

Mini Chemical Regulator

Model Type: GACR-SHT TYPE

Instruction Manual

<Product Overview>

● Application

Semiconductors, chemicals, chemical industry

● Feature

- Compact reduction control valve for D.I. water and chemicals
- Air-controlled remotely operated type
- Since a fluorine resin with high anti-corrosiveness is used for the part to be in contact with the fluid, this product is highly resistant to acid and alkali and can be widely used for organic solvents, etc.

<Before You Use>

Since this product corresponds to the chemical arms related commodities specified in the Foreign Exchange and Export Trade Control Law, the export permission based on the law is required for export. Depending on the product size, the law may not be applied. Check the size.

⚠ Warning

- Confirm the compatibility of the type of fluid to be used and the material of the part in contact with fluids before using this product.
- Before using this product, carefully read this instruction manual to learn the correct usage of this product.
- Keep this manual at hand to see it any time you need.
- Follow the correct usage of this product specified in this manual.
- Fully understand and comply with the statements of warning described in this manual.

<About Instruction Manual>

- The information described in this manual is subject to change without prior notice, due to improvements of product in performance and/or functionality.
- No parts of this manual may be reproduced or utilized in any form or by any means.
- Please download from our homepage when you lose this manual.
- Every effort was made to ensure that all information included in this manual was complete and accurate at the time of printing. However, if you have any point of doubt, errors, or omissions, please contact Surpass Industry.

● Important Safety Instructions

<About Marks Used>

The following symbols are used in this manual.

	Indicates the presence of an imminently hazard that, if not avoided, will cause death or severe personal injury.
	Indicates the presence of a potential hazard that, if not avoided, will or can cause personal injury or property damage
	Provides important notices and instructions for correct operation of the product.

Warning and Precaution Items

Before using this product, read the warning instruction matters carefully and follow them.

⚠ Warning

- Never disassemble this product. Normal operation may not be achieved.
- This product is developed and designed as a secondary pressure control valve. Do not use it as a check valve or ON/OFF valve.
- Do not use fluids containing foreign matters. Performance may be degraded.

1. Installation and Piping

Install and perform piping according to the precautions below.

⚠ Caution

- The pilot port has a Rc1/8 female screw. Use a resin type for the mating R male screw. Do not use hard materials such as metal. As resin joints, the one-touch resin joint KP series from SMC are raised. Perform piping so that the bending moment will not be applied to the joint.
- When installing on a wall surface, if the IN side is up and OUT side is down, air in the piping cannot be fully purged and flow rate reduction may be caused.
- Do not use this product in a location with excessive vibration. The product may not work properly.
- Fasten the body accurately using 2 female screw on the base. Otherwise, the product may be a cause of accident, for example, by falling off.
- For piping, check the flow direction arrow (→) on the body and perform piping with IN and OUT correctly set. If IN and OUT are set reverse, the product may not work properly.
- Piping to which the bending stress and tensile stress apply is not permissible. Fluid leak may be caused.
- For joint installation, refer to the catalog and instruction manual from the joint manufacturer.

2. How to Use

By changing the pilot air pressure, the secondary pressure is set. Put air through the pilot port at the side of the body. Adjust the pilot air pressure using a high-precision regulator, electropneumatic regulator, or the like.

2-1 Air Purge

- (1) After installation, put pilot air through the pilot port and pass the fluid from the IN side to purge air from the channel in the body.
- (2) Make sure that air bubbles do not come out the OUT side any more.

2-2 Secondary Pressure Setting

If the pilot air pressure is increased, the secondary pressure rises. If the pilot air pressure is decreased, the secondary pressure falls.

⚠ Caution

- Be sure to use the product within the specified flow rate range and specified pressure range. Failures, damages, or accidents may be caused.
- Be sure to set a load on the secondary side. The secondary pressure cannot be controlled.
- The secondary pressure must be lower than the primary pressure in operation. The flow rate may be reduced.
- Be sure to purge air from the body. The flow rate may be reduced.
- Be sure to set the pilot air pressure within the specified range. Troubles or damages may be caused.

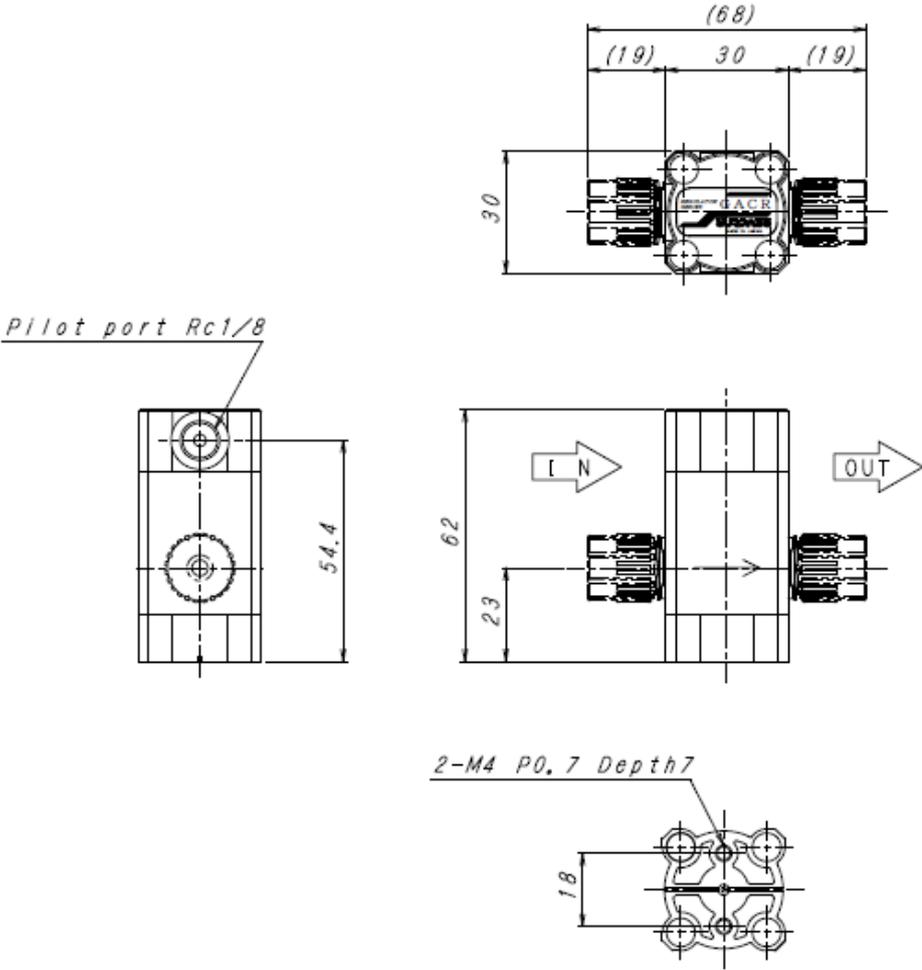
3. Specifications (not including fittings)

