

# Series AS

## Series

Series	Applicable tube O.D.											Applicable cylinder bore size (mm)		
	Metric size						Inch size							
	2	3.2	4	6	8	10	12	1/8"	5/32"	1/4"	5/16"		3/8"	1/2"
AS1002F	●	●	●	●				●						6, 10, 16, 20 (Note)
AS2002F			●	●					●	●				20, 25, 32
AS2052F				●	●					●	●			20, 25, 32, 40
AS3002F				●	●	●	●			●	●	●		40, 50, 63
AS4002F						●	●					●	●	63, 80, 100

Note) The applicable cylinder bore sizes (mm) for AS1002F-02 are 2.5, 4, 6.

## Specifications

Fluid	Air
Proof pressure	1.5 MPa (1.05 MPa (Note 1))
Max. operating pressure	1 MPa (0.7 MPa (Note 1))
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Applicable tube material	Nylon, Soft nylon, Polyurethane (Note 2)

Note 1) In case of AS1002F-02

Note 2) Use caution at the max. operating pressure when using soft nylon or polyurethane tubing.

(Refer to pages 371 and 372 of Best Pneumatics Vol. 6)

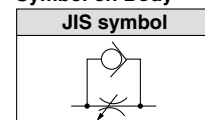
Note 3) Brass parts are all electroless nickel plated.

## Flow Rate and Effective Area

Series	AS1002F	AS2002F	AS2052F	AS3002F	AS4002F							
Tube O.D.	Metric size ø2, ø3.2, ø4, ø6	ø4, ø6, ø6	ø8	ø6, ø8, ø10, ø12	ø10, ø12							
	Inch size —, ø1/8", ø5/32", ø1/4"	ø5/32", ø1/4"	—, ø1/4", ø5/16"	ø1/4", ø5/16", ø3/8"	ø3/8", ø1/2"							
Controlled flow (Free flow)	Flow rate (l/min (ANR)) Effective area (mm <sup>2</sup> )	20 0.3	100 1.5	130 2	230 3.5	290 4.5	460 7	390 6	660 10	920 14	920 14	1390 21

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

## Flow Direction Symbol on Body



## How to Order

**RoHS**

**AS 400 2F - 12**

Body size: 400 (1/2 standard)

Applicable tube O.D.: 12 (ø12)

Metric size	Inch size
02	ø2
23	ø3.2*
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

Metric size	Inch size
01	ø1/8"
03	ø5/32"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

\* Use ø1/8" tube.

## Made to Order



Lubricant: Vaseline

**-X12**

Ex.) AS2002F-04-X12

Grease-free (Sealant: Fluoro coated) + Restrictor (Without Check Valve)

**-X21**

Ex.) AS2002F-04-X21

Note) Not particle-free

Restrictor (Without Check Valve)

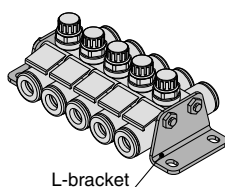
**-X214**

Ex.) AS2002F-04-X214

## Options

### L-bracket

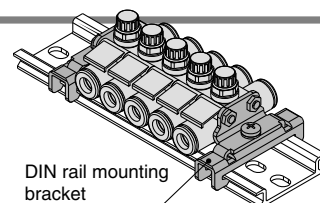
Part no.	Applicable series
AS-12L	AS1002F-02
AS-10L	AS1002F
AS-20L	AS2002F
AS-25L	AS2052F
AS-30L	AS3002F
AS-40L	AS4002F



L-bracket

### DIN rail mounting bracket

Part no.	Applicable series
AS-10D	AS1002F
AS-20D	AS2002F
AS-25D	AS2052F
AS-30D	AS3002F
AS-40D	AS4002F



DIN rail mounting bracket

\* Bracket for AS1002F-02 is not available.

\* Prepare DIN rail by user.

