

Series 10-AS-FM

Speed Controller for Low Speed Operation with One-touch Fittings (Elbow type/Universal type)

How to Order

RoHS

10 - AS 2 2 1 1 FM - 01 - 06 [] []

Clean series

Body size

1	M5 standard
2	1/8, 1/4 standard

Type

2	Elbow
3	Universal

Control type

0	Meter-out
1	Meter-in

With One-touch fitting

For low speed operation

Lock nut option

Nil	Hexagon lock nut
J	Round lock nut

Option

Nil	None
S	With sealant

* Sealant is not available with the M5 type.

Applicable tubing O.D. (Note)


Metric size

23	ø3.2 *
04	ø4
06	ø6
08	ø8
10	ø10

Note) Refer to the following Model list for selection of applicable tubing O.D.
* ø1/8" tubing should be used.

Port size

M5	M5 x 0.8
01	R1/8
02	R1/4



Model

Elbow type	Universal type	Port size	Applicable tubing O.D.				
			Metric size				
			3.2	4	6	8	10
10-AS12□1FM-M5	10-AS13□1FM-M5	M5 x 0.8	●	●	●		
10-AS22□1FM-01	10-AS23□1FM-01	R1/8	●	●	●	●	
10-AS22□1FM-02	10-AS23□1FM-02	R1/4		●	●	●	●

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

Specifications

Proof pressure	1.5 MPa
Max. operating pressure	1.0 MPa
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Applicable tubing material	Polyurethane ^{Note 1)}
Option ^{Note 2)}	With sealant
Grease	Fluorine grease
Cleanliness class (ISO class)	Class 5

Note 1) The maximum operating pressure for polyurethane (at 20 °C) is 0.8 MPa.
(Refer to the **WEB catalog** for details.)

Note 2) Sealant is not available in case of types with M5 port.

* Brass parts are all electroless nickel plated.

* The knob of the M5 type and the lock nut of the meter-in type are black zinc chromated.

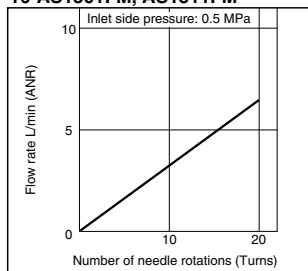
Flow Rate and Sonic Conductance

Model		10-AS12□1FM 10-AS13□1FM	10-AS22□1FM-□01 10-AS23□1FM-□01		10-AS22□1FM-□02 10-AS23□1FM-□02		
Tubing O.D.	Metric size	ø3.2, ø4, ø6	ø3.2, ø4	ø6, ø8	ø4	ø6	ø8, ø10
Controlled flow	Flow rate L/min (ANR)	7	12		38		
	Sonic conductance dm ³ /(s·bar)	0.02	0.04		0.12		
	Critical pressure ratio	0.2	0.25		0.3		
Free flow	Flow rate L/min (ANR)	100	180	230	260	390	460
	Sonic conductance dm ³ /(s·bar)	0.3	0.54	0.7	0.8	1.2	1.4
	Critical pressure ratio	0.4	0.2		0.3		

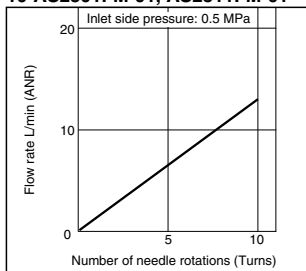
Note) Supply pressure: 0.5 MPa, Temperature: 20°C.

Needle Valve / Flow Rate Characteristics

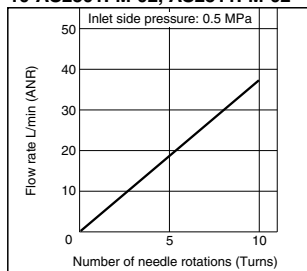
10-AS1201FM, AS1211FM
10-AS1301FM, AS1311FM



