

## Product Bulletin 227

# 7900 "MV" Series Fluidic Platforms

*Three years of design and testing results in this revolutionary fluidic platform*

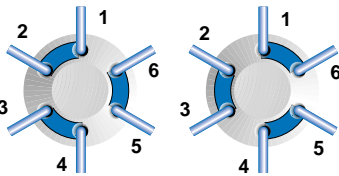
- Smallest fluidic assembly footprint available - mount it anywhere
- Ideal economic choice for autosamplers and switching applications
- Improved roller-crank actuator for millions of duty cycles
- Dependable position feed back control for precise, accurate switching
- Optional integrated driver and controller board speeds development and reduces time to market

### Miniature Package

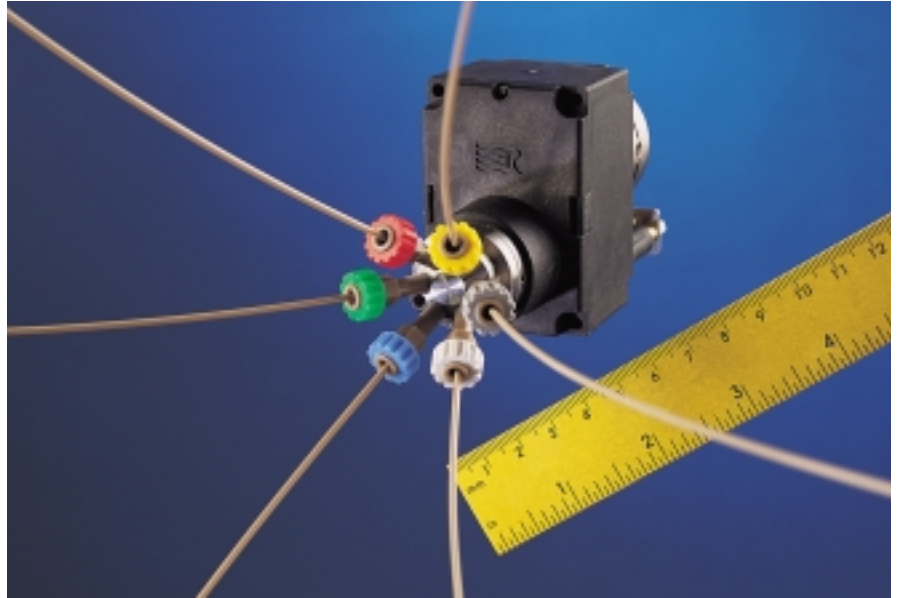
Within a miniaturized, integrated package, Rheodyne's 7900 "MV" series fluidic assemblies, or "Mighty Valve" as it is called, offer today's instrument designer a dependable, economical, motorized two-position, six-port fluidic switching platform. The 7900 series of small footprint valves combined with our RheFlex® Fittings and Tubing, ChromTRAC™ Color-Coding System, and accessories now delivers complete fluidics assemblies at exceptionally attractive prices.

### Smallest Footprint Anywhere

The Model 7900 footprint is the smallest of any high-pressure valve anywhere. At less than one-half the size of valves with considerably lower performance, the Model 7900 offers the designer a fluidic platform capable of operating at 42.7 MPa (427 bar, 6200 psi).



**Fig. 1. Flow diagram of two-position, six-port liquid-end. Numbered circles represent valve ports. The heavy blue lines represent the internal connecting passages.**



### Dependable Actuator

The field proven, dependable roller-crank actuator design of the Model 7900 has been utilized in Rheodyne products for years and is well established as the industry standard for two-position valve actuation. Improved actuator arm materials provide millions of duty cycles without substantial wear.