### Part no. list of threaded stud kit for manifold

Model	4 stations	6 stations	8 stations	10 stations
Metric size AS1002F-02	AS-31B	AS-32B	AS-33B	AS-34B
Inch size AS1002F-23	AS-32B	AS-34B	AS-34B	AS-36B
AS1002F-04			AS-35B	
AS1002F-06	AS-32B	AS-34B	AS-36B	AS-37B
AS1002F-07			AS-38B	
AS2002F-04	AS-32B	AS-34B	AS-35B	AS-37B
AS2002F-06			AS-36B	AS-38B
AS2052F-06	AS-41B	AS-42B	AS-44B	AS-45B
AS2052F-08				
AS2052F-08	AS-42B	AS-44B	AS-45B	AS-47B
AS3002F-06				
AS3002F-07	AS-42B	AS-44B	AS-46B	AS-47B
AS3002F-08				
AS3002F-09	AS-42B	AS-44B	AS-46B	AS-47B
AS3002F-10				
AS3002F-11	AS-42B	AS-44B	AS-46B	AS-47B
AS3002F-12				
AS4002F-10	AS-43B	AS-45B	AS-47B	AS-48B
AS4002F-11				
AS4002F-12	AS-43B	AS-45B	AS-47B	AS-48B
AS4002F-13				

### Details of threaded stud kit for manifold

Part no.	Threaded stud		Accessories			
	Length	pcs.	Hexagon nut	pcs.	Flat washer	pcs.
AS-31B	38	2	M3	4	M3	4
AS-32B	62	2				
AS-33B	72	2				
AS-34B	90	2				
AS-35B	104	2				
AS-36B	114	2				
AS-37B	135	2				
AS-38B	140	2				
AS-41B	78	2	M4	4	M4	4
AS-42B	111	2				
AS-43B	119	2				
AS-44B	147	2				
AS-45B	179	2				
AS-46B	191	2				
AS-47B	236	2				
AS-48B	277	2				

\* Precautions when options are ordered

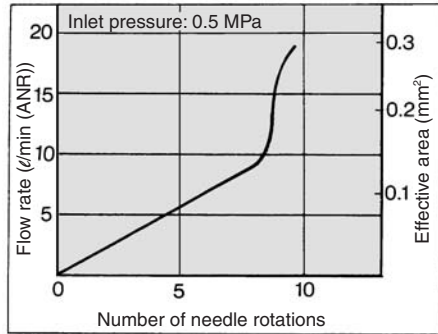
Threaded studs for manifold are not included when L-bracket and DIN rail mounting bracket are ordered. Please order them according to the number of stations.

Ex.) AS2002F-04 When connecting 4 pcs. and mounting L-brackets on both sides

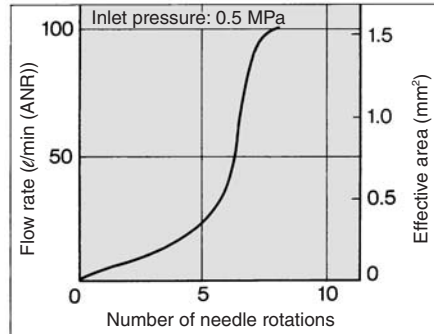
- Speed controller AS2002F-04 ..... 4 pcs.
- L-bracket AS-20L ..... 2 pcs.
- Threaded stud kit for manifold AS-32B ..... 1 pc.

