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

Symbol

How to Order

AN 20 – □ 02

Body size

Symbol
05
10
15
20
30
40

Thread type

Nil	M thread
	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

Fluid	Compressed air
Max. operating pressure Note 1)	1.0 MPa
Noise reduction	30 dB(A) Note 2)
Ambient and fluid temperature	5 to 60ºC 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 –10 to 60ºC if there is no risk of water droplets forming and freezing.

Refer to page 678 for Precautions on these products.

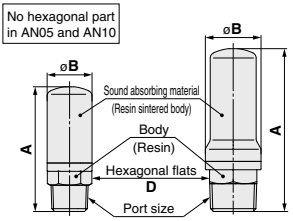
Performance

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

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

Construction/Parts/Dimensions

AN05/10/20 **AN15/30/40**

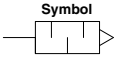


Dimensions (mm)

Model	Port size R, NPT	A	B	D
AN05-M5	M5 x 0.8	15	6.5	–
AN10-01	1/8	23	11	–
AN15-02	1/4	32	16	14
AN20-02	1/4	45	16.5	14
AN30-03	3/8	58.5	20	17
AN40-04	1/2	68	24	21

Silencer
Compact Resin Type/One-touch Fitting Connection
Series AN10 to 30-C RoHS

Symbol



How to Order

AN 20 – C 10

Body size

Symbol
10
15
20
30

Connection type

Symbol	Connection type
C	One-touch fitting connection

Applicable one-touch fitting size

Symbol	Port size	Applicable model
06	ø6	AN10
07	ø1/4	AN10
08	ø8	AN15
10	ø10	AN20
11	ø3/8	AN20
12	ø12	AN30

Specifications

Fluid	Compressed air
Max. operating pressure Note 1)	1.0 MPa
Noise reduction	30 dB(A) Note 2)
Ambient and fluid temperature	5 to 60ºC 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 –10 to 60°C if there is no risk of water droplets forming and freezing.

Refer to page 678 for Precautions on these products.

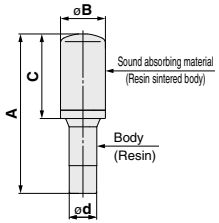
Performance

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 0.5 MPa in the inlet pressure.

Construction/Parts/Dimensions

AN10-C to 30-C



Dimensions (mm)

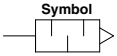
Model	A	B	C	ød
AN10-C06	36.5	11	14.5	ø6
AN10-C07				ø1/4
AN15-C08	45	13	20	ø8
AN20-C10	57.5	16.5	30.5	ø10
AN20-C11				ø3/8
AN30-C12	71.5	20	43.5	ø12

Silencer
Metal Body Type
Series AN□00

RoHS

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

Symbol



How to Order

AN 500 – □ 06

Body size

Symbol
500
600
700
800
900

Thread type

Symbol	Type
Nil	R
N	NPT

Port size

Symbol	Port size	Applicable model
06	3/4	AN500
10	1	AN600
12	1 1/4	AN700
14	1 1/2	AN800
20	2	AN900

Specifications

Fluid	Compressed air
Max. operating pressure Note 1)	1.0 MPa
Noise reduction	30 dB(A) Note 2)
Ambient and fluid temperature	5 to 60ºC 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 –10 to 60°C if there is no risk of water droplets forming and freezing.

Refer to page 678 for Precautions on these products.

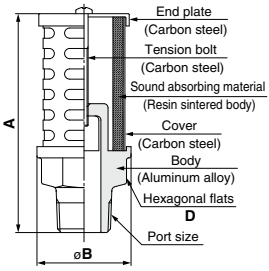
Performance

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

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

Construction/Parts/Dimensions

AN500 to 900



Dimensions (mm)

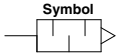
Model	Port size R, NPT	A	B	D
AN500-06	3/4	107	46	36
AN600-10	1	127	50	41
AN700-12	1 1/4	186	74	50
AN800-14	1 1/2	217	74	55
AN900-20	2	256	86	65

Silencer
Metal Case Type
Series 25

RoHS

Exhaust in only one direction
Prevents scattering of mist and noise.

