The M5 silencer is now added!

Silencer

Space saving

Existing model

Actual size

6.5 mm

Fingertip size

New

The resin silencer is now a more compact size!

Entire length reduced by up to 30% (SMC comparison)

Outside diameter reduced by up to 25% (SMC comparison)

- Noise reduction improved: 30 dB(A)

  The value of the noise reduction for the existing model AN□□03 (compact type) is 25 dB(A).

- Sonic conductance C: 1 to 18 [dm³/(s·bar)]

- Connection method

  M thread, R (NPT) thread type
  One-touch fitting connection type

Series AN

RoHS

CAT.NAS13-9A
Silencer Variation

New Compact Resin Type/Male Thread

Series AN05 to 40
Compact, Lightweight
Noise reduction: 30 dB(A)

New Compact Resin Type/One-touch Fitting Connection

Series AN10 to 30-C
Can connect with one-touch fitting directly.
Noise reduction: 30 dB(A)

Metal Body Type
Series AN
Low back pressure, Easy mounting.
Noise reduction: 30 dB(A)

Metal Case Type
Series 25
Prevents scattering of mist and noise.
Noise reduction: 19 dB(A)

BC Sintered Body Type
Series AN
Noise reduction: 13, 16, 18, 21 dB(A)

High Noise Reduction Type
Series AN
Uses a flame resistant material for the case.
Noise reduction: 35 dB(A)

High Noise Reduction Type
Series ANA1
Keeps the in-plant noise level below 85 dB(A). Noise reduction: 40 dB(A)

High Noise Reduction Type
Series ANB1
Has a larger effective area than ANA1 series, but with the same port size. Noise reduction: 38 dB(A)

725psi (5.0 MPa) Type
Series VCHN
Max. operating pressure 725psi (5.0 MPa). Reduces clogging with the double-layer structure. Noise reduction: 35 dB(A)

Comparison between existing and new models

The resin silencer is now a more compact size!
(AN200 to 400, AN103 to 403, AN103-KM6 to 300-KM12)

Male Thread (Resin body)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Model</th>
<th>Sonic conductance C [dm³/(s·bar)]</th>
<th>Length (mm)</th>
<th>Noise reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3 x 0.8</td>
<td>AN05</td>
<td>1</td>
<td>15</td>
<td>30 dB(A)</td>
</tr>
<tr>
<td>1/8</td>
<td>AN10</td>
<td>2</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>1/4</td>
<td>AN15</td>
<td>3</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>3/8</td>
<td>AN20</td>
<td>7</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>1/2</td>
<td>AN30</td>
<td>12</td>
<td>58.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AN40</td>
<td>16</td>
<td>68</td>
<td></td>
</tr>
</tbody>
</table>

One-touch Fitting Connection (Resin body)

<table>
<thead>
<tr>
<th>Port size</th>
<th>Model</th>
<th>Sonic conductance C [dm³/(s·bar)]</th>
<th>Length (mm)</th>
<th>Noise reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø6</td>
<td>AN10-C06</td>
<td>1.4</td>
<td>36.5</td>
<td>30 dB(A)</td>
</tr>
<tr>
<td>Ø1/4</td>
<td>AN10-C07</td>
<td>4</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Ø8</td>
<td>AN15-C08</td>
<td>6</td>
<td>57.5</td>
<td></td>
</tr>
<tr>
<td>Ø10</td>
<td>AN20-C10</td>
<td>8</td>
<td>71.5</td>
<td></td>
</tr>
<tr>
<td>Ø3/8</td>
<td>AN20-C11</td>
<td>8.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ø12</td>
<td>AN30-C12</td>
<td>8.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Best Pneumatics
Silencer
Compact Resin Type/Male Thread
Series AN05 to 40
RoHS

How to Order

- AN [Body size] - [Thread type]

- Symbol
  - 05
  - 10
  - 15
  - 20
  - 30
  - 40

- Thread type
  - Nil
  - M
  - R
  - N
  - NPT

- Thread connection port size
  - Symbol
  - Port size
  - Applicable model
    - M5
    - M5 x 0.8
    - AN05
    - 01
    - 1/8
    - AN10
    - 02
    - 1/4
    - AN15/20
    - 03
    - 3/8
    - AN30
    - 04
    - 1/2
    - AN40

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure (Note 1)</td>
<td>145psi (1.0 MPa)</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>30 dB(A) (Note 2)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>41 to 140°F (5 to 60°C) (Note 3)</td>
</tr>
</tbody>
</table>

Note 1) It indicates the inlet pressure for solenoid valve.
Note 2) The value may vary, depending on the pneumatic circuit or pressure that is exhausted from the solenoid valve.
Note 3) The product can be used in temperatures 14 to 140°F (~-10 to 60°C) if there is no risk of water droplets forming and freezing.