### Creative Design

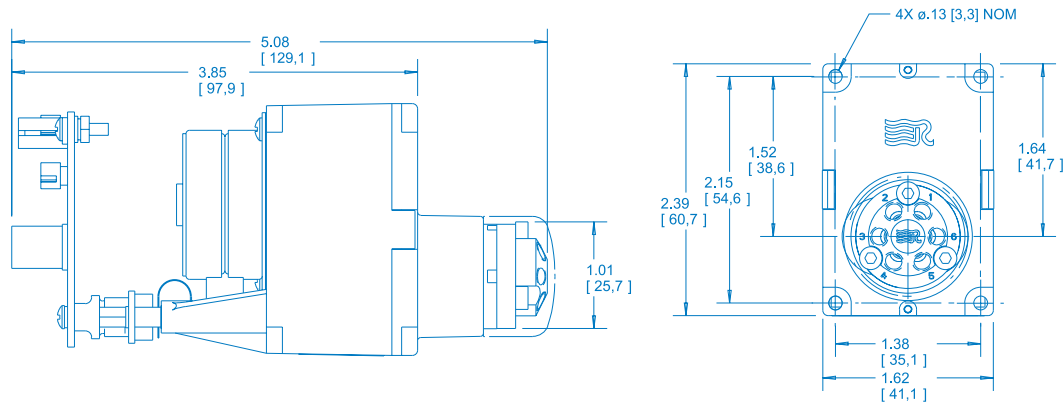
The creative design of the Model 7900 is reflected in innovations such as flex circuit electronics, Hall effect sensors, and a single piece molded housing. An optional Rheodyne designed driver and controller board, mounted directly to the molded housing, allows the Model 7900 to operate with as little as a single contact closure and a 24 VDC source. This integrated valve and driver package speeds time to market for time-critical projects yet maintains the small product footprint.



**Fig. 2. The optional Rheodyne designed driver and controller board cleanly integrates with the valve's housing and maintains its small footprint.**

### Low Dispersion

This miniature valve offers a reduced stator size and, therefore, decreased port-to-port volume. Low dispersion is intrinsic to the Model 7900's design. This provides



instrument manufacturers with an innovative tool to respond to the challenges of market demands for higher sensitivity and smaller sample volumes.

Despite its small size, the Model 7900 accepts standard 10-32 ChromTRAC™ color-coded RheFlex® Fittings.

Rheodyne's 7900 series fluidic platforms offer a miniature package for all of the common two-position, six-port applications. Injection, two column switching for column backflushing, and MS diverter applications are possible, to name just a few. Completely metal free flow paths are also available.

#### Accessories

Rheodyne accessories are specially designed for Rheodyne products. These include RheBuild™ Kits that contain all the parts, tools, and instructions to maintain the precision performance of Rheodyne fluidic platforms. In addition, a wide variety of sample loops in both stainless steel and PEEK are also available from Rheodyne.

#### Design Support

As you have come to expect from all Rheodyne products, the 7900 series includes established Rheodyne design support. Rheodyne project teams will assist you in creating the ideal fluidic assembly to meet your needs, technical and economic. With our custom design approach to your assembly, our project team can help resolve any solvent compatibility, signal connection, mounting, or fluid connection issues. Incorporation of the appropriate fittings, tubing, connectors, and mounting plates can speed the design phase and simplify the final instrument manufacturing process. This will contribute to lower manufacturing and reduced field service costs. The enhanced 7900 platform is a culmination of Rheodyne's 30 years of valve design expertise and offers unparalleled innovation.

#### Additional Information

Specification Sheets for 7900 series platforms are available upon request or for downloading from [www.rheodyne.com](http://www.rheodyne.com). Contact your Rheodyne Sales Manager for more details or contact us at [www.rheodyne.com](http://www.rheodyne.com).

#### Specifications

**Pressure:** 42.7 MPa (427 bar, 6200 psi)

#### Wetted Surfaces:

PEEK and stainless steel, or Vespel® and stainless steel (DuraLife™) depending on model

#### Flow Passages:

0.2mm (0.012")

**Operating Temperature:** 4° - 80°C

**Storage Temperature:** -40° - 80°C

Vespel is a registered trademark of E.I. DuPont.