Symbol



How to Order

25 10 – □ 002

Body size

04
05
06
07
08
10
11

Thread type

Symbol	Type
Nil	R
N	NPT

Port size

Symbol	Port size	Applicable model
002	1/4	2504, 2510
003	3/8	2505, 2511
004	1/2	2506
006	3/4	2507
010	1	2508

Specifications

Fluid	Compressed air
Max. operating pressure (1)	1.0 MPa
Noise reduction	19 dB (A) (2)
Ambient and fluid temperature	5 to 60°C (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) It can operate in temperature between –10 to 60°C if there is no risk of the moisture in the air freezing.

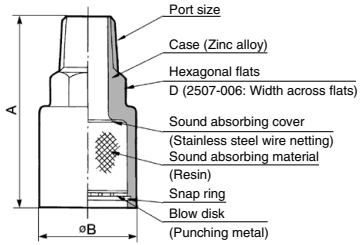
Refer to page 678 for Precautions on these products.

Model

Model	Port size R	Effective area (mm²)	Sonic conductance C [dm³/(s·bar)]	Weight (g)	Dimensions (mm)		
					A	B	D
2504-002	1/4	33.9	6.8	111	62	30	24
2505-003	3/8	45.9	9.2	106	64	30	24
2506-004	1/2	50.0	10.0	113	68	30	24
2507-006	3/4	105.6	21.1	310	88.5	48	35
2508-010	1	129.6	25.9	514	97.5	60	41
2510-002	1/4	17.2	3.4	57	54	22	19
2511-003	3/8	17.2	3.4	55	56	22	19

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

Construction/Parts/Dimensions

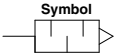


Silencer
BC Sintered Body Type
Series AN

RoHS

Ideal for the exhaust of a compact valve or pilot air.

Symbol



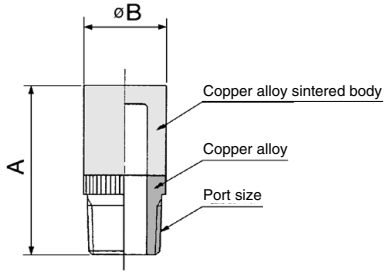
Specifications/Model

Specifications \ Model		AN101-01	AN110-01	AN120-M3	AN120-M5
Port size (1)		R 1/8	R 1/8	M3	M5
Noise reduction (dB (A)) (3)		16	21	13	18
Fluid		Compressed air			
Max. operating pressure (2)		1.0 MPa			
Ambient and fluid temperature		5 to 150°C (4)			
Effective area (mm²)		20	35	1	5
Sonic conductance C [dm³/(s·bar)]		4	7	0.2	1
Mass (g)		8.3	17	1	3.4
Dimensions (mm)	**A**	21	34	9	15.5
	B	11	13	6	8

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) The value may vary, depending on the pneumatic circuit or pressure that is exhausted from the solenoid valve.
Note 4) 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 678 for Precautions on these products.

Construction/Parts/Dimensions



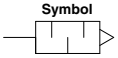
Note) Surface treatment: Nickel plated

Silencer
High Noise Reduction Type
Series AN□02

RoHS

Over 35 dB (A) noise reduction
Case adopts flame resistant material

Symbol



How to Order

AN 402 – □ 04

Body size

202
302
402

Thread type

Symbol	Type
Nil	R
N	NPT

Port size

Symbol	Port size	Applicable model
02	1/4	AN202
03	3/8	AN302
04	1/2	AN402

Specifications

Fluid	Compressed air
Max. operating pressure (1)	1.0 MPa
Noise reduction	35 dB (A) (2)
Ambient and fluid temperature	5 to 60°C (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) 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 678 for Precautions on these products.

