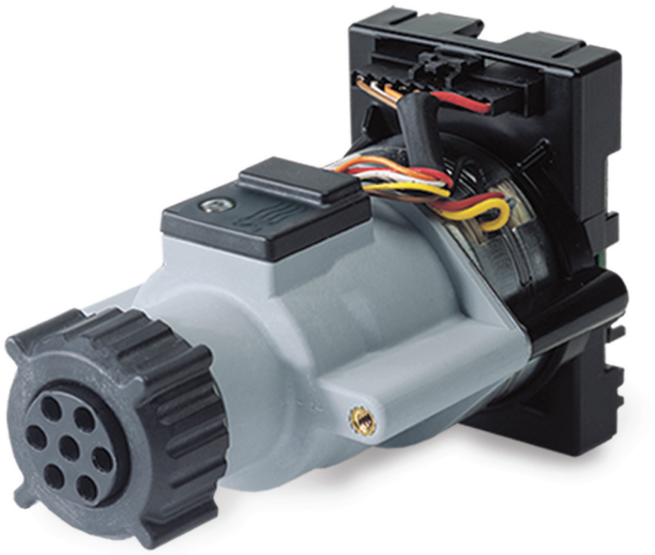
Product Overview Sheet

# Rheodyne® TitanEX™

## Low-Pressure Fluidic Valves

Rheodyne TitanEX valves are a high performance, low-pressure fluidic platform with zero dead-volume. Available in low-cost, small footprint design, the TitanEX is the perfect choice when designing low-pressure instruments for the analytical, biotech, diagnostic, and industrial markets.



### Low Pressure, High Performance

The revolutionary TitanEX was designed from the ground up for low pressure (≤125 psi, 9 bar) high performance fluid selection and switching applications.

### Principle of Operation

The Rheodyne TitanEX uses shear valve technology; the fluid inlet (stator) remains stationary as a grooved seal on the rotor surface rotates to change port connections. These valves are available in multiple position/port configurations.

### Unique Tubing Connection System

The TitanEX tubing connection system is unique, patented, and fittingless... all the parts are internal to the valve. The design reduces the tubing/valve interface to a hand-tightening operation that requires no tools. Simply insert the tubing into the ports and tighten the spanner nut. This connection system will accommodate either 1/8" or 1/16" tubing by just exchanging the internal ferrules.

### Advanced Composites Mean No Maintenance

Long-life is a principal design criteria of the TitanEX platform. The valve body and internal wear components make extensive use of modern material science by employing advanced composite polymers throughout. These highly inert and wear-resistant materials allow the valve to be actuated over the full operating temperature range without maintenance* during its lifetime.

*Within established ranges.

### Low Cost, Small Footprint

With cost being a frequent OEM concern, the TitanEX is a low-cost, reliable, and quality solution in a space efficient size that can be mounted virtually anywhere.

### Available With Integrated Driver Board

An optional driver board integrates with the TitanEX valves to provide the added functionality of motor drive and valve control without significantly affecting the remarkably small footprint of this multi-position valve. OEM customers only need to provide the digital control signals and 24V DC power in order to achieve random access actuation and position feedback. All valves may be controlled by BCD, $I^2C$, UART, Pulse or Dual Pulse standards; two-position valves may also be controlled with level logic. In the case where multiple devices need to be controlled, $I^2C$ communication allows up to 128 devices to be connected to a single instrument. The default configuration is BCD control.

Eliminating customer development of board and firmware means shorter product development cycles and reduced time-to-market.

