

# Series 10-AS

## Speed controller with One-touch fittings (Inline type)

### Series

Series	Applicable tube O.D.						
	Metric size						
	2	3.2	4	6	8	10	12
10-AS1002F	●	●	●	●			
10-AS2002F			●	●			
10-AS2052F				●	●		
10-AS3002F				●	●	●	●
10-AS4002F						●	●

### Specifications

Fluid	Air
Proof pressure	1.5 MPa (1.05 MPa <small>Note 1)</small> )
Max. operating pressure	1 MPa (0.7 MPa <small>Note 1)</small> )
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Applicable tube material	Polyurethane <small>Note 2)</small>
Option	Round lock nut
Grease	Fluorine grease
Cleanliness class (ISO class)	Class 5

Note 1) In case of 10-AS1002F-02

Note 2) The maximum operating pressure for polyurethane is 0.8 MPa (at 20°C). (Refer to page 372 of Best Pneumatics Vol. 6)

Note 3) Brass parts are all electroless nickel plated.

### Flow Rate and Sonic Conductance

Tubing O.D.	Model	10-AS1002F		10-AS2002F		10-AS2052F		10-AS3002F			10-AS4002F		
		Metric size	ø2	ø3.2, ø4, ø6	ø4	ø6	ø6	ø8	ø6	ø8	ø10, ø12	ø10	ø12
Controlled flow	Flow rate L/min (ANR)		20	100	130	230	290	460	390	660	920	920	1390
Free flow	Sonic conductance dm <sup>3</sup> /(s·bar)		0.06	0.28	0.36	0.64	0.81	1.3	1.1	1.8	2.6	2.6	3.9
Critical pressure ratio	Controlled flow	0.2											
	Free flow	0.25											

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

### How to Order

RoHS

**10-AS 400 2F - 12 -**

Clean series

Body size

100	M3, M5 standard
200	1/8 standard
205	1/4 standard
300	3/8 standard
400	1/2 standard

Applicable tube O.D. Metric size


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

Lock nut option

Nil	Hexagon lock nut
-J	Round lock nut

With One-touch fittings

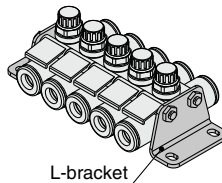
\* Use ø1/8" tube.



### Options

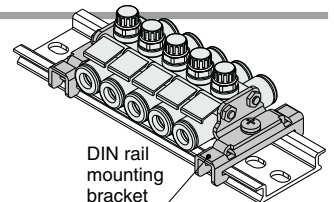
#### L-bracket

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



#### DIN rail mounting bracket

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



\* Bracket for 10-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				
10-AS1002F-02	AS-31B	AS-32B	AS-33B	AS-34B
10-AS1002F-23		AS-33B	AS-34B	AS-36B
10-AS1002F-04	AS-32B		AS-35B	
10-AS1002F-06		AS-34B	AS-36B	
—			AS-35B	AS-37B
10-AS2002F-04	AS-32B	AS-34B	AS-36B	
—			AS-36B	
10-AS2052F-06	AS-41B	AS-42B	AS-44B	AS-45B
—			AS-44B	
10-AS2052F-08			AS-45B	
10-AS3002F-06	AS-42B	AS-44B		AS-47B
—			AS-46B	
10-AS3002F-08				
10-AS3002F-10				
—				
10-AS3002F-12	AS-43B	AS-45B	AS-47B	AS-48B
10-AS4002F-10				
—				
10-AS4002F-12				
—				

#### 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				
AS-42B	111	2				
AS-43B	119	2	M4	4	M4	4
AS-44B	147	2				
AS-45B	179	2				
AS-46B	191	2				
AS-47B	236	2				
AS-48B	277	2				

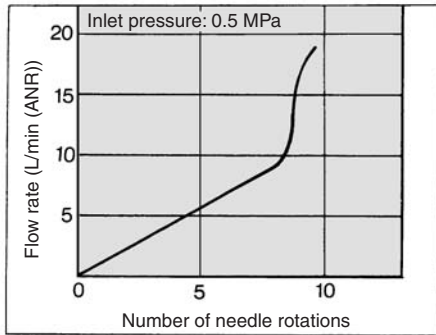
\* Precautions when options are ordered

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.