Refer to page 5 for Precautions on these products.

Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Effective area [mm²]</th>
<th>Sonic conductance C [dm³/(s·bar)]</th>
<th>Recommended flow m³/min(ANR)</th>
<th>Weight [g]</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN05-M5</td>
<td>5</td>
<td>1</td>
<td>0.4 or less</td>
<td>0.5</td>
</tr>
<tr>
<td>AN10-01</td>
<td>10</td>
<td>2</td>
<td>0.8 or less</td>
<td>1</td>
</tr>
<tr>
<td>AN15-02</td>
<td>15</td>
<td>3</td>
<td>1.0 or less</td>
<td>2.5</td>
</tr>
<tr>
<td>AN20-02</td>
<td>35</td>
<td>7</td>
<td>3.0 or less</td>
<td>4</td>
</tr>
<tr>
<td>AN30-03</td>
<td>60</td>
<td>12</td>
<td>5.0 or less</td>
<td>5.5</td>
</tr>
<tr>
<td>AN40-04</td>
<td>90</td>
<td>18</td>
<td>8.0 or less</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Note) Recommended flow rate is the flow at 72.5psi (0.5 MPa) in the inlet pressure.

Construction/Parts/Dimensions

AN05/10/20

AN15/30/40

No hexagonal part in AN05 and AN10

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size R, NPT</th>
<th>A</th>
<th>B</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN05-M5</td>
<td>M5 x 0.8</td>
<td>15</td>
<td>6.5</td>
<td>–</td>
</tr>
<tr>
<td>AN10-01</td>
<td>1/8</td>
<td>23</td>
<td>11</td>
<td>–</td>
</tr>
<tr>
<td>AN15-02</td>
<td>1/4</td>
<td>32</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>AN20-02</td>
<td>1/4</td>
<td>45</td>
<td>16.5</td>
<td>14</td>
</tr>
<tr>
<td>AN30-03</td>
<td>3/8</td>
<td>58.5</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>AN40-04</td>
<td>1/2</td>
<td>68</td>
<td>24</td>
<td>21</td>
</tr>
</tbody>
</table>
Silencer
Compact Resin Type/One-touch Fitting Connection
Series AN10 to 30-C
RoHS

How to Order

AN 20 – C 10

Body size

Symbol
10
15
20
30

Applicable one-touch fitting size

Symbol Port size Applicable model
06 ø 6 AN10
07 ø 1/4 AN10
08 ø 8 AN15
10 ø 10 AN20
11 ø 3/8 AN20
12 ø 12 AN30

Specifications

Fluid
Compressed air

Max. operating pressure (Note 1)
145 psi (1.0 MPa)

Noise reduction
30 dB(A) (Note 2)

Ambient and fluid temperature
41 to 140°F (5 to 60°C) (Note 3)

Note 1) It indicates the inlet pressure for solenoid valve.
Note 2) The value may vary, depending on the pneumatic circuit or pressure that is exhausted from the solenoid valve.
Note 3) The product can be used in temperatures 14 to 140°F (~10 to 60°C) if there is no risk of water droplets forming and freezing.

Refer to page 5 for Precautions on these products.

Performance

Model Effective area [mm²] Sonic conductance C [dm³/(s·bar)] Recommended flow m³/min(ANR) Weight g
AN10-C06 7 1.4 0.8 or less 1
AN10-C07 1
AN15-C08 20 4 3.0 or less 1.4
AN20-C10 30 6 5.0 or less 3.5
AN20-C11 25 5 3.0 or less 3.5
AN30-C12 41 8.2 5.0 or less 5

Note) Recommended flow rate is the flow at 72.5 psi (0.5 MPa) in the inlet pressure.

