

# 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

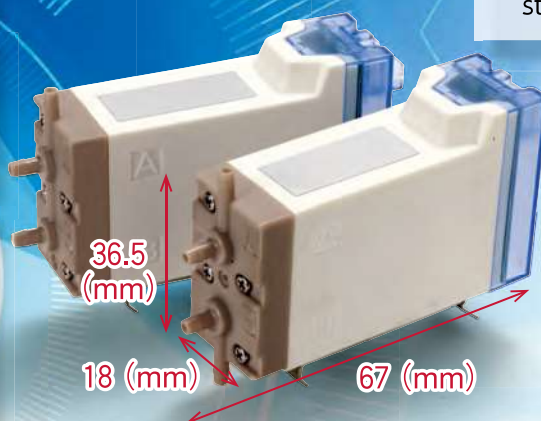
- Observe the status of the valve with just a glance, thanks to the built-in red/green LED's.

## 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* <sup>1</sup>	2×2-Way	3-Way
	W 13X-XXX	
Valve Type	Diaphragm Type Direct Operated Poppet	
Valve Operation	NC (Normally Closed)	
Fluid	Water, Pure Water, Chemicals* <sup>2</sup>	
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* <sup>3</sup>	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

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
6A	12 V DC

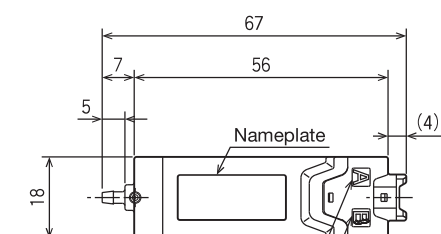
\* 1: the "X" portion represents this model's installation variations. Please choose between A or B (see previous page).

\* 2: please use chemicals that do not corrode the materials used in the wetted part of the valve.

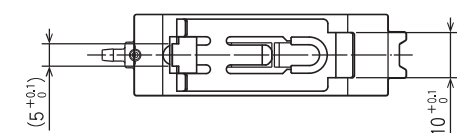
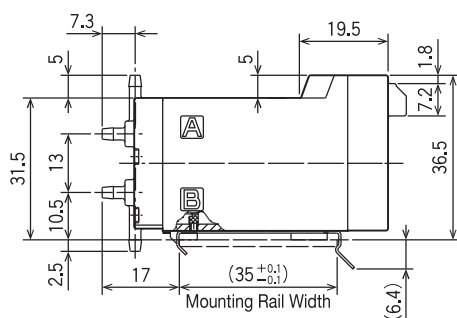
\* 3: measured by Takano Co. in a standard testing environment.

## ◆ External Dimensions (mm)

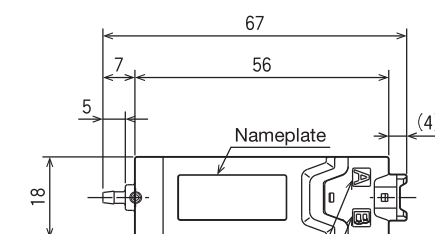
〈W 13A-25A〉



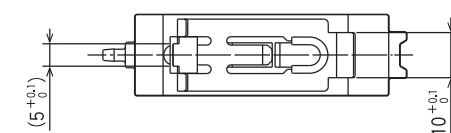
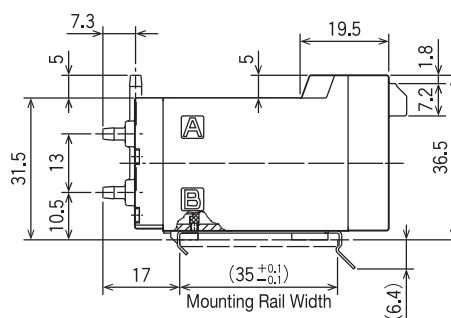
LED indicator color (Valve open when powered)  
 { Red : Side A  
 { Green : Side B



〈W 13A-35A〉



LED indicator color (Valve open when powered)  
 { Red : Side A  
 { Green : Side B



## Terminal Specifications

Contacts: SXA-001 T-P 0.6 (JST)  
 Housing: XAP-03 V-1 (JST)

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

# PINCH VALVES

## High Durability

- 2,000,000 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.



