

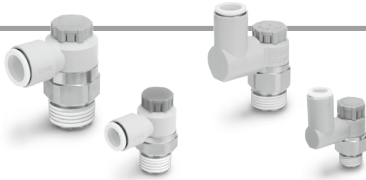
Series 10-AS-FG

Push-lock Type

RoHS

Speed Controller with One-touch Fitting
Stainless Steel Type (Elbow/Universal)

How to Order



Elbow type

Universal type

Applicable tubing O.D. ^{Note 1)}

Metric size	Inch size
02	ø2
03	ø3/32
04	ø4
06	ø6

Note 1) For selecting applicable tubing O.D., refer to the "Model" on the table below.

The color of the release button is white (metric, inch).

Note 2) Use ø1/8" tube.

Body size

1	M5 x 0.8 10-32UNF
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Port size

M5	M5 x 0.8
U10/32	10-32UNF

Body size 1

10-AS 1 2 0 1 FG - M5 - 06 A

Body size 2/3/4

10-AS 2 2 0 1 FG - 01 - 06 S A

Clean series

Body size

2	1/8, 1/4
3	3/8
4	1/2

Type

2	Elbow
3	Universal

Control type ^{Note 1)}

0	Meter-out
1	Meter-in

Note 1) Meter-out and meter-in types can be visually identified by color of the knob.

Meter-out: Gray

Meter-in: Light blue

Stainless steel type (Stainless steel 303)

Note 1) The material can be visually identified by color of the release button.

Stainless steel type: White

Note 2) White is also used for inch size.

Thread type

Nil	R
N	NPT

Port size

01	1/8
02	1/4
03	3/8
04	1/2

Push-lock type

Seal method

Nil	Without sealant
S	With sealant

Applicable tubing O.D. ^{Note 1)}

Metric size	Inch size
23	ø3.2 ^{Note 2)}
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
16	ø16

Note 1) For selecting applicable tubing O.D., refer to the "Model" on the table below.

The color of the release button is white (metric, inch).

Note 2) Use ø1/8" tube.

Model

Model		Port size	Seal method	Applicable tubing O.D.													
Elbow type	Universal type			Metric size								Inch size					
				2 Note 2)	3.2	4	6	8	10	12	16	1/8"	5/32"	1/4"	5/16"	3/8"	1/2"
10-AS12□1FG-M5	10-AS13□1FG-M5	M5 x 0.8	Gasket seal	● Note 3)	●	●	●						●	●	●		
10-AS12□1FG-U10/32	10-AS13□1FG-U10/32	10-32UNF		● Note 3)	●	●	●						●	●	●		
10-AS22□1FG-□01	10-AS23□1FG-□01	1/8	Sealant Note 1)		●	●	●	●	● Note 3)			●	●	●	●		
10-AS22□1FG-□02	10-AS23□1FG-□02	1/4			● Note 3)	●	●	●	●			● Note 3)	●	●	●	●	
10-AS32□1FG-□02	10-AS33□1FG-□02	1/4				●	●	●	●	●				●	●	●	
10-AS32□1FG-□03	10-AS33□1FG-□03	3/8					●	●	●	●					●	●	
10-AS42□1FG-□04	10-AS43□1FG-□04	1/2						●	●	●	● Note 3)					●	●

Note 1) "Without sealant" type can be selected as a standard option.

Note 2) Only polyurethane tubing is applicable for ø2.

Note 3) Universal type is not available.

Specifications

Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Applicable tubing material	Polyurethane ^{Note)}
Grease	Fluorine grease
Cleanliness class (ISO class)	Class 5

Note) Use caution at the max. operating pressure when using polyurethane tubing. (Refer to the **WEB catalog** for details.)

