating piston metering pump concept and has been delivering pumping excellence and precise fluid control for over 50 years.

Quality

We take quality seriously and back it up, not only as an ISO 9001:2008 facility, but far beyond! Most products are WEEE & RoHS Compliant.

Our Mission Statement . . .
100% Quality, 100% On-Time Delivery

**. . . is supported by our valued
OEM supplier awards.**



Engineering Design & Development

Our Engineering Team incorporates over 50 years of OEM design experience to meet specific customer & application requirements. With the knowledge and the necessary tools, our engineers have developed the most precise and reliable valveless dispensing and metering pumps available.

eSupport (FMI web site)

Need product and technical information immediately? Check our web site at www.fmipump.com and have instant access to product specifications, application information, literature downloads, and an animation of our unique CeramPump® valveless pumping principle.

Also featured in our web site is LiveHelp, which provides a one on one connection between our customers and FMI's application specialists.



Have questions?
Chat live with an FMI
application specialist at
www.fmipump.com

Applications. . . We Do It All !

MEDICAL

For precise dispensing, aspirating, rinsing, mixing systems and syringe pump replacement in diagnostic, clinical chemistry and medical equipment manufacturing.

SPRAYING SYSTEMS

For injection of insecticides, herbicides, and agricultural nutrients, as well as for ULV spray equipment.

ENVIRONMENTAL & POLLUTION CONTROL

For sampling stack gases, ground water & wastewater, as well as injection of monomers, polymers, and chemicals for water & waste treatment, TCLP and more. . .

INSTRUMENTATION

For all kinds of precision instruments and monitors including titrators, TOC, SO2 monitors, chromatographic systems & humidity control.

DISPENSING SYSTEMS

For dispensing of solvents, UV adhesives, lubricants, reagents, and mercury in the manufacture of electronics, pharmaceuticals, medical disposables, computer hard drives, audio speakers, and calibration equipment.

FOOD & DAIRY

For candy coating and polishing, as well as, vitamin fortification, addition of flavors, colors, preservatives and a variety of other ingredients used to enhance food products.