## Low-Heat

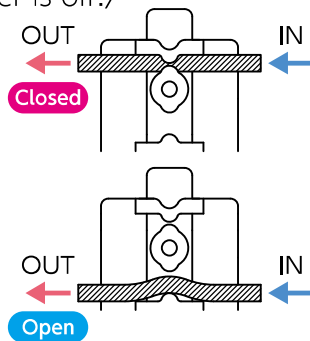
- Featuring a unique magnetic circuit designed to reduce heat generation, the temperature rise of this pinch valve after continuous operation is only 65°C.
- \*as tested by Takano Co. in a standard testing environment

## FEATURES

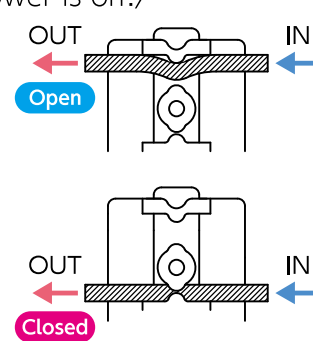
### 1 Multi-Purpose

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

〈when power is off:〉

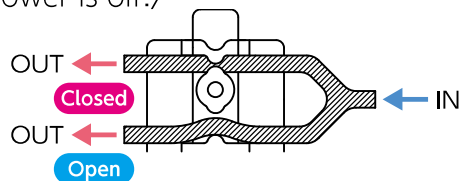


〈when power is on:〉

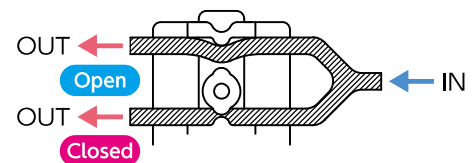


When used with two tubes and the assistance of a Y-pipe, it can function as a 3-way valve to divert fluids.

〈when power is off:〉

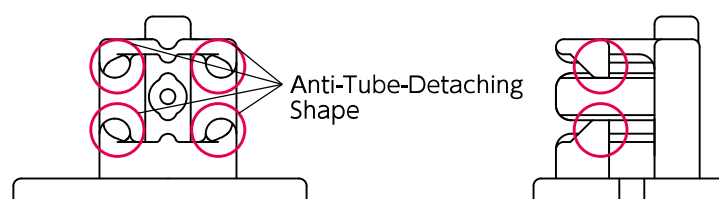


〈when power is on:〉



### 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.



## ◆ Main Specifications

Model Number	TPV-N040	TPV-N160
Fluid	Water, Pure Water, Chemicals * <sup>1</sup>	
Operating Pressure Range	0 ~ 150 (kPa)	
Compatible Tube Diameter	O.D.3/I.D.1 (mm)	
Compatible Tube Types	Silicone Rubber, PharMed * <sup>2</sup>	
Fluid Temperature	0 ~ 50 (°C)	
Ambient Temperature	0 ~ 50 (°C)	
Ambient Humidity	30 ~ 90 (%)	
Mounting Orientation	at will	
Mass	115 (g)	
Life Cycle/Durability * <sup>3</sup>	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)	

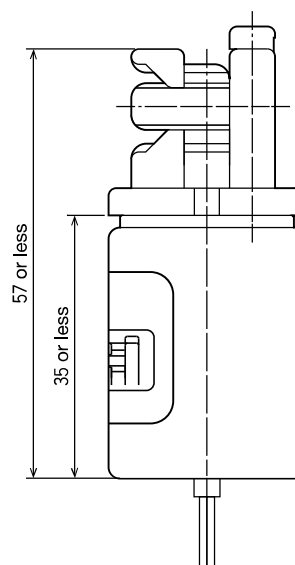
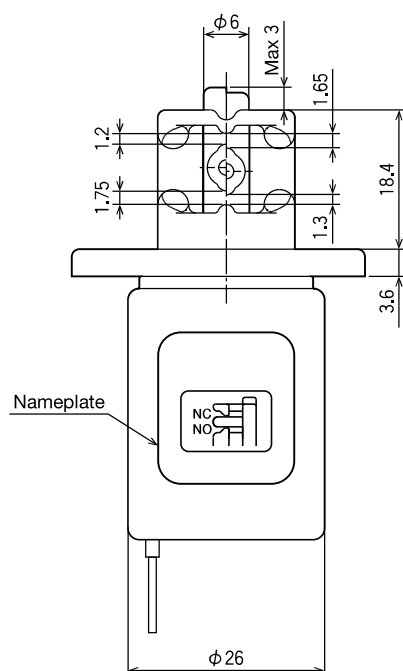
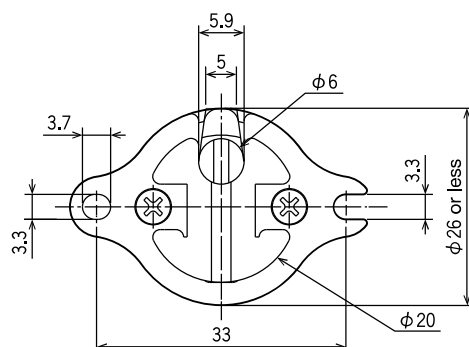
\* 1: please use chemicals that do not corrode the materials used in the wetted part of the valve.

\* 2: PharMed is a registered trademark of Saint-Gobain Performance Plastics Corporation.

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



## ◆ External Dimensions (mm)



## Terminal Specifications

Lead Wire Length (mm) : 550  
AWG Size : 28