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SMC AW20-N02-CZ

SMC AW20-N02-CZ Filter/Regulator User Manual

Model: AW20-N02-CZ

PRODUCT OVERVIEW

The SMC AW20-N02-CZ is a combination filter and regulator designed to minimize space and simplify piping in compressed air systems. It integrates both filtration and pressure regulation functions into a single compact unit. Key features include:

- Modular design for integration with other air preparation units.
- Integrated filter and regulator for space and piping efficiency.
- Relieving type regulator with a push-down locking adjustment knob.





Figure 1: SMC AW20-N02-CZ Filter/Regulator. This image shows the complete unit, including the pressure adjustment knob at the top, the main body with inlet and outlet ports, and the transparent polycarbonate bowl at the bottom for condensate collection.

TECHNICAL SPECIFICATIONS

Specification	Value
Model Number	AW20-N02-CZ
Filter Element	5 Micron
Bowl Material	Polycarbonate with Bowl Guard

2. **Mounting:** Mount the unit vertically with the bowl facing downwards. Use appropriate mounting brackets (not included) to secure the unit firmly to a stable surface. Ensure there is sufficient clearance below the bowl for manual draining.
3. **Piping Connection:** Connect the compressed air inlet line to the port marked "IN" and the outlet line to the port marked "OUT". Use thread sealant (e.g., PTFE tape) on all threaded connections to prevent leaks. Ensure all connections are tight but do not overtighten. The port size is 1/4" NPT.
4. **Direction of Flow:** Verify that the air flow direction matches the arrow indicated on the unit's body. Incorrect flow direction will impair performance.
5. **Initial Pressure Setting:** With the air supply still off, turn the pressure adjustment knob counter-clockwise to fully relieve any residual pressure.

OPERATION

Once installed, the SMC AW20-N02-CZ is ready for operation. Follow these instructions to adjust and monitor the air pressure:

1. **Turning On Air Supply:** Slowly open the main air supply valve to pressurize the system.
2. **Adjusting Pressure:**
 - Pull up the pressure adjustment knob to unlock it.
 - Turn the knob clockwise to increase the regulated pressure.
 - Turn the knob counter-clockwise to decrease the regulated pressure.
 - Monitor the pressure gauge (if installed separately, as this model does not include one) to set the desired output pressure within the 7.25 - 123 psi range.
 - Once the desired pressure is set, push the knob down to lock it in place. This prevents accidental pressure changes.
3. **Condensate Drainage:** The polycarbonate bowl will collect moisture and contaminants. Regularly check the bowl for accumulated condensate.

MAINTENANCE

Regular maintenance ensures the continued efficiency and reliability of your filter/regulator unit.

- **Manual Drain Operation:**
 - To drain accumulated condensate, turn the manual drain valve at the bottom of the bowl counter-clockwise.
 - Allow all collected liquid to drain completely.
 - Once drained, turn the valve clockwise to close it securely.
 - Perform this drainage regularly, or whenever the condensate level approaches the maximum fill line on the bowl.
- **Bowl Cleaning:** If the polycarbonate bowl becomes discolored or excessively dirty, it can be removed and cleaned.
 - Depressurize the system completely before attempting to remove the bowl.
 - Unscrew the bowl from the main body.
 - Clean the bowl with warm soapy water. *Do not use solvents or harsh chemicals* as these can damage the polycarbonate material.
 - Inspect the O-ring seal for any damage or wear. Replace if necessary.

- Reattach the bowl, ensuring it is securely tightened to prevent leaks.
- **Filter Element Replacement:** The 5-micron filter element should be replaced periodically, depending on air quality and usage. A noticeable drop in flow or pressure, or excessive contamination, indicates a need for replacement. Refer to SMC documentation for specific replacement part numbers and procedures.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter with your SMC AW20-N02-CZ filter/regulator.

