

Dual Speed Controller for Low Speed Operation

Series ASD-FM

RoHS

Models

Two flow control valves and check valves integrated.

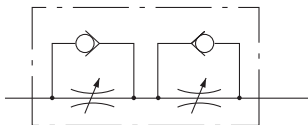
Prevention of lurching and speed control for single acting cylinders.

Stable speed control possible even with fluctuating loads.

Low speed control for small bore cylinders.



JIS symbol



Flow direction symbols on body

	Meter-out type	Meter-in type
Symbol		
JIS symbol		

Model	Applicable tubing									
	Metric size				Inch size					
	4	6	8	10	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"
ASD230FM-M5	●	●								
ASD330FM-01		●	●							
ASD430FM-02		●	●	●						
ASD230FM-U10/32					●	●	●	●		
ASD330FM-N01							●	●	●	
ASD430FM-N02								●	●	●

Specifications

Proof pressure	1.5MPa
Maximum operating pressure	1MPa
Minimum operating pressure	0.1MPa
Ambient and fluid temperature	0 to 60°C
Number of needle revolutions	10 revolutions (20 revolutions ^{Note 1)})
Applicable tubing materials ^{Note 2)}	Nylon, Soft nylon, Polyurethane, Soft polyurethane

Note 1) For type ASD230FM.

Note 2) Use caution regarding the maximum operating pressure with soft nylon, polyurethane and soft polyurethane.

Note 3) All brass parts are electroless nickel plated. The lock nut on the meter-out size is zinc chromate plated, then, the handle on all types and the lock nut on the meter-in type are black zinc chromate plated.

Flow Rate and Effective Area

	Model	ASD230FM	ASD330FM	ASD430FM	
Tube O.D.	Metric size	ø4, ø6	ø6, ø8	ø6	ø8, ø10
	Inch size	ø1/8", ø5/32" ø3/16", ø1/4"	ø3/16", ø1/4"	—	ø1/4", ø5/16" ø3/8"
Controlled flow	Flow rate ℓ/min (ANR)	7	12	38	
	Effective area mm ²	0.1	0.2	0.6	
Free flow	Flow rate ℓ/min (ANR)	75	175	295	350
	Effective area mm ²	1.1	2.7	4.5	5.3

Note) The flow rate value is at a pressure of 0.5MPa and temperature of 20°C.

How to Order

ASD330FM-0106S

Body size

2	M5 standard
3	1/8 standard
4	1/4 standard

Model

3	Universal
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With One-touch fitting

For low speed control

Thread type

—	Metric thread (M5)
—	Unified thread (10-32UNF)
—	R
N	NPT

Port size

M5	M5
U10/32	10-32UNF
01	1/8
02	1/4

Applicable tube outside diameter

Metric size

04	ø4
06	ø6
08	ø8
10	ø10

Inch size

01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"

With sealant

* "S" is not applicable to M5 and U10/32 types, as they are not available with sealant.

