

## Speedaire 4ZK93

# Speedaire 4ZK93 Filter/Regulator User Manual

Comprehensive guide for installation, operation, and maintenance of your Speedaire 4ZK93 Filter/Regulator.

## 1. INTRODUCTION AND SAFETY INFORMATION

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This manual provides essential information for the safe and efficient use of the Speedaire 4ZK93 Filter/Regulator. Please read all instructions carefully before installation, operation, or maintenance. Failure to follow these instructions may result in property damage, personal injury, or death.

### General Safety Warnings:

- Always wear appropriate personal protective equipment (PPE) when working with compressed air systems.
- Ensure the air supply is depressurized before performing any installation, maintenance, or troubleshooting.
- Do not exceed the maximum operating pressure of 150 psi.
- Use only clean, dry compressed air.
- Keep the product away from heat sources and open flames.
- This product is designed for industrial use. Consult a qualified professional for installation if unsure.

## 2. PRODUCT OVERVIEW

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The Speedaire 4ZK93 is a combined filter and regulator unit designed to provide clean, regulated compressed air for various applications. It features a polycarbonate filter bowl with a guard, a manual drain, and a top-mounted adjustment knob for pressure regulation.



Figure 2.1: Main view of the Speedaire 4ZK93 Filter/Regulator, showing the filter bowl, regulator body, and pressure gauge.



Figure 2.2: Side view of the Speedaire 4ZK93 Filter/Regulator, highlighting the pressure adjustment knob.

## Key Components:

- **Filter Bowl:** Polycarbonate with guard, collects moisture and particulate matter.
- **Regulator Body:** Aluminum construction, houses the pressure regulation mechanism.
- **Pressure Gauge:** Included for monitoring regulated outlet pressure.
- **Adjustment Knob:** Reinforced nylon, located on top for easy pressure setting.
- **Drain Type:** Manual drain for removing accumulated condensate.
- **Air Inlet/Outlet:** 3/8 inch NPT connections.

## 3. SPECIFICATIONS

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The following table details the technical specifications of the Speedaire 4ZK93 Filter/Regulator:

Feature	Value
Filter Bowl Material	Polycarbonate with Guard
Air Inlet Size	3/8 in NPT
Maximum Flow Rate	120 cfm
Filter Rating	40 micron
Filter Type	Particulate
Maximum Operating Pressure	150 psi
Drain Type	Manual
Pressure Gauge Included	Yes
Body Material	Aluminum
Overall Width	2 11/16 in
Series	Intermediate Duty
Adjustment Location	Top
Adjustment Mechanism	Knob
Adjustment Mechanism Material	Reinforced Nylon
Air Flow Direction	Left to Right
Product Dimensions	14 x 3 x 3 inches; 3 Pounds
Item Model Number	4ZK93
Manufacturer	Speedaire
Country of Origin	China

## 4. SETUP AND INSTALLATION

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Proper installation is crucial for the performance and longevity of your filter/regulator. Follow these steps carefully:

1. **Depressurize Air System:** Before beginning installation, ensure that the compressed air system is completely depressurized and locked out to prevent accidental startup.
2. **Choose Location:** Select a location that is easily accessible for maintenance and where the unit will not be exposed to excessive vibration or extreme temperatures. Install the unit as close as possible to the point of use.
3. **Mounting:** The unit can be mounted using appropriate brackets (not included) or directly in-line with rigid piping. Ensure the unit is mounted vertically with the filter bowl facing downwards for proper drainage.
4. **Connect Piping:** Connect the upstream air supply to the inlet port (marked "IN" or with an arrow indicating flow direction) and the downstream equipment to the outlet port (marked "OUT"). Use thread sealant on all NPT connections to prevent leaks. The air flow direction is Left to Right.
5. **Check Connections:** Double-check all connections for tightness. Do not overtighten, as this can damage threads.
6. **Pressurize System:** Slowly re-pressurize the air system and check for any leaks using a soapy water solution. Tighten connections as necessary.

## 5. OPERATING INSTRUCTIONS

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Once installed, the Speedaire 4ZK93 Filter/Regulator is ready for operation. Follow these steps to adjust and monitor air pressure:

1. **Initial Pressure Setting:** With the air supply on, turn the adjustment knob counter-clockwise to fully relieve pressure.
2. **Adjusting Pressure:** Slowly turn the adjustment knob clockwise to increase the outlet pressure. Observe the pressure gauge until the desired pressure is reached.
3. **Locking Pressure (if applicable):** Some models may have a locking mechanism on the knob. Push down or pull up the knob to lock/unlock the setting. (Note: This model's knob is a simple turn adjustment).
4. **Monitoring:** Regularly monitor the pressure gauge to ensure the regulated pressure remains consistent.

## 6. MAINTENANCE AND CARE

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Regular maintenance ensures optimal performance and extends the lifespan of your Speedaire 4ZK93 Filter/Regulator.

### Routine Maintenance:

- **Drain Condensate:** The filter bowl will collect moisture. Manually drain the condensate by opening the drain valve at the bottom of the bowl. Do this daily or as needed, depending on air quality and usage.
- **Filter Element Inspection:** Periodically inspect the filter element for discoloration or excessive accumulation of debris. A clogged filter will reduce flow and pressure.
- **Filter Element Replacement:** Replace the 40-micron particulate filter element when it becomes visibly dirty or if pressure drop across the filter is significant. Refer to the manufacturer's guidelines for replacement part numbers.
- **Bowl Cleaning:** If the polycarbonate bowl becomes dirty, clean it with warm soapy water. *Do not use solvents, as they can damage the polycarbonate.*
- **Leak Checks:** Periodically check all connections for air leaks using a soapy water solution.

### Disassembly for Maintenance (Advanced Users Only):

1. **Depressurize:** Ensure the system is fully depressurized.
2. **Remove Bowl:** Unscrew the filter bowl from the regulator body.
3. **Remove Element:** Carefully remove the filter element and O-rings.
4. **Clean:** Clean components as necessary. Replace worn O-rings or damaged parts.
5. **Reassemble:** Reassemble in reverse order, ensuring all seals are properly seated.

## 7. TROUBLESHOOTING GUIDE

This section provides solutions to common issues you might encounter with your Speedaire 4ZK93 Filter/Regulator.

Problem	Possible Cause	Solution
No air flow or low pressure at outlet	Inlet pressure too low Filter element clogged Regulator adjustment knob turned down Manual drain open	Check main air supply pressure. Inspect and replace filter element. Turn adjustment knob clockwise to increase pressure. Close manual drain.
Pressure fluctuates or creeps up	Contaminated regulator diaphragm/seat Damaged internal components	Disassemble and clean regulator components. Contact manufacturer for replacement parts or service.
Excessive water in filter bowl	High humidity in air supply Air compressor aftercooler/dryer not functioning	Drain condensate more frequently. Check and maintain air compressor drying system.
Air leaks from unit	Loose connections Damaged O-rings or seals Cracked filter bowl	Tighten all threaded connections. Inspect and replace O-rings/seals. Replace filter bowl if cracked.

## 8. WARRANTY AND SUPPORT

Speedaire products are manufactured to high standards and are typically covered by a limited warranty against defects in materials and workmanship. Specific warranty terms and conditions are usually provided with your purchase documentation or can be found on the official Speedaire website.

For technical support, replacement parts, or warranty claims, please contact Speedaire customer service or your authorized distributor. When contacting support, please have your product model number (4ZK93) and purchase information readily available.

*Note: This manual does not constitute a warranty. Refer to official Speedaire warranty statements for complete details.*

