



Operation Manual

PRODUCT NAME

Silencer

MODEL / Series / Product Number

AN, ANA1, ANB1, 25 Series

SMC Corporation

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Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)^{*)}, and other safety regulations.

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1: Robots
etc.



Danger

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.



Warning

Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



Caution

Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

1. The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2. When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3. Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Our products cannot be used beyond their specifications. Our products are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not covered.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, fuel equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.



Safety Instructions

Caution

We develop, design, and manufacture our products to be used for automatic control equipment, and provide them for peaceful use in manufacturing industries.

Use in non-manufacturing industries is not covered.

Products we manufacture and sell cannot be used for the purpose of transactions or certification specified in the Measurement Act.

The new Measurement Act prohibits use of any unit other than SI units in Japan.

Limited warranty and Disclaimer/Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first.*2)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

2. For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

***2) Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.

Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty

Compliance Requirements

1. The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.

2. The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

1. HINTS ON CORRECT USE

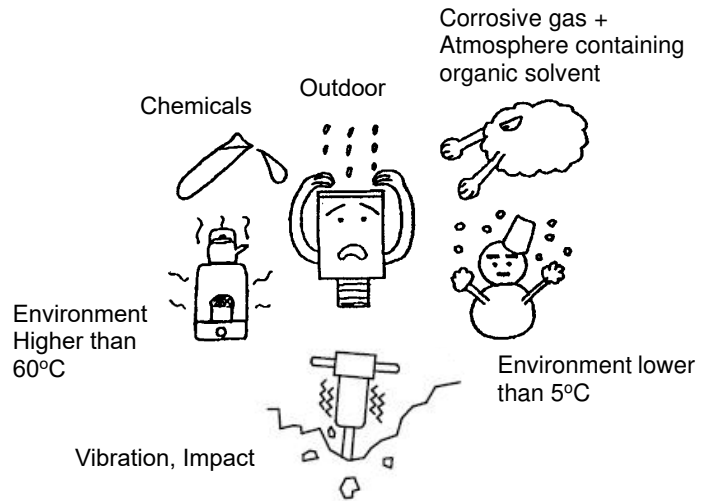
Please obey the following to operate the silencer properly.

(1) Do not use under the following environments.

! WARNING

The following environments may lead to breakage.

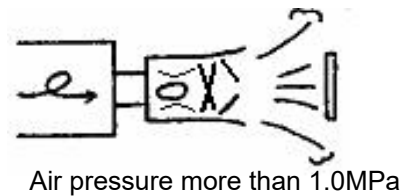
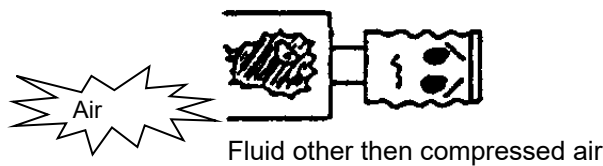
Broken parts may cause injury, and exhaust noise may cause hearing difficulty if broken.



(2) Do not use under the following environments.

! WARNING

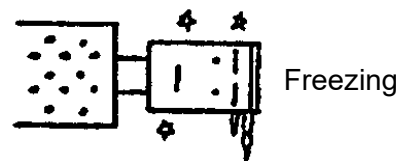
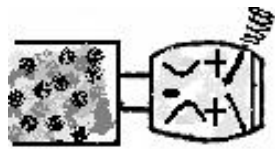
The following environments may lead to breakage.



! CAUTION

The following conditions will cause clogging in a short time.

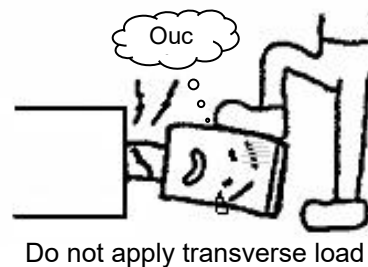
Clogging may lead to pneumatic malfunction.



(3) Do not use wrongly.

! CAUTION

This can break the product.



(4) Precautions for mounting.

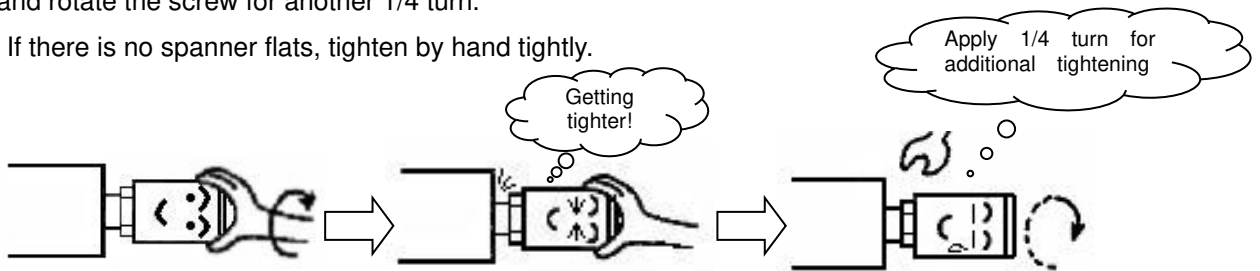
⚠ CAUTION

- 1) If the silencer is made of resin, excessive tightening may break the product.
- 2) Do not use a pipe wrench or pliers. They may break the product.

