

COMPACT 2-WAY/3-WAY SOLENOID VALVES FOR CHEMICAL LIQUIDS

High Flow Rate

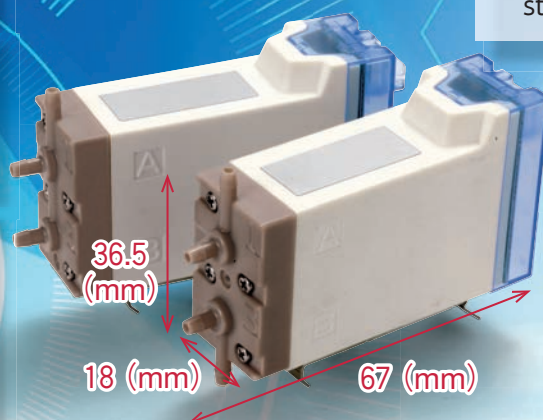
- Orifice Diameter: $\phi 1.3$ mm
- Flow Capacity Cv: 0.03

High Chemical Resistance

- Body: PEEK
- Diaphragm: FKM

Condition Monitoring

- Observe the status of the valve with just a glance, thanks to the built-in red/green LED's.



High Durability

- 10,000,000 cycles
- * (as tested by Takano Co. in a standard testing environment)

Power-Saving (Standard configuration incorporates a power-saving circuit)

- At startup: 3 W
- Regular operation: 1 W

FEATURES

1 Low Pumping Volume

Because the internal capacity of the valve holds $20\mu\text{l}$ or less, its "pumping volume" (i.e. the excess fluid displaced by the diaphragm when the valve closes) is significantly less than that of other valves.

2 No Screws Required for Assembly

Can be attached and detached to and from a DIN rail with one touch. Also incorporates a frame ground (FG) structure, which cuts down on noise.

3 Barbed Tube Fitting

Designed to be able to withstand $-75 \sim 250$ kPa, so tubing will not be detached under high-pressure loads. (Compatible with tubes of diameter $\phi 2$ mm)

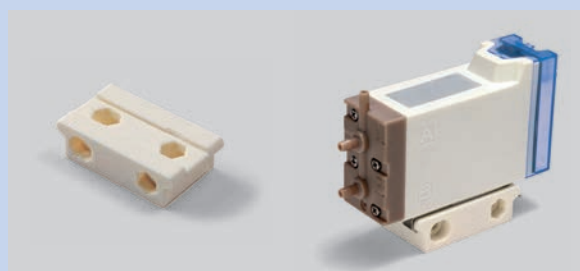
4 Independent Control

Since the coil is housed in a single unit, and each unit can be operated individually, you can use our valves for many possible applications.

INSTALLATION VARIATIONS



- Parallel layered mounting on a DIN rail (board thickness: $1.5^{+0.1}_{-0.1}$ mm)



- Install in a custom setup of your choosing by using resin attachment (sold separately)

W13 Series

Compact 2-Way/3-Way Solenoid Valves for Chemical Liquids

Main Specifications

Model Number* ¹	2×2-Way	3-Way
	W 13 X-25 A	W 13 X-35 A
Valve Type	Diaphragm Type Direct Operated Poppet	
Valve Operation	NC (Normally Closed)	
Fluid	Water, Pure Water, Chemicals* ²	
Operating Pressure Range	− 75 ~ 250 (kPa)	
Compatible Tube Diameter	2 (mm)	
Proof Pressure	375 (kPaG)	
Fluid Temperature	0 ~ 50 (°C)	
Ambient Temperature	0 ~ 50 (°C)	
Ambient Humidity	30 ~ 85 (%)	
Flow Factor Cv	0.03	
Orifice Diameter	1.3 (mm)	
Volume of Valve Chamber	20 (μℓ)	
Enclosure	IP 40 or equivalent	
Mounting Orientation	at will	
Mass	85 (g)	
Operating Noise	60 (dB)	
Life Cycle/Durability* ³	10,000,000 (cycles)	
Material for Wetted Parts	Body: PEEK	
	Diaphragm: FKM	
Electrical Specifications		
Working Voltage	24 (V DC)	12 (V DC)
Allowable Voltage Fluctuation	±10 (%)	
Power Consumption	At Startup: 3 (W)	
	Steady-State: 1 (W)	
Heat-Resistant Class	Class F (155 °C)	

