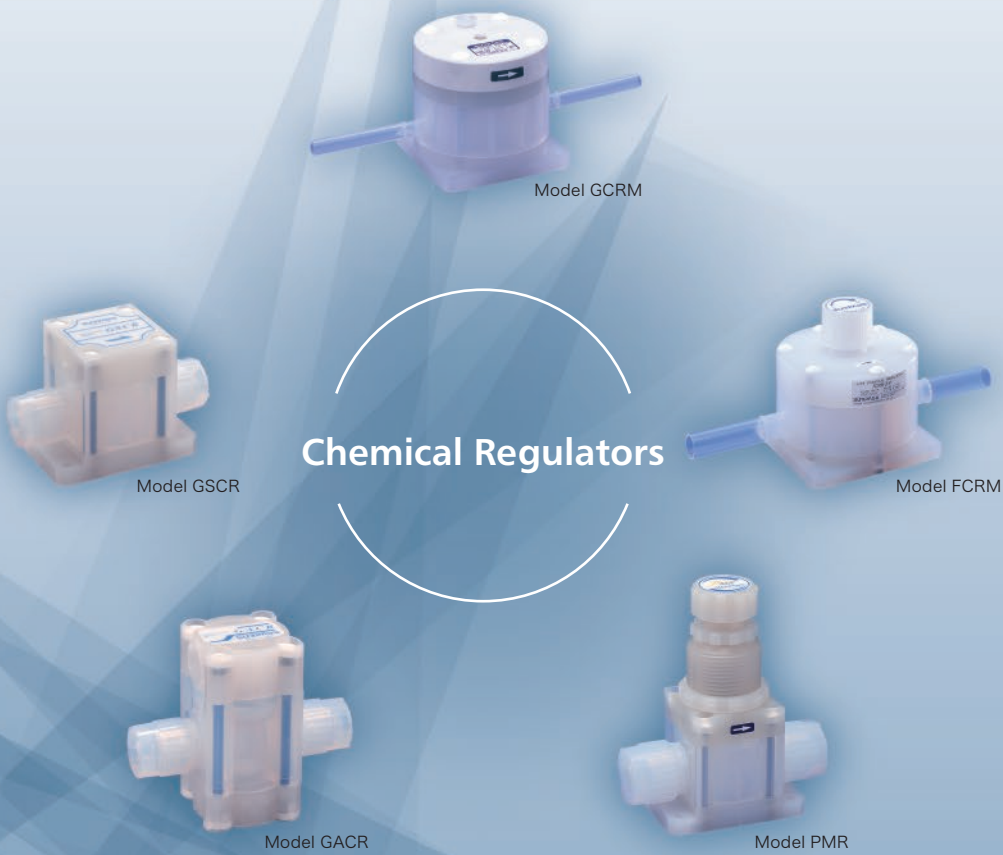


# Regulators



Model Selection Table .....	P.94
Model FCRM Regulator .....	P.95
Model FCRM / FCR-25AP300P-HP Regulator .....	P.96
Model GCRM / GCR-25AP300P-HP2 Regulator .....	P.97
Model PMR Regulator .....	P.98

Model GSCR Regulator .....	P.99
Model GACR Regulator .....	P.100
Model GACR-SHT Regulator .....	P.101
· Safety Instructions .....	P.102

# Regulators

**Model Selection Table**

Product name	Product summary	Operation method	Tube size	Connection type	Flow range	Inlet pressure	Outlet pressure	Fluid temperature	Model
Chemical Regulator	Constant pressure control valve	Manual	1/4"	Tube fitting	10~1000mL/min	100~400kPa	30~100kPa	10~70℃	FCRM
			3/8"		1~5L/min				
			1/2"		4~15L/min				
			3/4"		10~30L/min				
			3/4"	Pillar fitting	4~30L/min	100~500kPa	50~200kPa	10~50℃	FCRM-HP
		Pneumatic	1"		15~60L/min				FCR-25AP300P-HP
			3/4"	Tube fitting	4~30L/min	100~500kPa	50~400kPa	10~50℃	GCRM-HP2
			1"	Pillar fitting	15~60L/min				GCR-25AP300P-HP2
Mini Chemical Regulator	Compact pressure reducing valve	Manual	1/4"	Pillar fitting	10~2000mL/min	100~600kPa	50~300kPa	10~90℃	PMR
			3/8"		1~10L/min				
			1/2"		1~15L/min				
		Pneumatic	1/4"	Pillar fitting	10~2000mL/min	100~500kPa	50~300kPa	10~90℃	GSCR
			3/8"		1~10L/min				
			1/2"		1~15L/min				
			1/4"	Pillar fitting	10~2000mL/min	100~500kPa	50~300kPa	15~90℃	GACR
			3/8"		0.1~5L/min				
			1/4"	Pillar fitting	10~2000mL/min	100~350kPa	50~300kPa	15~180℃	GACR-SHT

※Pillar fitting means Pillar Super 300 Type P series.

