Exhaust Flow Control Valve with Silencer

New

RoHS

Integrated Restrictor and Silencer

Reduced assembly time and number of components

A push-lock type and a type with a compact indicator are available.

Resin body

Weight reduced by up to **80%**,
Lightweight (**7.6 g** ⬅ 34 g)

* Comparison between the ASN2-02A and the existing ASN2-02 (metal body)

The body's outer diameter size is the same as the existing model.

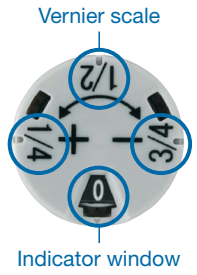
The speed can be adjusted on the valve side.

Speed control is possible even if a cylinder is installed at a high or narrow place where it is not accessible.

With the compact indicator, the flow rate can be controlled numerically.

Contributes to reduced setting errors and work hours by managing flow rate figures (indicator)

Flow rate can be controlled numerically with the indicator window.



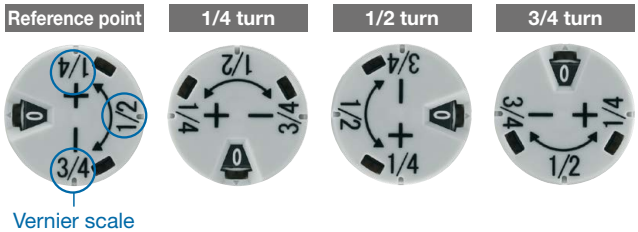
Indicator window	Vernier scale
0	1/4
	1/2
	3/4
⋮	⋮
10*1	1/4
	1/2
	3/4

*1 M5, U10/32 makes 8 rotations.

■ Due to the vernier indication, it is possible to configure fine settings in 1/4 increments.

32 divisions	M5, U10/32
40 divisions	1/8, 1/4, 3/8, 1/2

■ Reduces work-hours and setting mistakes



With silencer

Noise reduced by 20 dB or more at max. flow rate

Mounting example

Variations

Model	Port size	C values: Sonic conductance [dm³/(s·bar)]
ASN2(S)-M5A	M5 x 0.8	0.36
ASN2(S)-U10/32A	10-32UNF	0.36
ASN2(S)-(N)01A	1/8	0.72
ASN2(S)-(N)02A	1/4	1.3
ASN2(S)-(N)03A	3/8	3.32
ASN2(S)-(N)04A	1/2	4.9

ASN2□-A Series

SMC

CAT.ES20-321A

Exhaust Flow Control Valve with Silencer

ASN2□-A Series

RoHS

Model

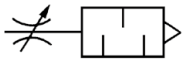
Model	Port size	Weight [g]	
		Push-lock	With compact indicator
ASN2(S)-M5A	M5 x 0.8	1.5	2.1
ASN2(S)-U10/32A	10-32UNF		
ASN2(S)-(N)01A	1/8	4.3	5.4
ASN2(S)-(N)02A	1/4	7.6	9.1
ASN2(S)-(N)03A	3/8	12.8	15.0
ASN2(S)-(N)04A	1/2	24.0	26.8

With compact indicator

Specifications

Proof pressure	1.5 MPa
Operating pressure range	0 to 1 MPa
Ambient and fluid temperatures	–5 to 60°C (No freezing)

Symbol



How to Order

ASN2□–□03A

Push-lock type

Nil	Without compact indicator
S	With compact indicator

Thread type

Nil	Metric thread (M5)
	Unified thread (10-32 UNF)
	R
N	NPT

Port size

M5	M5 x 0.8
U10/32	10-32UNF
01	1/8
02	1/4
03	3/8
04	1/2

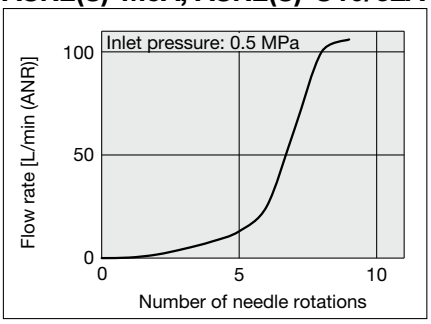
Flow Rate and Sonic Conductance

Model	ASN2(S)-M5A	ASN2(S)-01A	ASN2(S)-02A	ASN2(S)-03A	ASN2(S)-04A
C values: Sonic conductance $dm^3/(s \cdot bar)$	0.36	0.72	1.3	3.32	4.9
b values: Critical pressure ratio	0.15	0.35			

