

# Speed Controller with One-touch Fittings In-line Type Series AS

## Minimizes installation time and cost

Reduce the mounting height and enables compact machinery design. Effective area is larger than the former model.

## ø2 size added to applicable tubing sizes

- **Metric size** (Release button: White color)  
ø2, ø3.2, ø4, ø6, ø8, ø10, ø12
- **Inch size** (Release button: Orange color)  
ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

## Maximum operating pressure 1 MPa max.

## Applicable tubing materials

Nylon, soft nylon, and polyurethane tubing are applicable.

## Retainer prevents accidental loss of needle.

## Option Hexagonal lock nut, Nickel plated option

## Number of needle rotations has been increased (8 to 10 turns)

The increased number of needle rotations (8 to 10 turns) permits easy control at low speeds.

## In-line type



Applicable tubing O.D. ø2



**Made to Order**  
(Refer to page 431 for details.)

## Flow Direction Symbols on Body



## Model

Model	Applicable tubing O.D.												Applicable cylinder bore size (mm)		
	Metric size						Inch size								
	2	3.2	4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"		3/8"	1/2"
AS1001F	●	●	●	●				●	●	●	●				6, 10, 16, 20 <sup>(1)</sup>
AS2001F			●	●				●	●	●					20, 25, 32
AS2051F				●	●					●	●	●			20, 25, 32, 40
AS3001F				●	●	●	●				●	●	●		40, 50, 63
AS4001F						●	●						●	●	63, 80, 100

Note 1) AS1001F-02 applicable cylinder bore sizes are 2.5, 4, 6.  
Note 2) ● Marking is electroless nickel plated, provided as standard. (N specifications)

## Specifications

Fluid	Air
Proof pressure	1.5 MPa (1.05 MPa <sup>(1)</sup> )
Max. operating pressure	1 MPa (0.7 MPa <sup>(1)</sup> )
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 turns (8 turns <sup>(2)</sup> )
Applicable tubing material <sup>(3)</sup>	Nylon, Soft nylon, Polyurethane <sup>(4)</sup>
Option	Hexagonal lock nut, Electroless nickel plated <sup>(5)</sup>

Note 1) In case of AS1001F-02  
Note 2) In case of AS1001F type, AS1001F-02: 10 turns.  
Note 3) Use caution regarding the max. operating pressure when soft nylon or polyurethane tubing is used. (Refer to pages 371 and 372 for details.)  
Note 4) In case of AS1001F-02, polyurethane only.  
Note 5) Brass parts are all electroless nickel plated.

## Flow Rate and Effective Area

Model	AS1001F		AS2001F		AS2051F		AS3001F		AS4001F	
	Metric size	ø2, ø3.2, ø4, ø6	ø4, ø6	ø6, ø8	ø6, ø8	ø6, ø8	ø6, ø8	ø10, ø12	ø10, ø12	ø10, ø12
Tubing O.D.	Inch size	—, ø1/8", ø5/32", ø3/16", ø1/4"	ø5/32", ø3/16", ø1/4"	ø3/16", ø1/4"	ø3/16", ø1/4", ø5/16"	ø1/4", ø5/16"	ø3/8"	ø3/8"	ø3/8"	ø1/2"
Controlled flow (Free flow)	Air flow (l/min) (ANR)	20, 100	130, 230	290, 460	420, 660	920, 1050	1050, 1390			
	Effective area (mm <sup>2</sup> )	0.3, 1.5	2, 3.5	4.5, 7	6.5, 10	14, 16	21			

Note) Flow rate values are measured at 0.5 MPa and 20°C.

## How to Order

AS 400 1F - 12 - -

Body size

100	M5 standard
200	1/8 standard
205	1/4 standard
300	3/8 standard
400	1/2 standard

Option\*

Nil	None
K	Hexagonal lock nut
N	Electroless nickel plated

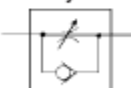
\* If more than one option is required, write option part numbers in the order of 'K', 'N'.

## Applicable tubing O.D.

Metric size	Inch size
02	ø1/8"
23	ø3.2"
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

\* Use ø1/8" tube.

