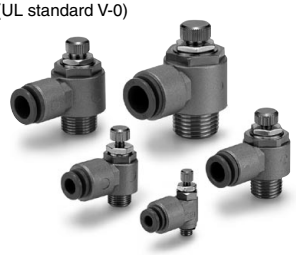
Speed Controller with One-touch Fitting Elbow Type (Metal Body)

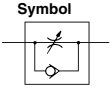
AS Series

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	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

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

With One-touch fitting

Tube size Note)

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

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

With seal

Option

Nil	None
N	Electroless nickel plated

Lock nut option

Nil	Hexagon lock nut
J	Round lock nut

Made to Order
Refer to page 612 for details.

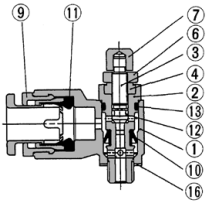
Made to Order

Made to Order
(For details, refer to page 612.)

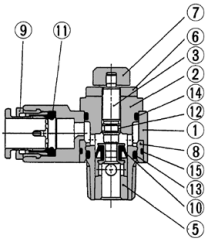
Symbol	Specifications
-X12	Lubricant: Vaseline
-X21	Grease-free (Seal: Fluorine-coated) + Throttle valve (Without check valve)
-X214	Throttle valve (Without check valve)

Construction

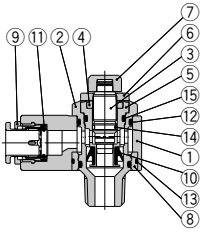
AS1201-M5



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

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

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

Ex.) AS1201-M5-F04-X214

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

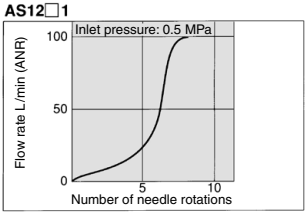
Flow Rate and Sonic Conductance

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 $dm^3/(s \cdot bar)$	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	

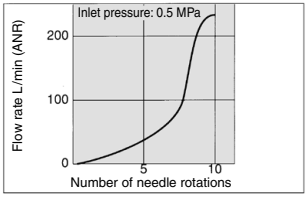
Needle Valve/Flow Rate Characteristics

Note) The flow rate characteristics are representative values.

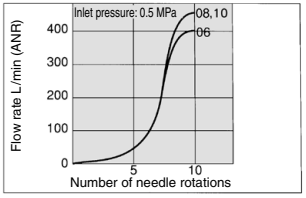
AS12□1



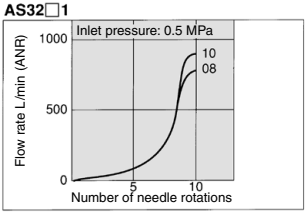
AS22□1-01



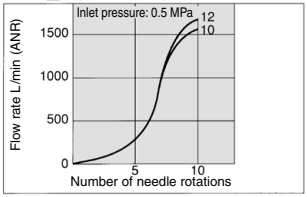
AS22□1-02



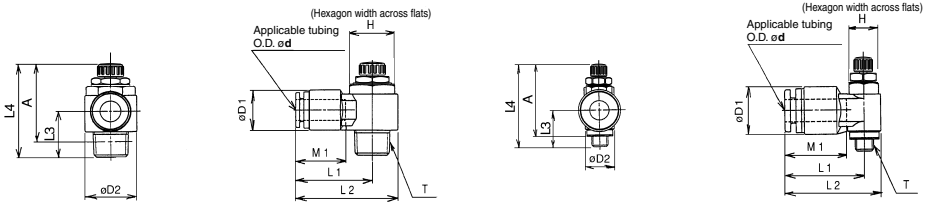
AS32□1



AS42□1



Dimensions



Model	Applicable tubing O.D. ød	T	H	D1	D2	L1	L2	L3	L4 (1) Max.	L4 (1) Min.	A (2) Max.	A (2) Min.	M1	Weight (g)
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	R1/8	12	15.5	14.6	26.6	33.9	13.8	35.5	30.5	32.4	27.4	17	34
AS22□1-01-F08S	8												18.5	31
AS22□1-02-F06S	6	R1/4	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		34.5	44.3	18.6					21	52
AS32□1-02-F08S	8	R1/4	19	18.2	24.3	32.7	44.9	21	48.3	43.3	42.8	37.8	18.5	86
AS32□1-02-F10S	10					33.3	45.5						21	81
AS32□1-03-F08S	8	R3/8	19	18.2	24.3	32.7	44.9	19	45.8	44.9	40.6	35.6	18.5	93
AS32□1-03-F10S	10					33.3	45.5						21	88
AS42□1-04-F10S	10	R1/2	24	22.3	28.5	36.1	50.4	24.6	54.7	49.7	47.4	42.4	21	154
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 back page 50 for Safety Instructions and pages 543 to 546 for Flow Control Equipment Precautions.