

Speed Controller Standard

Series AS

Metal Body Elbow Style

RoHS

Minimizes installation time and cost
Fittings and tubes are not necessary because this type screws directly into the actuator. Thus, piping labour and cost can be eliminated.

Body swivels 360°
Swivel type allows free setting of piping.

Speed can be accurately controlled even at low speeds.

Constant speed control is possible. Retainer prevents accidental loss of needle



Specifications

Specifications	Model	AS1200-M3	AS1400-M3	AS12□0-M5	AS12□0-U10/32	AS22□0-01	AS22□0-02	AS32□0-03	AS42□0-04
Port size		M3		M5	10-32UNF	1/8	1/4	3/8	1/2
Applicable cylinder bore size (mm)		2.5, 4, 6		6, 10, 15, 20, 25		20, 25, 32, 40		32, 40, 50, 63, 80, 100	
Proof pressure		1.05MPa		1.5MPa					
Max. operating pressure		0.7MPa		1MPa					
Min. operating pressure		0.1MPa		0.1MPa					
Ambient and fluid temperature		-5 to 60°C (No freezing)							
Number of needle rotations		10 turns		8 turns		10 turns			
Option		—		Hexagonal lock nut		Sealant, Hexagonal lock nut, Nickel plated			
Weight (g)		3	6	10		29	64	106	181
Controlled flow (Free flow)	Air flow (l/min(ANR))	20		105		230	460	920	1700
	Effective area (mm ²)	0.3		1.6		3.5	7	14	26

Note 1) Supply pressure: 0.5MPa. Temperature: 20°C.

Note 2) Meter-in type not available on AS1200-M3, AS1400-M3

Note 3) Distinction between meter-out/meter-in types by appearance.

They are distinguished by the lock nut. The meter-out types is zinc chromated, while the meter-in type is black zinc chromate plated.

Note 4) AS12□0, AS1400, AS22□0: Brass parts are electroless nickel plated, provided as standard (N specification).

How to Order

AS 2 2 0 0 - [] 01 - S [] - []

Body size

1	M3, M5
2	1/8, 1/4
3	3/8
4	1/2

Style

2	Direct connection elbow
4	Direct connection flat elbow

Controlled

0	Meter-out
1	Meter-in

Thread

Symbol	Cylinder side	Tubing side
-	R(PT)	Rc(PT)
	Metric thread (M3, M5)	
	Unified thread (10-32UNF)	
N	NPT	
F	G*	

* Male thread comes with R thread

Made to Order

Lock nut option

-	Hexagonal lock nut
J	Round lock nut

Options

-	None
S	Sealant
N	Electroless nickel plated (AS42□0 Only)

* Indicate symbols in alphabetical order if two options or more desired.

Port size

Symbol	Port size	Model
M3	M3	AS1200-M3 AS1400-M3
M5	M5	AS12□0-M5
U10/32	10-32UNF	AS12□0-U10/32
01	1/8	AS22□0-01
02	1/4	AS22□0-02
03	3/8	AS32□0-03
04	1/2	AS42□0-04

Series AS



EMC-AS_2_0-01A-UK

Series AS

Made to Order

1 Lubricant: Vaseline **X12**

2 Grease-free (Seal: Fluorine Coating) + Throttle Valve (Without Check Valve) **X21**

Ex.) AS2200-01-X12

Ex.) AS2200-01-X21

Note 1) Not particle-free

Note 2) Throttle valve is only compatible with the part no. of the meter-out type.

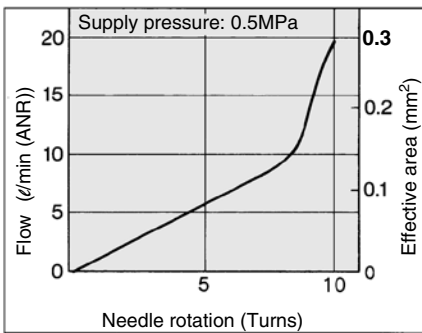
3 Throttle Valve (Without Check Valve) **X214**

Ex.) AS2200-01-X214

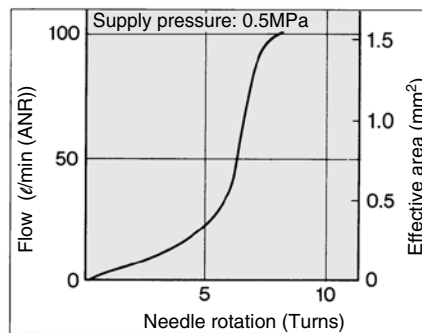
Note) Throttle valve is only compatible with the part no. of the meter-out type.