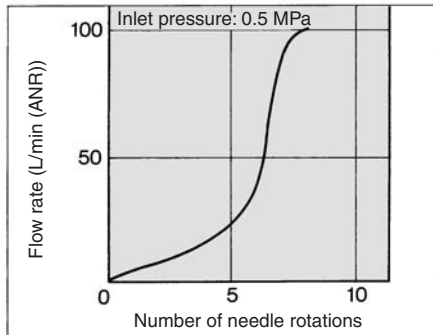
Ex.) 10-AS2002F-04	When connecting 4 pcs. and mounting L-brackets on both sides
• Speed controller	10-AS2002F-04 ..... 4 pcs.
• L-bracket	AS-20L ..... 2 pcs.
• Threaded stud kit for manifold	AS-32B ..... 1 pc.

**Needle Valve/Flow Characteristics**

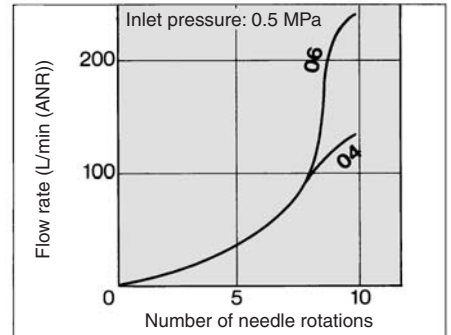
**10-AS1002F-02**



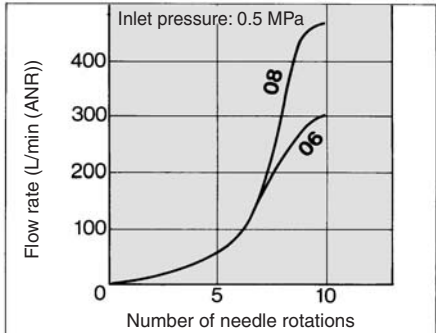
**10-AS1002F**



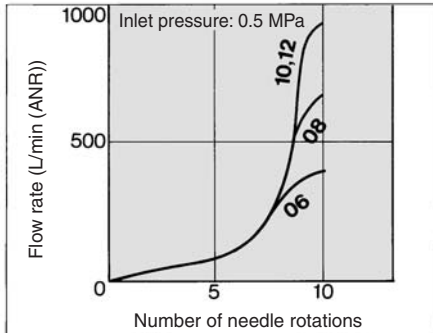
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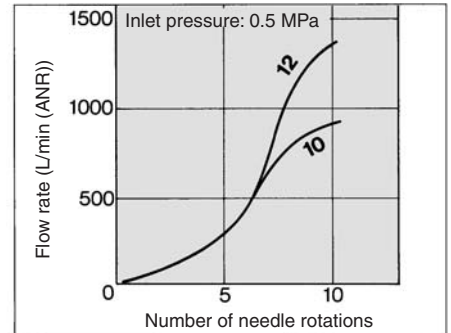
**10-AS2052F**



**10-AS3002F**

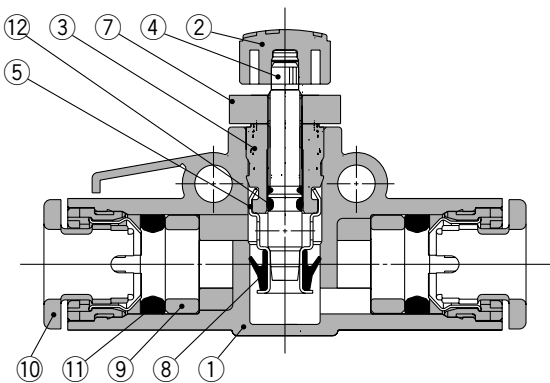


**10-AS4002F**

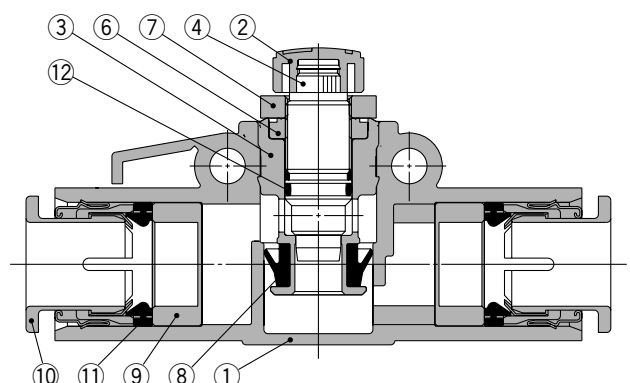


**Construction**

**10-AS1002F, AS2002F, AS2052F**



**10-AS1002F-02, AS3002F, AS4002F**



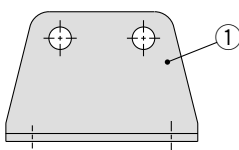
**Component Parts**

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.