**Special instructions**


○ In case selling products with inner diameters of more than 10mm to a specific country or region, it is required an export license from the Ministry of Economy, Trade and Industry.

# Model FCRM Regulator

RoHS2



FCRM-3/4

## Features

- Constant-pressure control valve for DI water and chemicals.
- Controls the outlet pressure to be constant, suppressing the pressure fluctuation of the inlet pressure.
- Manually operated type with the knob to adjust the outlet pressure setting.

## Specifications

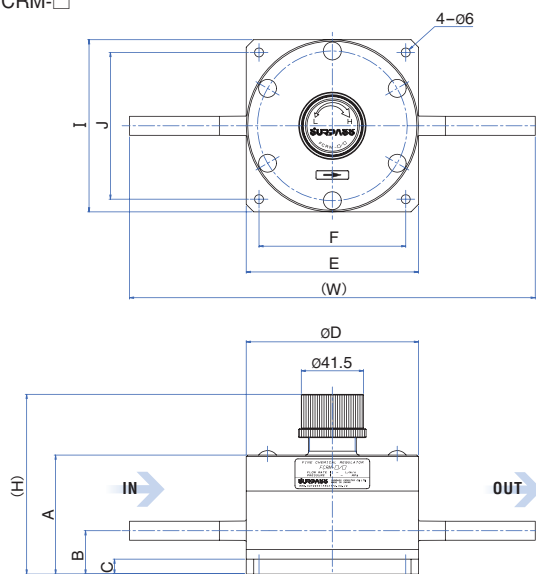
Wetted parts	PTFE, PCTFE, PFA (PCTFE used only for 1/4" and 3/8")
Fluids	DI water, Chemicals
Fluid temperature	10~70℃
Ambient temperature	10~40℃
Inlet pressure range	100~400kPa
Outlet pressure range	30~100kPa *depending on certain condition
Withstanding pressure	500kPa

## Models

Type	Tube size	Connection type	Flow range
FCRM-1/4	1/4" (Ø6.35×Ø3.95)	Tube fitting	10~1000mL/min
FCRM-3/8	3/8" (Ø9.53×Ø6.35)	Tube fitting	1~5L/min
FCRM-1/2	1/2" (Ø12.7×Ø9.53)	Tube fitting	4~15L/min
FCRM-3/4	3/4" (Ø19.05×Ø15.9)	Tube fitting	10~30L/min

## Dimensions

●FCRM-□



Type	A	B	C	ØD	E	F	(H)	I	J	(W)
FCRM-1/4	65.6	25	8	Ø87	87	72	101~106	87	72	233
FCRM-3/8	65.6	25	8	Ø87	87	72	101~106	87	72	227
FCRM-1/2	79.5	29	10	Ø115	115	98	115~120	115	98	271
FCRM-3/4	79.5	29	10	Ø115	115	98	115~120	115	98	271

## Special instructions



- Leak rate of valve seat is less than 1mL/min. (water pressure)
- The regulator does not have shut-off function. (It is not design to be completely closed.)
- In case selling products with inner diameters of more than 10mm to a specific country or region, it is required an export license from the Ministry of Economy, Trade and Industry.

