

Speed Controller with One-touch Fitting Elbow Type (Metal Body)

AS Series

Speed controller with One-touch fittings for metal body specifications

- Uses flame resistant resin as standard. (UL standard V-0)



Symbol



Model

Model	Port size	Applicable tubing O.D.				
		4	6	8	10	12
AS12□1-M5	M5 x 0.8	●	●			
AS22□1-01	R 1/8		●	●		
AS22□1-02	R 1/4		●	●	●	
AS32□1-02	R 1/4			●	●	●
AS32□1-03	R 3/8			●	●	
AS42□1-04	R 1/2				●	●

Note 1) ●: Brass parts are electroless nickel plated, provided as standard. (N specifications)

Specifications

Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	- 5 to 60°C (No freezing)
Applicable tubing material	FR double layer, FR Three-layer, FR soft nylon, Nylon, Soft nylon, Polyurethane
Option	Round lock nut, Electroless nickel plated (Note)

Meter-out and meter-in types can be visually differentiated by the lock nut.
The lock nut on the meter-out type is zinc chromated (the round lock nut is electroless nickel plated) while the meter-in type is black zinc chromate plated.
Note) Brass parts are all electroless nickel plated.

How to Order

AS 3 2 0 1 - 03 - F 06 S □ - □ - □

Speed controller

Body size

1	M5 standard
2	01, 02 standard
3	03 standard
4	04 standard

Elbow

Control method

0	Meter-out
1	Meter-in

Thread size

M5	M5 x 0.8
01	R 1/8
02	R 1/4
03	R 3/8
04	R 1/2

With seal

Tube size (Note)

04	φ4
06	φ6
08	φ8
10	φ10
12	φ12

With One-touch fitting

Option

Nil	None
N	Electroless nickel plated

Lock nut option

Nil	Hexagon lock nut
J	Round lock nut

Made to Order
Refer to page 1032 for details.

Note) For applicable tubing O.D. selection, refer to the Model.

Made to Order
Made to Order
(For details, refer to page 1032.)

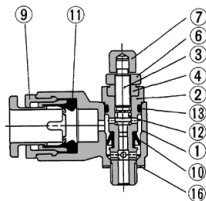
Symbol	Specifications
-X12	Lubricant: Vaseline
-X21	Grease-free (Seal: Fluorine-coated) + Throttle valve (Without check valve)
-X214	Throttle valve (Without check valve)

Note) M5 size: S (with seal) is not necessary.

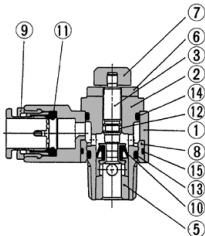
AS Series

Construction

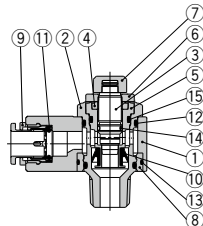
AS1201-M5



AS2201/3201/4201



AS3201-02



Component Parts

No.	Description	Material	Note
1	Body A	Zinc alloy	Chromate plated
2	Body B	Brass	Electroless nickel plated
3	Needle	Brass	Electroless nickel plated
4	Needle guide	Brass	(1)
5	Seat ring	Brass	(2)
6	Lock nut	Steel (3)	Meter-out Zinc chromate plated ^{Note 4)} Meter-in Black zinc chromate plated
7	Handle	Brass	Electroless nickel plated
8	Bushing	PBT	
9	Cassette	PBT/Stainless steel	
10	U-packing	HNBR	
11	Seal	NBR	
12	O-ring	NBR	
13	O-ring	NBR	
14	O-ring	NBR	
15	O-ring	NBR	
16	Gasket	NBR/Stainless steel	M5 port only

Note 1) M5 type, AS32□1-02 type: Electroless nickel plated.

Note 2) AS22□1 type, AS32□ type: Electroless nickel plated.

Note 3) The material of the lock nut option-J (round type) is brass. However, note that only the AS22□1F uses steel.

Note 4) The surface treatment of the lock nut option-J (round type) is electroless nickel plating.

Made to Order



1 Lubricant: Vaseline

X12

Ex.) AS1201-M5-F04-X12

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

X21

Ex.) AS1201-M5-F04-X21

Note 1) Not particle-free

Note 2) This product is a restrictor without a check valve (no control direction).

Be aware that all part numbers are for a meter-out type; there is no part number for a meter-in type.