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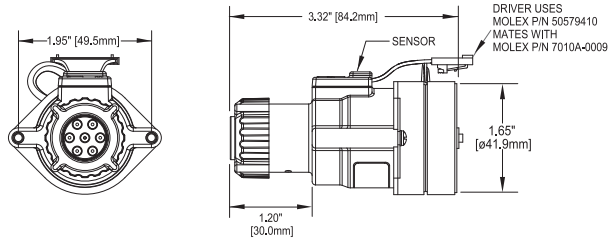
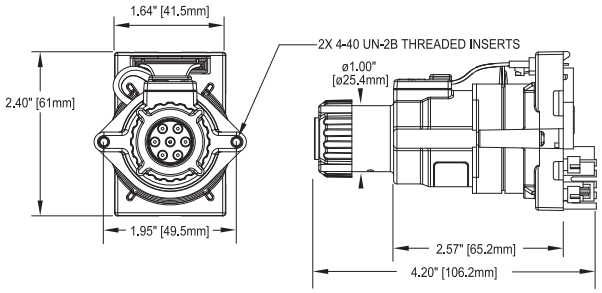
# TitanEX™

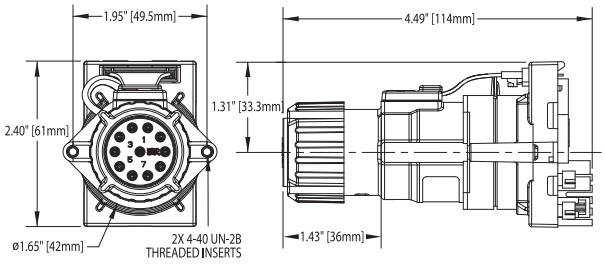
Dimensions given in inches and [millimeters]



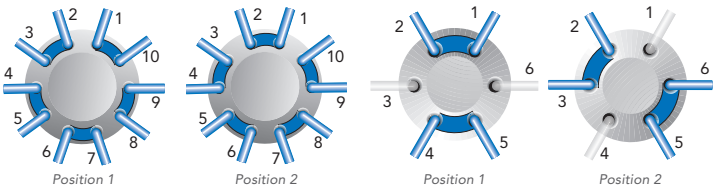

*6-Position, 7-Port TitanEX*




*6-Position, 7-Port TitanEX with PCB*

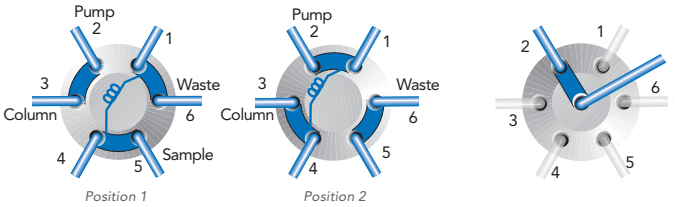



*10-Postion, 11-Port TitanEX with PCB*




*Flow Path of a Two-Position, Ten-Port Switching Valve*

*Flow Path of a Double Three-Way Switching Valve*




*Flow path of a Two-Position, Six-Port Injection Valve*

*Flow Path of a Six-Position, Seven-Port Selector Valve*

## TitanEX Products

| Valves with PCB | Valves without PCB | Description | Tubing OD | Flow Passage Diameter |
|---|---|---|---|---|
| MLP777-601 | MLP777-201 | 2-Position, 6-Port Injector | 1/16" | 0.016" |
| MLP777-603 | MLP777-203 | 2-Position, 6-Port Double 3-Way | 1/16" | 0.016" |
| MLP777-605 | MLP777-205 | 6-Position, 7-Port Selector | 1/16" | 0.040" |
| MLP777-606 | MLP777-206 | 6-Position, 7-Port Selector | 1/8" | 0.040" |
| MLP777-612 | MLP777-212 | 2-Position, 6-Port Injector | 1/8" | 0.060" |
| MLP777-616 | MLP777-216 | 6-Position, 7-Port Selector | 1/8" | 0.060" |
| MLP777-624 | MLP777-224 | 6-Position, 6-Port Switching Valve | 1/8" | 0.060" |
| MLP777-805 | - | 6-Position, 7-Port Selector, RPC-9* | 1/16" | 0.040" |
| MLP778-605 | MLP778-205 | 10-Position, 11-Port Selector | 1/16" | 0.040" |
| MLP778-606 | MLP778-206 | 10-Position, 11-Port Selector | 1/8" | 0.040" |
| MLP778-607 | MLP778-207 | 2-Position, 10-Port Switching Valve | 1/16" | 0.040" |

**Alternate material combination*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