# Model FCRM / FCR-25AP300P-HP Regulator RoHS2



FCRM-3/4-HP

## Features

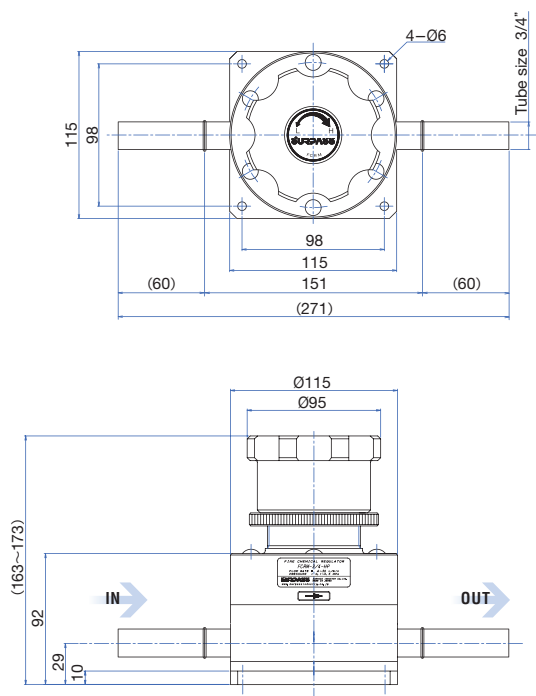
- ⦿ High pressure specified manual type constant pressure control valve, the size of 3/4" and 1".
- ⦿ This model is suitable to control high rate flow.

## Specifications

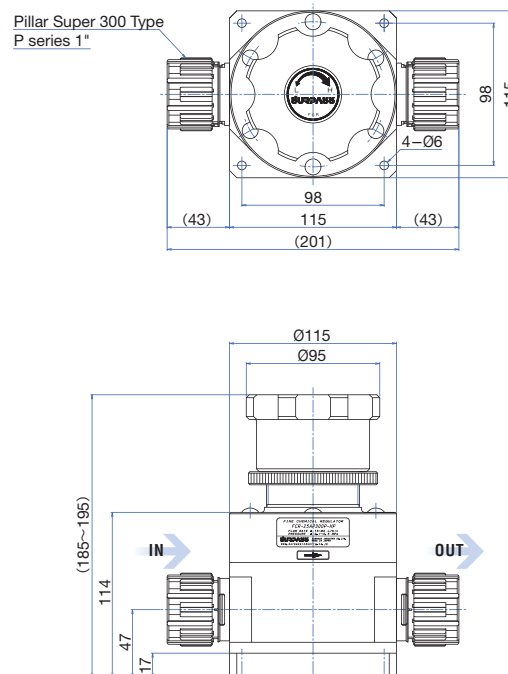
Type	FCRM-3/4-HP	FCR-25AP300P-HP
Fluids	DI water, Chemicals	DI water
Flow range	4~30L/min	15~60L/min
Inlet pressure range	100~500kPa	
Outlet pressure range	50~200kPa *Depending on certain condition	
Withstanding pressure	600kPa	
Fluid temperature	10~50℃	
Ambient temperature	10~40℃	
Wetted parts	PFA, PTFE	PTFE
Tube size	3/4" (Ø19.05×Ø15.9)	1" (Ø25.4×Ø22.2)
Connection type	Tube fitting	Pillar fitting

## Dimensions

### ●FCRM-3/4-HP



### ●FCR-25AP300P-HP



### ●Special instructions



- ⦿ Leak rate of valve seat is less than 1mL/min. (water pressure)
- ⦿ The regulator does not have shut-off function. (It is not design to be completely closed.)
- ⦿ In case selling products with inner diameters of more than 10mm to a specific country or region, it is required an export license from the Ministry of Economy, Trade and Industry.

# Model GCRM / GCR-25AP300P-HP2 Regulator RoHS2



GCRM-3/4-HP2

## Features

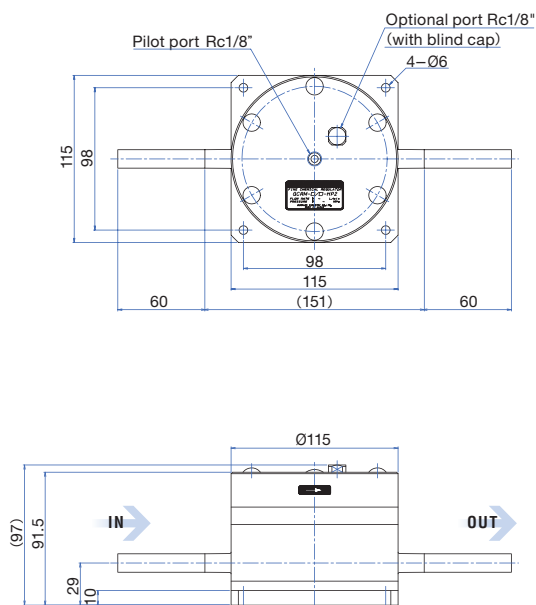
- ⦿ High pressure specified manual type constant pressure control valve, the size of 3/4" and 1".
- ⦿ This model is suitable to control high rate flow.

