



FUJIKURA COMPOSITES

# PRECISION AIR REGULATOR

**RP** SERIES

- ▶ Highly accurate pressure control
- ▶ Direct acting, and Non-bleeding type

**FUJIKURA RUBBER LTD.**



## PRECISION AIR REGULATOR



### FEATURES

- **Accurate Pressure Regulation**  
Repeatability: within  $\pm 0.5\%$  F.S.
- **Superior Supply Pressure Characteristics**  
output pressure variation to changes in supply pressure: within 0.5kPa
- **Excellent Non-Bleed Pressure Regulation**  
Generates a Zero-based precision output pressure unmatched by any other direct acting type of regulators.
- **Free from Dust Trouble**  
Incorporated Screen Filter assures long trouble-free operation.

### SPECIFICATIONS

TYPE	Relieving	RP-0.5-2	RP-2-2	RP-4-2	RP-7-2
	Non-Relieving	RP·NR-0.5-2	RP·NR-2-2	RP·NR-4-2	RP·NR-7-2
Working Fluid	Clean Compressed Air				
Set Pressure Range MPa		0.05	0.2	0.4	0.7
Supply Pressure Range MPa		0.5 max.	1 max.		
Repeatability % F.S.	Within $\pm 0.5$				
Sensitivity % F.S.		Within 1	Within 0.5		Within 0.3
Operating Temperature °C	5 ~ 60				
Pipe Port	Rc	1 / 4			
Gauge Port	Rc	1 / 4 (2 Ports)			
Bracket	Standard Equipment				
Weight kg	0.41				

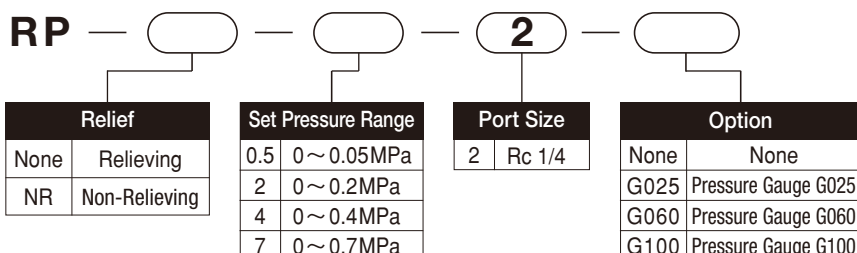
Note : When you use extreme low pressure, Please consult us at the address printed on the back cover.

### PRESSURE GAUGE (OPTION)

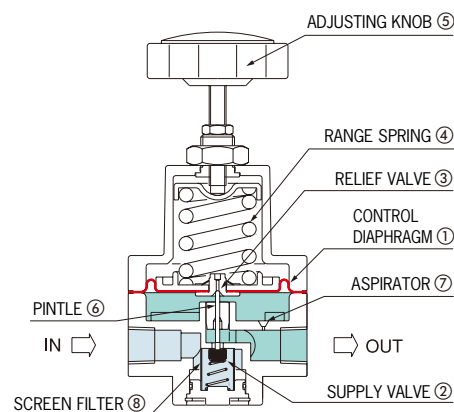
- **Accuracy**  $\pm 1.6\%$  F.S.

Opt. No.	G025	G060	G100
Unit	MPa		
Pressure Range	0 ~ 0.25	0 ~ 0.6	0 ~ 1
Min. Graduation	0.005	0.01	0.02

### MODEL DESIGNATION



### EXPLANATORY CONSTRUCTION AND PRINCIPLE OF OPERATION



Range spring ④, which has been compressed by Adjusting knob ⑤, causes Pintle ⑥ to move downward, opening Supply valve ② and allowing air flow to the downstream. The pressure builds up against Control diaphragm ① until Supply valve ② closes.

This is the equilibrium or set pressure, which is closely maintained under changes in operating conditions in the following manner.

#### 1. Downstream Pressure Drop

A drop in downstream pressure reduces the diaphragm pressure force, upsetting the equilibrium condition.

This unbalance causes Supply valve ② to open until the pressure builds up once more to the set value.

#### 2. Downstream Pressure Increase

An increase in downstream pressure acts on Control diaphragm ①, causing the relief seat to lift and Relief valve ③ to open.

