



Operation Manual

PRODUCT NAME

Silencer

MODEL/ Series/ Product Number

AN, ANA1, ANB1, 25 Series

SMC Corporation



Contents

Safety Instructions	1
Precautions for Handling	3
Maintenance	5



Silencer 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)*1), and other safety regulations.

*1) ISO 4414: Pneumatic fluid power -- General rules relating to systems

ISO 4413: Hydraulic fluid power -- General rules relating to systems

IEC 60204-1: Safety of machinery -- Electrical equipment of machines (Part 1: General requirements)

ISO 10218-1: Manipulating industrial robots -Safety.

etc.



Caution

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



Warning

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



Danger

Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious 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. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2. Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.

3. An application which could have negative effects on people, property, or animals requiring special safety analysis.

4. Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.



Silencer Safety Instructions

Caution

1. The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries. If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

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.*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 regulation 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.

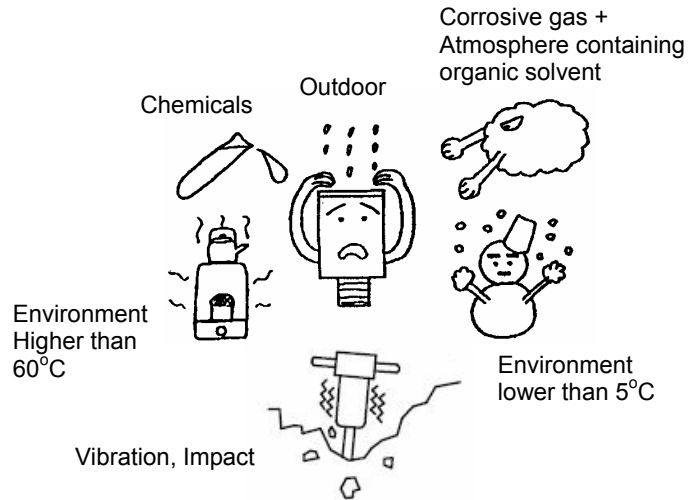
1. HINTS ON CORRECT USE

Please obey the following to operate the silencer properly.

(1) Do not use under the following environments.

! WARNING

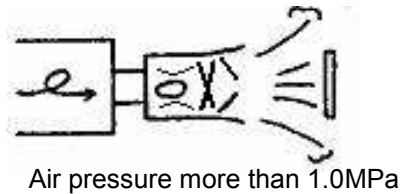
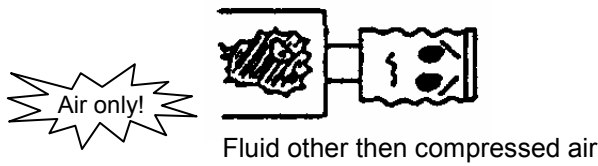
The following environments may lead to breakage.
Broken parts may cause injury,
and exhaust noise may cause hearing
difficulty if broken.



(2) Do not use under the following environments.

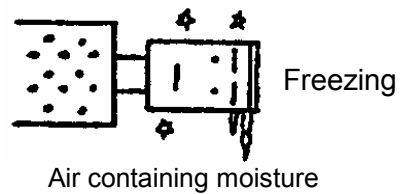
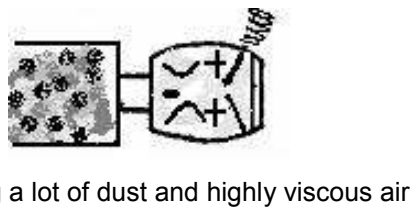
! WARNING

The following environments may lead to breakage.



! CAUTION

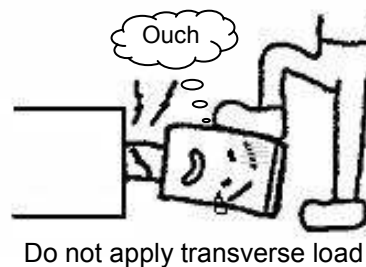
The following conditions will cause clogging in a short time.
Clogging may lead to pneumatic malfunction.



(3) Do not use wrongly.

! CAUTION

This can break the product.



(4) Precautions for mounting.

