# New Speed Controller with RoHS **One-touch Fittings In-line** Type **4** types of mounting variations Direct mounting DIN rail mounting L-bracket mounting Holder mounting DIN rail mounting bracket Holder for speed controller I -bracket

# Index plate

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

# Compact

NEW Four AS3002F-10 controllers connected

# Conventional

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



82

Flow-rate characteristics are equivalent to the conventional product.







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



# Series AS

# Series

	Applicable tube O.D.							Applicable cylinder						
Series			Me	tric s	size			Inch size				bore size		
	2	3.2	4	6	8	10	12	1/8"	5/32"	1/4"	5/16"	3/8"	1/2"	(mm)
AS1002F	۲	۲	۲	۲				۲	۲	۲				6, 10, 16, 20 Note)
AS2002F			۲	۲					۲	۲				20, 25, 32
AS2052F				۲	۲					۲	۲			20, 25, 32, 40
AS3002F				۲	۲	۲	۲			۲	۲	۲		40, 50, 63
AS4002F						۲						۲	۲	63, 80, 100

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

# Flow Rate and Effective Area

	Series		AS1002F	AS20	)02F	AS2	2052F		AS300	2F	AS4	002F
	Metric size	ø2	ø3.2, ø4, ø6	ø4	ø6	ø6	ø8	ø6	ø8	ø10, ø12	ø10	ø12
Tube O.D.	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	Flow rate (I/min (ANR))	20	100	130	230	290	460	390	660	920	920	1390
(Free flow)	Effective area (mm <sup>2</sup> )	0.3	1.5	2	3.5	4.5	7	6	10	14	14	21

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



# Options

# Astronomic Applicable series As-12L AS1002F-02 As-10L AS1002F As-20L AS2002F As-30L AS2052F As-30L AS4002F



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

1 atotiona	Catationa	0 stations	10 stations	Model			
4 stations	6 stations	8 stations	TO stations	Metric size	Inch size		
AS-31B	AS-32B	AS-33B	AS-34B	AS1002F-02	-		
	AC 220	AS-34B	AC OCD	AS1002F-23	AS1002F-01		
AC 000	A2-33D	AS-35B	A2-30D	AS1002F-04	AS1002F-03		
A3-32D	AC 240		AS-37B	AS1002F-06	_		
	A3-34D	A3-30D	AS-38B	—	AS1002F-07		
		AS-35B	AC 270	AS2002F-04	AS2002F-03		
AS-32B	AS-34B	AC 260	A3-37B	AS2002F-06			
		A2-30D	AS-38B	_	AS2002F-07		
				AS2052F-06	—		
AS-41B	AS-42B	AS-44B	AS-45B	_	AS2052F-07		
				AS2052F-08	AS2052F-09		
				AS3002F-06	_		
	AS-44B		AS-47B	_	AS3002F-07		
AC 400		A3-43D		AS3002F-08	AS3002F-09		
A3-42D				AS3002F-10	—		
				_	AS3002F-11		
		A3-40D		AS3002F-12	—		
				AS4002F-10	_		
AC 420		AC 470	AC 400	_	AS4002F-11		
AS-43B	AS-45B	A3-47D	AS-48B	AS4002F-12	_		
				_	AS4002F-13		

# 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 1) In case of AS1002F-02

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

European Best Pneumatics for more information)

Note 3) Brass parts are all electroless nickel plated.

# Flow Direction Symbol on Body JIS symbol

vlade to

Order

-X21

-X214



# Lubricant: Vaseline

Ex.) AS2002F-04-X12

Grease-free (Sealant: Fluoro coated) + Restrictor (Without Check Valve) Ex.) AS2002F-04-X21 Note) Not particle-free

Restrictor (Without Check Valve)



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



\* Bracket for AS1002F-02 is not available.
\* Prepare DIN r

Details of threaded stud kit for manifold

Part no Threaded stud		Accessories					
Fait no.	Length	pcs.	Hexagon nut	pcs.	Flat washer	pcs.	
AS-31B	38	2					
AS-32B	62	2					
AS-33B	72	2					
AS-34B	90	2	MO	4	МЗ	4	
AS-35B	104	2	M3			4	
AS-36B	114	2					
AS-37B	135	2					
AS-38B	140	2					
AS-41B	78	2					
AS-42B	111	2					
AS-43B	119	2					
AS-44B	147	2	MA	4			
AS-45B	179	2	1014	4	1014	4	
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

Ex.) AS2002F-04 When connecting 4	pcs. and mounting L-brackets on both sides
Speed controller	AS2002F-04 ····· 4 pcs.
L-bracket	AS-20L
<ul> <li>Threaded stud kit for manifold</li> </ul>	AS-32B1 pc.



# Needle Valve/Flow-rate Characteristics



# Construction





#### **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

AS1002F-02, AS3002F, AS4002F



No.	Description	Material	Note
7	Lock nut	Steel wire	Zinc chromated
8	U-seal	HNBR	
9	Spacer	POM Note)	
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
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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 European Best Pneumatics for Flow Control Equipment Precautions.