Needle Valve/Flow Characteristics

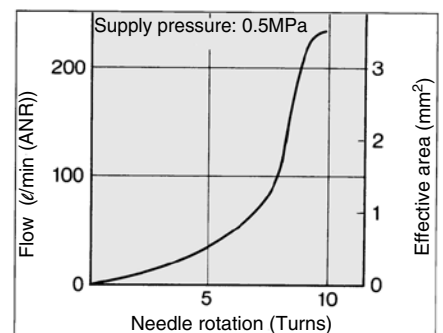
AS1200-M3, AS1400-M3



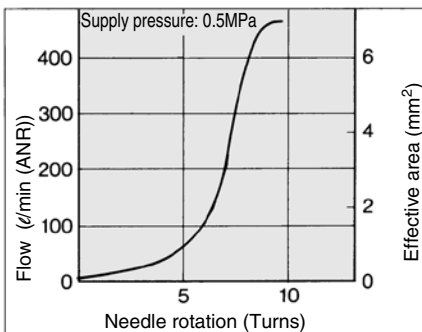
AS12□0-M5, AS12□0-U10/32



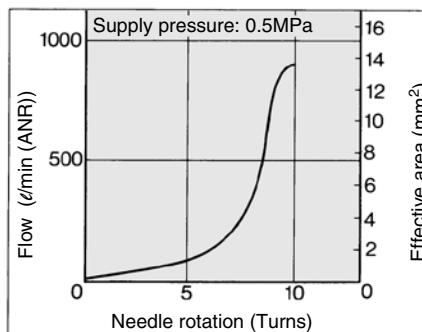
AS22□0-01



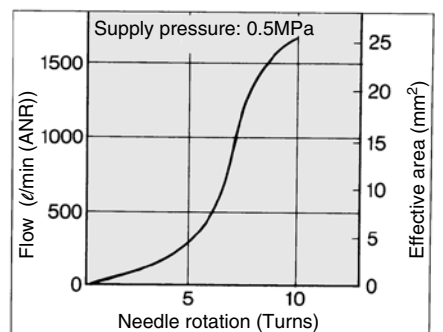
AS22□0-02



AS32□0

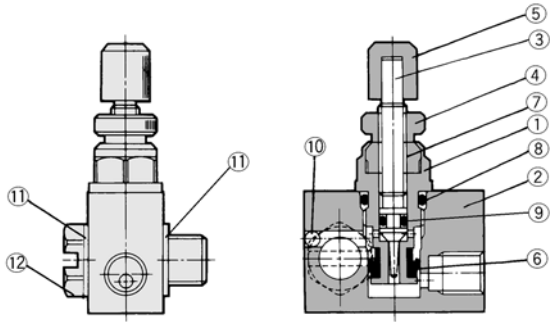


AS42□0



Standard: Metal Body Elbow Style *Series AS*

AS1400-M3/Construction



Component Parts

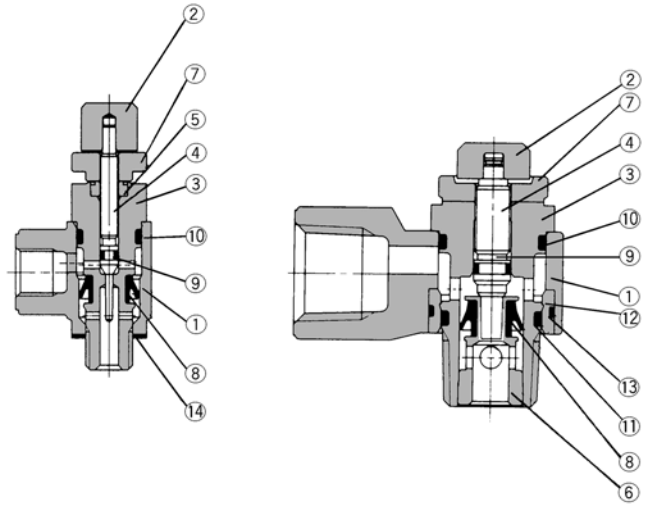
No.	Description	Material	Note
①	Body B	Brass	Electroless nickel plated
②	Body A	Brass	Electroless nickel plated
③	Needle	Brass	Electroless nickel plated
④	Lock nut	Steel	Zinc chromated
⑤	Handle	Brass	Electroless nickel plated
⑥	U-packing	NBR	
⑦	Needle guide	Brass	Electroless nickel plated
⑧	O ring	NBR	
⑨	O ring	NBR	
⑩	Steel ball	Chromium bearing steel	
⑪	Gasket	PVC	
⑫	Joint	Brass	Electroless nickel plated