Flow Rate and Sonic Conductance

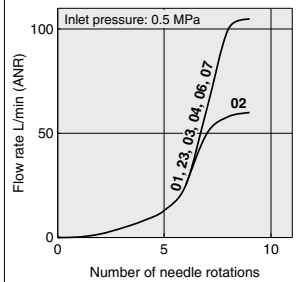
Model		10-AS12□1FG-M5 10-AS13□1FG-M5			10-AS22□1FG-□01 10-AS23□1FG-□01			10-AS22□1FG-□02 10-AS23□1FG-□02			10-AS32□1FG 10-AS33□1FG			10-AS42□1FG 10-AS43□1FG	
Tubing O.D.	Metric size	ø2	ø3.2 ø4 ø6	ø3.2	ø4	ø6 ø8 ø10	ø3.2	ø4	ø6	ø8 ø10	ø6	ø8	ø10 ø12	ø10	ø12 ø16
	Inch size	—	ø1/8" ø1/4" ø5/32"	ø1/8"	ø5/32"	ø1/4" ø5/16"	ø1/8"	ø5/32"	—	ø1/4" ø5/16" ø3/8"	ø1/4"	ø5/16"	ø3/8"	ø3/8"	ø1/2"
C values: Sonic conductance dm ³ /(s·bar)	Free flow	0.2	0.3	0.4	0.6	0.6	0.7	1.0	1.3	1.5	1.6	1.7	2.5	4.4	4.8
	Controlled flow	0.2	0.3	0.4	0.7	0.8	0.6	0.9	1.3		2.1	2.4	3.3	4.4	4.9
b values: Critical pressure ratio	Free flow	0.3	0.4	0.2		0.3	0.3		0.4		0.4		0.3		0.3
	Controlled flow	0.2		0.2		0.3	0.3			0.3			0.3		

Note 1) 10-32UNF has the same specification as M5.

Note 2) C and b values are for controlled flow with the needle fully open and free flow with the needle fully closed.

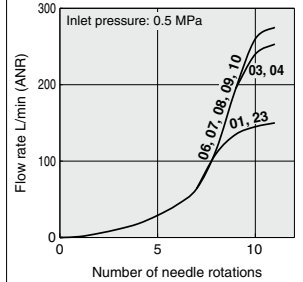
Needle Valve/Flow Rate Characteristics

**10-AS1201FG-M5, 10-AS1211FG-M5
10-AS1301FG-M5, 10-AS1311FG-M5**

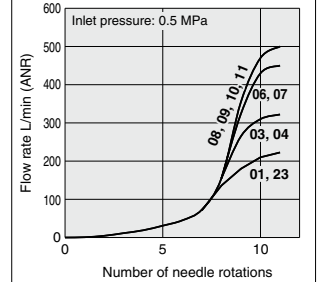


Note) -U10/32 has the same specification as M5.

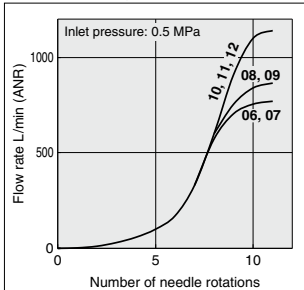
**10-AS2201FG-01, 10-AS2211FG-01
10-AS2301FG-01, 10-AS2311FG-01**



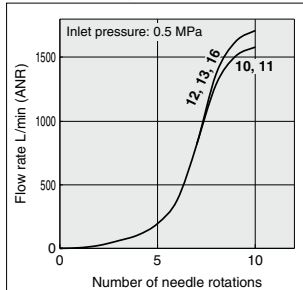
**10-AS2201FG-02, 10-AS2211FG-02
10-AS2301FG-02, 10-AS2311FG-02**



**10-AS3201FG, 10-AS3211FG
10-AS3301FG, 10-AS3311FG**



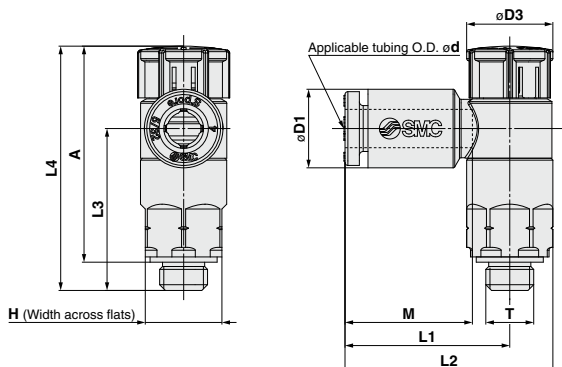
**10-AS4201FG, 10-AS4211FG
10-AS4301FG, 10-AS4311FG**