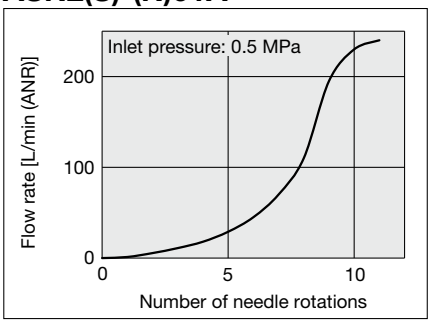
Needle Valve: Flow Rate Characteristics

∗ The flow rate characteristics are representative values.

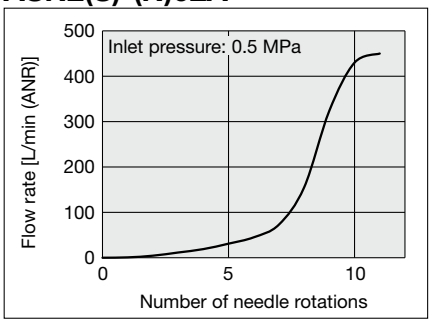
ASN2(S)-M5A, ASN2(S)-U10/32A



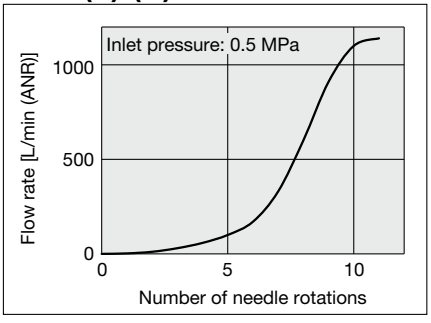
ASN2(S)-(N)01A



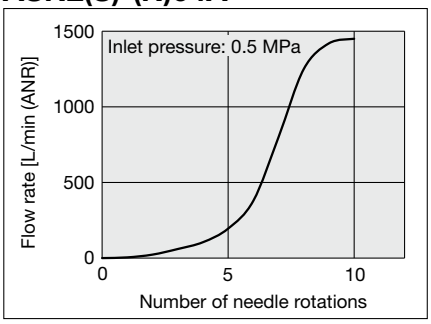
ASN2(S)-(N)02A



ASN2(S)-(N)03A



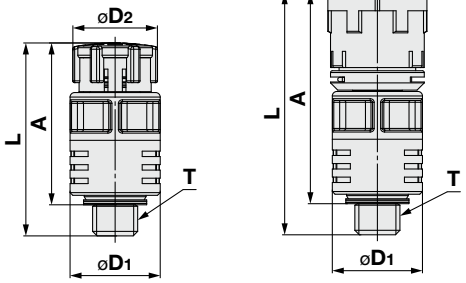
ASN2(S)-(N)04A



Dimensions

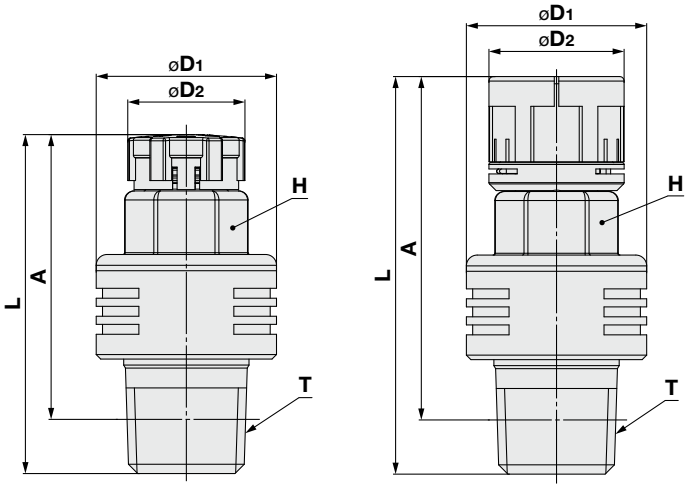
Seal method: Gasket seal

For M5, 10-32UNF



With compact indicator

For R, NPT thread



With compact indicator

Model	**T** (R, NPT)	**øD1**	**øD2**	**L**		**A**∗1		With compact indicator					**H** (Width across flats)
								øD2	**L**		**A**∗1		
				Locked	Unlocked	Locked	Unlocked		Locked	Unlocked	Locked	Unlocked	
ASN2(S)-M5A	M5 x 0.8	10	9.4	21.4	22.5	18.0	19.1	11	26.9	28.0	23.4	24.5	—
ASN2(S)-U10/32A	10-32UNF	10	9.4	21.4	22.5	18.0	19.1	11	26.9	28.0	23.4	24.5	—
ASN2(S)-(N)01A	1/8	15	12	32.4	33.8	28.4	29.8	14	38.0	39.5	34.0	35.5	10 (9.5)
ASN2(S)-(N)02A	1/4	20	13	37.6	39.2	31.6	33.2	15	44.1	45.6	38.1	39.6	12 (12.7)
ASN2(S)-(N)03A	3/8	25	16.6	42.0	43.6	35.6	37.2	17.7	49.0	50.5	42.7	44.2	14 (14.3)
ASN2(S)-(N)04A	1/2	30	18.8	51.3	52.9	43.1	44.7	19.7	58.7	60.2	50.5	52.0	21 (20.6)

∗1 Reference dimensions of threads after installation

∗ The values in ( ) are for NPT thread.

⚠ Specific Product Precautions

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For flow control equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website.

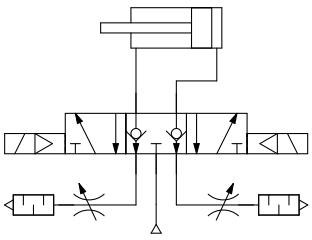
Design / Selection

1. Operation manual

Install the product and operate it only after reading the operation manual carefully and understanding its contents. Also, keep the manual where it can be referred to as necessary.