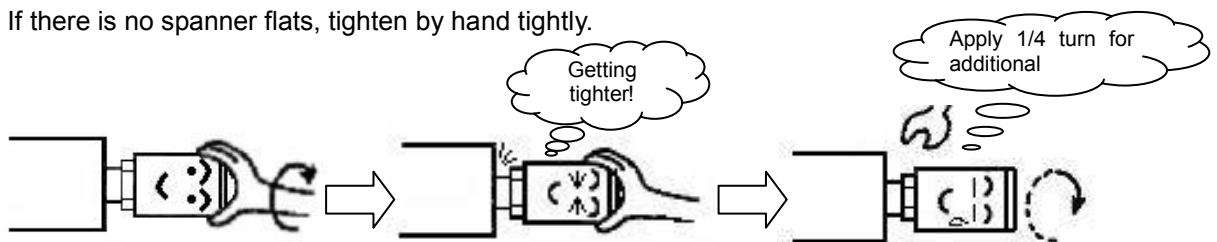
⚠ CAUTION

- 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

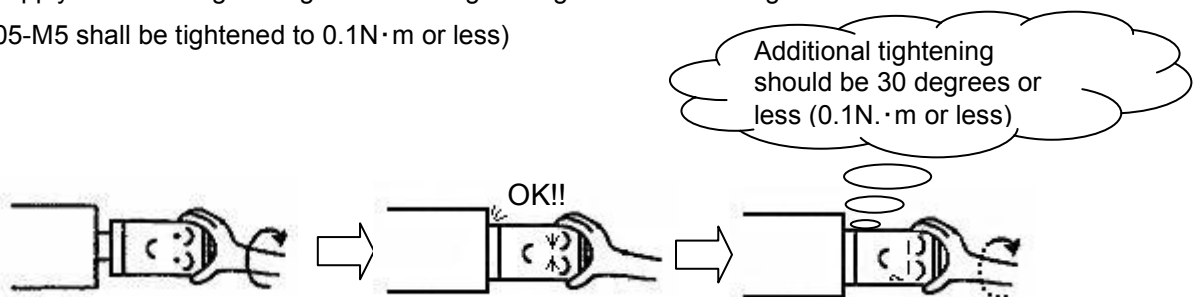
【Taper screw】

- 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)

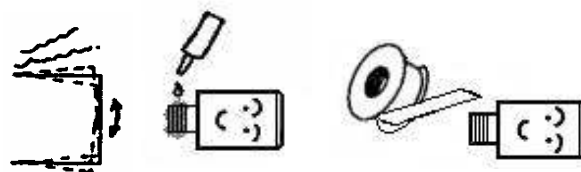
- Tighten with a spanner suitable for the width across flats of the hexagon part. (Refer to tightening torque in the table on the right).
- Do not use a pipe wrench or pliers. They may break the product.

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

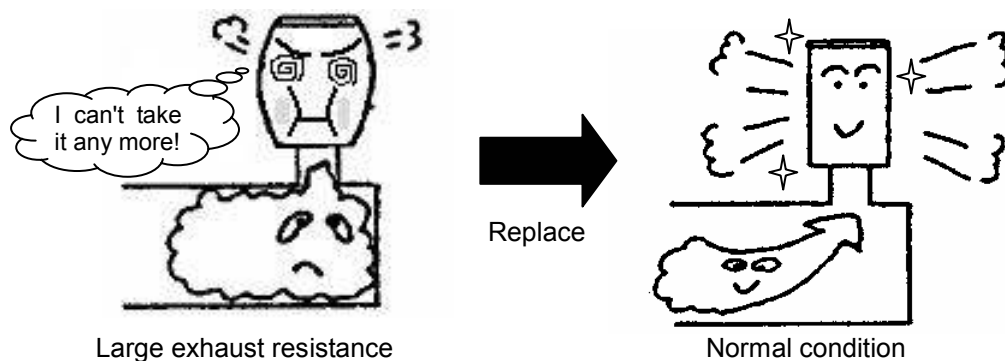
(1) Operation for a long period may cause clogging of the silencer which increases the exhaust resistance and may lead to pneumatic malfunction.

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.

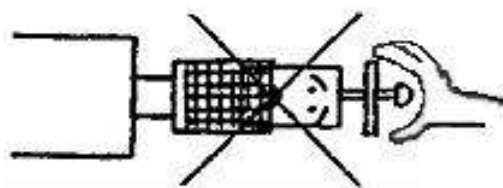


(2) Do not disassemble the product.

CAUTION

Do not replace the sound absorbing material only.

Replace the whole product when replacement is necessary.



Revision history
Revised A : February 2011

SMC Corporation

4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021 JAPAN

Tel: + 81 3 5207 8249 Fax: +81 3 5298 5362

URL <http://www.smcworld.com>

Note: Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.
© 2008 SMC Corporation All Rights Reserved