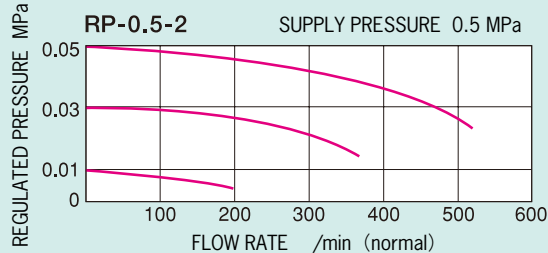
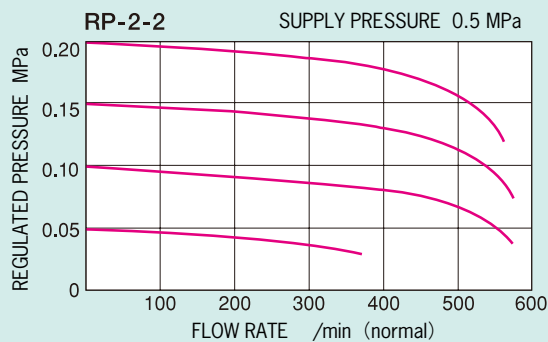
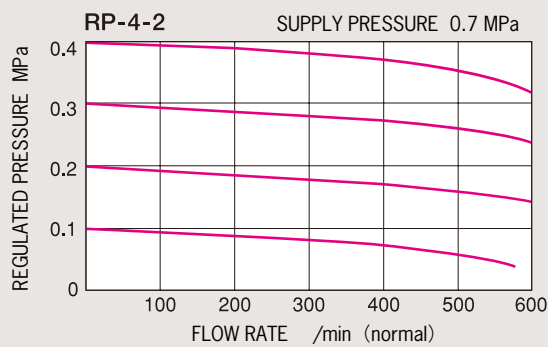
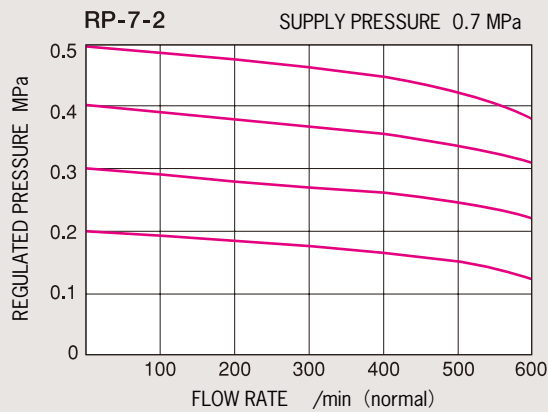
The excess pressure drops quickly to the set value.

#### 3. Changes in Forward Flow

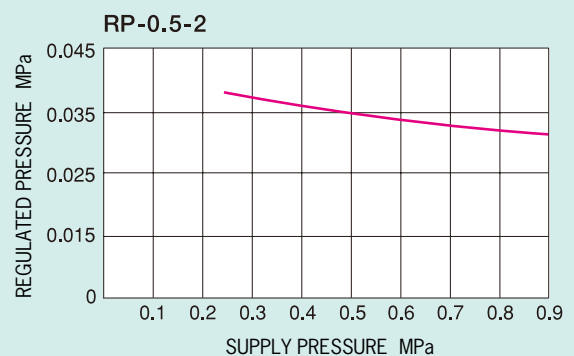
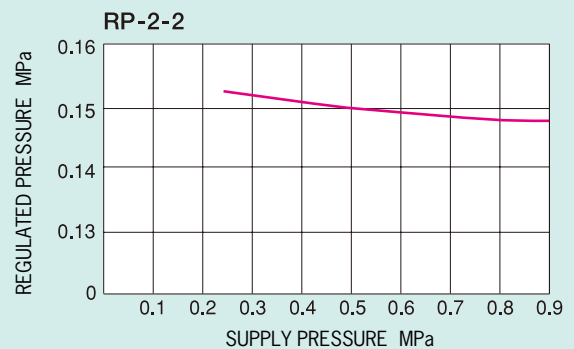
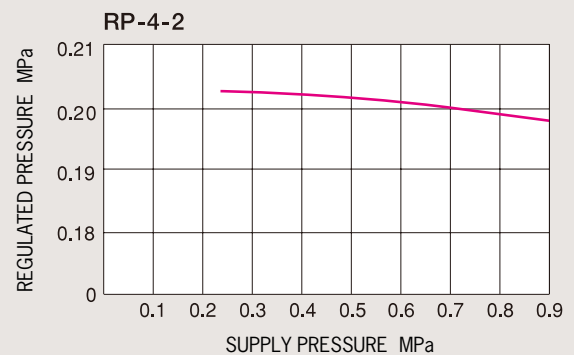
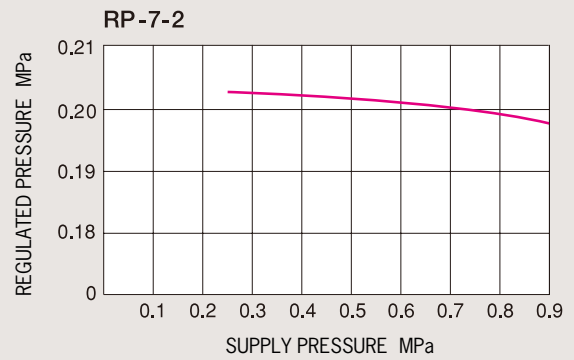
Under stable forward flow condition, the range spring force is balanced by the diaphragm pressure force, with Supply valve ② open just enough to maintain the required equilibrium pressure.

