

## R6 Valve – 6.4 mm miniature diaphragm isolation valve

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The R6 miniature diaphragm isolation valve delivers liquid dispense performance in a very small package. At just 6.4 mm width it can be easily mounted over microplates improving performance and saving space. When mounted on a manifold, the ultra small footprint of the R6 Valve enables smaller and more efficient fluidic circuits by taking less space and shortening fluid channels. The R6 provides solutions to today's demanding analytical, clinical, and agent detection applications.

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### Features

- 2-way, 2 position valve (NC)
- 8.1  $\mu$ l internal volume enables low carryover designs and reduces use of precious reagents
- Low power required with 2 Watts max. enables portable and low power control
- Slim design allows for mounting as close as 7 mm centers
- Small enough to be mounted at point of dispense eliminating transfer lines
- 100 % tested leak rate ensures a tight seal on every valve
- Optional ported bases for stand-alone operation or testing
- Life cycle rating of 10 million

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### Certificates

- RoHS
- Reach

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### Media compatibility

Liquids

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### Applications

- Sampling
- Reagent addition
- Flow control
- Microfluidics

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### Product specifications

Parameter		
Operating temperature	50 ... 104 °F (10 ... 50 °C)	
Storage temperature	14 ... 158 °F (-10 ... 70 °C)	
Weight	T6...0	0.31 oz (8.8 g)
	T6...4	0.65 oz (18.3 g)
Internal volume	T6...0	8.1 µl
	T6...4	34.3 µl

### Wetted materials

Parameter	
Seals	FFKM
Body	PEEK (polyetheretherketone)
Manifold	PEEK (polyetheretherketone)

### Filtration

40 micron recommended

### Performance characteristics

Part no.	Pressure <sup>(1)</sup>	Orifice size	Leak rate	Response	Power
T62P015...	0 to 14.5 psi inlet 0 to 7.25 psi outlet	0.031 in (0.8 mm)	Bubble tight	< 25 ms	max. 2.0 Watt

#### Specification note

(1) Proof pressure is 30 psig (2.1 bar).

### Chemical compatibility chart

Chemical	Diaphragm (FFKM)	Other Wetted Materials (PEEK)
DI water	Excellent	Excellent
Methanol	Excellent	Excellent
Isopropanol	Excellent	Excellent
Ethanol	Excellent	Excellent
Acetonitrile	Excellent	Excellent
Tetrahydrofuran	Good	Excellent
Toluene	Excellent	Excellent
Organic acids - dilute	Excellent	Excellent
Non organic acids - dilute	Excellent	Excellent
Bases - dilute	Excellent	Excellent
Saline	Excellent	Excellent
Bleach 12 %	Good	Excellent
Sodium hydroxide 20 %	Excellent	Excellent

#### Compatibility legend

**Excellent:** Minimal or no effect

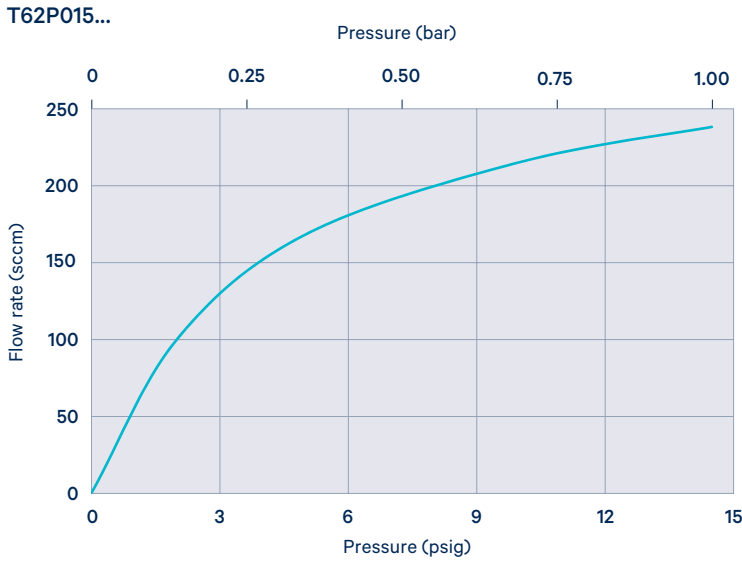
**Good:** Possible swelling and/or loss of physical properties