Model Number Key

W13A-25A

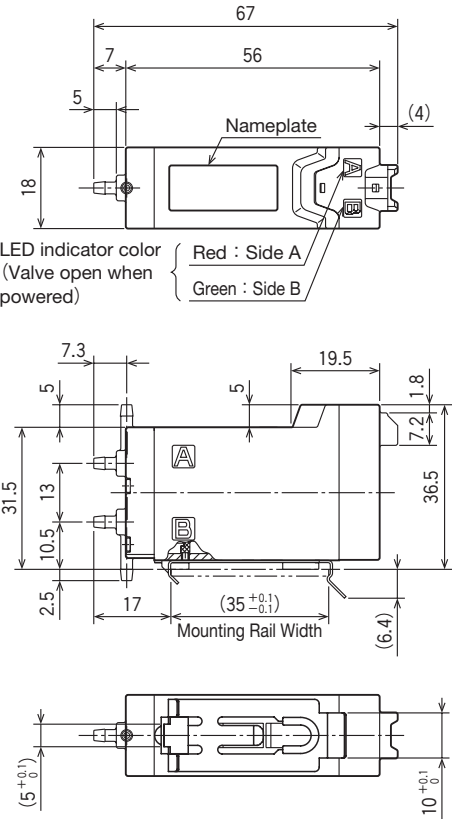
Standard Code

Code	Meaning
① Orifice Diameter	
13	φ1.3 mm
② Mounting Variations	
A	DIN Rail (t = 1.5)
B	Resin Attachment
③ Number of Ports	
2	2-Way
3	3-Way
④ Working Voltage	
5A	24 V DC

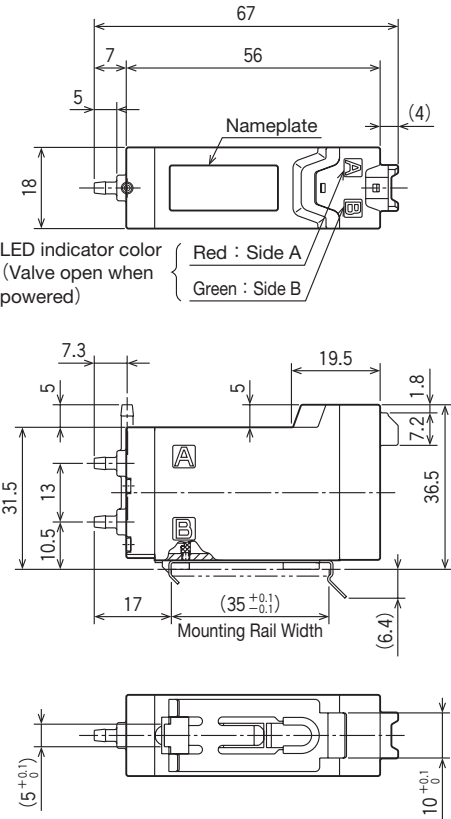
- * 1: the "X" portion represents this model's installation variations. Please choose between A or B (see previous page).
- * 2: please use chemicals that do not corrode the materials used in the wetted part of the valve.
- * 3: measured by Takano Co. in a standard testing environment.

External Dimensions (mm)

〈W 13A-25A〉



〈W 13A-35A〉



Terminal Specifications

Contacts: SXA-001 T-P0.6 (JST)
Housing: XAP-03V-1 (JST)

GENERIC 2-WAY/3-WAY SOLENOID VALVES

High Flow Rate

- Orifice Diameter: $\phi 2.0$ mm
- Flow Capacity Cv: 0.065

High Durability

- 10,000,000 cycles
- * (as tested by Takano Co. in a standard testing environment)



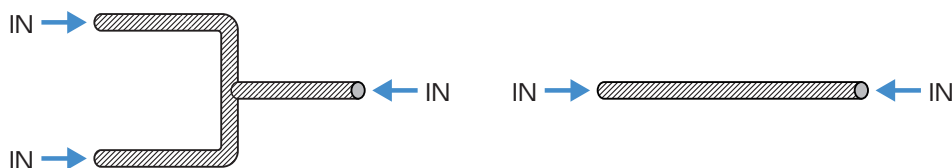
High Chemical Resistance

- Body: PPS
- Diaphragm: EPDM

FEATURES

1 Flexible Tubing Connection

Designed to withstand $-90 \sim 200$ kPa, no matter which port is used (compatible with tubes of diameter $\phi 3$ mm).



2 Cast-Resin Coil

For water-resistance and durability, our coils are cast in a resin mold.

3 Simple Structure

At every stage of the manufacturing process, from design to assembly, this product was crafted with structural simplicity in mind.