Resin body

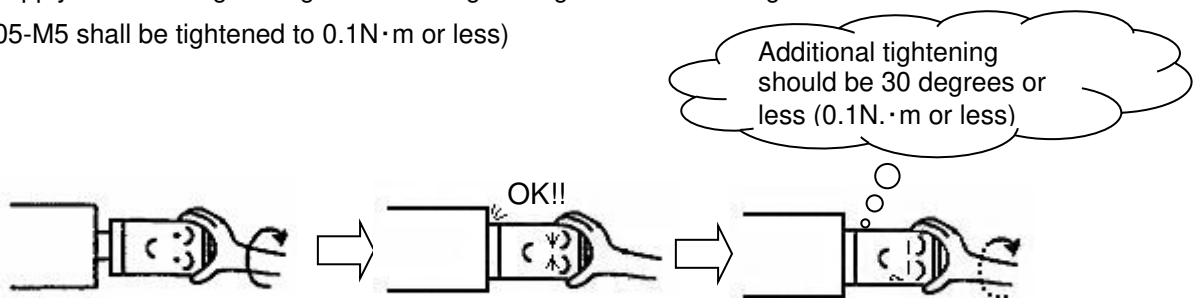
【Taper screw】

- Tighten the screw by hand until it becomes slightly tight. Hold the spanner flats with a spanner, and rotate the screw for another 1/4 turn.
- If there is no spanner flats, tighten by hand tightly.



【Metric screw】

- Tighten the screw by hand until the screw touches the end surface. Then apply additional tightening. Additional tightening should be 30 degrees or less. (AN05-M5 shall be tightened to 0.1N·m or less)



BC sintered metal

- Hold the tip of the product (the end without the screw) and screw it tightly.
- Do not tighten the sintered metal part with pliers or a pipe wrench.

Metal body (Except BC sintered metal)

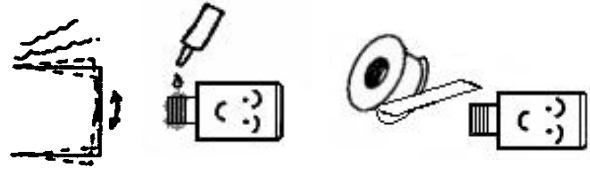
- Tighten with a spanner suitable for the width across flats of the hexagon part. (Refer to tightening torque in the table on the right).
- Do not use a pipe wrench or pliers. They may break the product.

Tightening torque (for metal body)

Thread size	Appropriate tightening torque (N·m)
R 1/4	12-14
R 3/8	22-24
R 1/2	28-30
R 3/4	28-30
R 1	36-38
R 1 1/4	40-42
R 1 1/2	48-50
R 2	48-50

If there is a risk of loosening by vibration

- Use sealant which does not affect the product.



(5) Performance

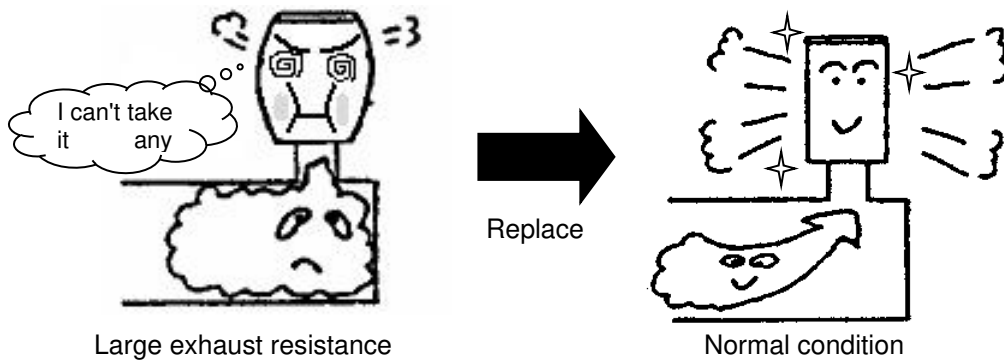
The performance of the silencer may depend on the pneumatic circuit or operating pressure.

2. MAINTENANCE

(1) Operation for a long period may cause clogging of the silencer which increases the exhaust resistance and may lead to pneumatic malfunction.
Please replace the silencer before this can affect the air circuit.

WARNING

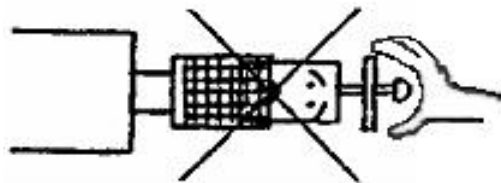
- 1) Replace after confirming that there is no residual pressure.
- 2) Check the operating condition of the actuator once a day.
If operation is continued when it is clogged, breakage can result.



(2) Do not disassemble the product.

CAUTION

Do not replace the sound absorbing material only.
Replace the whole product when replacement is necessary.



Revision history

1st edition: February 1996
Revision: November 1999
Revision: December 2003
Revision: August 2008
Revision: February 2011
Revision: March 2024

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Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
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