

6010 Solenoid Valve

Specification Sheet



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1 Introduction

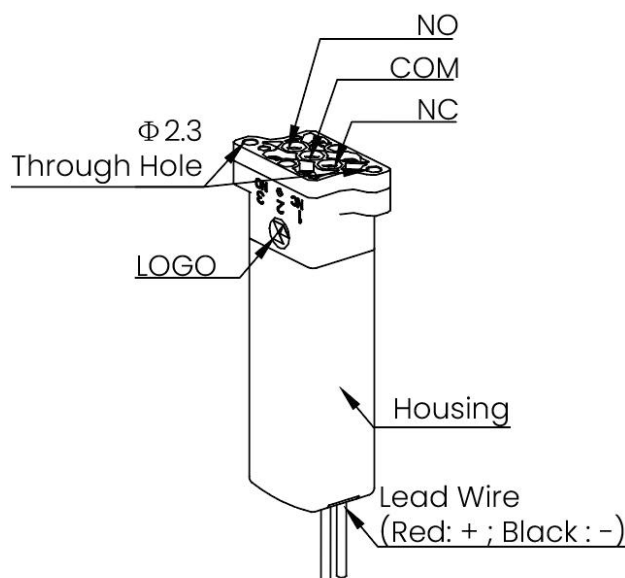


Figure 1 Structural Diagram

Lead wire length: 300 mm.

Mounting holes: Positions vary by model; refer to the installation and dimensions section.

Port designations: "1" = Normally Closed (NC); "2" = Common (COM); "3" = Normally Open (NO). Note: 2-way valves have only two ports.

Valve components contacting reagents and their materials:

Table 1 Wetted Materials

Wetted Materials			
Component	Configuration 1 (EPDM Diaphragm)	Configuration 2 (FKM Diaphragm)	Configuration 3 (FFKM Diaphragm)
Valve Seat	PVDF, PTFE, PMMA, POM, PEEK, PFA		
O-ring	EPDM	FKM	FFKM
Diaphragm	EPDM	FKM	FFKM
Base Plate	PEEK, PFA		

Note:

Substrate and barbed types have no optional valve seat material; base plate defaults to PEEK. For PFA valve seats/base plates in valve seat types, contact Foreach for configuration confirmation.

Foreach Warranty

Please refer to our General Terms of Sale (GTS)

2.1 Substrate Type: SV10-P-3, SV10-P-2NC, SV10-P-2NO



Technical drawing of a locating pin assembly. The drawing shows a top view of a rectangular plate with several circular features. Dimensions are provided for various features:

- Overall width: 20.5 ± 0.1
- Distance from left edge to first pin center: 10.25 ± 0.1
- Distance between first and second pin centers: 4.5
- Distance between second and third pin centers: 4.5
- Distance from third pin center to right edge: 4.25
- Overall height: 8.5 ± 0.1
- Distance from bottom edge to first pin center: 4
- Distance from bottom edge to second pin center: 7
- Distance from bottom edge to third pin center: 4.25

Part numbers and specifications are indicated:

- $M2 \times 0.4(2x)$ Length > 3 (finite) (pointing to a pin)
- $3(NO)$ $SV10-P-2NC(NO)$ (pointing to a pin)
- $3 \times \varnothing 1.5, C0.2 \text{ max}$ $1(NC)$ $SV10-P-2NO$ (pointing to a hole)

Typical Applications of Locating Pins ($\varnothing 1.5$, height max 2)

Figure 4 Recommended Valve Seat Interface Dimensions

Note:

During client valve seat design, ensure correct alignment between SV10-P-2NC/SV10-P-2NO ports and locating pin holes to avoid installation issues.