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

Dimensions/ Elbow type

Seal method: Gasket seal
For M5, 10-32UNF



Metric Size

Metric Size													[mm]			
Model	d	T	H	D1	D3	L1	L2	L3	L4 Note 1)		A Note 2)		M	Weight [g]		
10-AS12□1FG-M5-02A	2	M5 x 0.8 10/32UNF	8	5.8	9.4	15.8	20.3	16.9	26.5	25.4	23.5	22.4	11.9	5		
10-AS12□1FG-U10/32-02A				7.2		17.2	21.7									
10-AS12□1FG-M5-23A	3.2			8.2		18.6	23.1									
10-AS12□1FG-U10/32-23A				10.4		18.6	23.1									
10-AS12□1FG-M5-04A	4												13.3	6		
10-AS12□1FG-U10/32-04A																
10-AS12□1FG-M5-06A	6															
10-AS12□1FG-U10/32-06A																

Note 1) Reference dimensions

Note 2) Reference dimensions of threads after installation

Inch Size

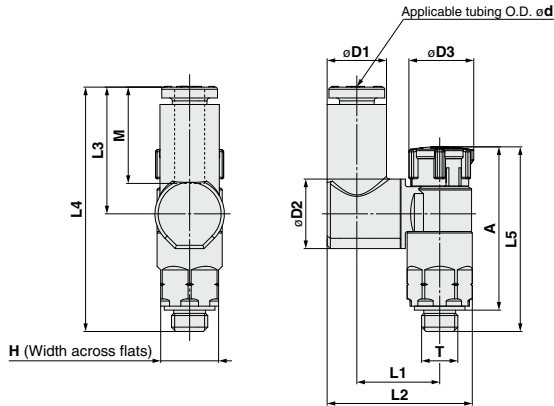
Inch Size														[mm]
Model	d	T	H	D1	D3	L1	L2	L3	L4 Note 1)		A Note 2)		M	Weight [g]
10-AS12□1FG-M5-01A	1/8"	M5 x 0.8 10/32UNF	8	7.2	9.4	17.2	21.7	16.9	26.5	25.4	23.5	22.4	13.3	5
10-AS12□1FG-U10/32-01A				8.2										
10-AS12□1FG-M5-03A	5/32"													
10-AS12□1FG-U10/32-03A														
10-AS12□1FG-M5-07A	1/4"													
10-AS12□1FG-U10/32-07A														

Note 1) Reference dimensions

Note 2) Reference dimensions of threads after installation

Dimensions/ **Universal type**

Seal method: Gasket seal
For M5, 10-32UNF



Metric Size

Metric Size																[mm]
Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5 Note 1)		A Note 2)		M	Weight [g]
10-AS13□1FG-M5-23A	3.2	M5 x 0.8 10/32UNF	8	7.2	9.6	9.4	11.6	19.7	17.5	33.8	26.5	25.4	23.5	22.4	13.3	6
10-AS13□1FG-U10/32-23A				11.5			20.1									
10-AS13□1FG-M5-04A	21.2						20.4	36.6								
10-AS13□1FG-U10/32-04A																
10-AS13□1FG-M5-06A	6			10.4			11.5	21.2	20.4	36.6						
10-AS13□1FG-U10/32-06A																

Note 1) Reference dimensions

Note 2) Reference dimensions of threads after installation

Inch Size

Inch Size																[mm]			
Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5 Note 1)		A Note 2)		M	Weight [g]			
10-AS13□1FG-M5-01A	1/8"	M5 x 0.8 10/32UNF	8	7.2	9.6	9.4	11.6	19.7	17.5	33.8	26.5	25.4	23.5	22.4	13.3	6			
10-AS13□1FG-U10/32-01A				5/32"			8.2	11.5									20.1		
10-AS13□1FG-M5-03A	1/4"						11.2										21.6	20.2	36.5
10-AS13□1FG-U10/32-03A																			
10-AS13□1FG-M5-07A	1/4"			11.2			21.6	20.2	36.5										
10-AS13□1FG-U10/32-07A																			

Note 1) Reference dimensions

Note 2) Reference dimensions of threads after installation



Directional
Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation
Equipment

Modular F. R.

