PRECISION AIR REGULATOR

RP SERIES

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

FUJIKURA COMPOSITES

CAT. No. KS-129E

FUJIKURA RUBBER LTD.
FEATURES

- **Accurate Pressure Regulation**
  Repeatability: within ±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

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Relieving</th>
<th>RP-0.5-2</th>
<th>RP-2-2</th>
<th>RP-4-2</th>
<th>RP-7-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>TERM</td>
<td>Non-Relieving</td>
<td>RP-NR-0.5-2</td>
<td>RP-NR-2-2</td>
<td>RP-NR-4-2</td>
<td>RP-NR-7-2</td>
</tr>
</tbody>
</table>

- **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 ±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**: ±1.6% F.S.

<table>
<thead>
<tr>
<th>Opt. No.</th>
<th>G025</th>
<th>G060</th>
<th>G100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit</td>
<td>MPa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pressure Range</td>
<td>0 ~ 0.25</td>
<td>0 ~ 0.6</td>
<td>0 ~ 1</td>
</tr>
<tr>
<td>Min. Graduation</td>
<td>0.005</td>
<td>0.01</td>
<td>0.02</td>
</tr>
</tbody>
</table>

MODEL DESIGNATION

RP - - - 2 - -

<table>
<thead>
<tr>
<th>Relief</th>
<th>Set Pressure Range</th>
<th>Port Size</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>0.5 0 ~ 0.05MPa</td>
<td>2 Rc 1/4</td>
<td>None</td>
</tr>
<tr>
<td>NR</td>
<td>2 0 ~ 0.2MPa</td>
<td></td>
<td>G025</td>
</tr>
<tr>
<td></td>
<td>4 0 ~ 0.4MPa</td>
<td></td>
<td>G060</td>
</tr>
<tr>
<td></td>
<td>7 0 ~ 0.7MPa</td>
<td></td>
<td>G100</td>
</tr>
</tbody>
</table>

EXPLANATORY CONSTRUCTION AND PRINCIPLE OF OPERATION

Range spring ④, which has been compressed by adjusting knob ③, causes pintle ⑩ to move downward, opening supply valve ⑨ and allowing air flow to the downstream. The pressure builds up against control diaphragm ⑩ until supply valve ⑨ 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 ⑨ 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 ⑩, causing the relief seat to lift and relief valve ② to open.
   - The excess pressure drops quickly to the set value.

3. **Changes in Forward Flow**
   - Under stable forward flow condition, the range spring ④, which is balanced by the diaphragm pressure force, with supply valve ⑨ open just enough to maintain the required equilibrium pressure.
   - When high flow occurs, aspirator ⑦ helps maintain downstream pressure and compensates for droop.
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.
Fujikura’s Pneumatic Control Products Line

- Precision Pneumatic Control Products General Guide  Cat. No. KS-572E
- Super Precision Air Regulators  Series RS  Cat. No. KS-128E
- Super Precision Air Relays  Series RR  Cat. No. KS-128E
- 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.]