

# Series 10-ASD-FG

Stainless Steel Dual Speed  
Controller with One-touch Fittings

## How to Order

RoHS

**10** – **ASD** **3** **3** **0** **F** **G** – **01** **06** **S** –

**Clean series**

**Body size**

2	M5 standard
3	1/8 standard
4	1/4 standard
5	3/8 standard
6	1/2 standard

**Type**

3	Universal
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**With One-touch fitting**

**Stainless steel specifications (Stainless steel 303)**

**Lock nut option**

Nil	Hexagon lock nut
J	Round lock nut

**With sealant**  
\* Sealant is not available with the M5 type.


**Applicable tubing O.D. (Note)**  
**Metric size**

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

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



## Model

Model	Port size	Applicable tubing O.D.				
		Metric size				
		4	6	8	10	12
10-ASD230FG-M5	M5 x 0.8	●	●			
10-ASD330FG-01	R1/8		●	●		
10-ASD430FG-02	R1/4		●	●	●	
10-ASD530FG-02	R1/4		●	●	●	●
10-ASD530FG-03	R3/8		●	●	●	●
10-ASD630FG-04	R1/2				●	●

Directional Control Valves

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### 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.)

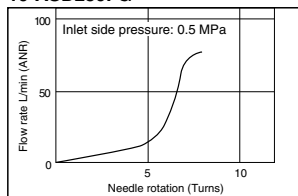
### Flow Rate and Sonic Conductance

Model		10-ASD230FG	10-ASD330FG	10-ASD430FG		10-ASD530FG			10-ASD630FG	
Tubing O.D.	Metric size	ø4, ø6	ø6, ø8	ø6	ø8, ø10	ø6	ø8	ø10, ø12	ø10	ø12
<b>Controlled flow</b>	Flow rate L/min (ANR)	75	175	295	350	500	600	700	1200	1300
<b>Free flow</b>	Sonic conductance dm <sup>3</sup> /(s·bar)	0.21	0.49	0.82	0.97	1.4	1.7	1.9	3.3	3.6
<b>Critical pressure ratio</b>	Controlled flow	0.25	0.2	0.2		0.2			0.2	
	Free flow	0.3	0.15	0.15		0.15			0.15	

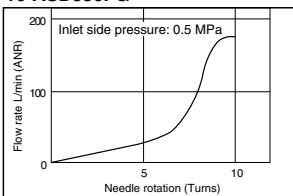
Note) Supply pressure: 0.5 MPa, Temperature: 20°C.