### Needle Valve/Flow-rate Characteristics

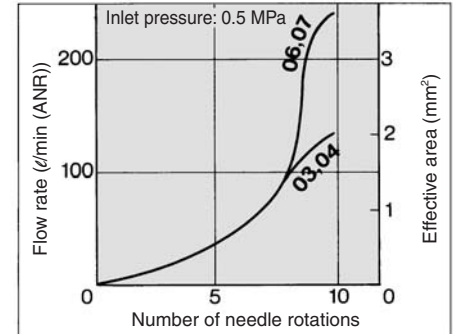
**AS1002F-02**



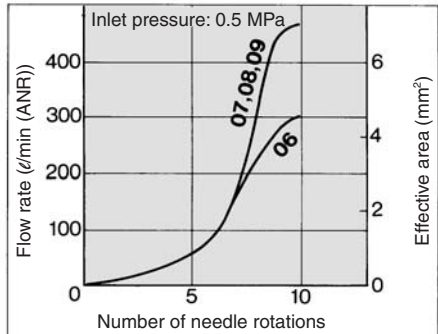
**AS1002F**



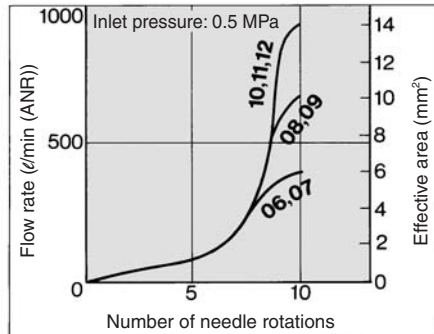
**AS2002F**



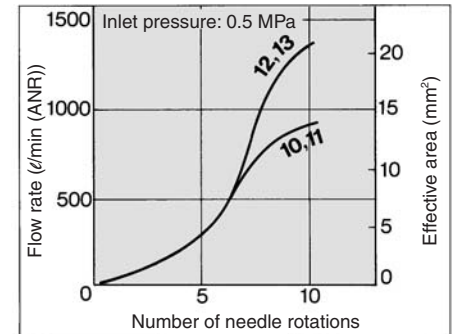
**AS2052F**



**AS3002F**

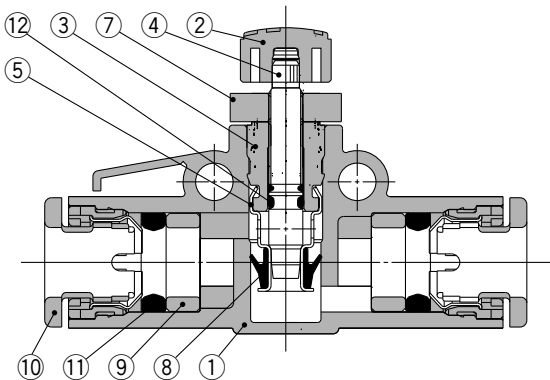


**AS4002F**

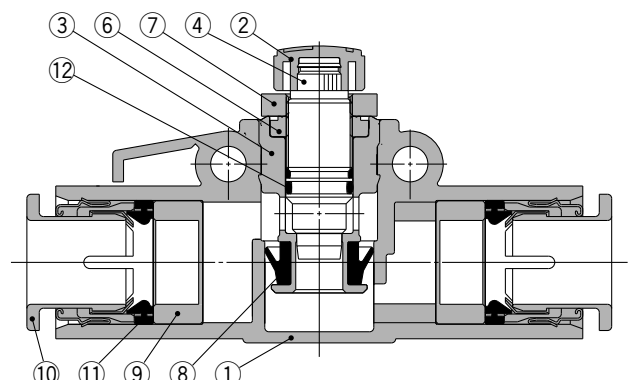


### Construction

**AS1002F, AS2002F, AS2052F**



**AS1002F-02, AS3002F, AS4002F**



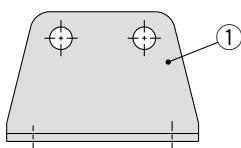
#### Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Handle	PBT	
3	Body B	Brass	Electroless nickel plated
4	Needle	Brass	Electroless nickel plated
5	Seat ring	Brass	Electroless nickel plated
6	Needle guide	Brass	Electroless nickel plated

No.	Description	Material	Note
7	Lock nut	Steel wire	Zinc chromated
8	U-seal	HNBR	
9	Spacer	POM <sup>(Note)</sup>	
10	Cassette	—	
11	Seal	NBR	
12	O-ring	NBR	

Note) AS2052F, AS3002F, AS4002F are made of PBT. AS3002F-11, AS4002F-11, AS4002F-13 are made of electroless nickel plated brass.

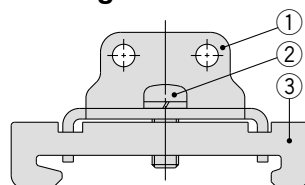
#### L-bracket



#### Component Part

No.	Description	Material
1	Bracket	Steel strip

#### DIN rail mounting bracket



#### Component Parts

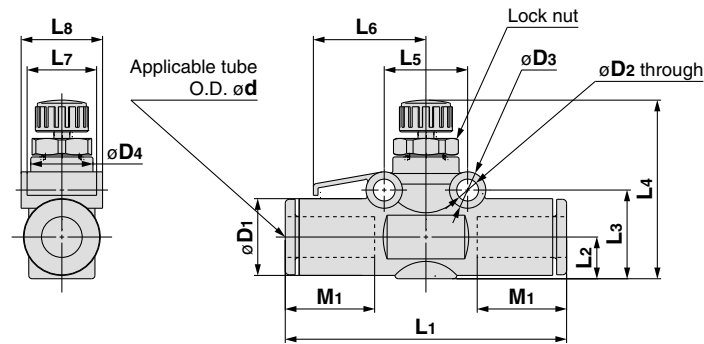
No.	Description	Material
1	Bracket	Steel strip
2	Cross recessed round head screw	Steel wire
3	Clasp	Steel strip

#### ⚠ Caution

Be sure to read before handling.  
Refer to back cover for Safety  
Instructions and Best Pneumatics  
Vol. 6 for Flow Control Equip-  
ment Precautions.