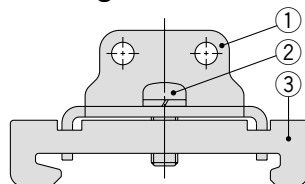
**L-bracket**



**Component Part**

No.	Description	Material
1	Bracket	Steel strip

**DIN rail mounting bracket**



**Component Parts**

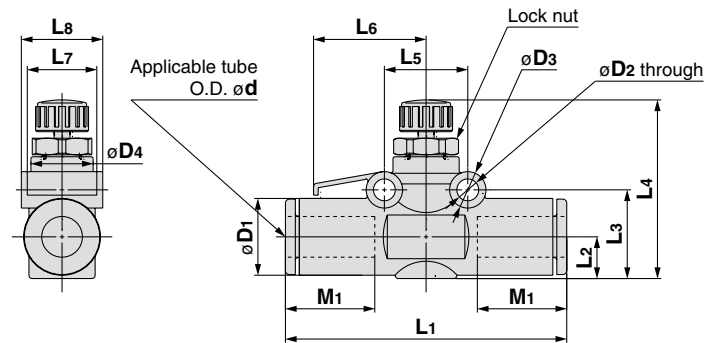
No.	Description	Material
1	Bracket	Steel strip
2	Cross recessed round head screw	Steel wire
3	Clasp	Steel strip

**Caution**

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

# Speed Controller with One-touch Fittings 10-AS

## Dimensions



### Metric Size

Model	Applicable tube O.D. $\phi d$	D1	D2	D3	D4	L1	L2	L3	L4 <sup>Note)</sup>		L5	L6	L7	L8	M1	Weight (g)
									MAX.	MIN.						
10-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
10-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
10-AS1002F-04	4	9.3				37	5.1	11.8	24.5	21.7				10.1	5.5	
10-AS1002F-06	6	11.6	3.3	5.5	10	39.5	6.1	12.8	25.5	22.7	12.6	17	10.5	12.3	13.5	6.5
10-AS2002F-04	4	9.3				40.7	5.2	12.3	28.9	25.4				11.5	12.7	8.5
10-AS2002F-06	6	11.6	4.3	7.8	14	42.5	6.3	13.4	30	26.5	17	22.8	12	12.3	13.5	9.5
10-AS2052F-06	6	12.8				53.2	6.7	16.3	33.2	28.2				15.7	17	19
10-AS2052F-08	8	15.2	4.3	8	19.3	57.2	8	17.6	34.5	29.5	22	25	12	16.1	18	22
10-AS3002F-06	6	13.2				59	7.4	19.3	38.6	33.6				17	36	
10-AS3002F-08	8	15.2	4.3	8	19.3	65	8.2	20.1	39.4	34.4	22	25	12	20.5	18	38
10-AS3002F-10	10	18.5				70.8	9.8	21.7	41	36				21	42	
10-AS3002F-12	12	20.9	4.3	8	25	76	10.9	22.8	42.1	37.1	28	33	14	22.1	22	44
10-AS4002F-10	10	18.5				76.9	10.3	22.7	51.6	44.1				21	76	
10-AS4002F-12	12	21.7	81.3	11.3	23.7	52.6	45.1	22	82							

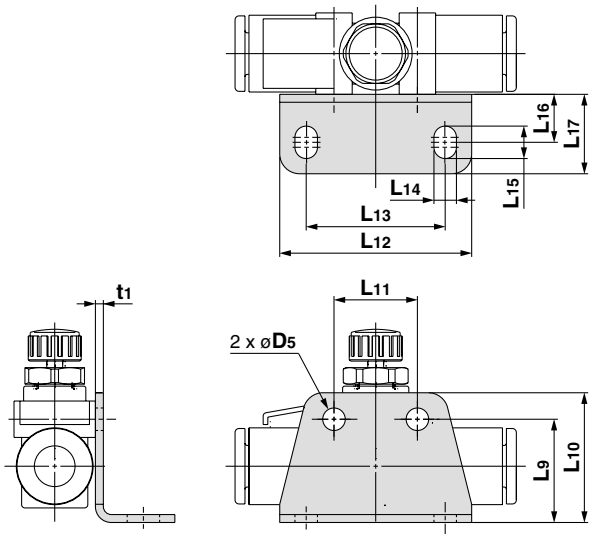
Note) Reference dimensions

The hexagon lock nut can be fastened by hand. When stronger tightening is required, please retighten using a tool. The recommended tightening torques for tools are shown in the table below. For standard installation, turn 15 to 30° using tool, after fastening by hand. Pay attention not to over torque the product.