Lock nut option

—	Hexagon lock nut
J	Round lock nut

Made to Order

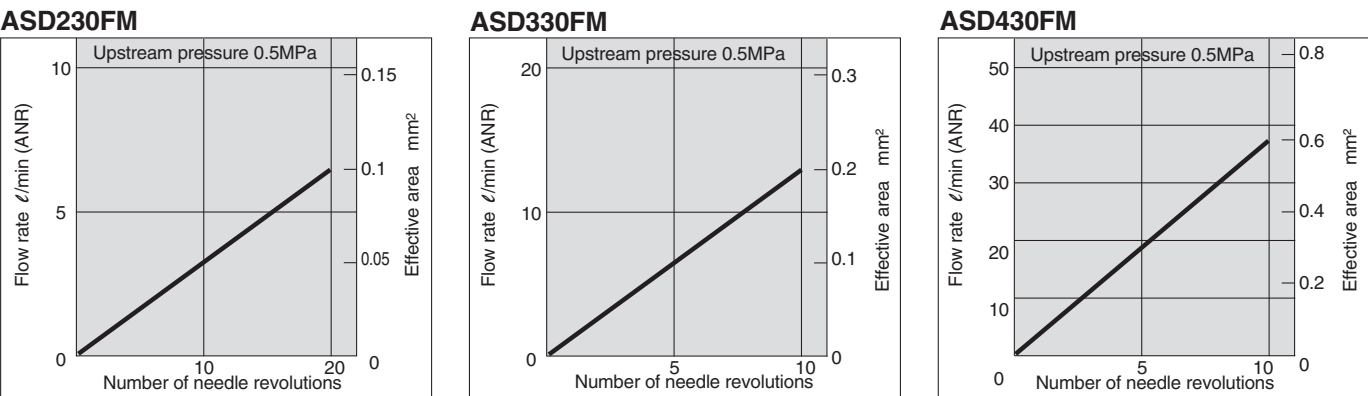
Made to Order

1 Lubricant: Vaseline

X12

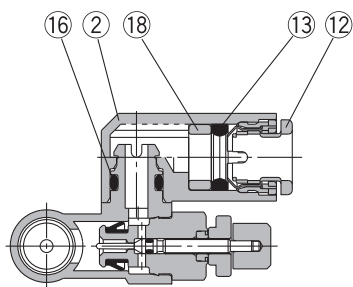
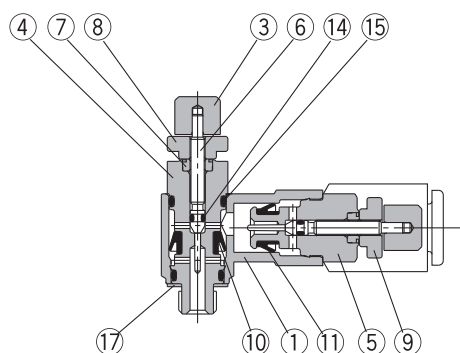
Ex.) ASD230FM-M5-X12

Needle Valve/Flow Rate Characteristics

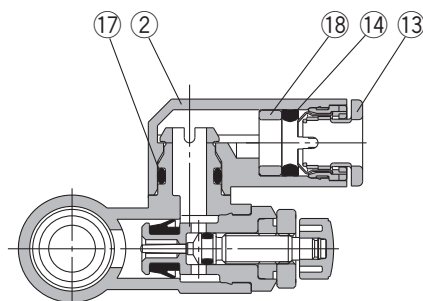
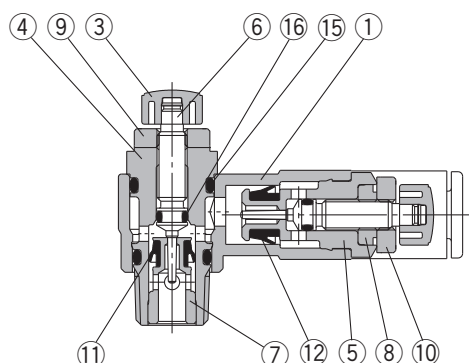


Construction

ASD230FM



ASD330FM, 430FM



Parts list

No.	Description	Material	Note
1	Body A	PBT	
2	Elbow body	PBT	
3	Handle	PBT (Note 1)	Black
4	Body B	Brass	Electroless nickel plated
5	Body B	Brass	Electroless nickel plated
6	Needle	Brass	Electroless nickel plated
7	Seat ring	Brass	Electroless nickel plated
8	Needle guide	Brass	Electroless nickel plated
9	Lock nut	Steel	Zinc chromated
10	Lock nut	Steel	Black zinc chromated

Parts list

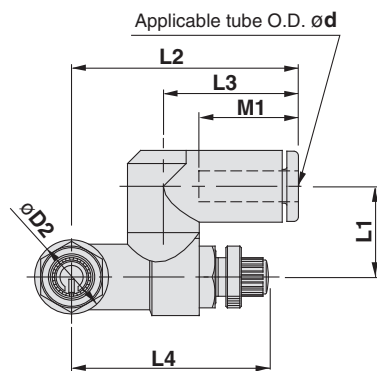
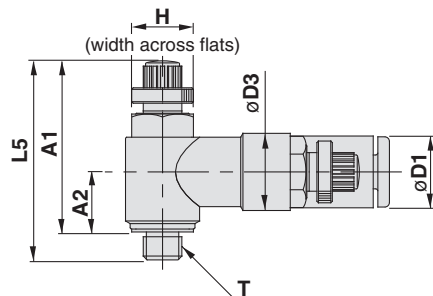
No.	Description	Material	Note
11	U seal	HNBR	
12	U seal	HNBR	
13	Cassette	—	
14	Seal	NBR	
15	O-ring	NBR	
16	O-ring	NBR	
17	O-ring	NBR	
18	Spacer	—	
19	Gasket	NBR, Stainless steel	M5 type only

Note 1) AS1001FM type is made of brass (black zinc chromate plated).

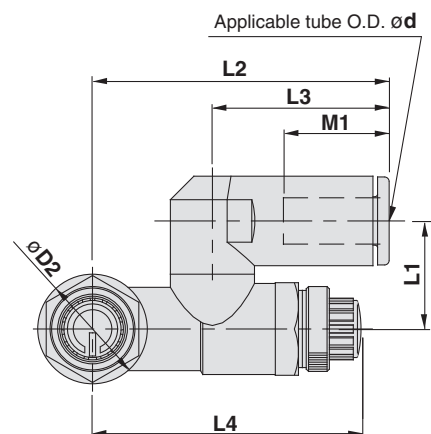
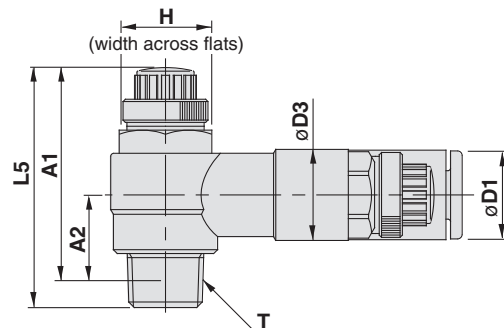
Series ASD-FM