◆ Main Specifications

Model Number*1	2-Way		3-Way	
	H 202 U-XXX		H 203 U-XXX	
Valve Type	Diaphragm Type Direct Operated Poppet			
Valve Operation	NC (Normally Closed)		[3] : NO [2] : COM [1] : NC	
Fluid	Air, Water, Pure Water, Chemicals*2			
Operating Pressure Range	-90 ~ 200 (kPa)			
Compatible Tube Diameter	3 (mm)			
Proof Pressure	300 (kPaG)			
Fluid Temperature	5 ~ 50 (°C)			
Ambient Temperature	5 ~ 50 (°C)			
Ambient Humidity	30 ~ 85 (%)			
Flow Factor Cv	0.065			
Orifice Diameter	2.0 (mm)			
Volume of Valve Chamber	38 (μL) or less		99 (μL) or less	
Enclosure	IP 40 or equivalent			
Mounting Orientation	at will			
Mass	82 (g)		84 (g)	
Operating Noise	70 (dB) or less			
Life Cycle/Durability*3	10,000,000 (cycles)			
Material for Wetted Parts	Body: PPS			
	Diaphragm: EPDM			
Electrical Specifications				
Working Voltage	24 (V DC)		12 (V DC)	
Allowable Voltage Fluctuation	±10 (%)			
Power Consumption	3 (W)			
Heat-Resistant Class	Class H (180°C)			

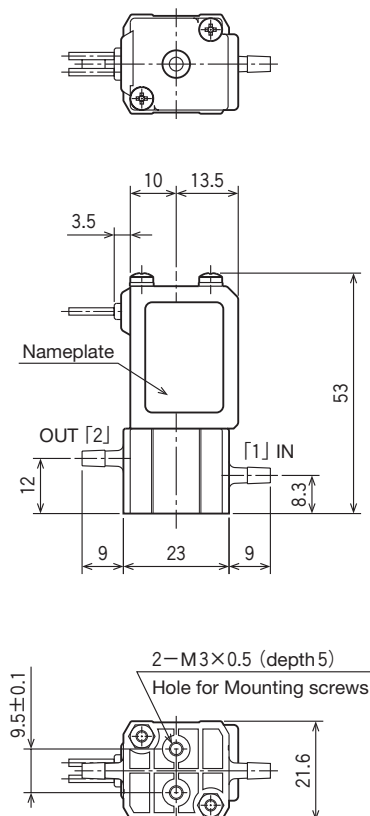
◆ Model number Key

Code	Meaning
① Orifice Diameter	
20	φ 2.0 mm
② Number of Ports	
2U	2-Way
3U	3-Way
③ Voltage	
E5A	24 V DC
E6A	12 V DC

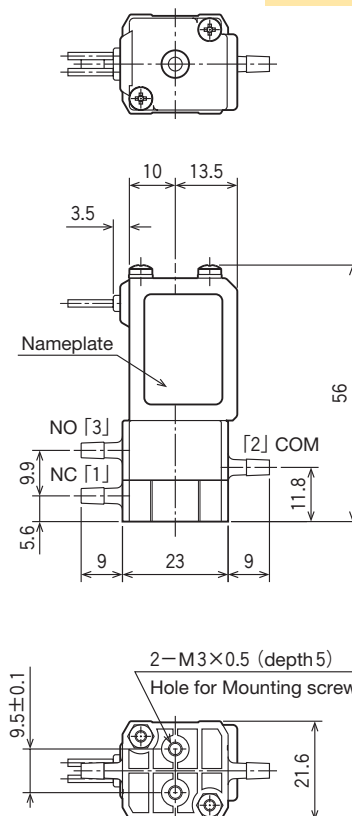
- * 1: the "XXX" portion represents this model's working voltage. Please choose between E5A & E6A.
 * 2: please use chemicals that do not corrode the materials used in the wetted part of the valve.
 * 3: measured by Takano Co. in a standard testing environment.

◆ External Dimensions (mm)

〈H 202 U-XXX〉



〈H 203 U-XXX〉



Terminal Specifications

Lead Wire Length (mm) : 495
 AWG Size : 22

PINCH VALVES

High Durability

- 20,000,000 cycles
- *as tested by Takano Co. in a standard testing environment

Unique Bottom-Mounted Lead Line

- No need for complicated mounting treatments: fits easily into narrow spaces.