## JIS Symbol

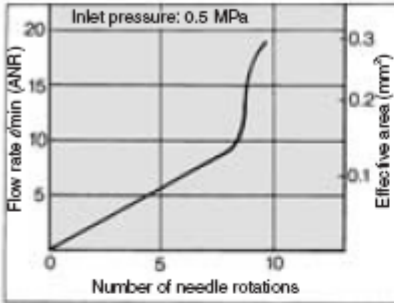


With One-touch fittings

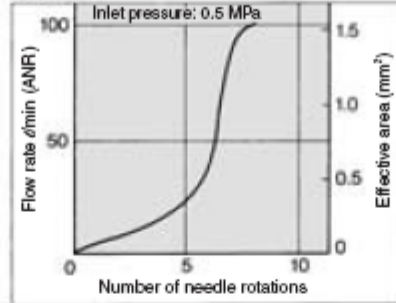
**Made to Order**  
Refer to page 431 for details.

**Needle Valve/Flow Characteristics**

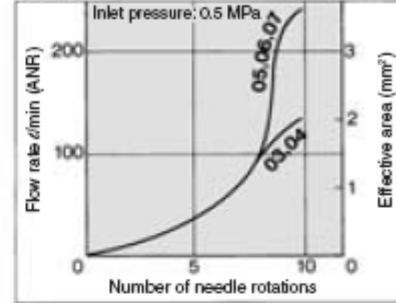
**AS1001F-02**



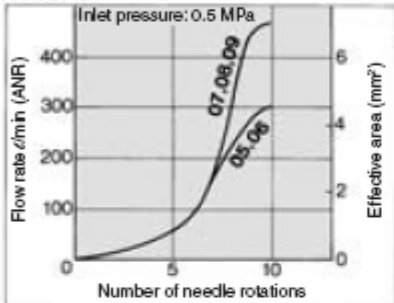
**AS1001F**



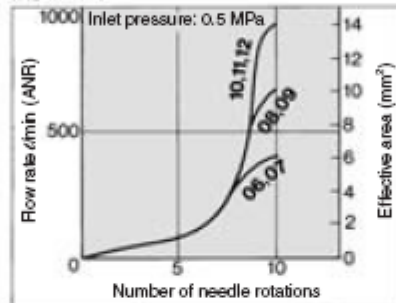
**AS2001F**



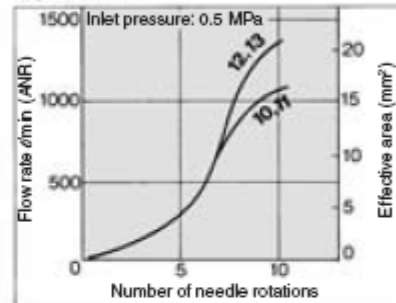
**AS2051F**



**AS3001F**



**AS4001F**



**Caution**

Be sure to read before handling.  
Refer to front matters 58 and 59 for Safety Instructions and pages 412 to 414 for Flow Control Equipment Precautions.

**Made to Order**



Lubricant: Vaseline

**X12**

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

**X21**

Ex.) AS2001F-04-X12

Ex.) AS2001F-04-X21

Note) Not particle-free

Throttle Valve (Without Check Valve)

