

**Pneumatic Division**  
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**Installation & Service Instructions:**  
**IS-2R205**  
**High Precision Regulators**  
**ISSUED: July, 2004**  
**Supersedes: April, 2004**  
 Doc.# 2R205, ECN# 040593, Rev. 2

**⚠ WARNING**

To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

**⚠ WARNING**

Product rupture can cause serious injury.  
 Do not connect regulator to bottled gas.  
 Do not exceed maximum primary pressure rating.

**Introduction**

Follow these instructions when installing, operating, or servicing the product.

**Application Limits**

These products are intended for use in general purpose compressed air systems only.

<b>Operating Pressure Range:</b>	<b>PSIG</b>	<b>bar</b>
<b>PRIMARY – Maximum</b>	150	10.34
<b>SECONDARY – Spring Pressure</b>		
<b>40 PSIG Minimum</b>	2	0.14
<b>Maximum</b>	40	2.76
<b>120 PSIG Minimum</b>	2	0.14
<b>Maximum</b>	120	8.27

**Operating Temperature Range:**

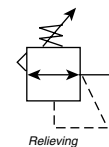
-18°C † to 65°C (0°F to 150°F)

† Temperatures below 0°C (32°F) require moisture free air.

**Installation:**

1. Regulator should be installed with reasonable accessibility for service whenever possible — repair service kits are available. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe — never into the female port. Do not use PTFE tape to seal pipe joints — pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction.
2. Install regulator so that air flows from “IN” to “OUT” as marked on the regulator. Installation must be upstream from devices it is to service (lubricator, valve, cylinder or tool), and mounted closely to these devices. Mounting may be in any position.
3. Gauge ports are located on both sides of the regulator body for your convenience. It is necessary to install a gauge or pipe plug into each port during installation.
4. Remove plastic plug from vent hole in bonnet.
5. For protection against rust, pipe scale and other foreign matter, install a filter on the upstream (high pressure) side as closely to the regulator as possible.

**ANSI Symbols**



**Service Kits / Accessories:**

<b>Service Kits</b>	
2-40 PSIG	RKR210A*
2-120 PSIG	RKR210C*
2-120 PSIG High Relieving	RKR220C*
<b>Mounting Brackets</b>	
Pipe Mounting	SA200YW57
Right Angle Mounting	446-707-045

\* Parts in Kit

**⚠ WARNING**

**FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

**EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.**

## Operation

1. Before turning on the air supply, turn the adjusting knob counterclockwise until compression is released from the control spring. Then turn on air supply and adjust regulator to desired secondary pressure by turning adjusting knob clockwise. This permits pressure to build up slowly, preventing any unexpected operation of the valve, cylinders, tools, etc., attached to the line. Adjustment to desired secondary pressure can be made only with primary pressure applied to the regulator.
2. To decrease regulator pressure setting, always reset from a pressure lower than the final setting desired. For example, lowering the secondary pressure from 5.5 to 4.1 bar (80 to 60 PSIG) is best accomplished by dropping the secondary pressure to 3.5 kPa (50 PSIG), then adjusting upward to 4.1 bar (60 PSIG).