Construction/Parts/Dimensions

AN10-C to 30-C

Dimensions (mm)

Model A B C ød
AN10-C06 36.5 11 14.5 ø 6
AN10-C07 ø 1/4
AN15-C08 45 13 20 ø 8
AN20-C10 57.5 16.5 30.5 ø 10
AN20-C11 ø 3/8
AN30-C12 71.5 20 43.5 ø 12
Silencer
Metal Body Type
Series AN□00

Noise reduction 30 dB(A)
Low back pressure
Easy mounting

How to Order

<table>
<thead>
<tr>
<th>Body size Symbol</th>
<th>Thread type Symbol</th>
<th>Port size</th>
<th>Port size Applicable model</th>
</tr>
</thead>
<tbody>
<tr>
<td>500</td>
<td>Nil</td>
<td>06</td>
<td>3/4 AN500</td>
</tr>
<tr>
<td>600</td>
<td>R</td>
<td>10</td>
<td>1 AN600</td>
</tr>
<tr>
<td>700</td>
<td>N</td>
<td>12</td>
<td>1 1/4 AN700</td>
</tr>
<tr>
<td>800</td>
<td>NPT</td>
<td>14</td>
<td>1 1/2 AN800</td>
</tr>
<tr>
<td>900</td>
<td></td>
<td>20</td>
<td>2 AN900</td>
</tr>
</tbody>
</table>

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure</td>
<td>Note 1) 145 psi (1.0 MPa)</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>30 dB(A) Note 2)</td>
</tr>
<tr>
<td>Ambient and fluid temp</td>
<td>41 to 140°F (5 to 60°C) Note 3)</td>
</tr>
</tbody>
</table>

Note 1) It indicates the inlet pressure for solenoid valve.
Note 2) The value may vary, depending on the pneumatic circuit or pressure that is exhausted from the solenoid valve.
Note 3) The product can be used in temperatures 14 to 140°F (–10 to 60°C) if there is no risk of water droplets forming and freezing.

Refer to page 5 for Precautions on these products.

Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Effective area [mm²]</th>
<th>Sonic conductance C [dm³/(s·bar)]</th>
<th>Recommended flow [m³/min(ANR)]</th>
<th>Weight [g]</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN500-06</td>
<td>160</td>
<td>32</td>
<td>12 or less</td>
<td>165</td>
</tr>
<tr>
<td>AN600-10</td>
<td>270</td>
<td>54</td>
<td>20 or less</td>
<td>220</td>
</tr>
<tr>
<td>AN700-12</td>
<td>440</td>
<td>88</td>
<td>30 or less</td>
<td>435</td>
</tr>
<tr>
<td>AN800-14</td>
<td>590</td>
<td>118</td>
<td>50 or less</td>
<td>510</td>
</tr>
<tr>
<td>AN900-20</td>
<td>960</td>
<td>192</td>
<td>80 or less</td>
<td>740</td>
</tr>
</tbody>
</table>

Note) Recommended flow rate is the flow at 72.5 psi (0.5 MPa) in the inlet pressure.

Construction/Parts/Dimensions

AN500 to 900

Dimensions (mm)

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size R, NPT</th>
<th>A</th>
<th>B</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN500-06</td>
<td>3/4</td>
<td>107</td>
<td>46</td>
<td>36</td>
</tr>
<tr>
<td>AN600-10</td>
<td>1</td>
<td>127</td>
<td>50</td>
<td>41</td>
</tr>
<tr>
<td>AN700-12</td>
<td>1 1/4</td>
<td>186</td>
<td>74</td>
<td>50</td>
</tr>
<tr>
<td>AN800-14</td>
<td>1 1/2</td>
<td>217</td>
<td>74</td>
<td>55</td>
</tr>
<tr>
<td>AN900-20</td>
<td>2</td>
<td>256</td>
<td>86</td>
<td>65</td>
</tr>
</tbody>
</table>
**Warning**

1. The silencer clogging may result in a blocked exhaust port.
   Provide a safety design so as not to cause the whole system to malfunction.

**Caution**

1. The silencer is intended to reduce the noise of compressed air that is exhausted from the pneumatic equipment.
   Since noises generated by sources other than the exhaust, such as noise generated inside piping, equipment vibration and solenoid valve switching, cannot be reduced, locate the cause of these noises and take countermeasures.
   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 value of the noise reduction may vary, depending on the pneumatic circuit or pressure that is exhausted from the solenoid valve.

### Selection

1. When selecting the silencer, the sonic conductance (including combined sonic conductance) of the silencer should be larger than that of the solenoid valve.
   \[ \text{Sonic conductance } C = \text{Effective area} / 5 \]

2. Use within the range of specifications.

### Operating Environment

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.