# Series AS

## Dimensions



### Metric Size

Model	Applicable tube O.D. ød	D1	D2	D3	D4	L1	L2	L3	L4 Note)		L5	L6	L7	L8	M1	Weight (g)
									MAX.	MIN.						
AS1002F-02	2	6	3.2	5	6	25.4	3.4	7.9	20.9	18.4	11	9.8	5	6.7	8.8	3
AS1002F-23	3.2	8.4	3.3	5.5	9.1	36	4.4	11.1	23.8	21	11	15.4	8.8	9.8	12.7	5
AS1002F-04	4	9.3				37	5.1	11.8	24.5	21.7				10.1		
AS1002F-06	6	11.6				39.5	6.1	12.8	25.5	22.7				12.3		
AS2002F-04	4	9.3	3.3	5.5	10	40.7	5.2	12.3	28.9	25.4	12.6	17	10.5	11.5	12.7	8.5
AS2002F-06	6	11.6				42.5	6.3	13.4	30	26.5				12.3		
AS2052F-06	6	12.8	4.3	7.8	14	53.2	6.7	16.3	33.2	28.2	17	22.8	12	15.7	17	19
AS2052F-08	8	15.2				57.2	8	17.6	34.5	29.5				16.1		
AS3002F-06	6	13.2	4.3	8	19.3	59	7.4	19.3	38.6	33.6	22	25	12	20.5	17	36
AS3002F-08	8	15.2				65	8.2	20.1	39.4	34.4					18	
AS3002F-10	10	18.5				70.8	9.8	21.7	41	36					21	
AS3002F-12	12	20.9				76	10.9	22.8	42.1	37.1					22.1	
AS4002F-10	10	18.5	4.3	8	25	76.9	10.3	22.7	51.6	44.1	28	33	14	26.2	21	76
AS4002F-12	12	21.7				81.3	11.3	23.7	52.6	45.1					22	

Note) Reference dimensions

### Inch Size

Model	Applicable tube O.D. ød	D1	D2	D3	D4	L1	L2	L3	L4 Note)		L5	L6	L7	L8	M1	Weight (g)
									MAX.	MIN.						
AS1002F-01	1/8"	8.4	3.3	5.5	9.1	36	4.5	11.2	23.8	21	11	15.4	8.8	9.8	12.7	5
AS1002F-03	5/32"	9.3				37	5.2	11.9	24.5	21.7				10.1		
AS1002F-07	1/4"	12				39.5	6.1	12.8	25.5	22.7				12.8		
AS2002F-03	5/32"	9.3	3.3	5.5	10	40.7	5.2	12.3	28.9	25.4	12.6	17	10.5	11.5	12.7	8.5
AS2002F-07	1/4"	12				42.6	6.5	13.6	30.2	26.7				12.8		
AS2052F-07	1/4"	13.2	4.3	7.8	14	53.4	6.9	16.5	33.4	28.4	17	22.8	12	15.7	17	19
AS2052F-09	5/16"	15.2				57.2	8	17.6	34.5	29.5				16.1		
AS3002F-07	1/4"	13.2	4.3	8	19.3	59	7.4	19.3	38.6	33.6	22	25	12	20.5	17	35
AS3002F-09	5/16"	15.2				65	8.2	20.1	39.4	34.4					18	
AS3002F-11	3/8"	18.5				69.8	9.8	21.7	41	36					21	
AS4002F-11	3/8"	18.5				76.9	10.3	22.7	51.6	44.1					22.1	
AS4002F-13	1/2"	21.7	4.3	8	25	81.3	11.3	23.7	52.6	45.1	28	33	14	26.2	21	86

Note) Reference dimensions

Proper tightening torque for a lock nut is shown in the below table.  
For standard installation, turn 15 to 30° using tool, after fastening by hand.  
Pay attention not to over torque the product.

Series	Proper tightening torque (N·m)
AS1002F-02	0.07
AS1002F	0.2
AS2002F	0.3
AS2052F	1
AS3002F	2
AS4002F	4