**X214**

Ex.) AS2001F-04-X214

**AS**

**ASP**

**ASN**

**AQ**

**ASV**

**AK**

**VCHC**

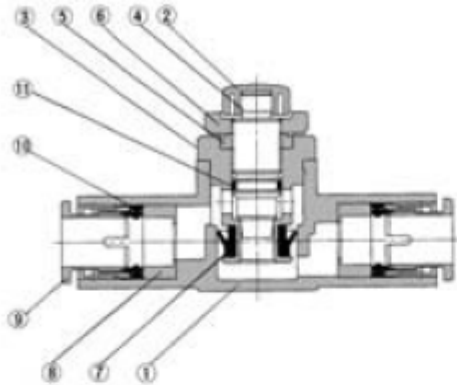
**ASS**

**ASR**  
**ASQ**

**KE**

**TMH**

## Construction



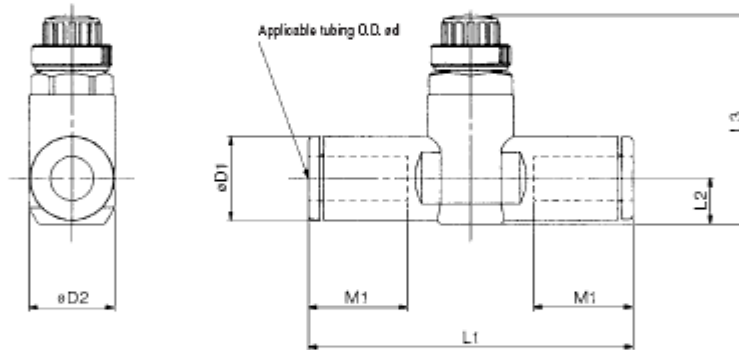
### Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Handle	PBT <sup>(1)</sup>	
3	Body B	Brass	Electroless nickel plated
4	Needle	Brass	Electroless nickel plated
5	Needle guide	Brass	Electroless nickel plated
6	Lock nut	Brass <sup>(2)</sup>	Electroless nickel plated
7	U seal	HNBR	
8	Spacer	—	
9	Cassette	—	
10	Packing	NBR	
11	O-ring	NBR	

Note 1) AS1001F-02 is made of electroless nickel plated brass.  
 Note 2) AS□□1F type is made of steel.



### In-line Type



### Metric Size

Model	Applicable tubing O.D. ød	D1	D2	L1	L2	L3 <sup>(1)</sup>		M1	Mass (g)
						Max.	Min.		
AS1001F-02	2	6	6	25.4	3.4	20.9	18.4	8.8	3
AS1001F-23	3.2	8.4		38.0	4.5	23.5	20.7	12.7	6
AS1001F-04	4	9.3	10	39.2	5.2	24.2	21.4		7
AS1001F-06	6	11.6		40.7	6.2	25.2	22.4	13.5	8
AS2001F-04	4	9.3		40.7	5.2	32.6	27.6	12.7	12
AS2001F-06	6	11.6	11.8	44.8	6.3	33.7	28.7	13.5	13
AS2051F-06	6	12.8		53.2	6.7	35.2	30.2	17	22
AS2051F-08	8	15.2	14.8	59.8	8.1	36.5	31.5	18	25
AS3001F-06	6	12.8		59	7.4	38.3	33.3	17	36
AS3001F-08	8	15.2		64.4	8.2	39.1	34.1	18	40
AS3001F-10	10	18.5	19.8	71.8	9.8	40.6	35.6	21	44
AS3001F-12	12	20.9		76	11	41.8	36.8	22	48
AS4001F-10	10	18.5		77.7		51.1	43.6	21	85
AS4001F-12	12	20.9	26.5	82.1	11.3	52.1	44.6	22	89

Note 1) Reference dimensions

### Inch Size

Model	Applicable tubing O.D. ød	D1	D2	L1	L2	L3 <sup>(1)</sup>		M1	Mass (g)
						Max.	Min.		
AS1001F-01	1/8"	8.4		38	4.5	23.5	20.7	12.7	6
AS1001F-03	5/32"	9.3	10	39.2	5.2	24.2	21.4		7
AS1001F-05	3/16"	11.4		48.7	6.2	25.2	22.4	16.5	12
AS1001F-07	1/4"	12		40.7				13.7	9
AS2001F-03	5/32"	9.3		40.7	5.2	32.6	27.6	12.7	12
AS2001F-05	3/16"	11.4	11.8	50	6.2	33.6	28.6	16.5	18
AS2001F-07	1/4"	13.2		52.2	7.1	34.5	29.5	17	16
AS2051F-05	3/16"	11.4		52.2	6.2	34.6	29.6	16.5	24
AS2051F-07	1/4"	13.2	14.8	54.4	7.1	35.5	30.5	17	22
AS2051F-09	5/16"	15.2		59.8	8.1	36.5	31.5	18	25
AS3001F-07	1/4"	13.2		59	7.4	38.3	33.3	17	36
AS3001F-09	5/16"	15.2	19.8	64.4	8.2	39.1	34.1	18	40
AS3001F-11	3/8"	17.9		70.8	9.5	40.3	35.3	21	52
AS4001F-11	3/8"	17.9		76.9	10.3	51	43.5	21	93
AS4001F-13	1/2"	21.7	26.5	83.1	11.6	52.4	44.9	22	106

Note 1) Reference dimensions