## Specifications

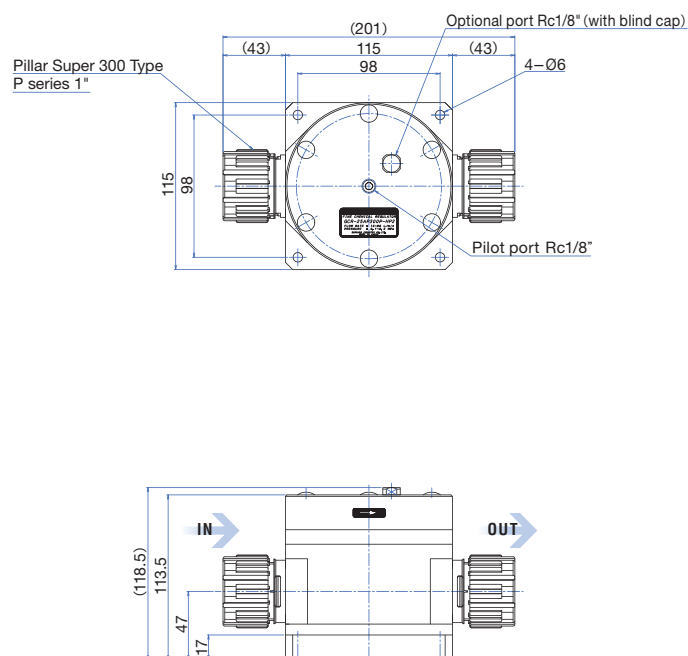
Type	GCRM-3/4-HP2	GCR-25AP300P-HP2
Fluids	DI water, Chemicals	DI water
Flow range	4~30L/min	15~60L/min
Inlet pressure range	100~500kPa	
Outlet pressure range	50~400kPa *Depending on certain conditions	
Withstanding pressure	600kPa	
Pilot pressure range	Max.400kPa	
Fluid temperature	10~50°C	
Ambient temperature	10~40°C	
Wetted parts	PFA, PTFE	PTFE
Tube size	3/4" (Ø19.05×Ø15.9)	1" (Ø25.4×Ø22.2)
Connection type	Tube fitting	Pillar fitting
Pilot port	Rc1/8	

## Dimensions

### ● GCRM-3/4-HP2



### ● GCR-25AP300P-HP2



### ● Special instructions



- ⦿ Leak rate of valve seat is less than 1mL/min. (water pressure)
- ⦿ The regulator does not have shut-off function. (It is not design to be completely closed.)
- ⦿ In case selling products with inner diameters of more than 10mm to a specific country or region, it is required an export license from the Ministry of Economy, Trade and Industry.

# Model PMR Regulator

RoHS2



PMR4-3P300P

## Features

- The compact pressure reducing valve has been corresponded to reasonable by the molding.
- Manually operated type with the knob to adjust the outlet pressure setting.
- This particular model is excellent in constant-pressure control and stability.
- The pressure loss has been reduced due to the lower retention part adopted for the flow structure.
- The inlet pressure range is compatible with high pressure.