# Dimensions



#### **Metric Size**

Model	Applicable	D1	Do	Da	D	14		1.0	L4	Note)	1.5		17	1.0	Ma	Weight
Model	tube O.D. ø <b>d</b>		02	<b>D</b> 3	<b>D</b> 4		L2	L3	MAX.	MIN.	Lo	Lo	L/	L8	IVII	(g)
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			9.1	36	4.4	11.1	23.8	21				9.8 10.1	10.7	5
AS1002F-04	4	9.3	3.3	5.5		37	5.1	11.8	24.5	21.7	11	11 15.4	8.8		12.7	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	0.0	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	3.3			42.5	6.3	13.4	30	26.5		17		12.3	13.5	9.5
AS2052F-06	6	12.8	4.0	7.0	14	53.2	6.7	16.3	33.2	28.2	17	00.0	10	15.7	17	19
AS2052F-08	8	15.2	4.3	7.8		57.2	8	17.6	34.5	29.5	17	22.8	12	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	1		10.0	65	8.2	20.1	39.4	34.4		05	10	20.5	18	38
AS3002F-10	10	18.5	4.3	8	19.3	70.8	9.8	21.7	41	36	22	25	12		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	4.0		05	76.9	10.3	22.7	51.6	44.1	00	00	14	00.0	21	76
AS4002F-12	12	21.7	4.3	ð	25	81.3	11.3	23.7	52.6	45.1	28	33		26.2	22	82

0.

L8

L7

ØD4

Note) Reference dimensions

#### Inch Size

Madal	Applicable		Do	Do	<b>D</b> 4	1.4	1.0	1.0	L4	Note)	1.5	1.0	1-	1.0	Ma	Weight	
woder	tube O.D. ø <b>d</b>	וט	<b>D</b> 2	D3	D4	L1	L2	L3	MAX.	MIN.	L5	L0	L/	L8		(g)	
AS1002F-01	1/8"	8.4				36	4.5	11.2	23.8	21				9.8	10.7	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	8.8 1	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		5.5	10	40.7	5.2	12.3	28.9	25.4	10.6	17	10.5	11.5	12.7	8.5	
AS2002F-07	1/4"	12	3.3 3			42.6	6.5	13.6	30.2	26.7	12.0	17		12.8	13.7	9.5	
AS2052F-07	1/4"	13.2	4.0	7.0	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	4.3	7.8		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				20.5	17	35	
AS3002F-09	5/16"	15.2	4.3	4.3 8	19.3	65	8.2	20.1	39.4	34.4	22	25	12		18	38	
AS3002F-11	3/8"	18.5				69.8	9.8	21.7	41	36					21	52	
AS4002F-11	3/8"	18.5	10		25	76.9	10.3	22.7	51.6	44.1	00	22	14	26.2	21	86	
AS4002F-13	1/2"	21.7	4.3	8 B		81.3	11.3	23.7	52.6	45.1	28 3	33			22	95	

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



Note 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.

# **SMC**

two DIN rail mounting brackets and a threaded stud kit for manifold.

Refer to page 1 for threaded stud kits for manifold.

# Holder for Speed Controller Series TMH

A holder for securing a speed controller with one-touch fittings (In-line type)

# Possible to hold a single controller.



Holder mounting



Holder for speed controller

# **Specifications**

Ambient temperature	-20 to 60°C
Material	Polypropylene
Colour	White

## Accessory: Cross Recessed Round Head Screw for Mounting (Zinc chromated)

Model Size Piece Metric size Inch size (Nominal x Length) TMH-23J TMH-01J M3 x 15 TMH-04J TMH-03J TMH-06J TMH-07J M3 x 20 TMH-06 TMH-07 1 M4 x 25 TMH-08 TMH-09 TMH-10 M4 x 35 **TMH-12** TMH-13

# Series

Select the applicable holder/TMH for each speed controller from the below table.

#### **Metric Size**

Tube size	Applicable tube										
Applicable	23	04	06	08	10	12					
series	ø3.2	ø4	ø6	ø8	ø10	ø12					
AS1002F	TMH-23J										
AS2002F		Т IVIП-04J	1 1011-003								
AS2052F			TMH-06								
AS3002F			TMH-07			TMH-12					
AS4002F						TMH-13					

Note) The applicable TMH for AS1002F-02 is not available.

#### Inch Size

Tube size		Applicable tube										
Applicable	01	03	07	09	11	13						
series	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø3/8"	ø1/2"						
AS1002F	TMH-01J											
AS2002F		11011-035	11011-075									
AS2052F												
AS3002F				11111-09								
AS4002F						TMH-13						

# Dimensions



Model		aD1	~D2	Ш1	ЦЭ	Н2	цл	HE	11	12	12	Symbol
Metric size	Inch size	001	002		112	115	114	115	<b> </b>		L3	Symbol
TMH-23J	TMH-01J	8.5	2.2	4.5	4.6	75	6	10	70	66	18	1/8J
TMH-04J	TMH-03J	9.4	3.3	4.5		7.5	0	12	1.2	0.0		4 5/32J
TMH-06J	—	11.7	22	6.2	6.4	0.2	77	15.4	8.5	8.3	21	6J
—	TMH-07J	12.1	3.3	0.5		9.3	1.1	13.4				1/4J
TMH-06	_	13.1							11	10.6	26.5	6
_	TMH-07	13.5	4.3	7.1	7.2	11.1	10	20				1/4
TMH-08	TMH-09	15.5										8 5/16
TMH-10	_	18.8									34	10
TMH-12	_	21.2	4.3	9.5	9.6	13.5	14	28	14.2	14.6		12
	TMH-13	22										1/2



# **▲** Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "**Caution**," "**Warning**" or "**Danger**." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)<sup>\*1</sup>, and other safety regulations.



#### **Safety Instructions** Be sure to read "Handling Precautions for SMC Products" (M-E03-3) before using.

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