### Maintenance

1. The sound absorbing material is not replaceable.
   Since the sound absorbing material is not replaceable, never disassemble the product.

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.

---

### tightening torque

<table>
<thead>
<tr>
<th>Connection thread</th>
<th>Applicable tightening torque N·m</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 3/4</td>
<td>28 to 30</td>
</tr>
<tr>
<td>R1</td>
<td>36 to 38</td>
</tr>
<tr>
<td>R1 1/4</td>
<td>40 to 42</td>
</tr>
<tr>
<td>R1 1/2</td>
<td>48 to 50</td>
</tr>
<tr>
<td>R2</td>
<td>48 to 50</td>
</tr>
</tbody>
</table>

---

**Warning**

1. If the silencer body is made of resin and is tightened too much, the silencer may be damaged.

**Caution**

1. 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 is made of resin**
  Hold the tip of the 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.
  Tighten the AN05-M5 by hand completely until the ends of the fitting come into contact with the mounting surface. Then apply additional tightening. Note that the additional tightening should be 30° or less. (Tighten it with 0.1 N·m or less.)

- **When the body is made of metal**
  Within the recommended tightening torque shown in the table below, use a wrench on the hexagonal flats and tighten.

---

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<td>40 to 42</td>
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<tr>
<td>R1 1/2</td>
<td>48 to 50</td>
</tr>
<tr>
<td>R2</td>
<td>48 to 50</td>
</tr>
</tbody>
</table>

---

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.

---

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1. If the silencer body is made of resin and is tightened too much, the silencer may be damaged.

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  Tighten the AN05-M5 by hand completely until the ends of the fitting come into contact with the mounting surface. Then apply additional tightening. Note that the additional tightening should be 30° or less. (Tighten it with 0.1 N·m or less.)

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

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<thead>
<tr>
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<th>Applicable tightening torque N·m</th>
</tr>
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<td>48 to 50</td>
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</tbody>
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### Silencers/Exhaust Cleaner

#### Series AN□/Series AMC

<table>
<thead>
<tr>
<th>Silencers</th>
<th>Series</th>
<th>Noise reduction</th>
<th>Nominal filtration rating</th>
<th>Oil mist removal ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard type</td>
<td>AN□00</td>
<td>30 dB (A)</td>
<td>100 µm 150 µm</td>
<td>—</td>
</tr>
<tr>
<td>Compact type</td>
<td>AN□03</td>
<td>25 dB (A)</td>
<td>100 µm</td>
<td>—</td>
</tr>
<tr>
<td>Metal case type</td>
<td>25□</td>
<td>19 dB (A)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>BC sintered body type</td>
<td>AN101-01 AN10-01</td>
<td>16 dB (A)</td>
<td>100 µm</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>AN120-M5 AN120-M3</td>
<td>21 dB (A)</td>
<td>70 µm</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18 dB (A)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 dB (A)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>One-touch fitting</td>
<td>AN□□□□-KM</td>
<td>25 dB (A)</td>
<td>100 µm</td>
<td>—</td>
</tr>
<tr>
<td>connection type</td>
<td></td>
<td>30 dB (A)</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>High noise reduction</td>
<td>AN□02</td>
<td>35 dB (A)</td>
<td>50 µm</td>
<td>—</td>
</tr>
<tr>
<td>type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High noise reduction</td>
<td>ANA1</td>
<td>40 dB (A)</td>
<td>30 µm</td>
<td>—</td>
</tr>
<tr>
<td>type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High noise reduction</td>
<td>ANB1</td>
<td>38 dB (A)</td>
<td>30 µm</td>
<td>—</td>
</tr>
<tr>
<td>type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhaust cleaner</td>
<td>AMC</td>
<td>35 dB (A)</td>
<td>0.3 µm 99.9%</td>
<td>—</td>
</tr>
</tbody>
</table>

#### Precautions/Specific Product Precautions

- **Exhaust Cleaner**
  - Ensures clean plant air, reduces noise pollution by over 35 dB (A), and removes over 99.9% of all oil mist.

