

SMC AFM40P-060AS

SMC AFM40P-060AS Mist Separator Filter Element User Manual

Model: AFM40P-060AS

1. INTRODUCTION

This manual provides essential information for the proper use, installation, operation, and maintenance of the SMC AFM40P-060AS Mist Separator Filter Element. This filter element is designed for use with SMC AFM series mist separators to effectively remove oil mist particulates from compressed air systems. Adherence to the instructions in this manual will ensure optimal performance and longevity of the product.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and equipment damage:

- Ensure the compressed air system is depressurized before attempting any installation, maintenance, or removal of the filter element.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, when handling the filter element or working with compressed air systems.
- Do not use the filter element for applications other than those specified in this manual.
- Verify that the replacement filter element matches the specifications of the original part to ensure proper fit and function.
- Dispose of used filter elements according to local environmental regulations.

3. PRODUCT OVERVIEW

The SMC AFM40P-060AS is a high-efficiency replacement filter element designed to capture oil mist and fine particulates from compressed air. It is specifically engineered for compatibility with SMC AFM series mist separators.





Figure 3.1: SMC AFM40P-060AS Mist Separator Filter Element. This image shows the cylindrical filter element, which is light beige in color with black caps on both ends. The top cap has an opening revealing internal components.

Key Features:

- **Filtration Efficiency:** Removes particulates as small as 0.3 microns from the air flow.
- **Air Flow Rate:** Supports an air flow rate of up to 39 cubic feet per minute (CFM).
- **Compatibility:** Designed for use with SMC AFM series mist separators.
- **Compliance:** Restriction of Hazardous Substances (RoHS) compliant.

4. SETUP AND INSTALLATION

This section outlines the general procedure for replacing the filter element within a compatible SMC mist separator. Refer to your specific mist separator's manual for detailed instructions.

1. **Depressurize System:** Before beginning, ensure that the compressed air system connected to the mist separator is completely depressurized and isolated from the air supply.
2. **Drain Condensate:** If applicable, drain any accumulated condensate from the mist separator bowl.
3. **Remove Bowl:** Carefully unscrew or unlatch the mist separator bowl from the main body.
4. **Remove Old Element:** Gently pull out the old filter element from its housing. Note its orientation for correct installation of the new element.
5. **Inspect Housing:** Clean the inside of the filter housing and inspect O-rings or seals for any damage. Replace if necessary.
6. **Install New Element:** Insert the new SMC AFM40P-060AS filter element into the housing, ensuring it is seated correctly and securely.
7. **Reattach Bowl:** Reattach the mist separator bowl, ensuring it is properly sealed. Hand-tighten only, or follow torque specifications from the mist separator manual.
8. **Repressurize System:** Slowly repressurize the compressed air system and check for any leaks around the filter housing.

5. OPERATING PRINCIPLES

The AFM40P-060AS filter element functions as a critical component within a mist separator, designed to remove fine oil mist and solid particles from compressed air. As compressed air passes through the filter media, oil mist droplets coalesce into larger droplets, which then fall to the bottom of the filter bowl due to gravity and are drained. Solid particles are trapped within the filter media. This process ensures clean, oil-mist-free air for downstream applications, protecting sensitive equipment and processes.

6. MAINTENANCE

Regular maintenance, primarily the timely replacement of the filter element, is crucial for maintaining the efficiency of your mist separator and the quality of your compressed air. The lifespan of the filter element depends on the air quality, operating conditions, and frequency of use.

Filter Element Replacement:

- Replace the filter element when the pressure drop across the filter becomes excessive, indicating clogging.
- Replace the filter element at least once a year, or more frequently in demanding applications, even if no significant pressure drop is observed.
- Follow the installation steps outlined in Section 4 for replacement.

Condensate Drainage:

Regularly check and drain the condensate from the mist separator bowl to prevent re-entrainment of oil and water into the air stream. The frequency of drainage depends on the amount of moisture and oil in the compressed air.

7. TROUBLESHOOTING

This section provides general guidance for common issues related to the filter element. For issues with the mist separator unit itself, refer to its specific manual.

Problem	Possible Cause	Solution
Reduced Air Flow / High Pressure Drop	Clogged filter element	Replace the filter element.
Oil Mist in Downstream Air	Saturated or damaged filter element	Replace the filter element.
Oil Mist in Downstream Air	Improperly installed filter element or seals	Reinstall the filter element, ensuring proper seating and seal integrity.
Oil Mist in Downstream Air	Condensate bowl overflowing	Drain condensate regularly. Check auto-drain function if applicable.

8. SPECIFICATIONS

Attribute	Value
Model Number	AFM40P-060AS
Compatibility	SMC AFM series mist separators
Filtration Rating	0.3 microns
Maximum Air Flow Capacity	39 Cubic Feet Per Minute (CFM)
Product Dimensions	23 x 16 x 18 inches (packaging); 1.28 ounces (packaging weight)
Item Weight	0.08 Pounds
Compliance	RoHS compliant
Manufacturer	SMC

9. WARRANTY AND SUPPORT

For specific warranty information regarding the SMC AFM40P-060AS Mist Separator Filter Element, please refer to the documentation provided with your original mist separator unit or contact SMC Corporation directly. SMC Corporation of America is headquartered in Noblesville, IN, and adheres to International Organization for Standardization (ISO) standards 9000:2000 and 9001:2008.

For technical support or inquiries, please visit the official SMC website or contact their customer service department. You can also find more information on their Amazon store page: [SMC Store on Amazon](#).