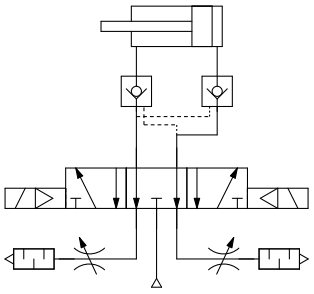
2. Example of inapplicable circuits

(a) Perfect valve
(VF66□□, VS7-6-FPG, VS7-8-FPG)



Residual pressure behind the exhaust needle may cause the check valve in the perfect valve to malfunction.

(b) Pilot check valve between actuator and valve



Residual pressure behind the exhaust needle may cause the pilot check valve to malfunction.

Mounting

1. If installing flow controls to valve ports, interference may occur with the fittings. Please consult the catalog before installing.

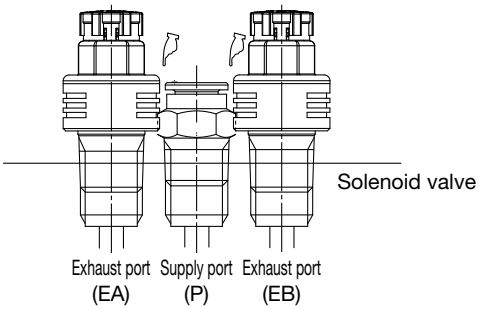


Fig. Example of the interference with fittings

Maintenance

1. Since taper threads are made of resin, minute leakage may gradually occur due to stress relaxation.

⚠ 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.

⚠ 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.

*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.

⚠ 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. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

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, combustion 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.

⚠ Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not allowed.
Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country. 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) **Suction cups (Vacuum pads) are excluded from this 1 year warranty.**
A suction cup (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 suction cup (vacuum pad) or failure due to the deterioration of rubber material are not allowed 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.

⚠ Safety Instructions	Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

SMC Corporation