#### Related Products
- Exhaust Cleaner for Vacuum (Series AMV)
- Exhaust Cleaner for Clean Room (Series AMP)
Silencer
Standard Type
Series AN□00

How to Order

Over 30 dB (A) noise reduction
Low back pressure
Compact and easy mounting

AN 400 04

Body size
Thread type
Port size

Thread type
Nil R
N NPT

200
300
400
500
600
700
800
900

02 1/4
03 3/8
04 1/2
06 3/4
10 1
12 1 1/4
14 1 1/2
20 2

Specifications

Fluid
Max. operating pressure (1)
Noise reduction
Ambient and fluid temperature

Compressed air
1.0 MPa
30 dB (A)
5 to 60°C (2)

Note 1) It indicates the inlet pressure for solenoid valve.
Note 2) It can operate in temperature between –10 to 60°C if there is no risk of the moisture in the air freezing.

Refer to page 5-10-13 for Precautions on these products.

Model

Model
Port size
Effective area (mm²)
Recommended flow (m³/min (ANR))
Weight (g)
Dimensions (mm)

AN200-02
1/4
35
3 or less
17
63 22 19

AN300-03
3/8
60
5 or less
25
84 25 22

AN400-04
1/2
90
8 or less
35
92 30 27

AN500-06
3/4
160
12 or less
165
107 46 36

AN600-10
1
270
20 or less
225
132 50 41

AN700-12
1 1/4
440
30 or less
490
200 74 55

AN800-14
1 1/2
590
50 or less
580
233 74 60

AN900-20
2
960
80 or less
820
263 86 70

Construction/Parts/Dimensions

AN200 to 400

End plate
(POM)
Sound absorbing material
(PE sintered body)
Case
(POM)
Hexagonal flats
D
Port size

AN500 to 900

End plate
(SPPC)
Tension bolt
(S20C)
Sound absorbing material
(PE sintered body)
Cover
(SPPC)
Body
(ADC)
Hexagonal flats
D
Port size

Note 1) About the display of product's material
POM: Polyacetal
PE: Polyethylene
SPCC: Carbon steel
S20C: Carbon steel
ADC: Aluminum alloy

Note 2) Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.
Silencer
Compact Type
Series AN03

How to Order

Over 25 dB (A) noise reduction
Space-saving compact type

AN 03

Body size

Thread type

Port size

103
203
303
403

Nil
01
02
03
04

R
1/8
1/4
3/8
1/2

Specifications

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure</td>
<td>1.0 MPa</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>25 dB (A)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>5 to 60°C</td>
</tr>
</tbody>
</table>

Note 1) It indicates the inlet pressure for solenoid valve.
Note 2) It can operate in temperature between –10 to 60°C if there is no risk of the moisture in the air freezing.

Refer to page 5-10-13 for Precautions on these products.

Model

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size R</th>
<th>Effective area (mm²)</th>
<th>Recommended flow (m³/min (ANR))</th>
<th>Weight (g)</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN103-01</td>
<td>1/8</td>
<td>10</td>
<td>0.8 or less</td>
<td>1</td>
<td>23.5 11 —</td>
</tr>
<tr>
<td>AN203-02</td>
<td>1/4</td>
<td>15</td>
<td>1.0 or less</td>
<td>3</td>
<td>36 16 14</td>
</tr>
<tr>
<td>AN303-03</td>
<td>3/8</td>
<td>35</td>
<td>2.0 or less</td>
<td>17</td>
<td>66 22 19</td>
</tr>
<tr>
<td>AN403-04</td>
<td>1/2</td>
<td>60</td>
<td>4.0 or less</td>
<td>25</td>
<td>84 25 22</td>
</tr>
</tbody>
</table>

Construction/Parts/Dimensions

Element (PP sintered body)

Body (PP)

Port size

End plate (POM)

Sound absorbing material (PE sintered body)

Case (POM)

Hexagonal flats

Sound absorbing material (PE sintered body)

Case (POM)

Hexagonal flats

Port size

Note 1) About the display of product’s material

PP: Polypropylene
PE: Polyethylene
POM: Polyacetal

Note 2) Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.
Ideal for the exhaust of a compact valve or pilot air.

Specifications/Model

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AN101-01</th>
<th>AN110-01</th>
<th>AN120-M3</th>
<th>AN120-M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port size (1)</td>
<td>R</td>
<td>R</td>
<td>M3</td>
<td>M5</td>
</tr>
<tr>
<td>Noise reduction (dB (A))</td>
<td>16</td>
<td>21</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Fluid</td>
<td>Compressed air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. operating pressure (2)</td>
<td>1.0 MPa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>5 to 150°C (3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective area (mm²)</td>
<td>20</td>
<td>35</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>9.5</td>
<td>20</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>Dimensions (mm)</td>
<td>A 22.5</td>
<td>38</td>
<td>9</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>B 11</td>
<td>13</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

Note 1) NPT thread for AN101 and AN110 is also available. Model no. of NPT thread is AN101-N01 and AN110-N01.
Note 2) It indicates the inlet pressure for solenoid valve.
Note 3) It can operate in temperatures between –10 to 150°C if there is no risk of the moisture in the air freezing.