### Needle Valve / Flow Rate Characteristics

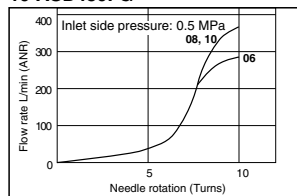
**10-ASD230FG**



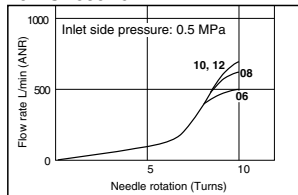
**10-ASD330FG**



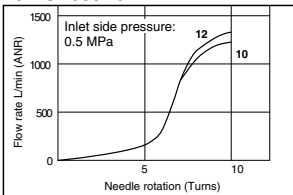
**10-ASD430FG**



**10-ASD530FG**

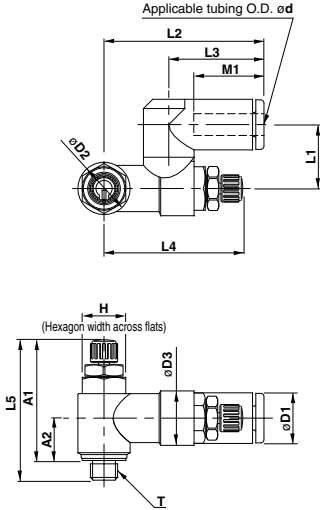


**10-ASD630FG**

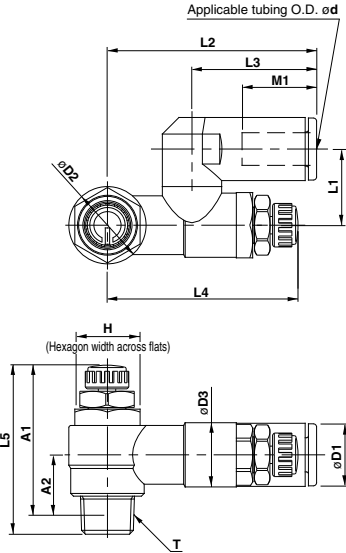


**Dimensions**

**10-ASD230FG**



**10-ASD330FG/430FG  
10-ASD530FG/630FG**



Model	d	T	H	D1	D2	D3	L1	L2	L3	L4		L5		A1*		A2*	M1
										MAX.	MIN.	MAX.	MIN.	MAX.	MIN.		
10-ASD230FG-M5-04	4	M5 x 0.8	8	9.3	9.6	10	11.7	29.4	17.5	28.3	25.5	28.6	25.8	25	22.2	7.8	12.7
10-ASD230FG-M5-06	6			11.6				20.6	13.5								
10-ASD330FG-01-06S	6	R1/8	12	15.2	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
10-ASD330FG-01-08S	8			15.2				28.2	18.5								
10-ASD430FG-02-06S	6	R1/4	17	12.8	18.5	15	18	43.5	25.2	41.7	36.7	40.4	35.4	34.4	29.4	11	17
10-ASD430FG-02-08S	8			15.2				28.2	18.5								
10-ASD430FG-02-10S	10			18.5			19.7	49.3	31								21
10-ASD530FG-02-06S	6	R3/8	19	12.8	23	19.8	20.3	48.3	25.2	46.9	41.9	48.8	43.8	42.8	37.8	15.4	17
10-ASD530FG-02-08S	8			15.2				28.2	18.5								
10-ASD530FG-02-10S	10			18.5			23.1	54.1	32.6								18.5
10-ASD530FG-02-12S	12			20.9			23.1	55.9	34.4								22
10-ASD530FG-03-06S	6	R3/8	19	12.8	23	19.8	20.3	48.3	25.2	46.9	41.9	48.8	43.8	42.8	37.8	15.4	17
10-ASD530FG-03-08S	8			15.2				28.2	18.5								
10-ASD530FG-03-10S	10			18.5			23.1	54.1	32.6					40	35	14	21
10-ASD530FG-03-12S	12			20.9			23.1	55.9	34.4								22
10-ASD630FG-04-10S	10	R1/2	24	18.5	28.6	26.5	25.9	64.3	32.6	64.8	57.3	57.6	50.1	49.6	42.1	18.6	21
10-ASD630FG-04-12S	12			20.9				34.4	18.6								

\* Reference thread dimensions after R thread being screwed in.

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# Series ASD-FG 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

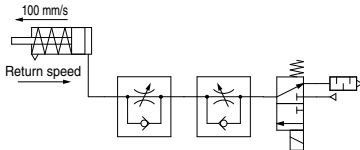
When controlling a single acting cylinder, the cylinder's return speed will differ depending on the operating conditions. Operate after confirming the maximum return speeds shown in the table below.

Speed Controller	Cylinder	Solenoid valve	Tubing	Silencer	Maximum return speed (mm/s)		
					100	200	300
ASD230FG	CJ2	SYJ500	TU0604 1 m	AN110-01	ø6		
					ø10		
					ø16		
ASD330FG	CM2	SYJ700	TU0604 1 m	AN110-01	ø20		
					ø25		
					ø32		

\* Values at 0.5 MPa and 20°C.

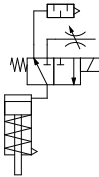
<Operating conditions>

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



(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-FG series with -X214 for the throttle valve.