

Speed Controller with One-touch Fittings

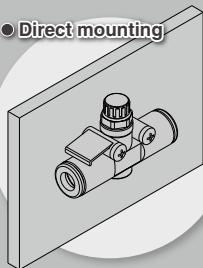
Series AS

In-line Type

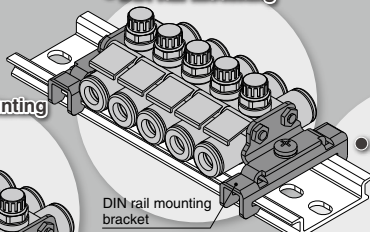
RoHS

4 types of mounting variations

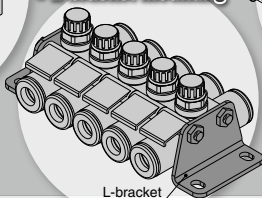
● Direct mounting



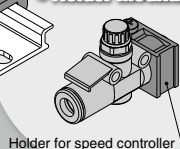
● DIN rail mounting



● L-bracket mounting

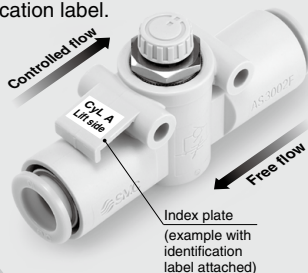


● Holder mounting



Index plate

It is possible to identify the product when multiple controllers are mounted and identify the flow direction by attaching an identification label.



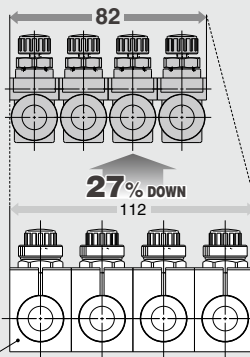
Lightweight

Reduced by **30%** compared with the existing product (AS2002F-04)

Compact

NEW

Four AS3002F-10 controllers connected



Existing

Four AS3001F-10 controllers connected with holders (TMH-10)

Holder

Flow-rate characteristics are equivalent to the existing product.

Series

Series	Applicable tubing O.D.													
	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	●	●	●	●				●	●	●	●			
AS2002F			●	●				●	●	●	●			
AS2052F				●	●					●	●	●		
AS3002F					●	●				●	●	●		
AS4002F						●	●					●	●	

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 tubing material ^{Note 2)}	Nylon, Soft nylon, Polyurethane

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 411 and 412 for details.)

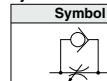
Note 3) Brass parts are all electroless nickel plated.

Flow Rate and Sonic conductance

Series	AS1002F	AS2002F	AS2052F	AS3002F	AS4002F
Metric size	ø2	ø3.2, ø4, ø6	ø4	ø6	ø6
Inch size	—	ø1/8", ø5/32" ø1/4"	ø5/32"	ø1/4"	ø5/16"
Controlled flow	Flow rate (L/min (ANR))	20	100	130	230
Free flow	Sonic conductance dm ³ /(s·bar)	0.06	0.28	0.36	0.64
Critical pressure ratio	Controlled flow	0.2			
	Free flow	0.25			

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

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

Made to Order

Applicable tubing O.D.

Metric size	Inch size
02 ø2	01 ø1/8"
23 ø3.2 [±]	03 ø5/32"
04 ø4	07 ø1/4"
06 ø6	09 ø5/16"
08 ø8	11 ø3/8"
10 ø10	13 ø1/2"
12 ø12	

* Use ø1/8" tube.

Lock nut option

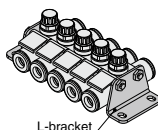
Nil	Hexagon lock nut
J	Round lock nut

With One-touch fittings

Options

L-bracket

Part no.	Applicable series
AS-12L	AS1002F-02
AS-10L	AS1002F
AS-20L	AS2002F
AS-25L	AS2052F
AS-35L	AS3002F
AS-40L	AS4002F



L-bracket

Part no. list of threaded stud kit for manifold

Model	Metric size	Inch size	4 stations	6 stations	8 stations	10 stations
AS1002F-02	AS1002F-01	AS1002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS1002F-23	AS1002F-01	AS1002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS1002F-04	AS1002F-01	AS1002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS1002F-06	AS1002F-01	AS1002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS2002F-04	AS2002F-01	AS2002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS2002F-06	AS2002F-01	AS2002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS2052F-06	AS2052F-01	AS2052F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS2052F-08	AS2052F-01	AS2052F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS3002F-06	AS3002F-01	AS3002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS3002F-08	AS3002F-01	AS3002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS3002F-10	AS3002F-01	AS3002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS3002F-12	AS3002F-01	AS3002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS4002F-10	AS4002F-01	AS4002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS4002F-12	AS4002F-01	AS4002F-03	AS-31B	AS-32B	AS-33B	AS-34B
AS4002F-13	AS4002F-01	AS4002F-03	AS-31B	AS-32B	AS-33B	AS-34B

Made to Order

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

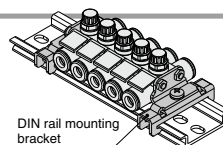
Restrictor (Without Check Valve)

-X214

Ex.) AS2002F-04-X214

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.