Refer to page 5-10-13 for Precautions on these products.

Flow Characteristics (Initial conditions)

Construction/Parts/Dimensions

Note) About the display of product’s material
BC: Copper alloy
Phosphor bronze: Copper alloy
Silencer  
One-touch Fitting Connection Type  
Series AN□□□□-KM□□

Can connect with One-touch fitting directly.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Applicable One-touch fitting size</th>
<th>Noise reduction (dB (A))</th>
<th>Effective area (mm²)</th>
<th>Recommended flow (m³/min (ANR))</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN103-KM6</td>
<td>ø6 (Series KQ)</td>
<td>25</td>
<td>7</td>
<td>0.8 or less</td>
<td>37 11 15</td>
</tr>
<tr>
<td>AN103-X233</td>
<td>ø6 (Series KQ, KJ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN103-X235</td>
<td>ø1/4&quot; (Series KQ, KJ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN203-KM8</td>
<td>ø8 (Series KQ)</td>
<td>30</td>
<td>20</td>
<td>3.0 or less</td>
<td>78 22 54</td>
</tr>
<tr>
<td>AN200-KM10</td>
<td>ø10 (Series KQ)</td>
<td></td>
<td></td>
<td></td>
<td>81 22 54</td>
</tr>
<tr>
<td>AN300-KM10</td>
<td>ø10 (Series KQ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN300-KM12</td>
<td>ø12 (Series KQ)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1) About the display of product’s material  
PP: Polypropylene  
PE: Polyethylene  
C3604: Copper alloy  

Note 2) Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.

JIS Symbol

Refer to page 5-10-13 for Precautions on these products.
Silencer
High Noise Reduction Type

**Series AN□02**

**How to Order**

Over 35 dB (A) noise reduction
Case adopts UL94-V0 grade
Flame resistant material

**Specifications**

<table>
<thead>
<tr>
<th>Fluid</th>
<th>Compressed air</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure (1)</td>
<td>1.0 MPa</td>
</tr>
<tr>
<td>Noise reduction</td>
<td>35 dB (A)</td>
</tr>
<tr>
<td>Ambient and fluid temperature</td>
<td>5 to 60°C (2)</td>
</tr>
</tbody>
</table>

**Note 1)** It indicates the inlet pressure for solenoid valve.
**Note 2)** It can operate in temperature between –10 to 60°C if there is no risk of the moisture in the air freezing.

Refer to page 5-10-13 for Precautions on these products.

**Flow Characteristics (Initial conditions)**

AN202 to 402

<table>
<thead>
<tr>
<th>Model</th>
<th>Port size</th>
<th>Effective area (mm²)</th>
<th>Recommended flow (m³/min (ANR))</th>
<th>Weight (g)</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AN202-02</td>
<td>1/4</td>
<td>35</td>
<td>3 or less</td>
<td>16</td>
<td>64 22 19</td>
</tr>
<tr>
<td>AN302-03</td>
<td>3/8</td>
<td>60</td>
<td>5 or less</td>
<td>33</td>
<td>84 28 24</td>
</tr>
<tr>
<td>AN402-04</td>
<td>1/2</td>
<td>90</td>
<td>8 or less</td>
<td>47</td>
<td>95 34 24</td>
</tr>
</tbody>
</table>

**Construction/Parts/Dimensions**

**Noise Level (Initial conditions)**

AN202 to 402
Condition: 0.5 MPa at inlet pressure of solenoid valve
Measurement distance: 1 m

**Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.**
**Caution on 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**
2. 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 those noises other than those generated by exhaust air.
3. The inlet pressure obtained in the flow characteristic graph of silencer indicates the pressure (P1) prior to silencer. (Refer to the diagram below.)

![Diagram](image)

Inlet pressure for silencer

4. 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.

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

**Selection**

1. Select a model which has a bigger effective area than that of the solenoid valve (including compound effective area).
2. Be certain to use at or below the level of recommended flow.