Pressure Control
Equipment

Fittings & Tubing

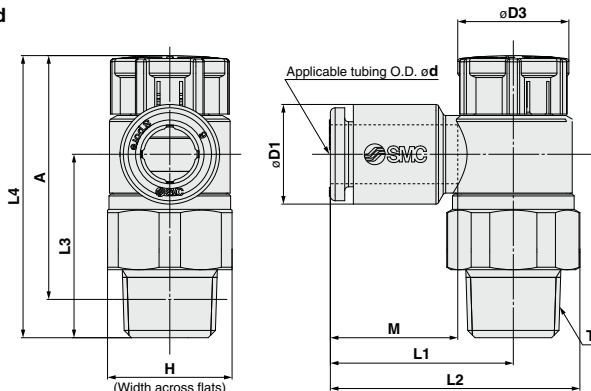
Flow Control
Equipment

Pressure Switches/
Pressure Sensors

Dimensions/ Elbow type

Seal method: Sealant

For R, NPT thread



Metric Size

Model	d	T	H	D1	D3	L1	L2	L3	L4 Note 1)		A Note 1)		M	Weight [g]
									Unlocked	Locked	Unlocked	Locked		
10-AS22□1FG-01-23(S)A	3.2	1/8	13 (12.7)	7.2	12	19.1	26.2	19.1	30.6	29.2	27.5	26.1	13.3	9 (9)
10-AS22□1FG-01-04(S)A	4			8.2										10 (9)
10-AS22□1FG-01-06(S)A	6			10.4										11 (10)
10-AS22□1FG-01-08(S)A	8			13.2										12 (11)
10-AS22□1FG-01-10(S)A	10	1/4	17 (17.5)	15.9	13	20.9	30.2 (30.3)	22.6	36.6	35	31.1	29.5	13.3	17 (18)
10-AS22□1FG-02-23(S)A	3.2			7.2										14.2 (18)
10-AS22□1FG-02-04(S)A	4			8.2										15.6 (19)
10-AS22□1FG-02-06(S)A	6			10.4										16.2 (20)
10-AS22□1FG-02-08(S)A	8	1/2	19	13.2	16.6	21.8	32.1	36.4	50	48.4	44.5	42.9	13.3	40 (40)
10-AS22□1FG-02-10(S)A	10			15.9										41 (41)
10-AS32□1FG-02-06(S)A	6			10.4										42 (42)
10-AS32□1FG-02-08(S)A	8			13.2										43 (43)
10-AS32□1FG-02-10(S)A	10	3/8	19	15.9	16.6	21.8	32.1	28.7	42.3	40.7	37.1	35.5	13.3	29 (30)
10-AS32□1FG-02-12(S)A	12			18.5										30 (31)
10-AS32□1FG-03-06(S)A	6			10.4										32 (33)
10-AS32□1FG-03-08(S)A	8			13.2										52 (51)
10-AS32□1FG-03-10(S)A	10	1/2	24 (23.8)	15.9	18.8	27.4	40.3 (40.2)	36.2	50.8	49.2	43.7	42.1	15.6	54 (53)
10-AS32□1FG-03-12(S)A	12			18.5										58 (57)
10-AS42□1FG-04-10(S)A	10			15.9										
10-AS42□1FG-04-12(S)A	12			18.5										
10-AS42□1FG-04-16(S)A	16			23.8		34.8	47.7 (47.6)	32.7						

Note 1) Reference dimensions Note 2) Reference dimensions of threads after installation Note 3) The values in () are for NPT thread.