Details of threaded stud kit for manifold

Part no.	Threaded stud		Accessories		
	Length	pcs.	Hexagon nut	Flat washer	pcs.
AS-31B	38	2	M3	4	M3
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
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.

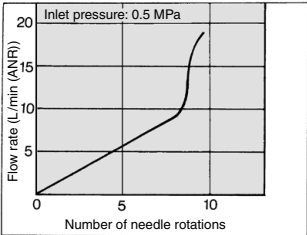
Ex.) AS2002F-04 When connecting 4 pcs. and mounting L-brackets on both sides

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

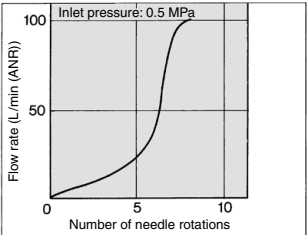
Needle Valve/Flow-rate Characteristics

Note) The flow characteristics are representative values.

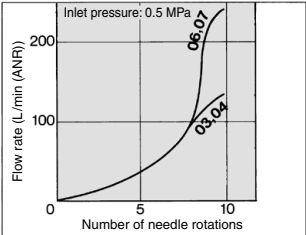
AS1002F-02



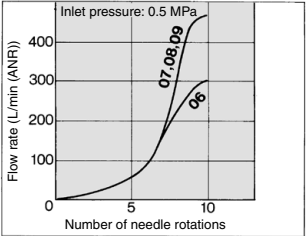
AS1002F



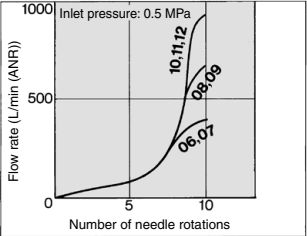
AS2002F



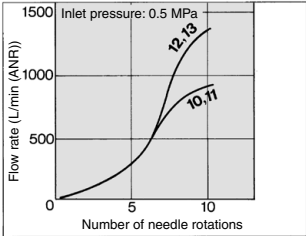
AS2052F



AS3002F

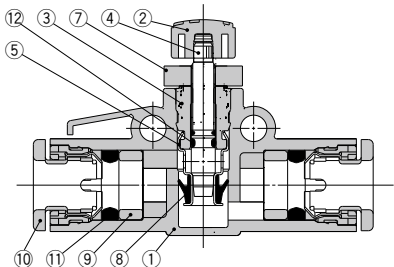


AS4002F



Construction

AS1002F, AS2002F, AS2052F



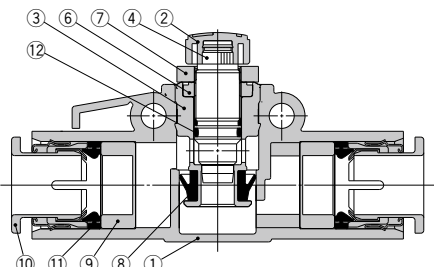
Component Parts

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

Note 1) AS2052F, AS3002F, AS4002F are made of PBT. AS3002F-11, AS4002F-11, AS4002F-13 are made of electroless nickel plated brass.

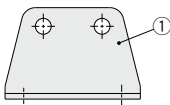
Note 2) For the material and surface treatment of the lock nut option-J (round type), only the AS1002F-02, AS3002F, and AS4002F types use brass and electroless nickel plated.

AS1002F-02, AS3002F, AS4002F



No.	Description	Material	Note
7	Lock nut	Steel wire ^{Note 2)}	Zinc chromated ^{Note 2)}
8	U-seal	HNBR	
9	Spacer	POM ^{Note 1)}	
10	Cassette	—	
11	Seal	NBR	
12	O-ring	NBR	

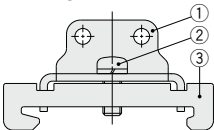
L-bracket



Component Part

No.	Description	Material
1	Bracket	Steel strip

DIN rail mounting bracket



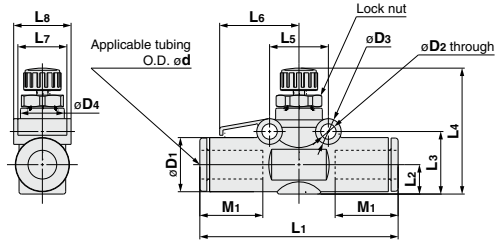
Component Parts

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 front matter 56 for Safety
Instructions and pages 468 to
471 for Flow Control Equipment
Precautions.