**Caution**

1. If the silencer body (case) is made of plastic and is tightened too much, the silencer may be damaged. Please follow the procedures below for mounting.

*When the body (case) is made of resin*
Hold the tip of the main body (side without thread) and screw 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. Tighten securely by hand for AN103-01.

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

*When the main body is made of metal (Except BC element) [Series 25]*
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.

**Mounting**

**Tightening Torques for Silencers**

<table>
<thead>
<tr>
<th>Connection thread</th>
<th>Applicable tightening torque (N-m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 1/4</td>
<td>12 to 14</td>
</tr>
<tr>
<td>R 3/8</td>
<td>22 to 24</td>
</tr>
<tr>
<td>R 1/2</td>
<td>28 to 30</td>
</tr>
<tr>
<td>R 3/4</td>
<td>28 to 30</td>
</tr>
<tr>
<td>R 1</td>
<td>36 to 38</td>
</tr>
<tr>
<td>R 1 1/4</td>
<td>40 to 42</td>
</tr>
<tr>
<td>R 1 1/2</td>
<td>48 to 50</td>
</tr>
<tr>
<td>R 2</td>
<td>48 to 50</td>
</tr>
</tbody>
</table>

2. Make sure not to apply a lateral load to the body during or after the installation.

3. When the main body of the silencer is loosened by vibration, etc. of equipment on which a silencer is assembled, apply glue to threads to prevent from loosing 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.
**Air Preparation: Accessories**

**Silencers Series (N)AN**

**Series (N)AN Silencer**

M3, M5, 1/8 Sintered Bronze

Suitable for miniature valves and pilot air exhaust ports

13 - 21 dB noise reduction

---

**Technical Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>NAN101-01</th>
<th>NAN110-01</th>
<th>NAN120-M3</th>
<th>NAN120-M5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Size</td>
<td>1/8&quot;*</td>
<td>1/8&quot;*</td>
<td>M3</td>
<td>M5</td>
</tr>
<tr>
<td>Noise Reduction (dB)</td>
<td>16</td>
<td>21</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Max Operating Pressure</td>
<td>1MPa / 145PSI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient &amp; Fluid Temperature</td>
<td>5 - 150°C / 40 - 300°F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Effective Orifice mm² (Cv)</td>
<td>20 (1.1)</td>
<td>35 (1.9)</td>
<td>1 (0.05)</td>
<td>5 (0.27)</td>
</tr>
<tr>
<td>Weight (gf)</td>
<td>9.5</td>
<td>20</td>
<td>1</td>
<td>3.3</td>
</tr>
</tbody>
</table>

*Tapered thread ISO7/1

---

**Symbols**

- **Dimensions**

---

**Series (N)AN Silencer**

1/4~2

Over 30 dB noise reduction

Low back pressure

Compact and easy mounting

---

**Technical Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Port Size* NPT</th>
<th>Effective Orifice mm² (Cv)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAN200-H02</td>
<td>1/4&quot;</td>
<td>35 (1.9)</td>
</tr>
<tr>
<td>NAN300-H03</td>
<td>1/2&quot;</td>
<td>60 (3.3)</td>
</tr>
<tr>
<td>NAN400-N04</td>
<td>1&quot;</td>
<td>90 (5.0)</td>
</tr>
<tr>
<td>NAN500-N06</td>
<td>1 1/8&quot;</td>
<td>160 (8.8)</td>
</tr>
<tr>
<td>NAN600-N10</td>
<td>1&quot;</td>
<td>270 (15)</td>
</tr>
<tr>
<td>NAN700-N12</td>
<td>1 1/8&quot;</td>
<td>440 (24)</td>
</tr>
<tr>
<td>NAN800-N14</td>
<td>1 1/8&quot;</td>
<td>590 (33)</td>
</tr>
<tr>
<td>NAN900-N20</td>
<td>1&quot;</td>
<td>960 (53)</td>
</tr>
</tbody>
</table>

Note: When ordering PT Ports, remove (N) from Model Number

Eg: AN200-02

---

**How To Order**

**Series AN Silencer**

- AN120-M3 (M3)
- AN120-M5 (M5)
- AN110-N01 (1/8 PT)
- AN101-01 (1/8 PT)

---

**Symbols**

- **Dimensions**

---

**How To Order**

**Series NAN Silencer**

- NAN120-M3 (M3)
- NAN120-M5 (M5)
- NAN110-N01 (1/8 NPT)
- NAN101-01 (1/8 NPT)