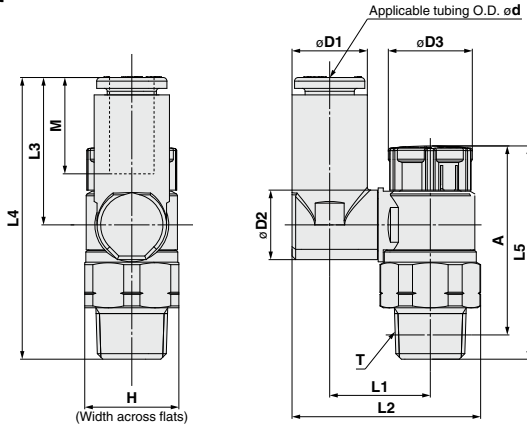
Inch Size

Model	d	T	H	D1	D3	L1	L2	L3	L4 Note 1)		A Note 2)		M	Weight [g]
									Unlocked	Locked	Unlocked	Locked		
10-AS22□1FG-01-01(S)A	1/8"	1/8	13 (12.7)	7.2	12	19.1	26.2	19.1	30.6	29.2	27.5	26.1	13.3	9 (9)
10-AS22□1FG-01-03(S)A	5/32"			8.2										10 (9)
10-AS22□1FG-01-07(S)A	1/4"			11.2										11 (10)
10-AS22□1FG-01-09(S)A	5/16"			13.2										
10-AS22□1FG-02-01(S)A	1/8"	1/4	17 (17.5)	7.2	13	20.9	30.2 (30.3)	22.6	36.6	35	31.1	29.5	13.3	17 (18)
10-AS22□1FG-02-03(S)A	5/32"			8.2										18 (18)
10-AS22□1FG-02-07(S)A	1/4"			11.2										14.2 (18)
10-AS22□1FG-02-09(S)A	5/16"			13.2										15.6 (19)
10-AS22□1FG-02-11(S)A	3/8"	1/2	19	15.5	16.6	21.8	32.1	28.7	42.3	40.7	37.1	35.5	13.3	19 (20)
10-AS32□1FG-02-07(S)A	1/4"			11.2										13.3 (40)
10-AS32□1FG-02-09(S)A	5/16"			13.2										41 (41)
10-AS32□1FG-02-11(S)A	3/8"			15.5										14.2 (18)
10-AS32□1FG-03-07(S)A	1/4"	3/8	19	11.2	16.6	21.8	32.1	28.7	42.3	40.7	37.1	35.5	13.3	29 (30)
10-AS32□1FG-03-09(S)A	5/16"			13.2										14.2 (18)
10-AS32□1FG-03-11(S)A	3/8"			15.5										15.6 (19)
10-AS42□1FG-04-11(S)A	3/8"			15.5										30 (31)
10-AS42□1FG-04-13(S)A	1/2"	1/2	24 (23.8)	19.3	18.8	27.4	40.3 (40.2)	36.2	50.8	49.2	43.7	42.1	15.6	52 (51)
10-AS42□1FG-04-14(S)A	1/2"			19.3										54 (53)

Note 1) Reference dimensions Note 2) Reference dimensions of threads after installation Note 3) The values in () are for NPT thread.