10-AS2201FM-01, AS2211FM-01
10-AS2301FM-01, AS2311FM-01

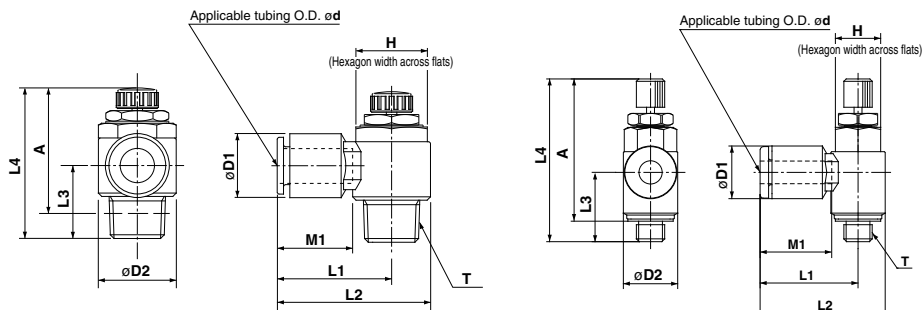


10-AS2201FM-02, AS2211FM-02
10-AS2301FM-02, AS2311FM-02



Dimensions / Elbow Type

M5 type



Model	d	T	H	D1	D2	L1	L2	L3	L4		A *		M1	Weight (g)
									MAX.	MIN.	MAX.	MIN.		
10-AS12□1FM-M5-23	3.2	M5 x 0.8	8	8.4	9.6	17.3	22.1	12.3	33.8	28.8	30.1	25.1	12.7	7
10-AS12□1FM-M5-04	4			9.3									13.5	
10-AS12□1FM-M5-06	6			11.6									18.5	
10-AS22□1FM-01-23	3.2	R1/8	12	9.3	14.2	20.4	27.5	14.3	36.1	31.1	32.1	27.1	12.7	17
10-AS22□1FM-01-04	4			11.6									13.5	
10-AS22□1FM-01-06	6			15.2									18.5	
10-AS22□1FM-01-08	8			15.2									18.5	
10-AS22□1FM-02-04	4			10.4									16	
10-AS22□1FM-02-06	6			12.8									17	
10-AS22□1FM-02-08	8	15.2	18.5											
10-AS22□1FM-02-10	10	18.5	18.5	20.0	21.0									

* Reference threaded dimensions after being screwed in.

Directional Control Valves

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Modular F. R.

Pressure Control Equipment

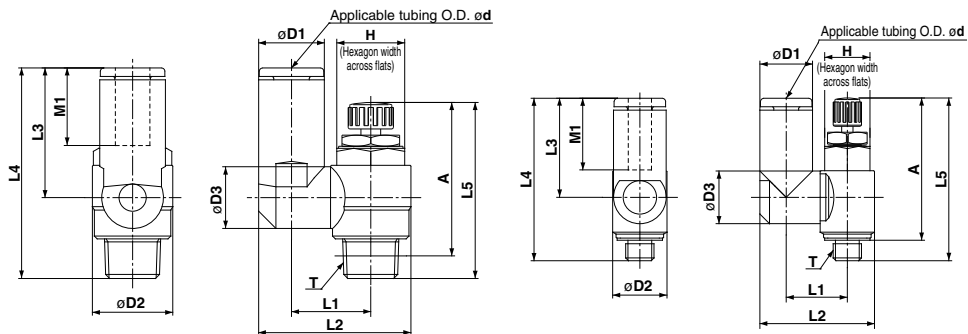
Fittings & Tubing

Flow Control Equipment

Pressure Switches/ Pressure Sensors

Dimensions / Universal Type

M5 type



Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5		A*		M1	Weight (g)	
											MAX.	MIN.	MAX.	MIN.			
10-AS13□1FM-M5-23	3.2	M5 x 0.8	8	8.4	9.6	9.3	10.8	19.8	17.5	28.7	33.8	28.8	30.1	25.1	12.7	8	
10-AS13□1FM-M5-04	4			9.3				20.3	21.4	13.5							
10-AS13□1FM-M5-06	6			11.6				24.4	20.6	13.5							
10-AS23□1FM-01-23	3.2	R1/8	12	8.4	14.2	10.9	14	13.1	24.4	17.5	31.8	36.1	31.1	32.1	27.1	12.7	17
10-AS23□1FM-01-04	4			9.3				24.9	17.5	13.5							
10-AS23□1FM-01-06	6			11.6				26.9	22.9	13.5							
10-AS23□1FM-01-08	8	15.2	26.9	22.9	13.5	12.9	16.2	30.9	28.2	41.7	40.4	35.4	34.4	29.4	18.5	21	
10-AS23□1FM-02-04	4	10.4	30.6	21.9	40.1	10.9	18.4	34	25.2	42.6							
10-AS23□1FM-02-06	6	12.8	35.2	28.2	45.6	12.9	18.3	35.2	28.2	45.6							
10-AS23□1FM-02-08	8	15.2	35.2	28.2	45.6	12.9	20.2	38.7	31	48.4	40.4	35.4	34.4	29.4	16	33	
10-AS23□1FM-02-10	10	18.5	35.2	28.2	45.6	12.9	20.2	38.7	31	48.4					17		18.5
10-AS23□1FM-02-10	10	18.5	35.2	28.2	45.6	12.9	20.2	38.7	31	48.4	40.4	35.4	34.4	29.4	21	40	

* Reference thread dimensions after being screwed in.