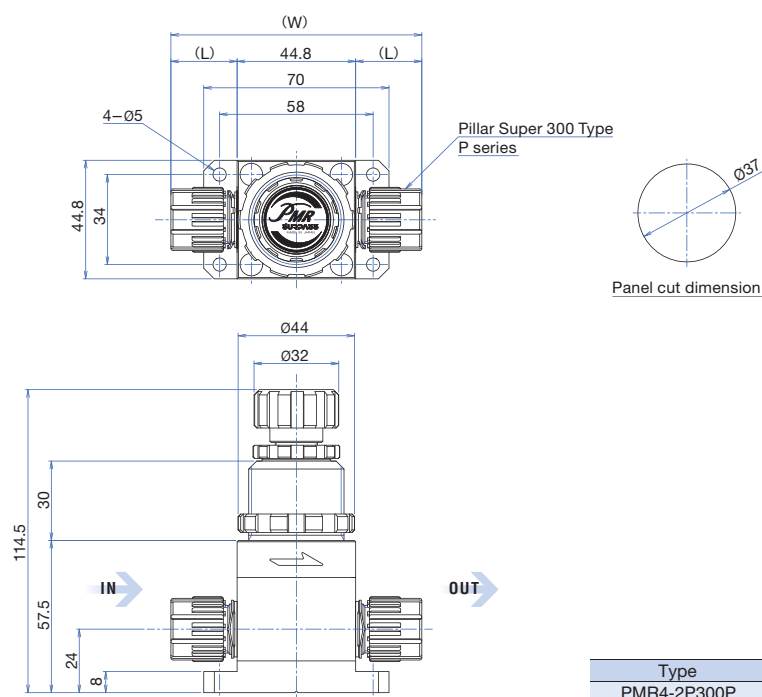
## Specifications

Wetted parts	PTFE, PFA	Ambient temperature	10~60℃
Fluids	DI water, Chemicals	Inlet pressure range	100~600kPa
Fluid temperature	10~90℃	Withstanding pressure	800kPa

## Models

Type	Tube size	Connection type	Flow range	Outlet pressure range *depending on certain conditions
PMR4-2P300P	1/4" (Ø6.35×Ø3.95)	Pillar fitting	10~2000mL/min	50~300kPa
PMR4-3P300P	3/8" (Ø9.53×Ø6.35)	Pillar fitting	1~10L/min	50~300kPa
PMR4-4P300P	1/2" (Ø12.7×Ø9.53)	Pillar fitting	1~15L/min	50~300kPa

## Dimensions



Type	(L)	(W)
PMR4-2P300P	19	83
PMR4-3P300P	25	94.8
PMR4-4P300P	29	102.8

### Special instructions



- Leak rate of valve seat is less than 1mL/min. (water pressure)
- The regulator does not have shut-off function. (It is not design to be completely closed.)

# Model GSCR Regulator

RoHS2



GSCR

## Features

- The compact pressure reducing valve has been corresponded to reasonable by the molding.
- It is a pneumatic type.
- This particular model is excellent in constant-pressure control and stability.
- The pressure loss has been reduced due to the lower retention part adopted for the flow structure.

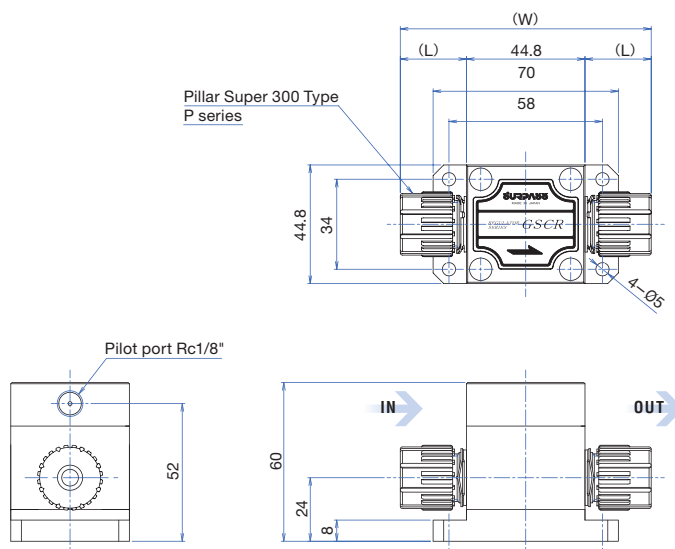
## Specifications

Wetted parts	PTFE, PFA	Inlet pressure range	100~500kPa
Fluids	DI water, Chemicals	Withstanding pressure	600kPa
Fluid temperature	10~90°C	Pilot pressure range	Max.400kPa
Ambient temperature	10~60°C	Pilot port	Rc1/8

## Models

Type	Tube size	Connection type	Flow range	Outlet pressure range *depending on certain conditions
GSCR4-2P300P	1/4" (Ø6.35×Ø3.95)	Pillar fitting	10~2000mL/min	50~300kPa
GSCR4-3P300P	3/8" (Ø9.53×Ø6.35)	Pillar fitting	1~10L/min	50~300kPa
GSCR4-4P300P	1/2" (Ø12.7×Ø9.53)	Pillar fitting	1~15L/min	50~300kPa

## Dimensions



Type	(L)	(W)
GSCR4-2P300P	19	83
GSCR4-3P300P	25	95
GSCR4-4P300P	29	103

### Special instructions



- Leak rate of valve seat is less than 1mL/min. (water pressure)
- The regulator does not have shut-off function. (It is not design to be completely closed.)