Series	Recommended tightening torque (N·m)	Lock nut Hexagon width across flats
10-AS1002F-02	0.07	4.5
10-AS1002F	0.2	7
10-AS2002F	0.3	9
10-AS2052F	1	12
10-AS3002F	2	14
10-AS4002F	4	17

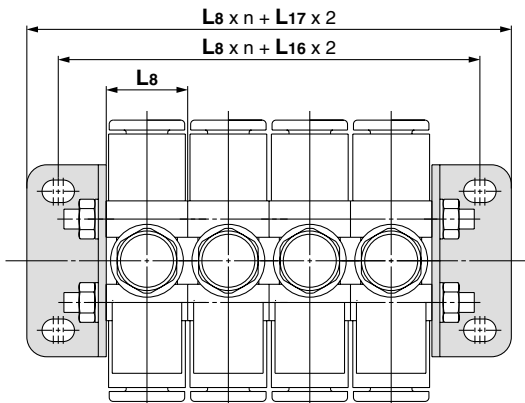
**L-bracket**

Bracket on a single side



Part no.	Applicable series	D5	L9	L10	L11	L12	L13	L14	L15	L16	L17	t1
AS-12L	10-AS1002F-02		9.9	13.4	11	27.5	19.5					1
AS-10L	10-AS1002F	3.4	14.8	18.3			3.4	4.9	7.3	12		1.2
AS-20L	10-AS2002F		15.6	19.6	12.6	29	21					
AS-25L	10-AS2052F		19.6	24.6	17	38	28					1.4
AS-30L	10-AS3002F	4.5	24.8	29.8	22	43	33	4.5	6.5	9.5	15.5	
AS-40L	10-AS4002F		25.7	30.7	28	49	39					

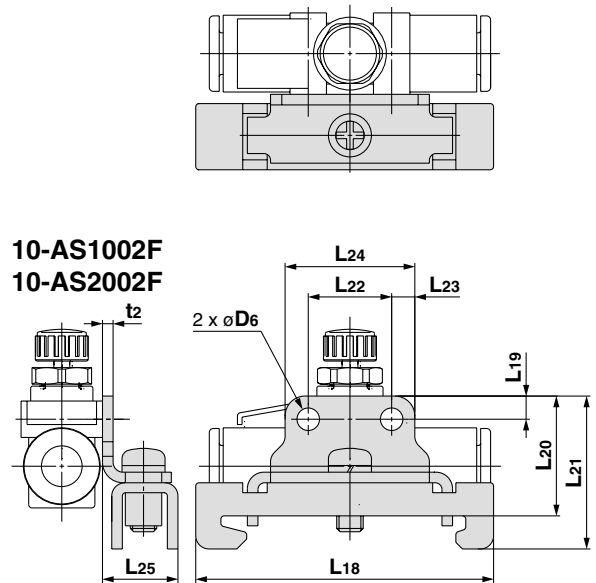
**Brackets on both sides**



\*1 Refer to page 3 for L8.  
 \*2 The above figure shows the manifold with controllers connected using two L-brackets and a threaded stud kit for manifold. Refer to page 1 for threaded stud kits for manifold.

**DIN rail mounting bracket**

Bracket on a single side

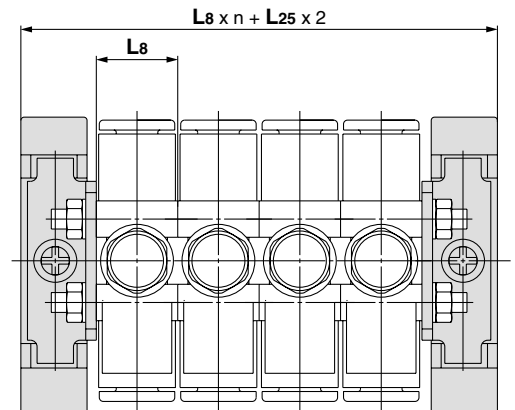


10-AS1002F  
10-AS2002F

10-AS2052F  
10-AS3002F  
10-AS4002F

Part no.	Applicable series	D6	L18	L19	L20	L21	L22	L23	L24	L25	t2
AS-10D	10-AS1002F	3.4		3.5	18.2	23.2	11		18		
AS-20D	10-AS2002F				18.6	23.6	12.6	3.5	19.6		
AS-25D	10-AS2052F		45		22	27	17		25.8	11.2	1.6
AS-30D	10-AS3002F	4.5		4.4	27.2	32.2	22	4.4	30.8		
AS-40D	10-AS4002F				28.1	33.1	28		36.8		

**Brackets on both sides**



\*1 Refer to page 3 for L8.  
 \*2 The above figure shows the manifold with controllers connected using two DIN rail mounting brackets and a threaded stud kit for manifold. Refer to page 1 for threaded stud kits for manifold.