2.2 Threaded Valve Seat Type: SV10-U28-3

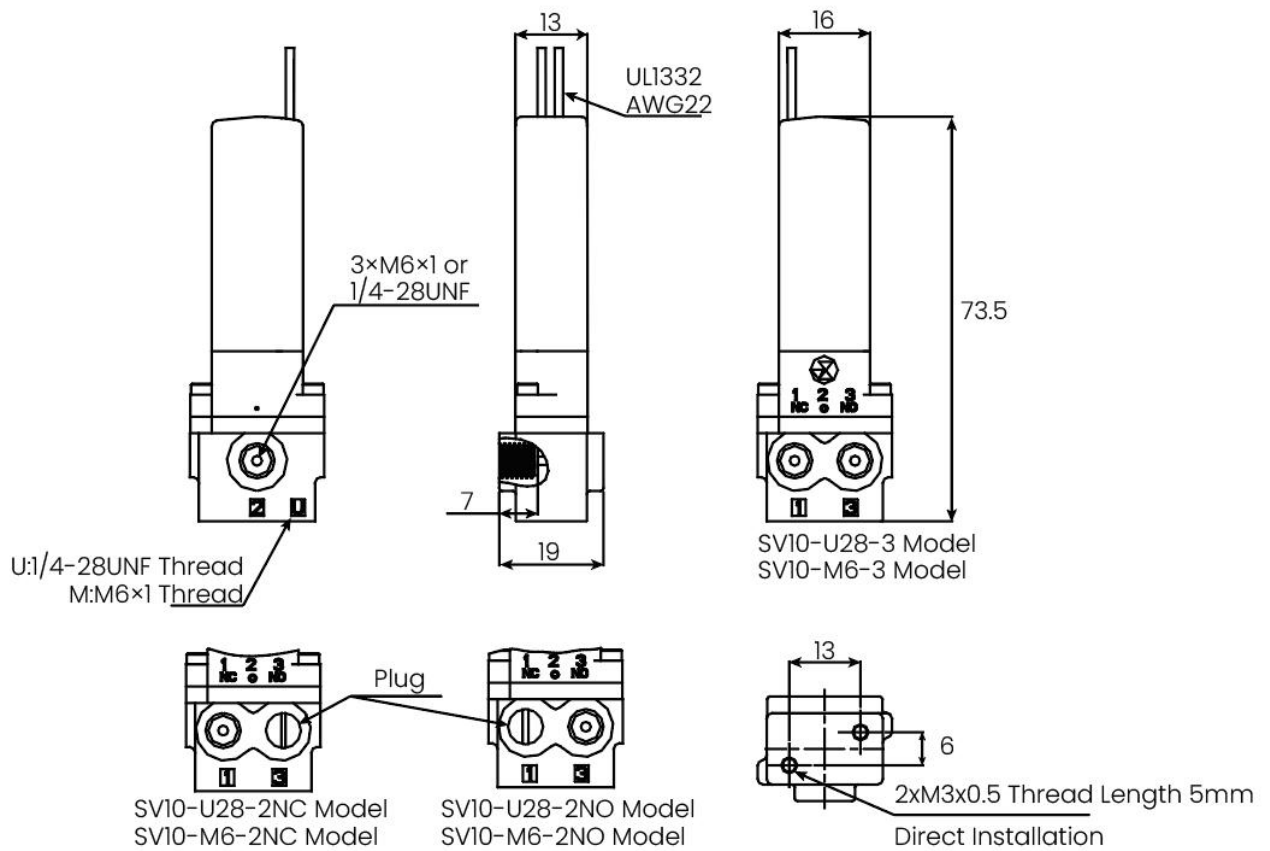


Figure 5 Threaded Type Outline Dimensions



Figure 6 Plugging Head Outline Dimensions

Threads: M6 or 1/4-28 UNF (M6 thread position same as 1/4-28 UNF in Figure 5).

Recommended thread engagement depth: 5 mm.

Bottom seal: Ensure secure connection to external components.

