

# WILKERSON®

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Installation & Service Instructions  
83-949-000

SB1 & SB2  
Filter / Regulator Series

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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 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.**

## 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.wilkerсонcorp.com](http://www.wilkerсонcorp.com)

## 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.

### Maximum Recommended Pressure Drop:

	kPa	PSIG	bar
Particulate Filter	70	10	0.7
Operating Pressure Maximum	kPa	PSIG	bar
Bowl w/ Twist Drain / No Sight Gauge	2068	300	21.0
Bowl w/ Autodrain / No Sight Gauge	1210	175	12.1
Bowl w/ Twist Drain and Sight Gauge	1700	250	17.0
Bowl w/ Autodrain and Sight Gauge	1210	175	12.1

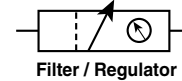
### Operating Temperature Range:

SB1-02-LYSO	0°F to 150°F (-18°C to 66°C)
SB1-02-LYSS	0°F to 180°F (-18°C to 82°C)
Auto Pulse Drain	32°F to 150°F (0°C to 66°C)
SB2-04-LLS0, with or without Sight Gauge	0°F to 150°F (-18°C to 66°C)
SB2-04-LLS0, without Sight Gauge	0°F to 180°F (-18°C to 82°C)
SB2-04-LLSS, with Sight Gauge	0°F to 150°F (-18°C to 66°C)
Automatic Float Drain	32°F to 150°F (0°C to 66°C)

Standard Size Low Temperature Operating Temperature: -40°C/F

Note: Air must be dry enough to avoid ice formation at temperatures below 32°F (0°C).

## Symbols



## Installation

1. The Filter / 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. Also, new pipe or hose should be installed between the Filter / Regulator and equipment being protected.
2. The upstream pipe work must be clear of accumulated dirt and liquids.
3. Select a Filter / Regulator location as close as possible to the equipment being protected.
4. Install Filter / Regulator so that air flows in the direction of arrow on body.
5. Install Filter / Regulator vertically with the bowl drain mechanism at the bottom. Free moisture will thus drain into the sump ("quiet zone") at the bottom of the bowl.
6. Gauge ports are located on both sides of the Filter / Regulator body for your convenience. It is necessary to install a gauge or socket pipe plugs into each port during installation.

## Operation

1. Both free moisture and solids are removed automatically by the filter.
2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the baffle or end cap.
3. The filter element should be removed and replaced when pressure differential across the filter is 69 kPa (10 PSIG).
4. Before turning on the air supply:
  - 4A. On SB1, disengage the adjusting knob by pulling upward. Turn adjusting knob counterclockwise until the compression is released from the pressure control spring.
  - 4B. On SB2, push down on the adjusting knob while turning knob counterclockwise until the compression is released from the pressure control spring. (Knob is locked when up.)
5. Then turn knob clockwise and adjust regulator to desired downstream pressure. This permits pressure to build up slowly in the downstream line.
6. To decrease regulated pressure settings, always reset from a pressure lower than the final setting required. 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).
7. When desired secondary pressure settings have been reached, push the knob down to lock this pressure setting on the SB1 or up to lock on the SB2.

## 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.

7. Install poppet return spring, poppet assembly, and filter holder. **IMPORTANT:** The Filter / Regulator will not operate properly if the deflector is not installed properly. The deflector must be installed between the filter stem and filter body.
8. Install filter element and firmly tighten baffle onto the filter stem.
9. Install diaphragm assembly into body assembly. Assemble bonnet assembly onto body and tighten per Figure 1.
10. Install bowl into body and tighten, hand tight, plus 1/4 turn.

**Servicing Filter Element - (Refer to Figure 1)**

1. Unscrew and remove bowl.
2. Unscrew the filter holder from body and then remove element.
3. Clean all internal parts and bowl before reassembling.
4. Install new element. **IMPORTANT:** The Filter / Regulator will not operate properly if the deflector is not installed properly. The deflector must be installed between the filter stem and the filter body.
5. Attach filter holder and finger tighten firmly.
6. Replace bowl seal. Lightly lubricate new seal to assist with retaining it in position.
7. Install bowl into body and tighten; hand tight, plus 1/4 turn.

