

Speed Controller with One-touch Fittings (In-line Type)

10-AS Series



RoHS

Model

Model	Applicable tubing O.D.											
	Metric size						Inch size					
	3.2	4	6	8	10	12	1/8"	5/32"	1/4"	5/16"	3/8"	1/2"
10-AS1002F	●	●	●				●	●	●			
10-AS2002F		●	●					●	●			
10-AS2052F			●	●					●	●		
10-AS3002F			●	●	●	●			●	●	●	
10-AS4002F					●	●					●	●

Specifications

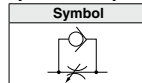
Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.1 MPa
Ambient and fluid temperatures	-5 to 60°C (No freezing)
Applicable tubing material	Nylon, Soft nylon, Polyurethane*1, FEP, PFA
Grease	Fluorine grease
Cleanliness class (ISO class)	Class 5

*1 Use caution at the max. operating pressure when using soft nylon or polyurethane tubing. (Refer to the **Web Catalog** for details.)

Flow Rate and Sonic Conductance

Model	10-AS1002F-□A	10-AS2002F-□A	10-AS2052F-□A	10-AS3002F-□A	10-AS4002F-□A									
Tubing O.D.	Metric size Inch size	ø3.2 ø1/8"	ø4 ø5/32"	ø6 ø1/4"	ø4 ø5/32"	ø6 ø1/4"	ø6 ø1/4"	ø8 ø5/16"	ø6 ø1/4"	ø8 ø5/16"	ø10 ø3/8"	ø12 —	ø10 ø3/8"	ø12 ø1/2"
C values: Sonic conductance (dm ³ /(s·bar))	Free flow	0.3	0.4	0.6	0.4	0.6	1.0	1.2	1.1	1.6	2.2	2.6	2.4	3.5
	Controlled flow	0.3			0.4	0.6	1.0	1.2	1.3	1.9	2.7	3.3	2.8	4.1
b values: Critical pressure ratio	Free flow	0.3	0.2		0.3	0.1	0.2		0.2			0.3	0.2	
	Controlled flow	0.2	0.3	0.4	0.2		0.2	0.3	0.1		0.2	0.1	0.2	

Flow Direction Symbol on Body



* C and b values are for controlled flow with the needle fully open and free flow with the needle fully closed.

* The same specifications also apply to the 10-AS-FG series (stainless steel type).

How to Order

10-AS 200 2 F - 06 A

Body size

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

With One-touch fittings

Push-lock type

Applicable tubing O.D.*1

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

*1 For selecting applicable tubing O.D., refer to the "Model" shown above.

*2 Use ø1/8" tubing.

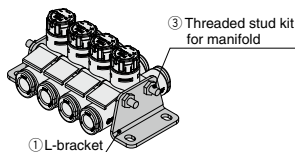
Caution

Be sure to read this before handling the products.
Refer to the back cover for safety instructions.
For flow control equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website:
<http://www.smcworld.com>

Options

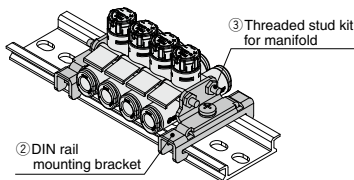
① L-Bracket

Part no.	Applicable model
AS-10L	10-AS1002F□
AS-20L	10-AS2002F□
AS-25L	10-AS2052F□
AS-30L	10-AS3002F□
AS-40L	10-AS4002F□



② DIN Rail Mounting Bracket

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



* Prepare DIN rail by user.

③ Threaded Stud Kit for Manifold: Metric Size

Part number				Applicable model	
4 stations	6 stations	8 stations	10 stations		
AS-32B	AS-33B	AS-35B	AS-36B	10-AS1002F□-23A	
			AS-37B	10-AS1002F□-04A	
	AS-34B	AS-36B	AS-38B	10-AS1002F□-06A	
			—	—	
AS-32B	AS-34B	AS-36B	AS-37B	10-AS2002F□-04A	
			AS-38B	10-AS2002F□-06A	
	AS-41B	AS-42B	AS-44B	AS-45B	10-AS2052F□-06A
				—	—
AS-42B	AS-44B	AS-45B	AS-47B	10-AS2052F□-08A	
				10-AS3002F□-06A	
		—			
		10-AS3002F□-08A			
	AS-42B	AS-44B	AS-46B	AS-47B	10-AS3002F□-10A
					—
			—		
			10-AS3002F□-12A		
AS-43B	AS-45B	AS-47B	AS-48B	10-AS4002F□-10A	
				—	
				—	
				10-AS4002F□-12A	