Dimensions



Metric Size

Model	Applicable tubing O.D. ϕ d	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				36	4.4	11.1	23.8	21				9.8	12.7	5
AS1002F-04	4	9.3	3.3	5.5	9.1	37	5.1	11.8	24.5	21.7	11	15.4	8.8	10.1		5.5
AS1002F-06	6	11.6				39.5	6.1	12.8	25.5	22.7				12.3	13.5	6.5
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	13.5	9.5
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	18	22
AS3002F-06	6	13.2				59	7.4	19.3	38.6	33.6				17	36	
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
AS3002F-10	10	18.5				70.8	9.8	21.7	41	36				21	42	
AS3002F-12	12	20.9				76	10.9	22.8	42.1	37.1				22.1	22	44
AS4002F-10	10	18.5	4.3	8	25	76.9	10.3	22.7	51.6	44.1	28	33	14	21	76	
AS4002F-12	12	21.7				81.3	11.3	23.7	52.6	45.1				22	82	

(Note) Reference dimensions

Inch Size

Model	Applicable tubing O.D. ϕ d	D1	D2	D3	D4	L1	L2	L3	L4 (Note)		L5	L6	L7	L8	M1	Weight (g)
									MAX.	MIN.						
AS1002F-01	1/8"	8.4				36	4.5	11.2	23.8	21				9.8		5
AS1002F-03	5/32"	9.3	3.3	5.5	9.1	37	5.2	11.9	24.5	21.7	11	15.4	8.8	10.1	12.7	5.5
AS1002F-07	1/4"	12				39.5	6.1	12.8	25.5	22.7				12.8	13.7	6.5
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	13.7	9.5
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	18	22
AS3002F-07	1/4"	13.2				59	7.4	19.3	38.6	33.6				17	35	
AS3002F-09	5/16"	15.2	4.3	8	19.3	65	8.2	20.1	39.4	34.4	22	25	12	20.5	18	38
AS3002F-11	3/8"	18.5				69.8	9.8	21.7	41	36				21	52	
AS4002F-11	3/8"	18.5	4.3	8	25	76.9	10.3	22.7	51.6	44.1	28	33	14	21	86	
AS4002F-13	1/2"	21.7				81.3	11.3	23.7	52.6	45.1				22	95	

(Note) Reference dimensions

The hexagon lock nut can be fastened by hand. When stronger tightening is required, please retighten using a tool. The proper 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	Proper tightening torque (N·m)
AS1002F-02	0.07
AS1002F	0.2
AS2002F	0.3
AS2052F	1
AS3002F	2
AS4002F	4

AS

TMH

ASD

AS

AS-FE
KE

AS-FG

AS-FP

AS-FM

AS-D
AS-T

ASP

ASN

AQ

ASV

AK

VCHC

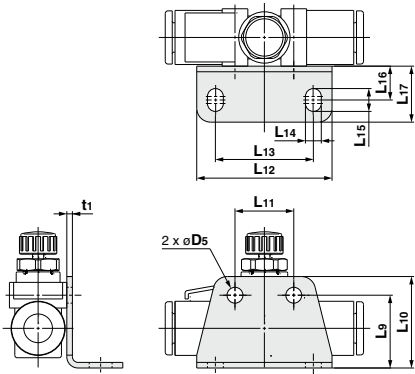
ASS

ASR
ASQ

Dimensions

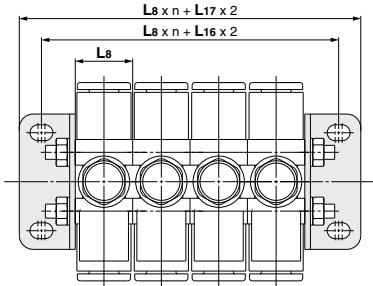
L-bracket

Bracket on a single side



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

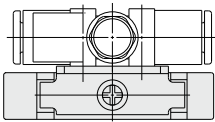
Brackets on both sides



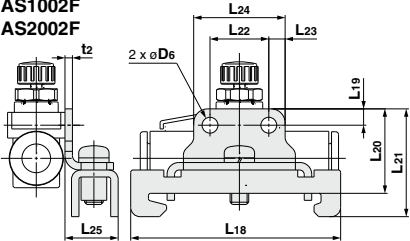
*1 Refer to page 503 for L8.
*2 The above figure shows the manifold with controllers connected using two L-brackets and a threaded stud kit for manifold.
Refer to page 501 for threaded stud kits for manifold.

DIN rail mounting bracket

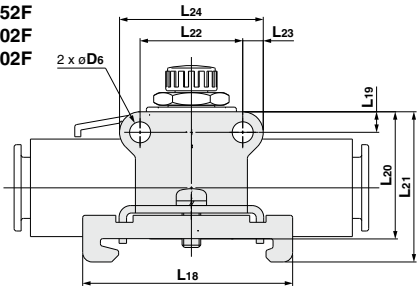
Bracket on a single side



AS1002F
AS2002F

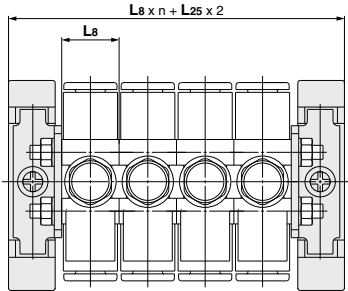


AS2052F
AS3002F
AS4002F



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

Brackets on both sides



*1 Refer to page 503 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 501 for threaded stud kits for manifold.