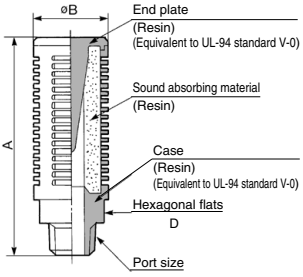
Model

Model	Port size R	Effective area (mm²)	Sonic conductance C [dm³/(s·bar)]	Weight (g)	Dimensions (mm)		
					A	B	D
AN202-02	1/4	35	7	16	64	22	19
AN302-03	3/8	60	12	33	84	28	24
AN402-04	1/2	90	18	47	95	34	24

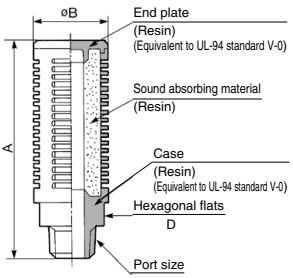
Note) Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.

Construction/Parts/Dimensions

AN202



AN302/402

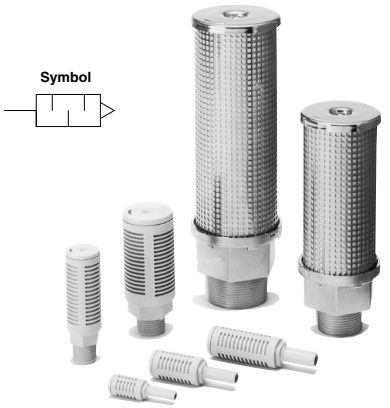


Silencer
40 dB (A): High Noise Reduction Type
Series ANA1

RoHS

A high noise reduction type silencer keeps the noise level inside a plant below 85 dB (A).

Symbol



How to Order

AN A1 – 03

Port size

Symbol	Port size	Connection
01	1/8	Screw-in *
02	1/4	
03	3/8	
04	1/2	
06	3/4	
10	1	
12	1 1/4	
14	1 1/2	
20	2	
C08	ø8 (Applicable One-touch fitting size)	One-touch fitting
C10	ø10 (Applicable One-touch fitting size)	
C12	ø12 (Applicable One-touch fitting size)	

* Only R is available.

Series

Symbol	Noise reduction
A1	40 dB (A)

Specifications

Fluid	Compressed air
Max. operating pressure (1)	1.0 MPa
Noise reduction	40 dB (A) (2)
Ambient and fluid temperature	5 to 60°C

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.

Refer to page 678 for Precautions on these products.

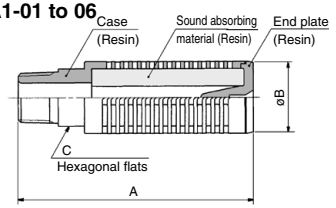
Model (Screw-in connection)

Model	Port size R	Effective area (mm²)	Sonic conductance C [dm³/(s·bar)]	Weight (g)	Dimensions (mm) A	B	C
ANA1-01	1/8	10	2	4	37	16	–
ANA1-02	1/4	15	3	14	64	22	18
ANA1-03	3/8	35	7	22	84	25	21
ANA1-04	1/2	60	12	36	98	30	24
ANA1-06	3/4	90	18	110	111	46	36
ANA1-10	1	160	32	180	132	50	41
ANA1-12	1 1/4	280	56	544	200	74	60
ANA1-14	1 1/2	450	90	612	230	74	60
ANA1-20	2	610	122	873	271	86	70

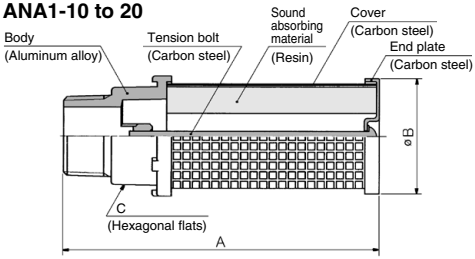
Note) Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.