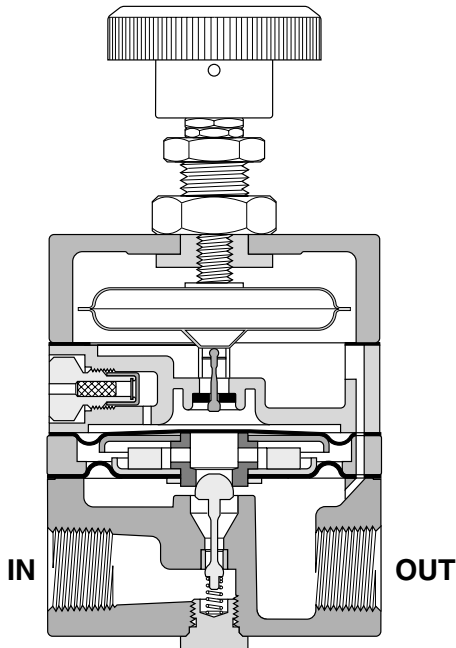


Figure 1

### CAUTION

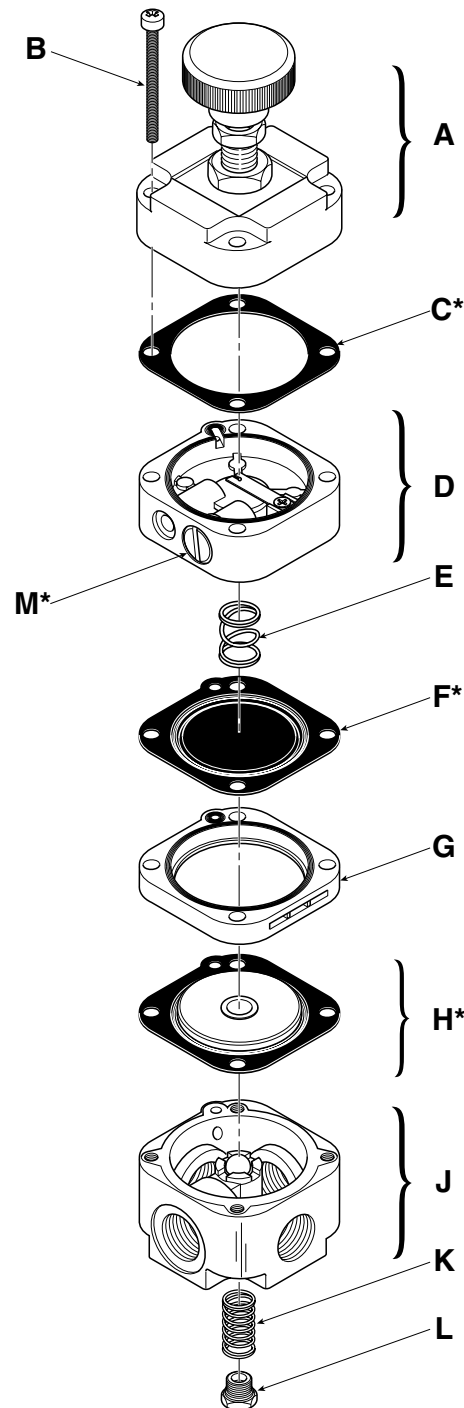
**REGULATOR PRESSURE ADJUSTMENT** - The working range of the knob adjustment is designed to permit outlet pressures within their full range. Pressure adjustment beyond this range is also possible because the knob is not a limiting device. This is a common characteristic of most industrial regulators, and limiting devices may be obtained only by special design.

## Service: (Always vent all air pressure before servicing)

1. Turn the control knob (A) fully counterclockwise. Remove upstream air supply.
2. Remove four screws (B) holding the bonnet (A) in place. Remove bonnet assembly, gasket (C), balance control assembly (D), spring (E), protector diaphragm (F), diaphragm housing (G), and control diaphragm (H). Discard gasket (C), protector diaphragm (F), and control diaphragm (H).
3. Remove bleed screw (M) and discard.
4. Remove spring retainer (L) and spring (K).
5. Clean all retained parts with mild soap and water.
6. Install spring (K) and spring retainer (L) into body making sure that the spring is installed correctly, see Fig. 1. Tighten spring retainer 2.6 to 3.1 Nm (23 to 27 in-lbs).

7. Place the new control diaphragm (H) onto the body (K). Put diaphragm housing (G) on next followed by the new protector diaphragm (F) and spring (E). Put balance control assembly (D) on next then the new gasket (C) followed by bonnet assembly (A) and reassemble the four screws (B). Tighten screws 3.2 to 3.6 Nm (28 to 32 in-lbs) in progressive steps using a crisscross pattern.
8. Install new bleed screw (M). Tighten screw 1.5 to 1.9 Nm (13 to 17 in-lbs) in progressive steps using a crisscross pattern.
9. Admit inlet pressure and turn the adjusting knob (A) to obtain the desired pressure.

**NOTE:** A slight flow of air through the bonnet vent hole is necessary for proper operation of the regulator.



\* Parts in Service Kit

Figure 2