Problem	Possible Cause	Solution
No air flow or very low pressure output.	<ul style="list-style-type: none"> ◦ Air supply turned off. ◦ Regulator knob not pulled up or stuck. ◦ Filter element clogged. ◦ Incorrect installation (e.g., reversed flow). 	<ul style="list-style-type: none"> ◦ Check main air supply valve. ◦ Pull up and adjust the knob. ◦ Replace filter element. ◦ Verify flow direction and connections.
Pressure fluctuates or cannot be set.	<ul style="list-style-type: none"> ◦ Regulator knob not locked. ◦ Internal regulator diaphragm damage. ◦ Inlet pressure too low or unstable. 	<ul style="list-style-type: none"> ◦ Push knob down to lock. ◦ Contact SMC support for repair/replacement. ◦ Ensure stable and sufficient inlet pressure.
Air leaks from the unit.	<ul style="list-style-type: none"> ◦ Loose connections. ◦ Damaged O-rings or seals (e.g., bowl O-ring). ◦ Cracked bowl. 	<ul style="list-style-type: none"> ◦ Tighten all connections. ◦ Inspect and replace damaged seals. ◦ Replace the polycarbonate bowl.
Excessive moisture in output air.	<ul style="list-style-type: none"> ◦ Condensate bowl full. ◦ Drain valve left open. ◦ Filter element saturated or damaged. 	<ul style="list-style-type: none"> ◦ Drain the condensate bowl. ◦ Close the drain valve. ◦ Replace filter element.

WARRANTY AND SUPPORT

For specific warranty information regarding the SMC AW20-N02-CZ Filter/Regulator, please refer to the documentation provided at the time of purchase or visit the official SMC website. SMC products are typically covered by a standard manufacturer's warranty against defects in materials and workmanship.

If you require technical assistance, replacement parts, or have questions not covered in this manual, please contact SMC customer support:






- **SMC Official Website:** www.smcusa.com
- **Contact Information:** Refer to the "Contact Us" section on the SMC website for phone numbers and email support in your region.

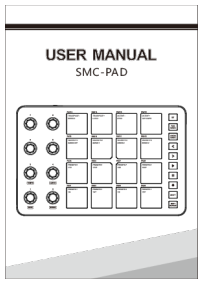
When contacting support, please have your product model number (AW20-N02-CZ) and any relevant purchase details ready.



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Related Documents - AW20-N02-CZ

	<p>SAVCH E/S Series PLC MPU User Manual: Specifications, Wiring, and Installation</p> <p>A comprehensive user manual for SAVCH E/S series Programmable Logic Controllers (PLCs). This document details product specifications, indicator functions, power supply requirements, environmental considerations, digital input/output specifications, wiring diagrams, programming cable connections, address settings, and mounting instructions.</p>
	<p>Panasonic VRF Systems Indoor Unit Technical Data and Installation Guide</p> <p>Comprehensive technical data and installation guidance for Panasonic VRF Systems Indoor Units, including 4-Way Cassette, Wall Mounted, and Ducted models. Covers specifications, wiring, site selection, and safety precautions for models like S-MU2E5C, S-MY3EB, S-MK3E, S-MM2EB, S-MF3E5D.</p>
	<p>SMC Filter Regulator Operation Manual</p> <p>This operation manual provides detailed information on the SMC Filter Regulator series, including safety instructions, specifications, ordering, options, installation, operation, maintenance, and troubleshooting for models like AW20, AW30, AW40, and AW60.</p>
	<p>SMC ZSE40/ISE40 Series High-Precision Digital Pressure Switch</p> <p>This document provides detailed specifications, features, and operating instructions for the SMC ZSE40 and ISE40 Series high-precision digital pressure switches. It covers product overview, specifications, wiring diagrams, installation, and troubleshooting.</p>
	<p>SMC Compact Manometer PPA100/PPA101/PPA102 Instruction Manual</p> <p>Detailed instruction manual for the SMC Compact Manometer series (PPA100, PPA101, PPA102), covering safety, specifications, installation, maintenance, and operation.</p>



[SMC-PAD User Manual](#)

User manual for the SMC-PAD MIDI Controller, detailing its features, connections, and operation.