③ Threaded Stud Kit for Manifold: Inch Size

Part number				Applicable model	
4 stations	6 stations	8 stations	10 stations		
AS-32B	AS-33B	AS-35B	AS-36B	10-AS1002F□-01A	
			AS-37B	10-AS1002F□-03A	
	AS-34B	AS-36B	AS-38B	10-AS1002F□-07A	
			—	—	
AS-32B	AS-34B	AS-36B	AS-37B	10-AS2002F□-03A	
			AS-38B	10-AS2002F□-07A	
	AS-41B	AS-42B	AS-44B	AS-45B	10-AS2052F□-07A
				—	10-AS2052F□-09A
AS-42B		AS-44B	AS-45B	AS-47B	10-AS3002F□-07A
					10-AS3002F□-09A
	AS-42B	AS-44B	AS-46B		10-AS3002F□-11A
					—
AS-43B	AS-45B	AS-47B	AS-48B	10-AS4002F□-11A	
				—	
				—	
				10-AS4002F□-13A	

Details of Threaded Stud Kit for Manifold

Threaded stud			Accessories		
Part no.	Length	Quantity	Hexagon nut	Flat washer	Quantity
AS-32B	62	2	M3	4	M3
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	M4	4	M4
AS-43B	119	2			
AS-44B	147	2			
AS-45B	179	2			
AS-46B	191	2			
AS-47B	236	2			
AS-48B	277	2			

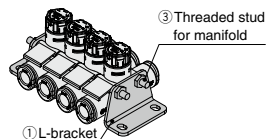
Ordering Example

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-04A

When connecting 4 pcs. and mounting L-brackets on both sides

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

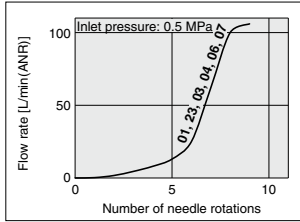


10-AS Series

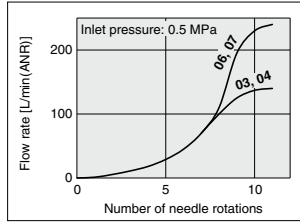
Needle Valve: Flow Rate Characteristics

* The flow rate characteristics are representative values.

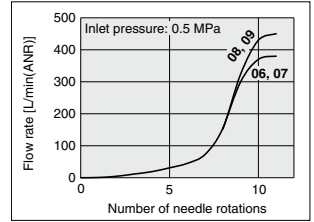
10-AS1002F-□A



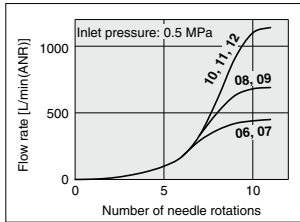
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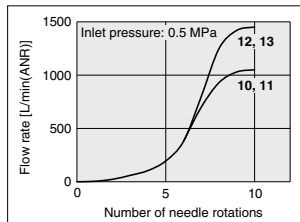
10-AS2052F-□A



10-AS3002F-□A

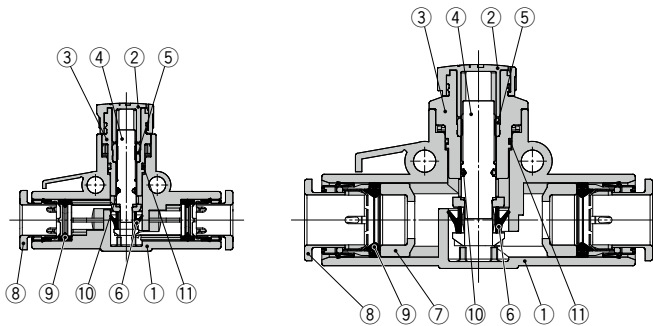


10-AS4002F-□A

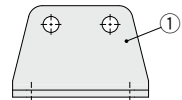


* The numbers above the flow rate characteristic curves in the charts show the applicable tubing outside diameter as defined by the product number.

