

Rheodyne® TitanEZ™

Long-Life Ceramic Fluidic Valves for Water Monitoring

- ▶ Designed for maintenance-free operation for millions of valve actuations
- ▶ Ultrahard ceramic-on-ceramic sealing surfaces resist aggressive chemicals
- ▶ Low internal volume increases result accuracy and reduces reagent requirements
- ▶ No fluid pumping during actuation

Precision Low Pressure Reagent Selection

The TitanEZ provides smooth, pulse-free fluid selection in instruments without unintended pumping that can cause dispense inaccuracies when using diaphragm based valves. Low internal volume minimizes flow path variation and results in precise and accurate fluid delivery. A single value-priced TitanEZ can replace multiple solenoid valves and outperforms competing shear valves, especially with harsh or aggressive system fluids.

Advanced Materials Mean No Maintenance

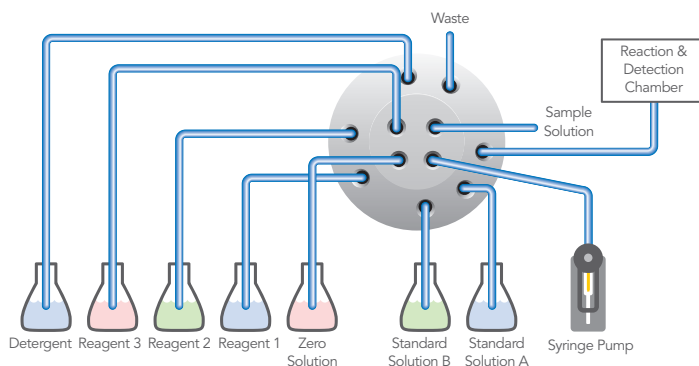
Ceramic-on-ceramic wear surfaces provide longer life than polymer sealing surfaces and are more resistant to particulates. The ceramic wear surfaces are combined with a long-life actuator comprised of highly inert and wear-resistant advanced-composite polymers. These advanced materials allow the valve to be actuated over 3 million actuations* without maintenance.

Integrated Driver Board Option

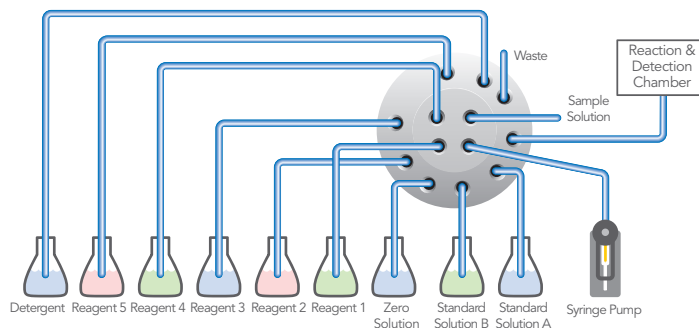
An optional driver board adds the functionality of motor drive and valve control, and shortens equipment manufacturers' time to market by eliminating the need for separate development of the control interfaces. OEM customers only need to provide the digital control signals and 24 V DC power in order to achieve random access actuation and position feedback.

All valves may be controlled by BCD, I²C, 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, I²C communication allows up to 128 devices to be connected to a single instrument.

* Under laboratory testing conditions. Actual lifetime will vary depending on the application