AS1200-M3, AS12□0-M5, AS22□0/32□0/42□0/Construction

Meter out

AS1200-M3, M5, U10/32

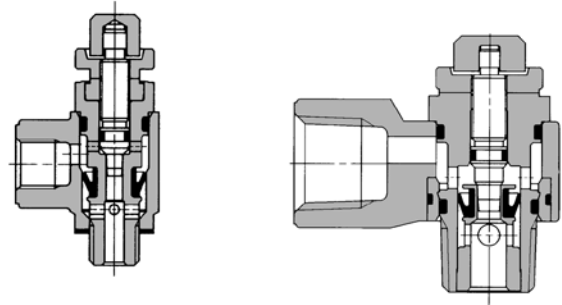
AS2200/3200/4200



Meter in

AS1210-M5, U10/32

AS2210/3210/4210



Component Parts

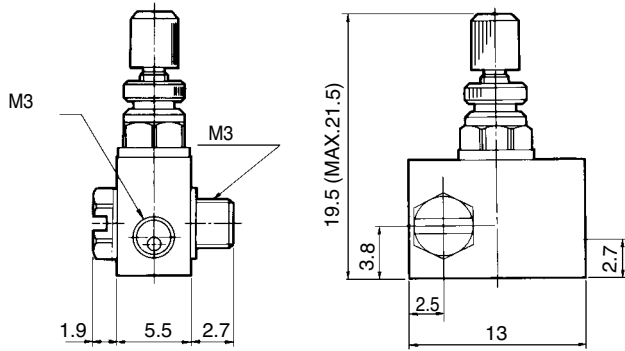
No.	Description	Material	Note
①	Body A	Zinc alloy	
②	Handle	Brass	Electroless nickel plated
③	Body B	Brass	Electroless nickel plated
④	Needle	Brass	Electroless nickel plated
⑤	Needle guide	Brass	Electroless nickel plated
⑥	Seat ring	Brass	Electroless nickel plated ⁽¹⁾
⑦	Lock nut	Steel	Zinc chromated ⁽²⁾
⑧	U-seal	HNBR	
⑨	O ring	NBR	
⑩	O ring	NBR	
⑪	O ring	NBR	
⑫	Bush	PBT	01 to 04 type
⑬	O ring	NBR	01 to 04 type
⑭	Gasket	PVC	M3 type
		NBR, Stainless steel	M5, U10/32 types

Note 1) AS42□0 only: Option symbol "N" addition is electroless nickel plated.

Note 2) Meter-in type: Black zinc chromated

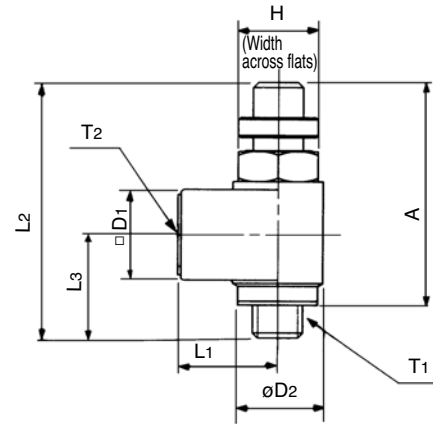
Series AS

AS1400-M3/Dimensions

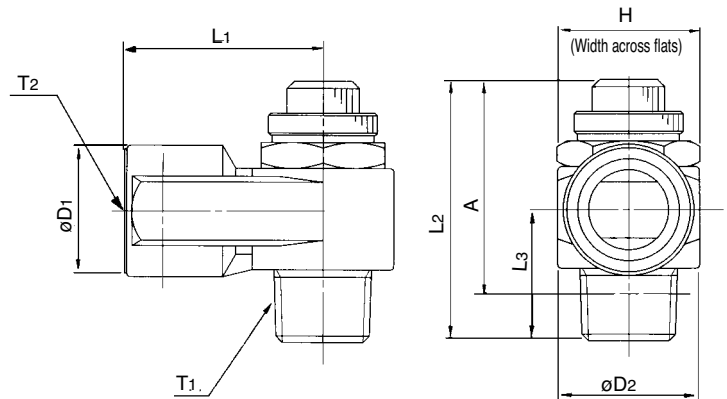


AS-1200-M3, AS12□0-M5, AS22□0, 32□0, 42□0/Dimensions

AS1200-M3 AS12□0-M5



AS22□0/32□0/42□0






Dimensions

Model	T1	T2	H ⁽¹⁾	L1	L2		L3	D1	D2	A	
					MAX.	MIN.				MAX.	MIN.
AS1200-M3	M3	M3	4.5	6.6	23.5	21.5	8	5	5	20.5	18.5
AS1200-M5	M5	M5	8	10	28.3	25.5	10.3	9	9	25	22.2
AS1200-U10/32	10-32UNF	10-32UNF									
AS22□0-01	1/8	1/8	12(12.7)	18	35.5	30.5	13.2	14.3	14.6	32.4	27.4
AS22□0-02	1/4	1/4	17(17.5)	27.2	40.3	35.3	17.5	18	19.5	34.8	29.8
AS32□0-03	3/8	3/8	19	30	45.8	40.8	19.7	22.5	24.3	40.6	35.6
AS42□0-04	1/2	1/2	24(23.8)	38.5	54.7	49.7	25.8	27.5	28.5	47.4	42.4

Note 1) () are the dimensions of "NPT" thread.

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.

-  **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.

- 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.

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 catalogue 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 catalogue.
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.

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, 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 catalogue 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 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.

Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

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