Construction



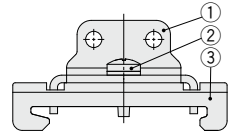
L-Bracket



Component Parts

No.	Description	Material
1	Bracket	Steel strip

DIN Rail Mounting Bracket



Component Parts

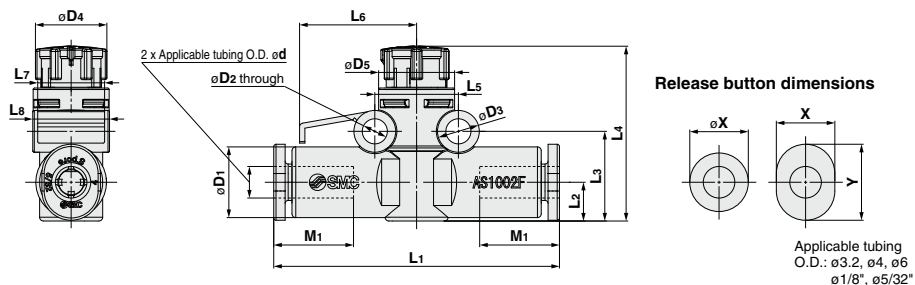
No.	Description	Material
1	Bracket	Steel strip
2	Cross recessed round head screw	Steel wire
3	Clasp	Steel strip

Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Knob	POM	
3	Body B	PBT	
4	Needle	PBT	
5	Needle guide	Brass	Electroless nickel plating
6	U-seal	HNBR	
7	Spacer	PBT*1	
8	Cassette	—	
9	Seal	NBR	
10	O-ring	NBR	
11	O-ring	NBR	

*1 The 10-AS3002F-11A, 10-AS4002F-11A, 10-AS4002F-13A are made of electroless nickel plated brass.

Dimensions



Metric Size

Model	Applicable tubing O.D. ϕd	$\phi D1$	Release button $\phi X(X)$ Y		$\phi D2$	$\phi D3$	$\phi D4$	$\phi D5$	L1	L2	L3	L4*1		L5	L6	L7	L8	M1	Weight [g]	
			Max.	Min.																
10-AS1002F-23A	3.2	8.4	6.7	9.5	—	—	—	—	36.6	5.1	11.8	24.1	23	—	—	—	—	—	13.5	3.7
10-AS1002F-04A	4	9.3	7.7	10	3.3	5.5	9.4	10	37.6	—	—	—	—	11	15.4	8.8	10.1	13	4	
10-AS1002F-06A	6	11.6	9.7	12	—	—	—	—	40.1	6.1	12.8	25.1	24	—	—	—	12.3	13	5	
10-AS2002F-04A	4	9.3	7.7	10	3.3	5.5	12	12	41.3	6.3	13.4	31.4	30	12.6	17	10.5	12.3	13	6.1	
10-AS2002F-06A	6	11.6	9.7	12	—	—	—	—	43.1	—	—	—	—	—	—	—	—	—	6.9	
10-AS2052F-06A	6	12.8	11.5	—	4.3	7.8	13	16	52	7.6	17.2	36.2	34.6	17	22.5	12	16.1	17	11.8	
10-AS2052F-08A	8	15.2	13.5	—	—	—	—	—	56	8.5	18.1	37.1	35.5	—	—	—	—	19	13.8	
10-AS3002F-06A	6	13.2	11.5	—	—	—	—	—	57.8	—	—	—	—	—	—	—	—	17	18.1	
10-AS3002F-08A	8	15.2	13.5	—	4.5	8	16.6	20	63.8	9.8	21.7	42.9	41.3	21.8	25	12	20.5	19	20	
10-AS3002F-10A	10	18.5	16.5	—	—	—	—	—	68.6	—	—	—	—	—	—	—	—	21	24.8	
10-AS3002F-12A	12	20.9	18.5	—	—	—	—	—	73.8	10.9	22.8	44	42.4	—	—	—	22.1	22	29.1	
10-AS4002F-10A	10	18.5	16.5	—	4.3	8	18.8	26	74.7	11.3	23.7	51.3	49.7	28	33	14	26.2	21	36.3	
10-AS4002F-12A	12	21.7	18.5	—	—	—	—	—	79.1	—	—	—	—	—	—	—	22	22	42	