EZ011-820-4

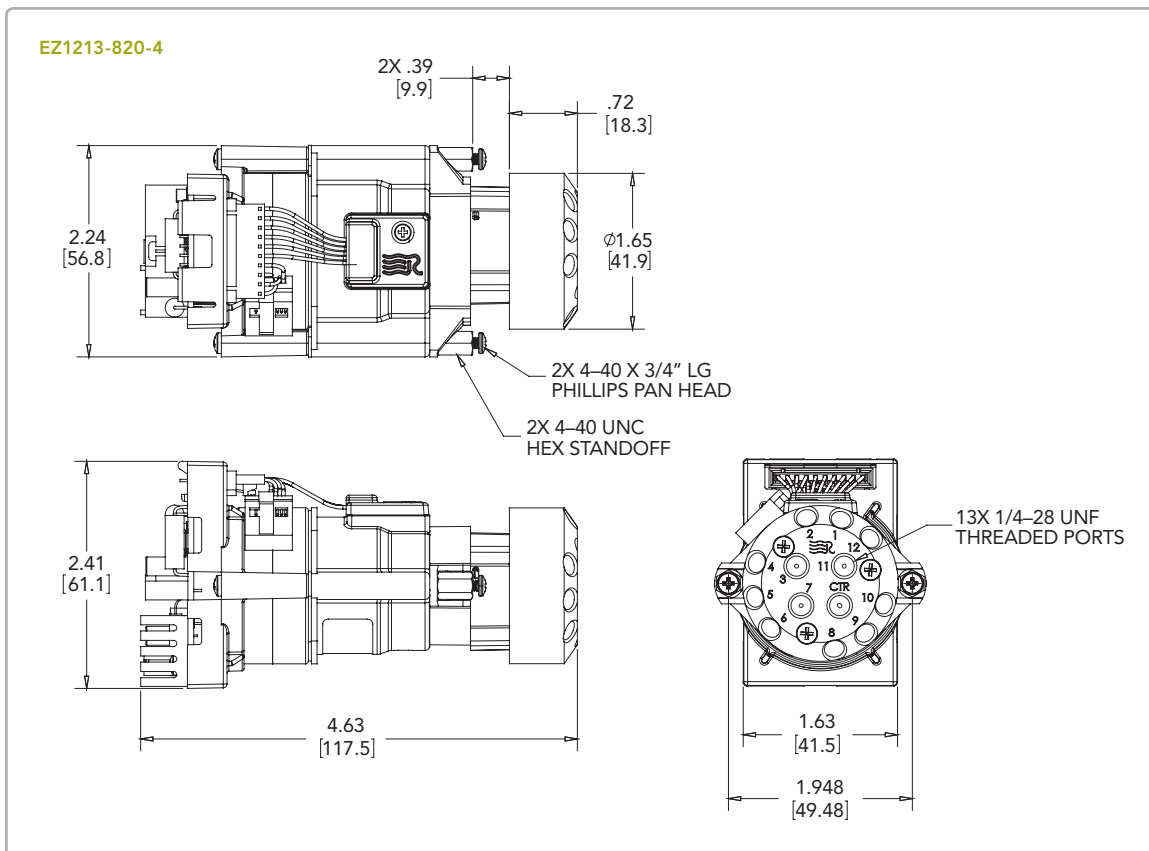
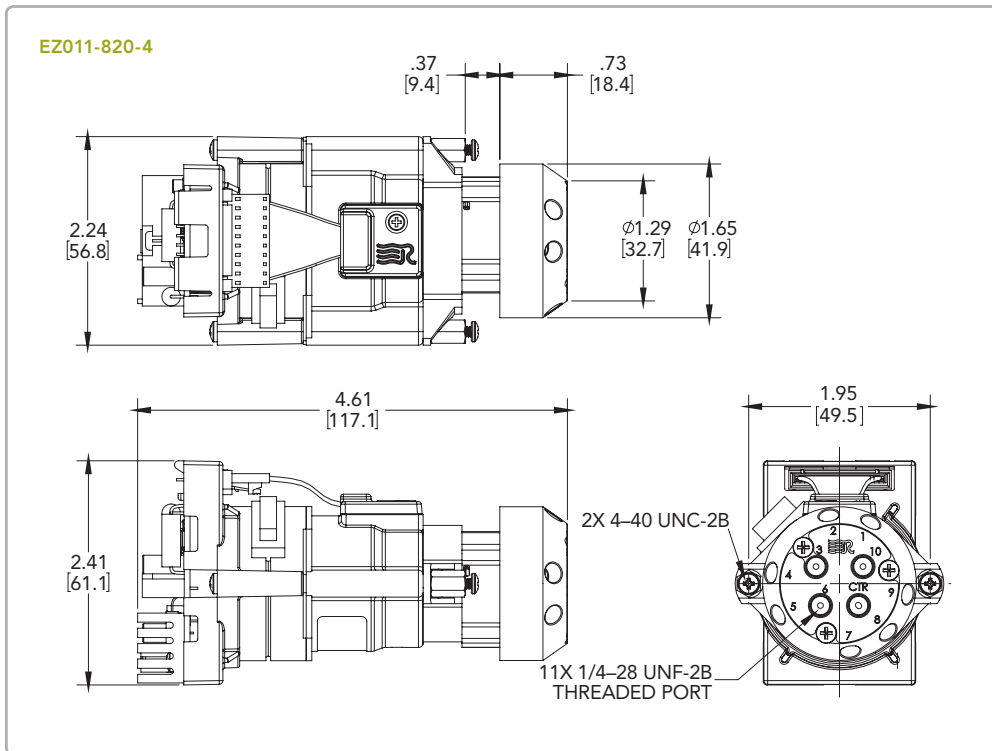