2.3 Barbed Type: SV10-B16-3

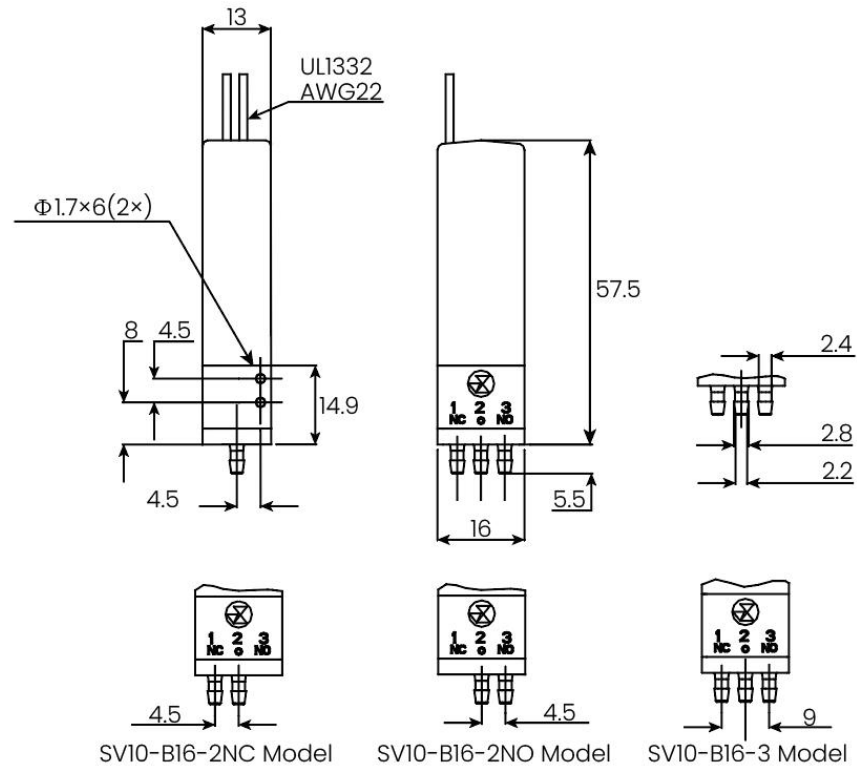


Figure 7 Barbed Type Outline Dimensions

Recommended tubing: ID 1.5–2.0 mm, hardness 55–65 shore A.

Tubing OD must be <4.5 mm.

Custom mounting brackets available.

3 Tubing and Wiring

3.1 Tubing and Connectors

Use tubing with inner diameter matching valve port dimensions.

For barbed type valves, use recommended tubing (Section 2.3). For threaded types, use fittings with matching threads and sealing washers for optimal sealing.

Table 2 Recommended Torque for Threads

Recommended Torque for Threads	
Thread	Torque (N·m)
1/4-28UNF or M6	0.25~0.3

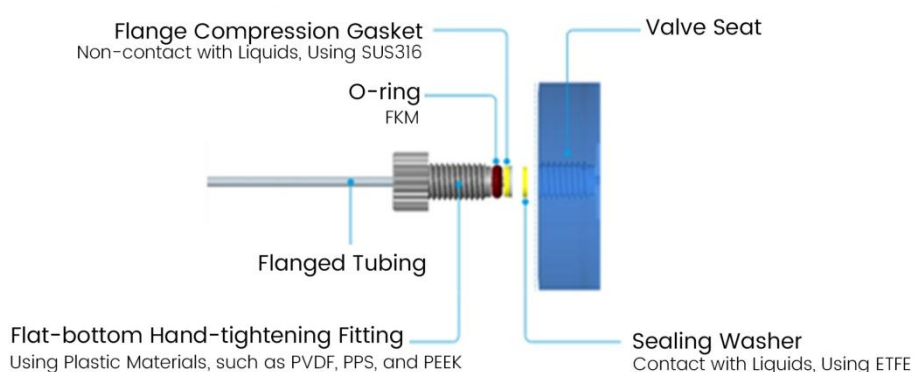


Figure 8 Component Material Specifications

Tubing notes:

Tubing: PEEK/PTFE = rigid tubing (Shore D hardness); Silicone/Tygon = hose (Shore A hardness).

Under standard conditions, the hardness of a specimen is measured by pressing a standard indenter into its surface and evaluating the depth of penetration. The indenters have different geometries: HA uses a truncated cone shape, while HD uses a cone shape. The minimum test thickness for both scales is 6 mm. HA is used for testing soft plastics or rubber, whereas HD is applied to hard plastics and vulcanized rubber. In General, switch to the HD scale when a HA measurement exceeds 90. Switch to the HA scale when a HD measurement falls below 20. No fixed conversion exists between the two scales. For hardness values >90 HA, the empirical fitting curve is: $A = 0.173D + 86.58$

3.2 Wiring

6010 series valves have polarity (+/-). Ensure correct voltage and wiring (red = positive, black = negative).