3 Throttle Valve (Without Check Valve)

X214

Ex.) AS1201-M5-F04-X214

Note) This product is a restrictor without a check valve (no control direction). Be aware that all part numbers are for a meter-out type; there is no part number for a meter-in type.

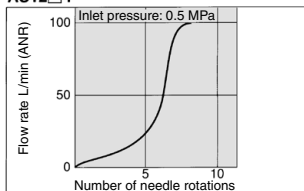
Flow Rate and Sonic Conductance

Model		AS12□1-M5	AS22□1-01	AS22□1-02		AS32□1		AS42□1-04	
Tubing O.D.		ø4, ø6	ø6, ø8	ø6	ø8, ø10	ø8	ø10	ø10	ø12
Controlled flow Free flow	Flow rate (L/min (ANR))	100	230	390	460	790	920	1580	1710
	Sonic conductance dm ³ /(s-bar)	0.3	0.7	1.2	1.4	2.4	2.8	4.8	5.2
Critical pressure ratio	Controlled	0.2	0.25	0.3		0.25		0.25	
	Free	0.4	0.2	0.3		0.2		0.3	

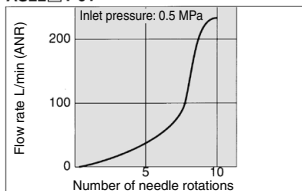
Needle Valve/Flow Rate Characteristics

Note) The flow rate characteristics are representative values.

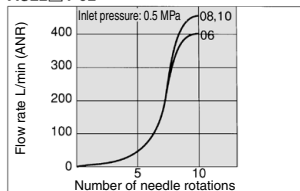
AS12□1



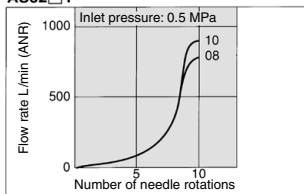
AS22□1-01



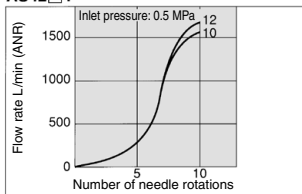
AS22□1-02



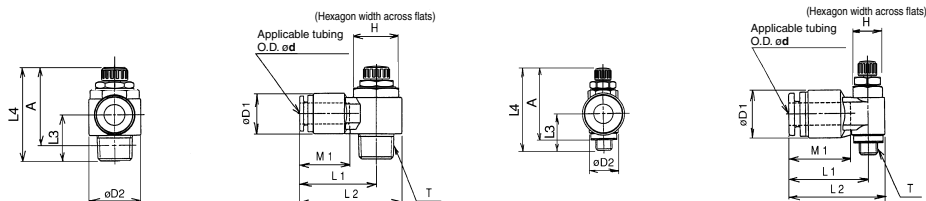
AS32□1



AS42□1



Dimensions



Model	Applicable tubing O.D. ød	T	H	D1	D2	L1	L2	L3	L4 ⁽¹⁾		A ⁽²⁾		M1	Weight (g)		
									Max.	Min.	Max.	Min.				
AS12□1-M5-F04	4	M5 x 0.8	8	13	9	21	25.5	11.2	28.3	25.5	25	22.2	16	13		
AS12□1-M5-F06	6					21.5	26								17	13
AS22□1-01-F06S	6					R ¹ / ₈	12								15.5	14.6
AS22□1-01-F08S	8	18.5	31													
AS22□1-02-F06S	6	R ¹ / ₄	17	15.5	19.5	28.7	38.5	17.2	40.3	35.3	34.8	29.8	17	54		
AS22□1-02-F08S	8														18.5	50
AS22□1-02-F10S	10														18.2	52
AS32□1-02-F08S	8	R ¹ / ₄	19	18.2	24.3	32.7	44.9	21	48.3	43.3	42.8	37.8	21	86		
AS32□1-02-F10S	10					33.3	45.5								18.5	81
AS32□1-03-F08S	8					R ³ / ₈	19								18.2	24.3
AS32□1-03-F10S	10	33.3	45.5	21	88											
AS42□1-04-F10S	10	R ¹ / ₂	24	22.3	28.5			36.1	50.4	24.6	54.7	49.7	47.4	42.4		
AS42□1-04-F12S	12					22	146									

Note 1) Reference dimensions

Note 2) Reference dimensions of thread M5, R after installation.

⚠ Caution

Be sure to read this before handling the products.
Refer to page 11 for safety instructions and pages 19 to 22 for flow control equipment precautions.