*1 Reference dimensions

Inch Size

Model	Applicable tubing O.D. ϕd	$\phi D1$	Release button $\phi X(X)$ Y		$\phi D2$	$\phi D3$	$\phi D4$	$\phi D5$	L1	L2	L3	L4*1		L5	L6	L7	L8	M1	Weight [g]	
			Max.	Min.																
10-AS1002F-01A	1/8"	8.4	6.7	9.5	—	—	—	—	36.6	5.1	11.8	24.1	23	—	—	—	—	—	13.5	3.7
10-AS1002F-03A	5/32"	9.3	7.7	10	3.3	5.5	9.4	10	37.6	—	—	—	—	11	15.4	8.8	10.1	13	4	
10-AS1002F-07A	1/4"	12	10.9	—	—	—	—	—	40.1	6.2	12.9	25.2	24.1	—	—	—	12.8	13.5	5.2	
10-AS2002F-03A	5/32"	9.3	7.7	10	3.3	5.5	12	12	41.3	6.3	13.4	31.4	30	12.6	17	10.5	12.3	13	6.1	
10-AS2002F-07A	1/4"	12	10.9	—	—	—	—	—	43.2	6.5	13.6	31.6	30.2	—	—	—	12.8	13.5	7.1	
10-AS2052F-07A	1/4"	13.2	12	—	4.3	7.8	13	16	52.2	7.6	17.2	36.2	34.6	17	22.5	12	16.1	17	12.1	
10-AS2052F-09A	5/16"	15.2	13.5	—	—	—	—	—	56	8.5	18.1	37.1	35.5	—	—	—	—	19	13.8	
10-AS3002F-07A	1/4"	13.2	12	—	—	—	—	—	57.8	—	—	—	—	—	—	—	—	17	17.9	
10-AS3002F-09A	5/16"	15.2	13.5	—	4.5	8	16.6	20	63.8	9.8	21.7	42.9	41.3	21.8	25	12	20.5	19	20	
10-AS3002F-11A	3/8"	18.5	16	—	—	—	—	—	67.6	—	—	—	—	—	—	—	—	21	25	
10-AS4002F-11A	3/8"	18.5	16	—	4.3	8	18.8	26	74.7	11.3	23.7	51.3	49.7	28	33	14	26.2	21	36.7	
10-AS4002F-13A	1/2"	21.7	20	—	—	—	—	—	79.1	—	—	—	—	—	—	—	22	22	40.4	

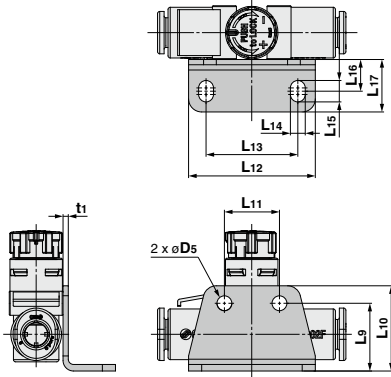
*1 Reference dimensions

10-AS Series

Dimensions

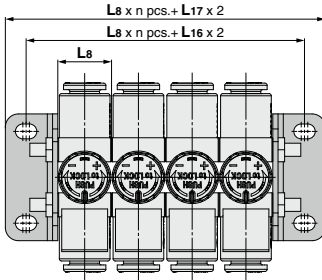
L-Bracket

Bracket on a single side



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

Brackets on both sides

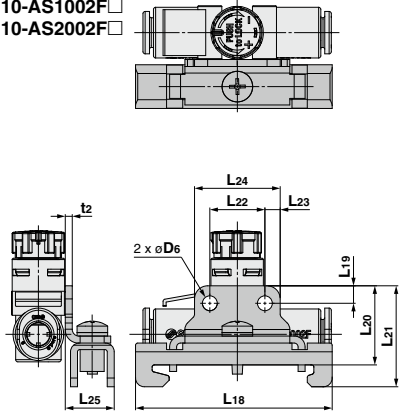


* Refer to page 6 for L₈.
 * The figure above shows the manifold with speed controllers connected using two L-brackets and a threaded stud kit for manifold. Refer to page 4 for threaded stud kits for manifold.

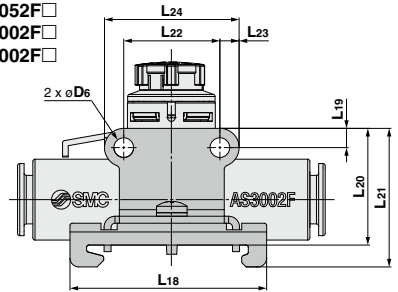
DIN Rail Mounting Bracket

Bracket on a single side

- 10-AS1002F
- 10-AS2002F

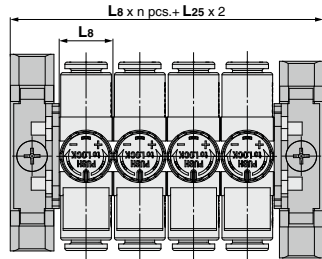


- 10-AS2052F
- 10-AS3002F
- 10-AS4002F



Part no.	Applicable model	D6	L18	L19	L20	L21	L22	L23	L24	L25	t2
AS-10D	10-AS1002F	3.4		3.5	18.2	23.2	11		3.5	18	
AS-20D	10-AS2002F			45	18.6	23.6	12.6			19.6	
AS-25D	10-AS2052F				22	27	17			25.8	11.3
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



* Refer to page 6 for L₈.
 * The figure above shows the manifold with speed controllers connected using two DIN rail mounting brackets and a threaded stud kit for manifold. Refer to page 4 for threaded stud kits for manifold.