Dimensions/ Universal type

Seal method: Sealant
For R, NPT thread


Metric Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5 Note 1)		A Note 2)		M	Weight [g]
											Unlocked	Locked	Unlocked	Locked		
10-AS23□1FG-01-23(S)A	3.2	1/8	13 (12.7)	7.2	9.6	12	13.3	24	17.5	36	30.6	29.2	27.5	26.1	13.3	10 (9)
10-AS23□1FG-01-04(S)A	4			8.2			13.9	25.1								10 (10)
10-AS23□1FG-01-06(S)A	6			10.4			16.4	30.1								14.2 12 (11)
10-AS23□1FG-01-08(S)A	8			13.2			16.5	29.9 (30)								13.3 18 (19)
10-AS23□1FG-02-04(S)A	4	1/4	17 (17.5)	8.2	12.9	13	19	33.8 (33.9)	21.4	43.9	36.6	35	31.1	29.5	13.3	20 (21)
10-AS23□1FG-02-06(S)A	6			11.2				34.9 (35)								14.2 21 (22)
10-AS23□1FG-02-08(S)A	8			13.2				20.9								15.6 23 (23)
10-AS23□1FG-02-10(S)A	10			15.9				38.1 (38.2)								13.3 42 (42)
10-AS33□1FG-02-06(S)A	6	1/4	19	11.2	12.9	16.6	20.2	36	21.4	57.8	50	48.4	44.5	42.9	14.2	43 (43)
10-AS33□1FG-02-08(S)A	8			13.2				37.1								15.6 46 (46)
10-AS33□1FG-02-10(S)A	10			15.9				41.2								17 48 (48)
10-AS33□1FG-02-12(S)A	12			18.5				42.5								13.3 32 (33)
10-AS33□1FG-03-06(S)A	6	3/8	19	11.2	12.9	16.6	20.2	36	21.4	50.1	42.3	40.7	37.1	35.5	15.6	37 (38)
10-AS33□1FG-03-08(S)A	8			13.2				37.1								17 38 (39)
10-AS33□1FG-03-10(S)A	10			15.9				41.2								15.6 58 (57)
10-AS33□1FG-03-12(S)A	12			18.5				42.5								17 62 (61)
10-AS43□1FG-04-10(S)A	10	1/2	24 (23.8)	15.9	17.4	18.8	25.6	46.4 (46.3)	26.1	61.2	50.8	49.2	43.7	42.1	17	58 (57)
10-AS43□1FG-04-12(S)A	12			18.5			26.2	48.3 (48.2)								62 (61)

Note 1) Reference dimensions Note 2) Reference dimensions of threads after installation Note 3) The values in () are for NPT thread.

Inch Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5 Note 1)		A Note 2)		M	Weight [g]
											Unlocked	Locked	Unlocked	Locked		
10-AS23□1FG-01-01(S)A	1/8"	1/8	13 (12.7)	7.2	9.6	12	13.3	24	17.5	36	30.6	29.2	27.5	26.1	13.3	10 (9)
10-AS23□1FG-01-03(S)A	5/32"			8.2			13.9	25.1								10 (10)
10-AS23□1FG-01-07(S)A	1/4"			11.2			16.4	29.1								11 (10)
10-AS23□1FG-01-09(S)A	5/16"			13.2			16.5	30.1								14.2 12 (11)
10-AS23□1FG-02-03(S)A	5/32"	1/4	17 (17.5)	8.2	12.9	13	19	33.8 (33.9)	21.4	43.9	36.6	35	31.1	29.5	13.3	18 (19)
10-AS23□1FG-02-07(S)A	1/4"			11.2				34.9 (35)								20 (21)
10-AS23□1FG-02-09(S)A	5/16"			13.2				20.9								14.2 21 (22)
10-AS23□1FG-02-11(S)A	3/8"			15.9				38.1 (38.2)								15.6 23 (23)
10-AS33□1FG-02-07(S)A	1/4"	3/8	19	11.2	12.9	16.6	20.2	36	21.4	57.8	50	48.4	44.5	42.9	13.3	42 (42)
10-AS33□1FG-02-09(S)A	5/16"			13.2				37.1								14.2 43 (43)
10-AS33□1FG-02-11(S)A	3/8"			15.9				41.2								15.6 46 (46)
10-AS33□1FG-03-07(S)A	1/4"			11.2				36								13.3 32 (33)
10-AS33□1FG-03-09(S)A	5/16"	3/8	19	13.2	12.9	16.6	20.2	37.1	21.4	52.2	42.3	40.7	37.1	35.5	15.6	42 33 (34)
10-AS33□1FG-03-11(S)A	3/8"			15.9				41.2								17 38 (39)
10-AS43□1FG-04-11(S)A	3/8"			15.9				41.2								15.6 37 (38)
10-AS43□1FG-04-13(S)A	1/2"			18.5				42.5								17 61 (60)

Note 1) Reference dimensions Note 2) Reference dimensions of threads after installation Note 3) The values in () are for NPT thread.