EZ1213-820-4

Typical water analysis instrument flow path. The TitanEZ selector valve enables precise, highly reliable reagent selection with low internal volume.

Dimensional Drawings

Dimensions are in inches [millimeters]



Specifications

	EZ011-820-4	EZ1213-820-4
Liquid Contacts	TZP Ceramic with proprietary coating, UHMWPE, and FFKM	TZP Ceramic with proprietary coating, UHMWPE, and FFKM
Connections	Accepts 1/4–28 male threaded fittings for flat bottom ports	Accepts 1/4–28 male threaded fittings for flat bottom ports
Recommended Fittings	Upchurch Scientific® P/N: P-300 and P-315 for 1/8" OD tubing or P-200 and P-218BLK for 1/16" OD Tubing	Upchurch Scientific P/N: P-300 and P-315 for 1/8" OD tubing or P-200 and P-218BLK for 1/16" OD Tubing
Flow Passage Diameters	Stator: 0.060" (1.52 mm) Stator Face: 0.060" (1.52 mm) Seal: 0.060" (1.52 mm)	Stator: 0.040" (1.00 mm) Stator Face: 0.040" (1.00 mm) Seal: 0.040" (1.00 mm)
Internal Volume	75.9 µL	24.5 µL
Maximum Pressure	75 psi (5.2 bar)	75 psi (5.2 bar)
Motor	12 ohm, 7.5 degree stepper motor	12 ohm, 7.5 degree stepper motor
Motor Power Requirements	24 V DC +5/-10% at 1.0 Amp max	24 V DC +5/-10% at 1.0 Amp max
Motion Position Sensors	Optoelectric sensors with absolute position encoders	Optoelectric sensors with absolute position encoders
Electronic Power Connections	MOLEX P/N 50-57-9402 and 50394-8100	MOLEX P/N 50-57-9402 and 50394-8100
Electronic Communication Connections	MOLEX P/N 51110-1060 and 16-02-0202 Available as a kit from IDEX Health & Science as P/N 7770-625	MOLEX P/N 51110-1060 and 16-02-0202 Available as a kit from IDEX Health & Science as P/N 7770-625
Gear Reduction	Dual	Dual
RoHS Compliant	Yes	Yes
Operating Temperature	4 °C to 70 °C	4 °C to 70 °C
Operating Humidity	<95% humidity, non-condensing	<95% humidity, non-condensing
Shipping and Storage Temperature	-40 °C to 80 °C	-40 °C to 80 °C

NOTE: Shipping, storing or operating this valve below 0 °C with water in the fluid passages may cause failure of the sealing surfaces.

Valve Control

For information on developing your own PCB Driver please refer to the Motion Profile Development Assistance Package for TitanEZ, Rheodyne document number 2321808. For information regarding using the Rheodyne PCB, please refer to Rheodyne document number 2321380, Driver/Controller Development Assistance Package for Rheodyne Titan and MV Driver Boards.

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