4 Specifications

Table 3 Specifications

Specifications									
Specification		Parameter							
Component		Substrate			Threaded			Barbed	
Model		SV10-P			SV10-M6&U28			SV10-B16	
Number of Ports		3	2		3	2		3	2
Valve Configuration		Universal	NO	NC	Universal	NO	NC	Universal	NO NC
Fluid Compatibility(Note 1)		Air, Water, Deionized Water (Pure Water), Diluted Solutions, Cleaning Fluids, etc.							
Valve Structure		Flapper Diaphragm Valve							
Operating Pressure		-75kPa~0.25MPa							
Nominal Diameter		1.4mm							
Response Time(Note 2)		≤ 15 ms (No Load)							
Pressure Resistance(Note 3)		0.38MPa							
Operating Temperature(Note 4)		0~50℃							
Fluid Temperature		0℃ to 50℃ (Non-freezing State)							
Valve Chamber Volume(Note 5)		20uL							
Diaphragm Material		EPDM、FKM、FFKM							
Weight		30g			39g			29g	
Rated Voltage		DC 12/24V (±10%)							
Coil Insulation Class		Class F							
Power Consumption		Standard Type							
Power Consumption	Standard Type	2.5W (0.11A)							
	With Power-Saving Circuit	Start				2.5W (0.11A)			
		Hold				1W			
Flow Coefficient (CV)		0.03							

Notes:

1: Based on the fluid media used, select the appropriate material for the contact liquid parts (wetted parts). Chemical compatibility testing must also be performed beforehand.

2: (Measured under stable conditions: Fluid & ambient temperature at 25 °C, rated voltage, maximum operating pressure (air), common port pressurized.) Response time may vary depending on supply pressure, fluid type, piping conditions, and ambient temperature.

3: Indicates the maximum pressure the valve can withstand for 1 minute during an air-tightness test without exhibiting damage or cracks.

4: When the diaphragm material is FFKM and the ambient/fluid temperature is 15 °C or lower, the valve's response time increases significantly compared to operation at room temperature (25 °C). Special caution is required regarding this performance degradation.

5: Represents the internal volume of space within the valve chamber after subtracting the volume displaced by the diaphragm.

5 Ordering Information

Table 4 Order List

Product Model Information List								
Model	Item Code	Ports	Nominal Diameter	Diaphragm	Voltage	Base Plate	Valve Seat	Energy-Saving
SV10-P-3-24-EP/PK	609024	3	1.4mm	EPDM	24VDC	PEEK	/	×
SV10-P-2NO-24-EP/PK	609025	2	1.4mm	EPDM	24VDC	PEEK	/	×
SV10-P-2NC-24-EP/PK	609026	2	1.4mm	EPDM	24VDC	PEEK	/	×
SV10-P-3-24 Y-EP/PK	609028	3	1.4mm	EPDM	24VDC	PEEK	/	✓
SV10-U28-2NO-24-EP/PK-1	609029	2	1.4mm	EPDM	24VDC	PEEK	POM	×
SV10-U28-2NC-24-EP/PK -1	609030	2	1.4mm	EPDM	24VDC	PEEK	POM	×
SV10-U28-3-24-EP/PK -1	609031	3	1.4mm	EPDM	24VDC	PEEK	POM	×
SV10-M6-2NO-24-EP/PK -1	609032	2	1.4mm	EPDM	24VDC	PEEK	POM	×
SV10-M6-2NC-24-EP/PK -1	609033	2	1.4mm	EPDM	24VDC	PEEK	POM	×
SV10-M6-3-24-EP/PK -1	609034	3	1.4mm	EPDM	24VDC	PEEK	POM	×

SV10	- P	- 2NO	- 24	Y	- FK	/ PK	1
Series	Connection Type	Number of Channels	Voltage	Power Consumption	Diaphragm Material	Base Plate Material	Threaded Seat Material
SV10: SV10 Series Solenoid Valve	P: Substrate Type M6: Threaded Seat Type (M6×1) U28: Threaded Seat Type (1/4-28UNF) B16: Barbed Type	2NC: 2-way Normally Closed 2NO: 2-way Normally Open 3: 3-way	12: DC 12V 24: DC 24V	/: Standard Type Y: With Energy-Saving Circuit	EP: EPDM FK: FKM FF: FFKM	PK: PEEK PF: PFA	/: Non-seat Type 1: POM 2: PMMA 3: PPVC 4: PTFE 5: PEEK 6: PFA

Figure 9 6010 Selection Table

SV10-P-2NO-24Y-FK/PK

Denotes: SV10 series substrate type 2-way normally open solenoid valve, operating voltage 24V DC with energy-saving circuit, diaphragm material: FKM, base plate material: PEEK.

SV10-M6-3-24-FK/PK-1

Denotes: SV10 series M6 threaded seat type 3-way solenoid valve, operating voltage 24V DC, diaphragm material: FKM, base plate material: PEEK, valve seat material: POM.

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