

Air Operated Valve

Model: SD-

INSTRUCTION MANUAL

1. Specifications

Model	SD-2	SD-3	SD-4	SD-6
Supported fluids	Chemicals, purified water, N ₂			
Working pressure	0 to 500kPa		0 to 300kPa	
Back pressure	0 to 300kPa		0 to 200kPa	
Withstanding pressure	1MPa			
Valve seat leakage	0mL/min (water pressure)			
Orifice diameter	ø4	ø7	ø10	ø16
Fluid temperature	5 to 90°C			
Ambient temperature	0 to 60°C			
Material of wetted parts	PTFE			
Connection tube size	1/4" (ø6.35×ø3.95)	3/8" (ø9.53×ø6.35)	1/2" (ø12.7×ø9.53)	3/4" (ø19.05×ø15.9)
Operating port	Rc1/8			
Operating pressure	300 to 500kPa			

<Description>

●Applications

Semiconductor, medical, and chemical industry related devices.

●Features

- Two-way on-off valve for chemicals and purified water.
- Wetted parts of fluorine resin offer superior corrosion resistance.
- Remote operation with air pressure.

<Precautions>

⚠ WARNING

- Read this manual thoroughly before use.
- Before use, confirm compatibility between the type of fluid to be used and the wetted parts.
- Keep this manual available for immediate reference.
- Use only for the specified purpose(s), and follow all directions in this manual.
- Observe all warnings and cautions described in this manual.

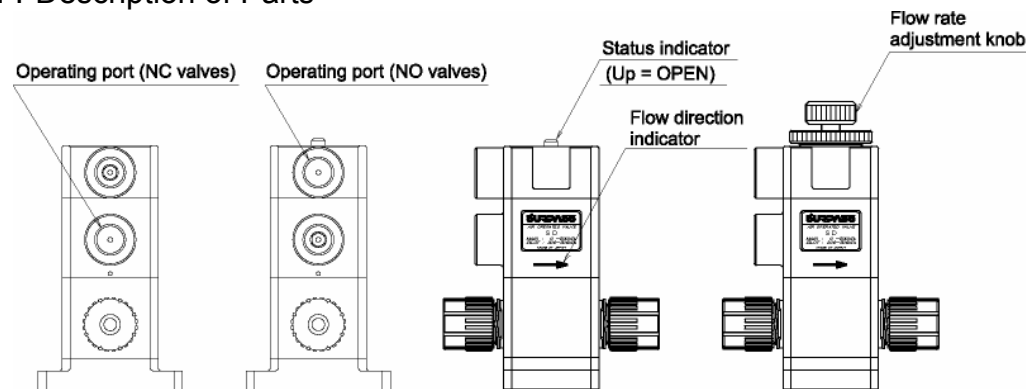
◆ NC valves

- No pressure on operating port: Closed
- Pressure applied to operating port: Open

◆ NO valves

- No pressure on operating port: Open
- Pressure applied to operating port: Closed

2 . Description of Parts



<About this Manual>

- The information described in this manual is subject to change without prior notice, due to improvements in the performance and/or functionality of the product.
- No parts of this manual may be reproduced or used in any form or by any means without express permission from Surpass Industry.
- If this manual is lost or becomes illegible, contact Surpass Industry for a replacement.
- While every effort has been made to ensure that all information included in this manual were complete and accurate at the time of printing, please contact Surpass Industry if you have any question or notice any error or omission.

● Important Safety Instructions

<Safety Symbols>

The following symbols are used in this manual.

⚠	Provides important notices and instructions for correct operation of the product.
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⚠ WARNING	Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.
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⚠ CAUTION	Indicates a potentially hazardous situation that, if not avoided, could result in injury or property damage.
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3. Tubing

◆ Main unit

Assemble the included tube nut and tube sleeve onto a tubing, and connect the tubing to the main unit. Refer to the manufacturer's catalog or instruction manual for details on assembling the tubing and tightening the nut.

⚠ WARNING

Periodically inspect the connection for any leakage, and tighten or take other measures as necessary.

Check the flow direction indicator (→) and install the valve with the correct orientation.

Do not subject the tubing to bending stress or pulling stress.

Foreign materials in the fluid may prevent the valve from operating properly and cause problems such as leakage.

This product is a precision equipment. Do not disassemble or modify. The product may malfunction and cause injury or property damage.

◆ Operating port

Attach the air tubing connector to the operating port, and connect the operating air tubing.

⚠ WARNING

The operating port differs depending on the valve type (NC or NO). Connect the air to the correct port.

Set the unpressurized port to discharge to atmosphere.

The unpressurized port is sealed with a plug, and is designated as the exhaust port. If you do not wish to exhaust directly from the valve, remove the plug and connect tubing to the port.

Send the operating air via a filter rated at 5µm or finer.

Do not subject the tubing to bending stress or pulling stress.

Select the solenoid valve for the operating air to suit your specifications and purpose.

This product is a precision equipment. Do not disassemble or modify. The product may malfunction and cause injury or property damage.

4. Cautions for Use

⚠ CAUTION

Before use, apply pressure to the interior of the tubing and ensure that there is no leakage from the connections.

Take measures to prevent excessive pressure and water hammer.

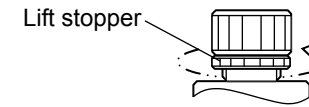
Rapid change in fluid temperature may cause degradation of valve performance.

Do not place heavy items on the product.

5. Flow rate adjustment knob

The knob on top of the actuator can be used to adjust the flow rate.

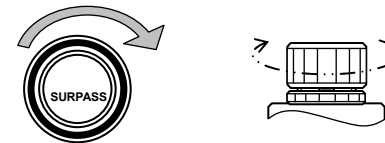
① Pull up the stopper all the way.



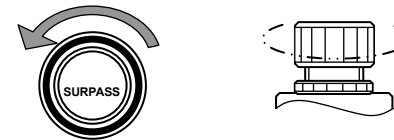
② Rotate the knob to adjust the flow rate.

(Turn clockwise to reduce the flow, and counterclockwise to increase the flow)

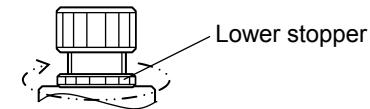
<Reducing the flow rate>



<Increasing the flow rate>



③ When done, push down and lock the stopper.



6. Warranty

The warranty runs for one year after the day when Surpass Industry products are delivered from Surpass factory in Japan. In case Surpass Industry should agree in writing that the defects in performance or material were caused by faulty design or workmanship of Surpass Industry, replacement products will be supplied free of charge. This warranty shall not be applied to any defects caused by misuse, alteration, neglectful treatment, and neglect of our recommendations or instructions.

In addition, we are not be liable to any direct or consequential loss, damage, and personal injury due to an unauthorized usage in combination with other products and an improper usage outside of the specifications. Our product warranty shall be limited to replacement of product.

Replacement with expense to the purchaser shall be applied to the followings:

- Any defective products caused by usage that is not described in the Instruction Manual.
- Any defective products caused by neglectful treatment.
- Any defective products caused by decomposition, alteration, and improper adjustment or repair.
- Any defects of products caused by acts of God including natural disaster or fires.
- Consumables and accessories.

<Call to:>

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