57 (mm) or less



φ26 (mm)

Low-Heat

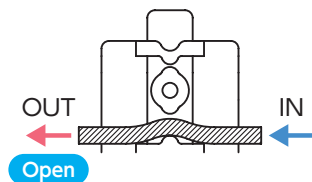
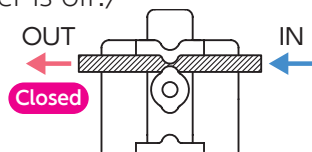
- Featuring a unique magnetic circuit designed to reduce heat generation, the temperature rise of this pinch valve after continuous operation is only 65 °C.
- *as tested by Takano Co. in a standard testing environment

FEATURES

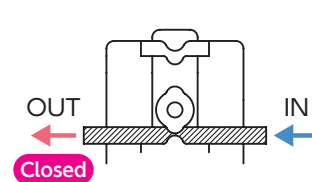
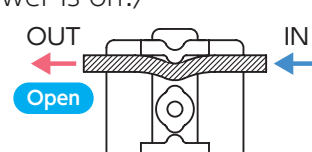
1 Multi-Purpose

When used with one tube inserted into the device, it becomes an ON/OFF valve.

〈when power is off:〉

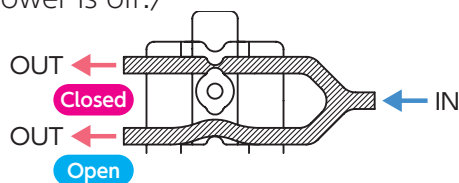


〈when power is on:〉

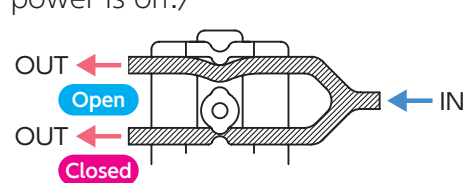


When used with two tubes and the assistance of a Y-pipe, it can function as a 3-way valve to divert fluids.

〈when power is off:〉

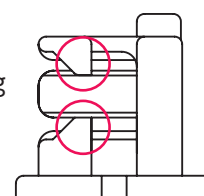
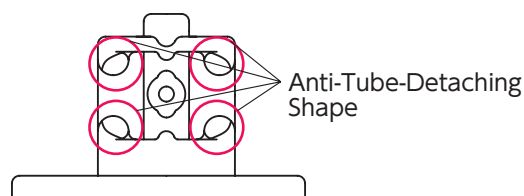


〈when power is on:〉



2 Fitting Shape Prevents Accidental Tube Detachment

The plastic molding on the pinch mechanism has been specially designed so that the supply tube will not fall off from repeated use.



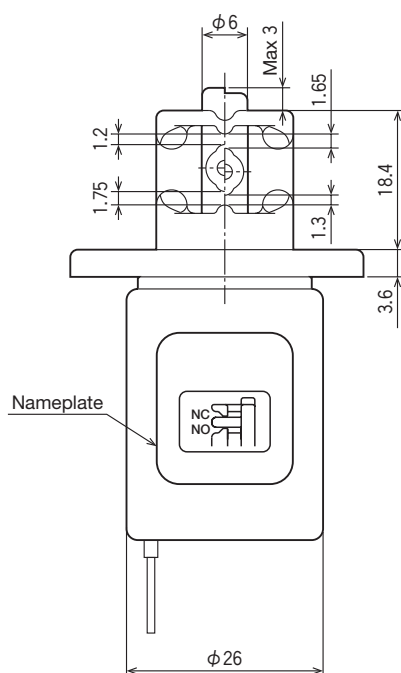
Model Number	TPV-N040	TPV-N160
Fluid	Water, Pure Water, Chemicals * ¹	
Operating Pressure Range	0 ~ 150 (kPa)	
Compatible Tube Diameter	O.D.3/I.D.1 (mm)	
Compatible Tube Types	Silicone Rubber, PharMed * ²	
Fluid Temperature	0 ~ 50 (°C)	
Ambient Temperature	0 ~ 50 (°C)	
Ambient Humidity	30 ~ 90 (%)	
Mounting Orientation	at will	
Mass	115 (g)	
Life Cycle/Durability * ³	2,000,000 (cycles)	
Electrical Specifications		
Working Voltage	12 (V DC)	24 (V DC)
Allowable Voltage Fluctuation	±10 (%)	
Power Consumption	3.6 (W)	
Heat-Resistant Class	Class E (120°C)	

*3: measurement conditions: measured by Takano Co. in a standard testing environment.



Technical drawing of a mechanical part with the following dimensions and labels:

- Overall width: 33
- Overall height: $\phi 26$ or less
- Top width: 5.9
- Top width (inner): 5
- Top hole diameter: $\phi 6$
- Left side width: 3.7
- Left side height: 3.3
- Right side height: 3.3
- Bottom width: $\phi 20$



Lead Wire Length (mm) : 500
AWG Size: 28