MODEL	GACR2-2P300P-SHT	GACR2-3P300P-SHT
Applicable fluid	Liquid (D.I. water, Chemicals)	
Tube size	1/4" (φ 6.35 × φ 3.95)	3/8" (φ 9.53 × φ 6.35)
Operating flow rate	10 ~ 2000mL/min	0.1 ~ 5L/min
Operating fluid temperature	15 to 180°C	
Operating environment temperature	15 to 60°C	
Operating inlet pressure	100 to 350kPa	
Pilot air pressure	500kPa	
Withstanding pressure	400kPa	
Wetted parts	PTFE	
Pilot port	Rc1/8	

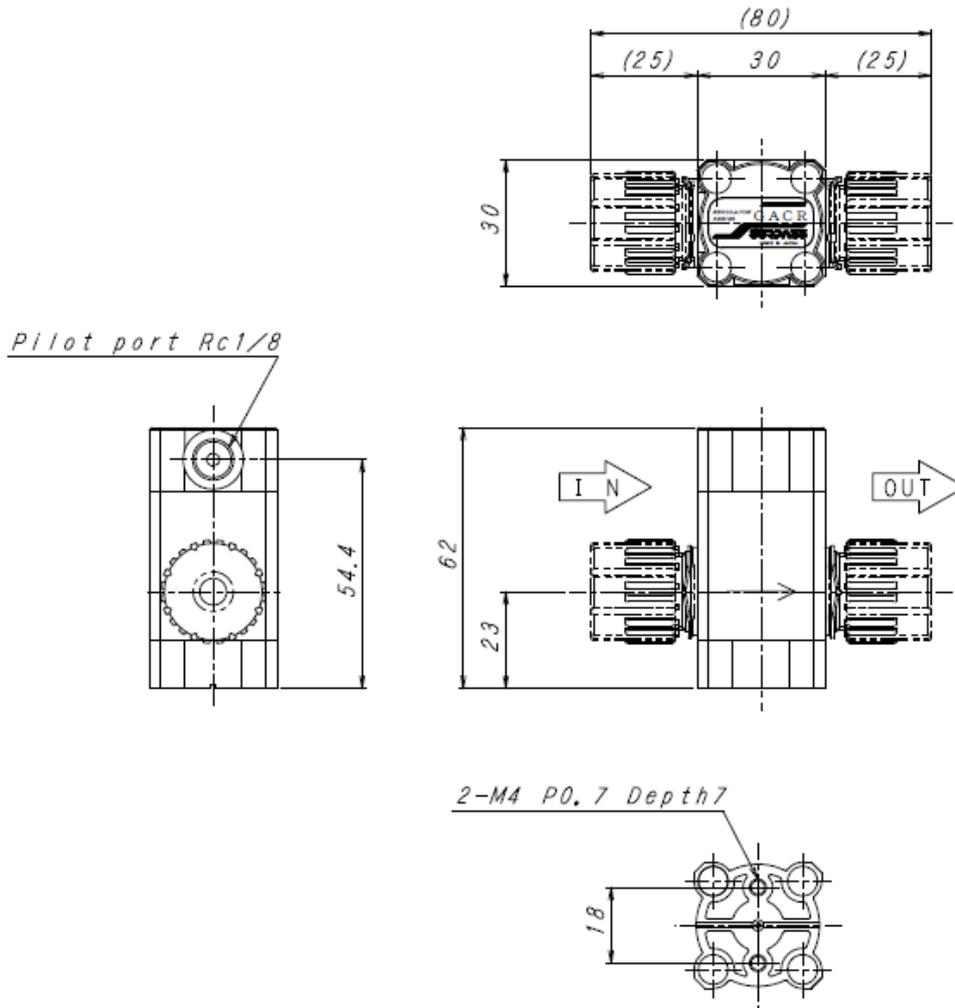
- These specifications are not including fittings. Withstanding pressure and temperature are depending on each fitting manufacture.

	Because the product is damaged on the condition that a fluid temperature change occurs rapidly, please don't use it in that condition.
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<External Dimensions>



<GACR2-2P300P-SHT>



<GACR2-3P300P-SHT>

4. 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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