

# Series 10-ASD-FM

Dual Speed Controller for Low Speed Operation



## How to Order

**10** — ASD **3** **3** **0** **F** **M** — **01** **06** **S** —

- Clean series**
- Body size**

2	M5 standard
3	1/8 standard
4	1/4 standard
- Type**

3	Universal
---	-----------
- With One-touch fittings**
- For low speed control**
- Lock nut option**

Nil	Hexagon lock nut
J	Round lock nut
- With sealant**
  - \* S is not necessary in case of M5 types, which are not provided with sealant.
- Applicable tubing O.D. (Note)**

**Metric size**

04	ø4
06	ø6
08	ø8
10	ø10

(Note) Refer to the following Model list for selection of applicable tubing O.D.
- Port size**

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

## Model

Model	Applicable tubing			
	Metric size			
	4	6	8	10
10-ASD230FM-M5	●	●		
10-ASD330FM-01		●	●	
10-ASD430FM-02		●	●	●

### Specifications

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

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

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

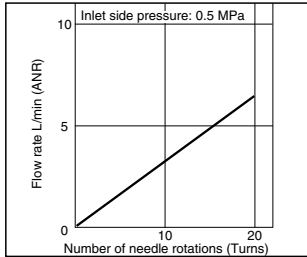
### Flow Rate and Sonic Conductance

Model		10-ASD230FM	10-ASD330FM	10-ASD430FM
<b>Tubing O.D.</b>	Metric size	ø4, ø6	ø6, ø8	ø6, ø8, ø10
<b>Controlled flow</b>	Flow rate L/min (ANR)	7	12	38
	Sonic conductance dm <sup>3</sup> /(s bar)	0.02	0.04	0.12
	Critical pressure ratio	0.25	0.2	0.2
<b>Free flow</b>	Flow rate L/min (ANR)	7	12	38
	Sonic conductance dm <sup>3</sup> /(s bar)	0.02	0.04	0.12
	Critical pressure ratio	0.3	0.15	0.15

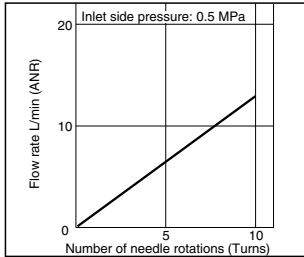
Note 1) Supply pressure: 0.5 MPa, Temperature: 20°C.

### Needle Valve / Flow Rate Characteristics

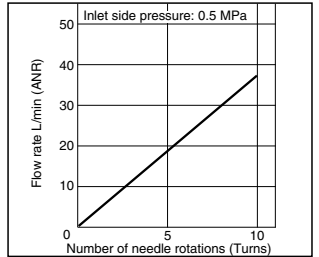
**10-ASD230FM**



**10-ASD330FM**



**10-ASD430FM**



Directional Control Valves

Air Cylinders

Rotary Actuators

Air Grippers

Air Preparation Equipment

Modular F. R.

Pressure Control Equipment

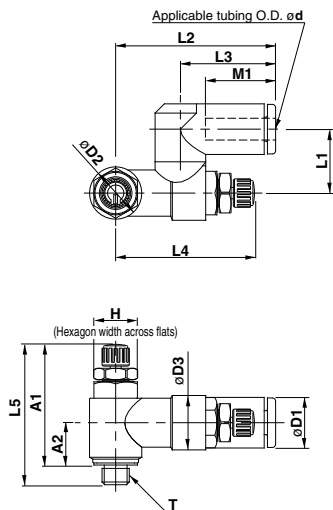
Fittings & Tubing

Flow Control Equipment

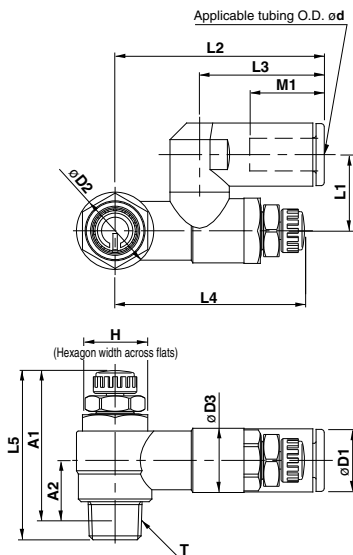
Pressure Switches/ Pressure Sensors

**Dimensions**

**10-ASD230FM**



**10-ASD330FM/430FM**



Model	d	T	H	D1	D2	D3	L1	L2	L3	L4		L5		A1 *		A2 *	M1	Weight (g)			
										MAX.	MIN.	MAX.	MIN.	MAX.	MIN.						
10-ASD230FM-M5-04	4	M5 x 0.8	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	12.7	12			
10-ASD230FM-M5-06	6			11.6				32.5	20.6									13			
10-ASD330FM-01-06S	6	R1/8	12	11.6	14.2	11.8	14	38.5	22.9	39.6	34.6	36.1	31.1	32.1	27.1	10.6	18.5	29			
10-ASD330FM-01-08S	8			15.2			15.8	44.8	28.2									38.9	33.9	31	
10-ASD430FM-02-06S	6	R1/4	17	12.8	18.5	15	18	43.5	25.2	41.8	36.8	40.4	35.4	34.4	29.4	11	18.5	17			
10-ASD430FM-02-08S	8			15.2				46.5	28.2									36.8	35.4	29.4	55
10-ASD430FM-02-10S	10			18.5				19.7	49.3									31	36.8	35.4	29.4

\* Reference threaded dimensions after being screwed in.



# Series ASD-FM Specific Product Precautions

Be sure to read this before handling. Refer to page 1382 for Safety Instructions and pages 1305 to 1308 for Flow Control Equipment Precautions.

## Design / Selection

### ⚠ Caution

#### 1. Single acting cylinder

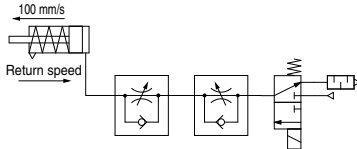
When controlling a single acting cylinder, the cylinder's return speed will differ depending on the operating conditions. Operate after confirming the maximum return speeds shown in the table below.

Speed Controller	Cylinder	Solenoid valve	Tubing	Silencer	Max. return speed (mm/s)		
					10	20	30
ASD230FM	CJ2	SYJ500	TU0604 1 m	AN110-01			
ASD330FM	CM2	SYJ700	TU0604 1 m	AN110-01			

<Operating conditions>

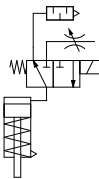
- Cylinder extension speed: 100 mm/s
- Meter-out needle fully open

\* Values are measured at 0.5 MPa and 20°C.



(Reference) Recommended circuit for high return speed

When low extension speed and high return speed are desired, the following circuit using 3-port is recommended.



Note) Use the AS-FM series with -X214 for the throttle valve.

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