# Model GACR Regulator

RoHS2



GACR2-2P300P

## Features

- The industry's smallest class pressure reduction control valve that is minimized footprint and reasonable price by the molding.
- It is a compact pneumatic operated type with improved stability.

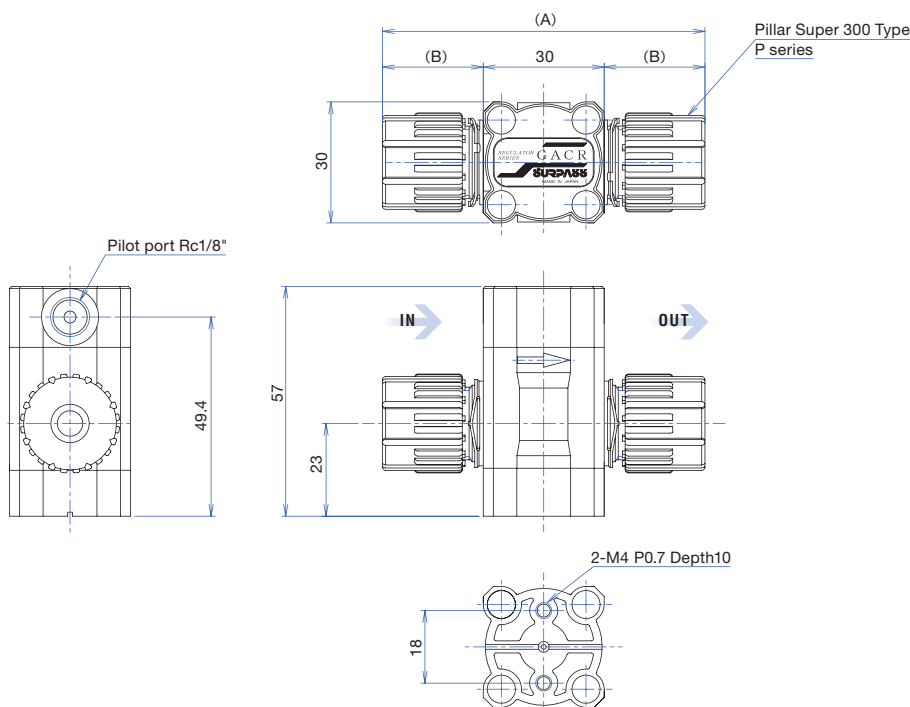
## Specifications

Wetted parts	PTFE, PFA	Inlet pressure range	100~500kPa
Fluid	DI water, Chemicals	Withstanding pressure	700kPa
Fluid temperature	15~90℃	Pilot pressure range	Max.500kPa
Ambient temperature	10~60℃	Pilot port	Rc1/8

## Models

Type	Tube size	Connection type	Flow range	Outlet pressure range *depending on certain conditions
GACR2-2P300P	1/4" (Ø6.35×Ø3.95)	Pillar fitting	10~2000mL/min	50~300kPa
GACR2-3P300P	3/8" (Ø9.53×Ø6.35)	Pillar fitting	0.1~5L/min	50~300kPa

## Dimensions



Type	(A)	(B)	Pillar size
GACR2-2P300P	68	19	1/4"
GACR2-3P300P	80	25	3/8"

## Special instructions



- Leak rate of valve seat is less than 1mL/min. (water pressure)
- The regulator does not have shut-off function. (It is not design to be completely closed.)



# Model GACR-SHT Regulator



GACR2-2P300P-SHT

## Features

- The industry's smallest class pressure reducing control valve with a minimal footprint (□30).
- It is a compact pneumatic operated type with improved stability.
- It can be used up to Max.180℃.