When high flow occurs, Aspirator ⑦ helps maintain downstream pressure and compensates for droop.

## Flow Characteristic



## Pressure Characteristic

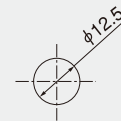
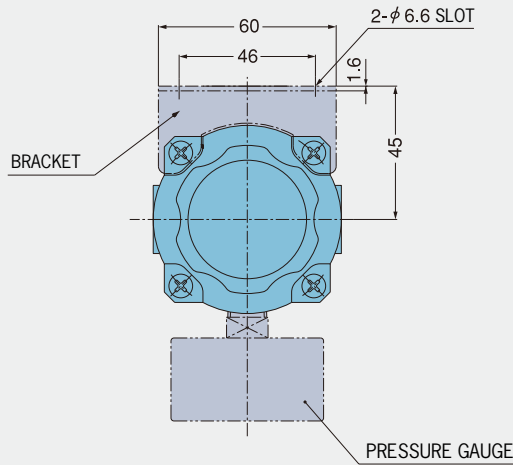


## CAUTION

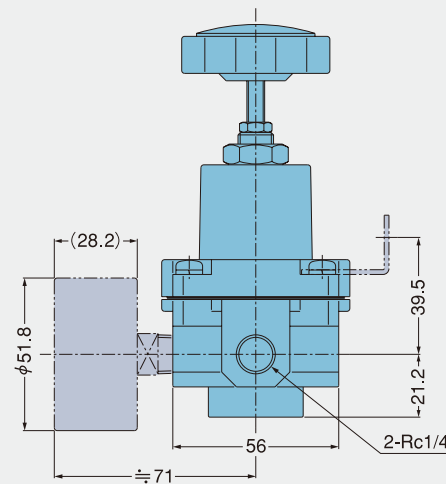
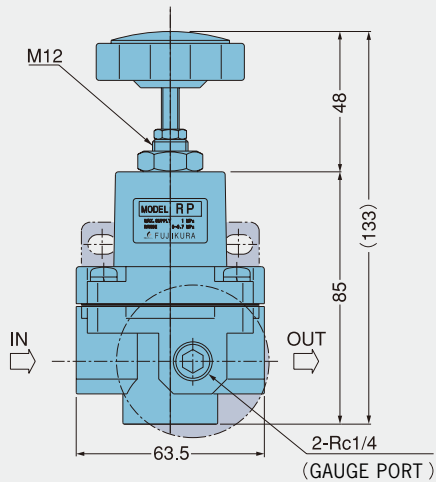
- ① Flush out all air lines thoroughly to remove dirt and scale before installation is made.
- ② Do not apply shock load on the top of fully tightened Adjusting knob to avoid possible damage of inner parts.
- ③ When attaching Mounting bracket to the body with two pan head screws which serve also for tightening Bonnet, make sure the screws are not tightened too hard.

☆ If you have any question, FUJIKURA are ready to assist you. Please consult us at the address printed on the back cover.

(Unit : mm)



PANEL MOUNTING HOLE  
(Panel Thickness : 3 max.)



**Fujikura's Pneumatic Control Products Line**

- |  |                            |
|--|----------------------------|
| ■ Precision Pneumatic Control Products General Guide | Cat. No. KS-572E           |
| ■ Super Precision Air Regulators                     | } Cat. No. KS-128E         |
| ■ Super Precision Air Relays                         |                            |
| ■ Precision Electro-Pneumatic Transducers            | Series RT Cat. No. KS-130E |
| ■ Precision Vacuum Pressure Regulators               | Series RV Cat. No. KS-131E |
| ■ Precision BF Cylinders                             | Series FC Cat. No. KS-570E |

[Please request respective catalog for detailed contents of each product.]



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