**Doubtful:** Moderate or severe swelling and loss of physical properties

**Not recommended:** Severe effect and should not be considered

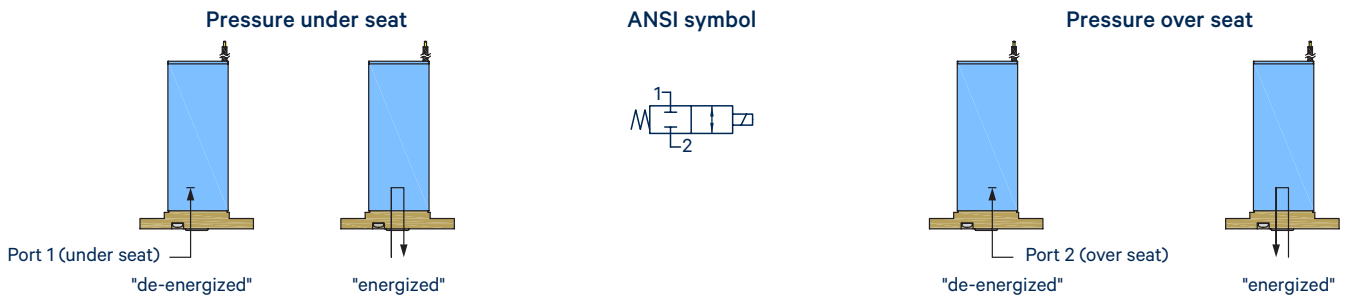
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Typical flow curve  
(Tested with water @ 24 °C)