Dimensions/Metric Sizes

ASD230FM



ASD330FM, 430FM



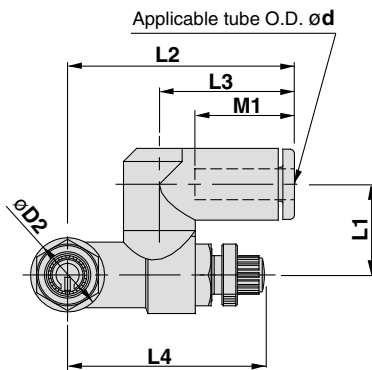
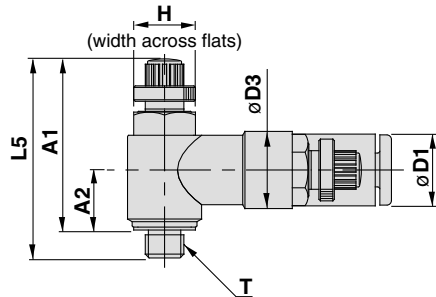
Metric sizes

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4		L5		A1 *		A2 *	M1	Weight g
										Max.	Min.	Max.	Min.	Max.	Min.			
ASD230FM-M5-04	4	M5	8	9.3	9.6	10	11.7	29.4	17.5	34.6	29.6	33.8	28.8	30.1	25.1	7.8	12.9	12
ASD230FM-M5-06	6			11.6				32.5	20.6								13.7	13
ASD330FM-01-06S	6	R1/8	12	11.6	14.2	11.8	14	38.5	22.9	39.6	34.6	35.2	30.2	32.1	27.1	10.6	13.7	29
ASD330FM-01-08S	8			15.2			15.8	44.8	28.2	38.9	33.9						18.5	31
ASD430FM-02-06S	6	R1/4	17	12.8	18.5	15	18	43.5	25.2	41.8	36.8	39.9	34.9	34.4	29.4	11	17	53
ASD430FM-02-08S	8			15.2				46.5	28.2								18.5	55
ASD430FM-02-10S	10			18.5			19.7	49.3	31								21	58

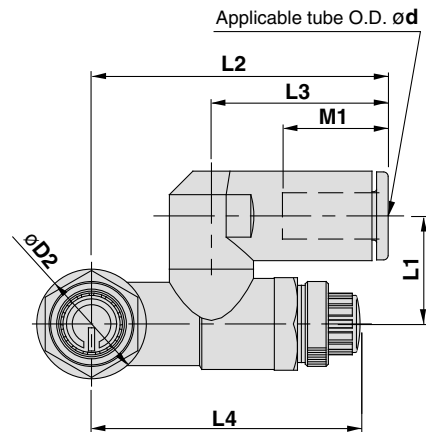
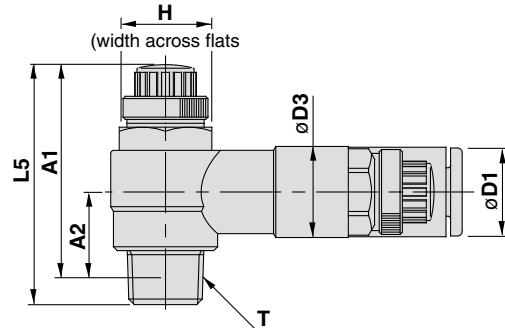
* Reference dimensions for M5 and R threads after installation

Dimensions/Inch Sizes

ASD230FM



ASD330FM, 430FM



Inch sizes

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4		L5		A1 *		A2 *	M1	Weight g
										Max.	Min.	Max.	Min.	Max.	Min.			
ASD230FM-U10/32-01	1/8"	10-32 UNF	8	8.4	9.6	10	11.7	29.4	17.5	34.6	29.6	33.8	28.8	30.1	25.1	7.8	12.9	12
ASD230FM-U10/32-03	5/32"			9.3				35.2	23.3								13	
ASD230FM-U10/32-05	3/16"			11.4				32.6	20.7								16.5	14
ASD230FM-U10/32-07	1/4"			12				39.6	23.9								13.5	15
ASD330FM-N01-05S	3/16"	NPT1/8	12.7	11.4	14.2	11.8	14	39.5	23.9	39.6	34.6	35.2	30.2	32	27	10.6	16.5	30
ASD330FM-N01-07S	1/4"			13.2			15.8	42.2	25.6	38.9	33.9						17	
ASD330FM-N01-09S	5/16"			15.2			44.8	28.2	18.5	31								
ASD430FM-N02-07S	1/4"	NPT1/4	17.5	13.2	18.5	15	18	43.9	25.6	41.7	36.7	39.9	34.9	34.6	29.6	11	17	55
ASD430FM-N02-09S	5/16"			15.2			19.7	46.5	28.2								18.5	
ASD430FM-N02-11S	3/8"			18.5				49.3	32.6								21	62

* Reference dimensions for 10-32UNF and NPT threads after installation