



## AN Series

# Specific Product Precautions (Silencers)

Be sure to read this before handling the products.

### Design

#### ⚠ Warning

1. The exhaust port could become blocked by the clogging of the exhaust cleaner.

Therefore, make sure to provide a safe design so as not to cause the whole system to malfunction.

#### ⚠ Caution

1. The silencer is intended to reduce the noise of exhaust air of the compressed air emitted from pneumatic equipment.

Noises other than exhaust air (noise generated inside piping, noise generated by vibration of equipment, noise of switching valves, etc.) cannot be reduced.

Take appropriate measures to find the cause of noises other than those generated by exhaust air.

The product does not function as a filter. Do not use the product as a filter regardless of negative and positive pressures.

2. If the compressed air supply is contaminated with fluids such as oil and oil mist, such fluids will be dispersed to the environment.

In such a case, an exhaust cleaner is recommended to recover fluids and reduce noise.

3. The silencing effect could vary depending on the pneumatic circuit or the pressure that is used.

### Selection

#### ⚠ Caution

1. When selecting the silencer, the sonic conductance\* (including combined sonic conductance) of the silencer should be larger than that of the solenoid valve.

\*Sonic conductance  $C$  [ $\text{dm}^3/(\text{s} \cdot \text{bar})$ ] = Effective area [ $\text{mm}^2$ ]  $\div 5$

2. Use within the range of specifications.

### Operating Environment

#### ⚠ Warning

1. Do not use in an atmosphere having corrosive gases, chemicals, sea water, water, water steam, or where there is direct contact with any of these.

Refer to the construction drawings for silencer materials.

2. Avoid exposure to direct sunlight.
3. Do not operate in locations where vibration or impact occurs.
4. Do not use the product in locations where it is near heat sources and exposed to radiation heat.
5. Do not use in an environment where the product is exposed to cutting oil, lubricating oil, or coolant, etc. If it is used in an environment where there is possible contact with cutting oil, lubricating oil, or coolant, exercise preventive measures.
6. Do not use in an environment where foreign matter may stick to the product or get mixed in the product's interior.  
It may result in clogging at an early stage, coming off or causing damage.

### Mounting

#### ⚠ Caution

1. If the silencer body (case) is made of plastic and is tightened too much, the silencer may be damaged.
2. Tightening by using a pipe wrench or pliers may cause damage to the silencer. This method is not recommended.  
Please follow the procedures below for mounting.

##### ■ When the body (case) is made of resin

Hold the tip of the main body (the side without thread) and screw it in. At the point where the thread begins to feel tight, use a wrench on the hexagonal flats to tighten an additional 1/4 turn. For the model without the hexagonal flats, be sure to securely tighten by hand. For the model with the M-thread, tighten the tip of the main body securely by hand until it is in contact with the end face, and then retighten it by hand. At this time, note that the retightening amount should be 30° or less.

##### ■ For BC elements

Hold the tip of the main body (the side without thread) with your fingers and screw it in tightly.  
Do not hold the sintered metal part with a wrench, etc. to tighten.

##### ■ When the main body is made of metal (Except BC elements)

Within the recommended tightening torque shown in the chart below, use a wrench on the hexagonal flats and tighten.

Tightening by using a pipe wrench or pliers may cause damage to the silencer. This method is not recommended.

### Tightening Torques for Silencers

| Connection thread | Tightening torque (N·m) |
|-------------------|-------------------------|
| R 1/4             | 12 to 14                |
| R 3/8             | 22 to 24                |
| R 1/2             | 28 to 30                |
| R 3/4             | 28 to 30                |
| R 1               | 36 to 38                |
| R 1 1/4           | 40 to 42                |
| R 1 1/2           | 48 to 50                |
| R 2               | 48 to 50                |

3. Make sure not to apply a lateral load to the body during or after the installation.
4. When the silencer body is loosened by vibration, etc. of equipment on which a silencer is assembled, apply glue to threads to prevent loosening and reattach.

### Maintenance

#### ⚠ Caution

1. Never disassemble the silencer.  
The silencing material is not replaceable.
2. If the exhaust speed drops and the system performance decreases due to clogging, replace with a new silencer.  
Make sure to verify the operating conditions of the actuator at least once a day.
3. If operation continues when it is clogged, breakage can result.