Pneumatic Division
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Installation and Service Instructions: IS-R35

R35, 1/8" & 1/4" Series Regulators

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⚠ 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 media source and depressurize all media 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, media 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.

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.wattsfluidair.com

Introduction

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

Application Limits

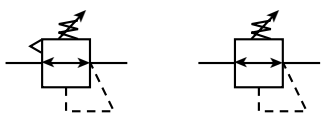
These products are intended for use in general purpose compressed media systems only.

Operating Pressure:

	kPa	PSIG	bar
Maximum Inlet Pressure	2068	300	21.0

Ambient Temperature Range: 4.4°C to 48.9°C

Symbols



Relieving Regulator Adjustable **Non-Relieving Regulator Adjustable**

Installation

1. The regulator should be installed with reasonable accessibility for service whenever possible - repair service kits are available. Keep pipe and 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 unit, possibly causing malfunction.
2. Install regulator so that media flow is in the direction of arrow. Installation must be upstream (high pressure) side and as close to the devices it is to service (valve, cylinder, tool, etc.). 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 plugs into each port during installation.
4. For protection against rust, pipe scale, and other foreign matter, install a filter on the upstream (high pressure) side as close to the regulator as possible.

Operation

1. Before turning on the media source, disengage the Adjusting Knob by pulling upward. Turn the Adjusting Knob counterclockwise until compression is released from the Control Spring. Then turn on media source 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 550 to 410 kPa (80 to 60 PSIG) is best accomplished by dropping the secondary pressure to 350 kPa (50 PSIG), then adjusting upward to 410 kPa (60 PSIG). Push the Adjusting Knob down to lock the pressure setting.

Reduced Pressure Spring Ranges

"A" Range = 0 – 25 PSI
"B" Range = 0 – 60 PSI
"C" Range = 0 – 125 PSI

⚠ 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.

Service

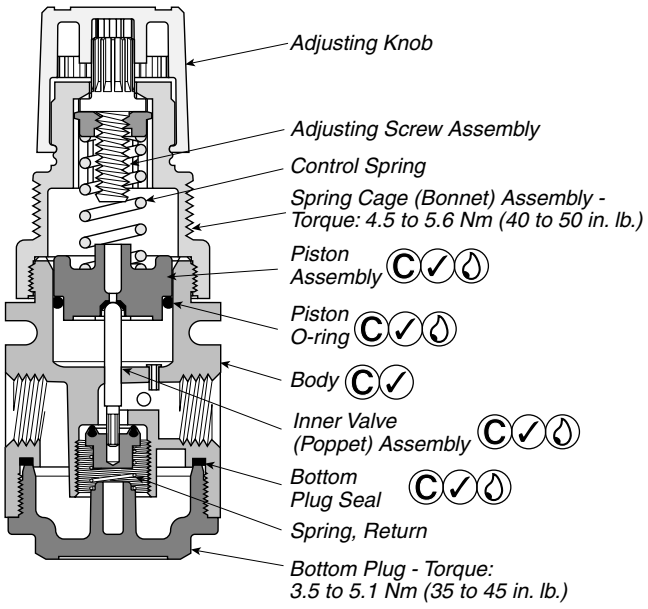
⚠ **Caution: Disconnect or shut off air supply and exhaust the primary and secondary pressures before servicing unit. Turning the Adjusting Knob counterclockwise does not vent downstream pressure on non-relieving regulators. Downstream pressure must be vented before servicing regulator.**

⚠ **Caution: Grease packets are supplied with kits for lubrication of seals. Use only mineral based grease or oils. Do not use synthetic oils such as esters. Do not use silicones.**

Note: After servicing unit, turn on air supply and adjust regulator to the desired downstream pressure. Check unit for leaks. If leakage occurs, do not operate - conduct repairs and retest.

A. Servicing the Bonnet and Piston Assembly

1. Disengage the Adjusting Knob by pulling upward. Turn Adjusting Knob counterclockwise until the compression is released from the Pressure Control Spring.
2. Unscrew the threaded Bonnet Assembly. Next, disassemble, clean, and carefully inspect parts for wear and / or damage. Wipe parts, clean with soapy water or denatured alcohol. If using compressed air to blow dry, be sure to wear appropriate eye protection. If replacement is necessary, use parts from service kits.
3. Lubricate Piston O-ring with grease (supplied with kits).
4. Install Piston and Pressure Control Spring into Body. Then install Bonnet Assembly to Body and tighten to 4.5 to 5.6 Nm (40 to 50 in. lb.).



💧 Lightly grease with provided lubricant.

✓ Inspect for nicks, scratches, and surface imperfections. If present, reduced service life is probable and future replacement should be planned.

Ⓒ Clean with lint-free cloth.

B. Servicing the Poppet Assembly

1. Exhaust system media pressure as previously described. Then remove Bottom Plug by unscrewing it from Body. Next, remove Bottom Plug Seal, Poppet Return Spring and Poppet Assembly.
2. Next, disassemble, clean, and carefully inspect parts for wear and / or damage. If replacement is necessary, use parts from service kits.
3. Lubricate O-ring and sliding surfaces using grease supplied with service kit.
4. Install parts as shown.
5. Lubricate Bottom Plug Seal and install it in o-ring groove in body. Be sure Disc Stem fits into center area of Piston Assembly before installing Bottom Plug. Install Return Spring, then screw Bottom Plug into Body until it bottoms out in body. Tighten to 3.5 to 5.1 Nm (35 to 45 in. lb.).
6. Turn on media source and adjust to desired secondary pressure as described in the **Operation** section. Check regulator for leakage. If leakage occurs, **DO NOT OPERATE** — conduct repairs again.

Service Kits / Parts Available

Description	R35, 1/8" & 1/4"
Regulator Repair Kit (Relieving)	RKR30
Regulator Repair Kit (Non-Relieving)	RKR30K
Spring Cage Kit (A Range)	CKR35A
Spring Cage Kit (B & C Range)	CKR35BC
Adjusting Knob	R35-0545P
Return Spring	SPR-445-1
Bottom Plug	R35-0021P
Bottom Plug Seal	GSK-504Z101

Accessories

Mounting Bracket / Nut	SA161X57
Panel Mount Nut	R05X51
Gauges 0 to 60 PSI (0 to 4 bar) 0 to 160 PSI (0 to 11 bar)	 K4515N18060 K4515N18160