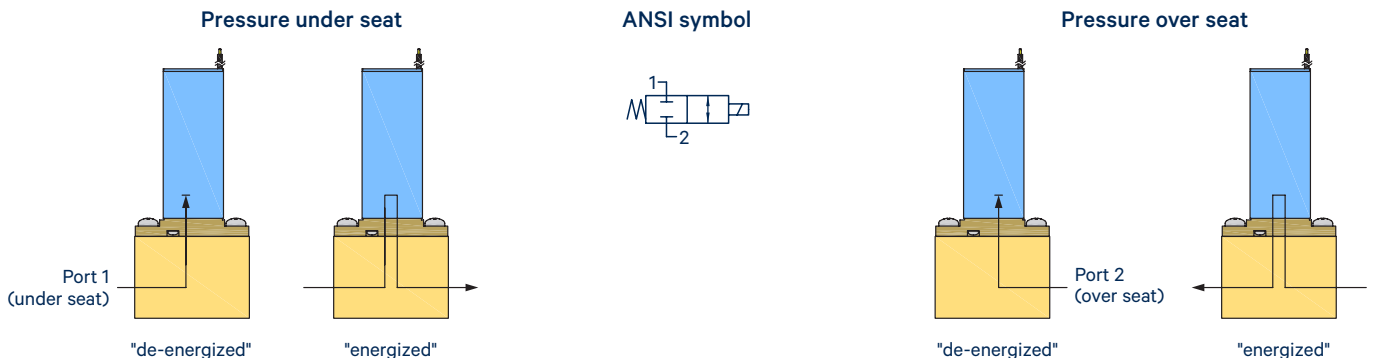


### Pneumatic schematics

#### 2-way face seal



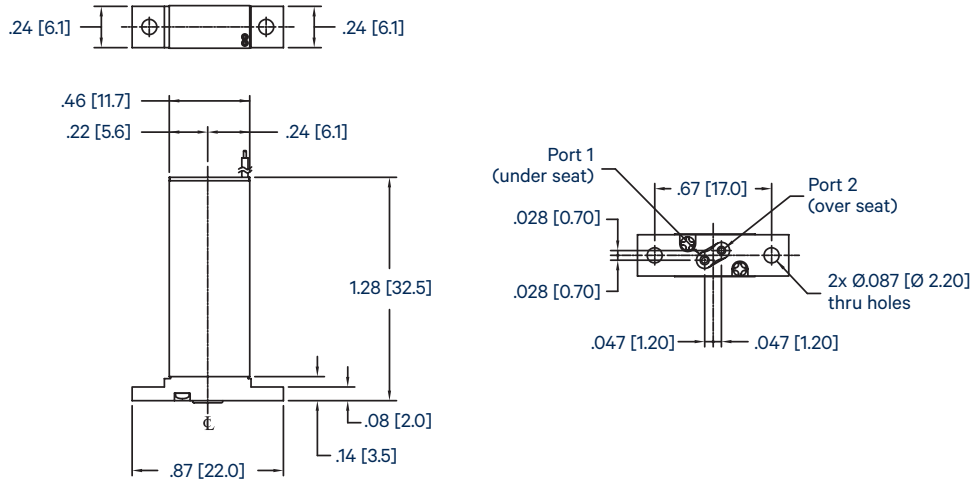
#### 2-way 1/4-28



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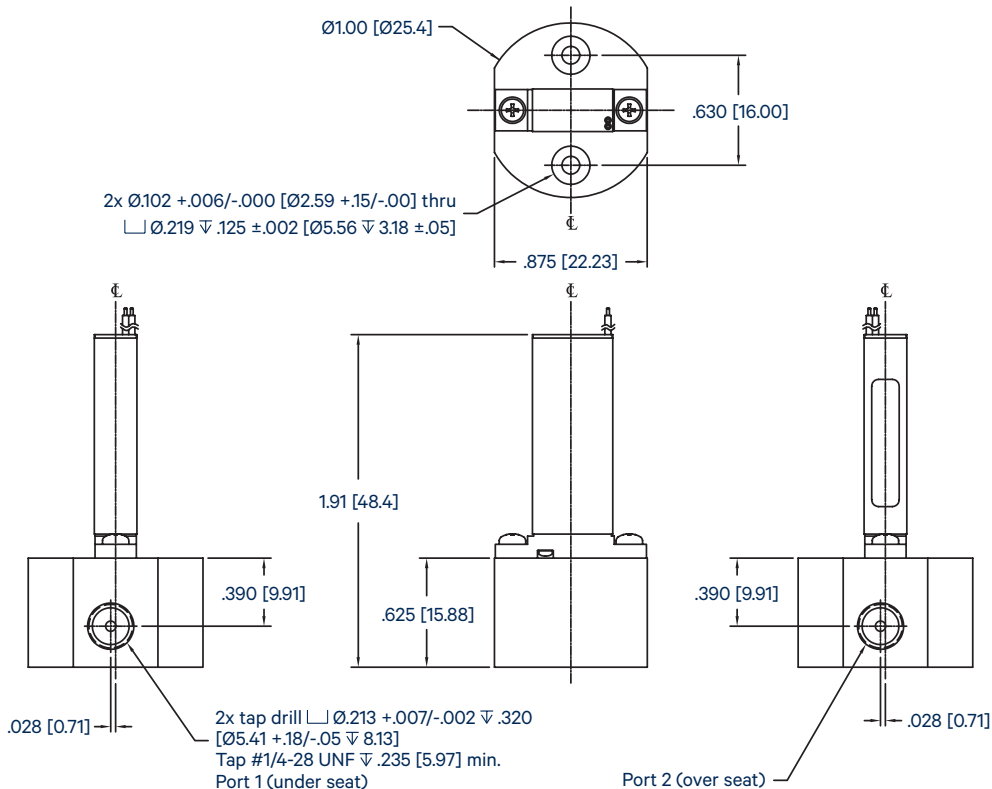
### Dimensional drawing

#### 2-way face seal



dimensions in inch [mm]

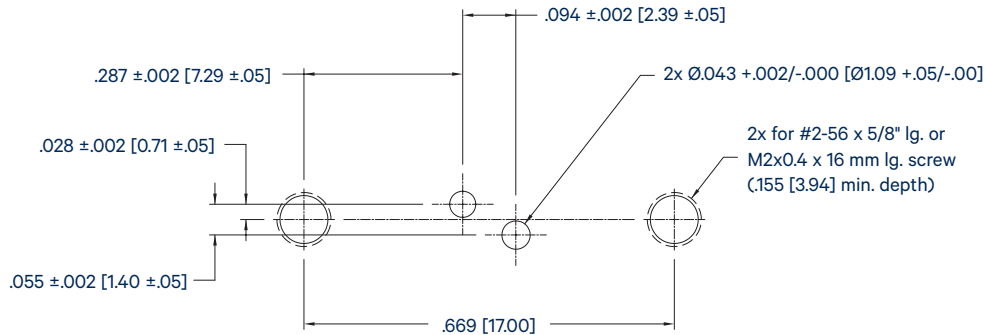
#### 2-way 1/4-28



dimensions in inch [mm]

## R6 Valve – 6.4 mm miniature diaphragm isolation valve

### Manifold mount diagram

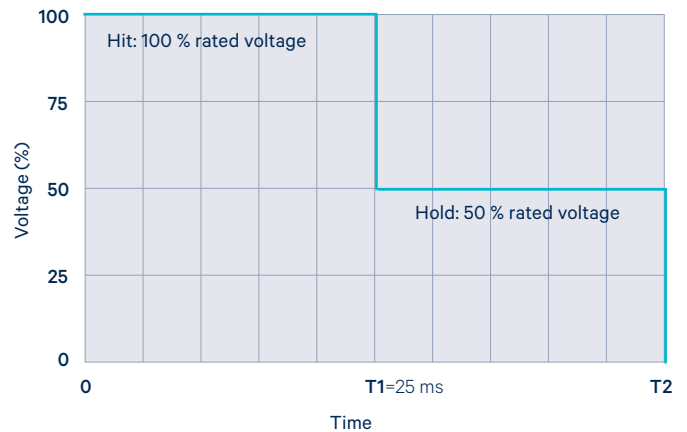


dimensions in inch [mm]

### Hit and hold specifications

Hit and Hold is a method for driving valves that can be used to reduce power consumption and heat generation while maintaining valve performance specifications. The valve is “hit” with the full rated voltage for some time period to open it (T1 in the graph) and then “held” open with substantially reduced voltage until the desired pulse length is reached (T2 in the graph). The following table shows the possible holding voltages and power consumption for our standard 12 and 24 VDC solenoids.

### Typical “Hit” and “Hold” control method



### Electrical requirements

Rated voltage (VDC)	Hold voltage (VDC)	Hold power (watts)	Resistance ( $\Omega \pm 5\%$ @ 20 °C)	Current (mA)	Power (watts)
12	6	0.5	80.4	150	2 max.
24	12	0.5	305.6	80	2 max.

### Ordering information

Part	Ways	Pressure	Function	Elastomer	Voltage	Electrical	Porting
T6	2 [2-way]	P015 [15 psi]	C [NC]	C [FFKM]	12	F [Flying leads]	0
					24		
							4
							1/4-28