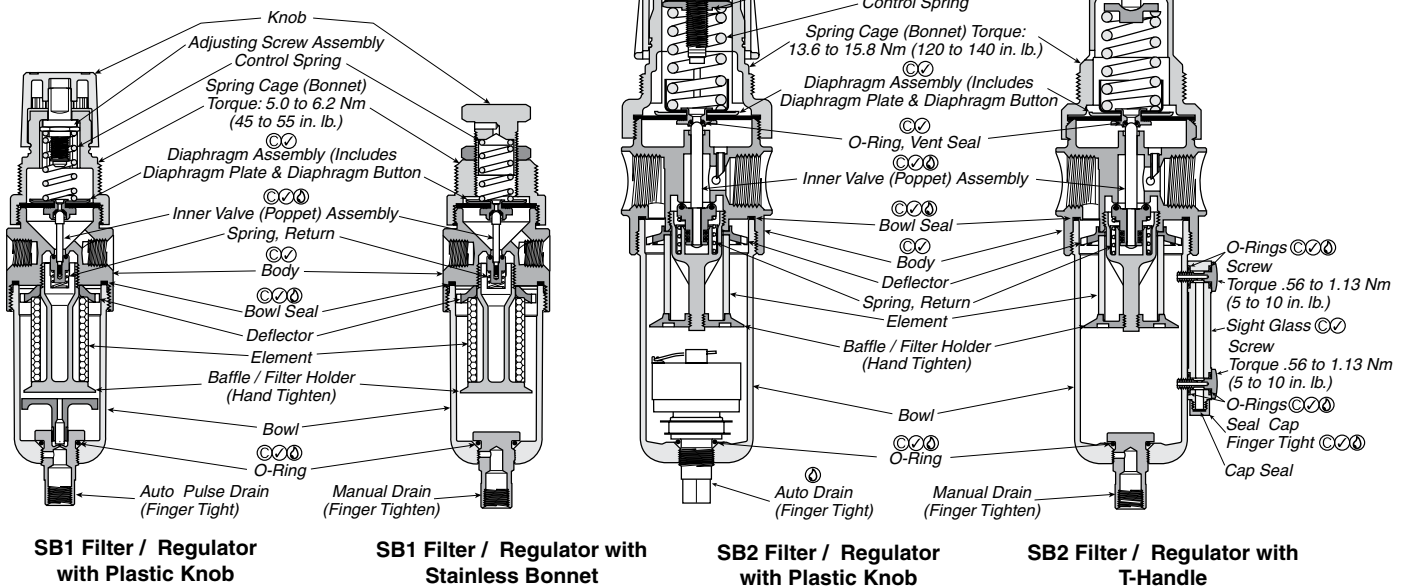
**Servicing Regulator - (Refer to Figure 1)**

- 1A. On SB1, disengage the adjusting knob by pulling upward. Turn adjusting knob counterclockwise until the compression is released from the pressure control spring.
- 1B. On SB2, push down on the adjusting knob while turning knob counterclockwise until the compression is released from the pressure control spring. (Knob is locked when up.)
2. Remove the bonnet and bowl assemblies by unscrewing the bonnet and bowl from the body.
3. Remove diaphragm assembly from bonnet assembly.
4. Remove filter stem, filter element, poppet assembly, poppet return spring.
5. Clean and carefully inspect parts for wear or damage. If replacement is necessary, use parts from service kits. Clean bowl.
6. Lubricate o-rings with grease found in service kits.

**Service Kits Available**

Description	SB1	SB2
Automatic Drain	—	SRP-96-027
Auto Pulse Drain	RKP05482-SS	—
Bonnet Assembly - Knob	SRP-96-017	SRP-96-018
Bonnet Assembly - Stainless Steel	CKR354YSS	CKR11YSS
Element (5 Micron)	SRP-96-001	SRP-96-003
Element (20 Micron)	SRP-96-002	—
Element (40 Micron)	—	SRP-96-004
Gauge	SRP-96-021	SRP-96-022
Manual Drain	SAP05481	SAP05481
Panel Mount Nut	SRP-96-019	SRP-96-020
Spring, 0-25 PSIG	SPR-375-2-SS	—
Spring, 0-60 PSIG	SPR-376-1-SS	SPR-388-1-SS
Spring, 0-125 PSIG	SPR-377-1-SS	SPR-389-1-SS
Spring, 0-250 PSIG	—	SPR-390-1-SS
Regulator Repair Kit (Relieving)	SRP-96-015	SRP-96-011
Regulator Repair Kit (Non-Relieving)	SRP-96-016	SRP-96-012
Sight Gauge Kit	—	SRP-96-026

- Ⓐ** 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.



**Figure 1**