## Specifications

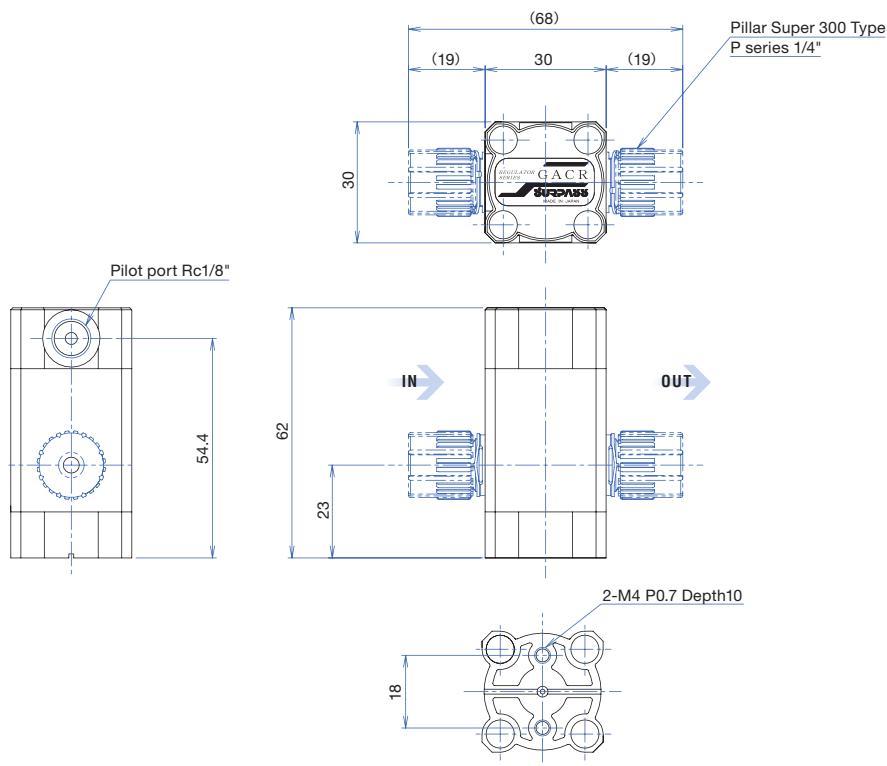
Wetted parts	PTFE	Inlet pressure range	100~350kPa
Fluid	DI water, Chemicals	Withstanding pressure	400kPa
Fluid temperature	15~180℃	Pilot pressure range	Max.500kPa
Ambient temperature	15~60℃	Pilot port	Rc1/8

※The above specifications exclude fittings, and the heat and pressure resistance of fittings are depending on the manufacturer.

## Models

Type	Tube size	Connection type	Flow range	Outlet pressure range *depending on certain conditions
GACR2-2P300P-SHT	1/4" (Ø6.35×Ø3.95)	Pillar fitting	10~2000mL/min	50~300kPa

## Dimensions



## ●Special instructions



- Leak rate of valve seat is less than 1mL/min. (water pressure)
- The regulator does not have shut-off function. (It is not design to be completely closed.)
- Be sure to use within the ambient temperature range.

# Regulators

## ● Safety Instructions



- Before using the product, read the instruction manual carefully and use it correctly.  
We are not liable for accidents that occurred during use other than those described in the instruction manual.
- Use this product within the specified range.
- Confirm the compatibility of the product material with the type of fluid and ambient atmosphere before use.
- Do not use fluids that contain refuse or foreign matter, as this may interfere with normal function.
- Abrasive or coagulate fluids may interfere with normal function, and take measures to prevent stacking residue on the wetted parts.
- Do not use the product in a harsh environment where fluid temperature changed rapidly or a heat cycle occurs, as this may cause damage to the product.
- Do not use the product in an environment where excessive pressure or water hammer is generated.
- Do not place heavy objects on the product top.
- When tubing, allow the fluid to flow in the direction mark (→) imprinted on the main unit.
- Connect this product not to apply any bending, tensile or compression, and other forces on the valve.
- Do not use the product with excessive vibration or shock.
- It is not recommended any fluids splash to the main body.
- Periodic inspection should be performed for safety when using chemical solution with high permeability for long time.
- Use air or inert gas that has passed through a filter with 5 $\mu$ m or more filtration for operation air.
- When mounting a male thread to join parts, use a paring female thread made of PTFE, PFA, PCTFE, PE or PP instead of the rigid materials such as metallic. Tighten the male thread with correct value of torque. Excessive tightening may break the product.
- The regulator does not have shut-off function. Leak of valve seat is less than 1mL/min. (water pressure)
- Do not disassemble the product.
- If static electricity is generated, the equipment may seriously damage.  
Please use after applying antistatic measures.
- Be sure to use this product within the ambient temperature range.
- Do not warm up the product directly from the outside. It may cause external or internal leakage failure.

• Pillar Super 300 Type P series is a trademark of Nippon Piller Co., Ltd.