Construction/Parts/Dimensions

ANA1-01 to 06



ANA1-10 to 20



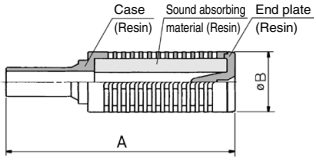
Model (One-touch fitting connection)

Model	Applicable One-touch fitting size	Effective area (mm²)	Recommended flow (m³/min (ANR))	Weight (g)	Dimensions (mm) A	B
ANA1-C08	ø8	11	0.8 or less	5	58	16
ANA1-C10	ø10	15	1.2 or less	13	76	22
ANA1-C12	ø12	33	2.5 or less	19	95	25

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

Construction/Parts/Dimensions

ANA1-C08 to C12



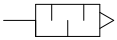
SMC

Silencer
38 dB (A): High Noise Reduction Type
Series ANB1

RoHS

Series ANB1 <noise reduction effect: 38 dB (A)> that has a larger effective area with the same port size as Series ANA1. It is also available for common exhaust from manifolds, etc.

Symbol



How to Order

AN B1 – 03

Port size

Symbol	Port size	Connection
01	1/8	Screw-in*
02	1/4	
03	3/8	
04	1/2	
06	3/4	
10	1	
12	1 1/4	
14	1 1/2	
C06	ø6 (Applicable One-touch fitting size)	One-touch fitting
C08	ø8 (Applicable One-touch fitting size)	
C10	ø10 (Applicable One-touch fitting size)	

* Only R is available.

Series

Symbol	Noise reduction
B1	38 dB (A)

Specifications

Fluid	Compressed air
Max. operating pressure (1)	1.0 MPa
Noise reduction	38 dB (A) (2)
Ambient and fluid temperature	5 to 60°C

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.

Refer to page 678 for Precautions on these products.

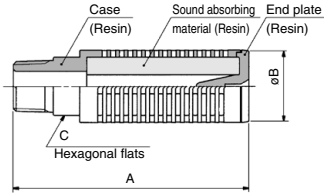
Model (Screw-in connection)

Model	Port size R	Effective area (mm²)	Sonic conductance C [dm³/(s·bar)]	Weight (g)	Dimensions (mm)		
					A	**B**	**C**
ANB1-01	1/8	15	3	10	51	22	–
ANB1-02	1/4	35	7	22	81	25	18
ANB1-03	3/8	60	12	35	93	30	21
ANB1-04	1/2	90	18	94	107	46	24
ANB1-06	3/4	160	32	175	133	50	41
ANB1-10	1	280	56	462	190	74	41
ANB1-12	1 1/4	450	90	612	230	74	60
ANB1-14	1 1/2	610	122	871	271	86	70

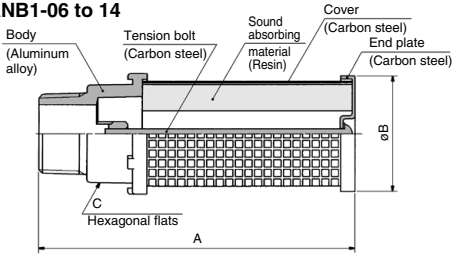
Note) Recommended flow rate is the flow at 0.5 MPa in the inlet pressure.

Construction/Parts/Dimensions

ANB1-01 to 04



ANB1-06 to 14

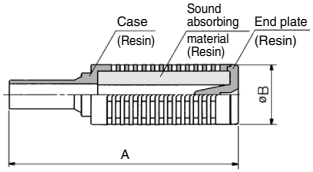


Model (One-touch fitting connection)

Model	Applicable One-touch fitting size	Effective area (mm²)	Recommended flow (m³/min (ANR))	Weight (g)	Dimensions (mm)	
					A	**B**
ANB1-C06	ø6	8	0.6 or less	5	52	16
ANB1-C08	ø8	13	1.0 or less	12	73	22
ANB1-C10	ø10	28	2.0 or less	28	94	25

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

Construction/Parts/Dimensions



Series AN
Specific Product Precautions (Silencers)

Be sure to read before handling.

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 [$dm^3/(s \cdot bar)$] = Effective area [mm^2] ÷ 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.