

Dual Speed Controller with One-touch Fitting Series ASD

RoHS

Enables bi-directional flow control. Unrestricted 360° tube mounting



Model

Part no.	Port size	Applicable tubing O.D.										
		Metric size					Inch size					
		ø4	ø6	ø8	ø10	ø12	ø1/8"	ø5/32"	ø3/16"	ø1/4"	ø5/16"	ø3/8"
ASD230F-M5	M5 x 0.8	●	●									
ASD330F-01	R 1/8		●	●								
ASD430F-02	R 1/4		●	●	●							
ASD530F-02	R 1/4		●	●	●	●						
ASD530F-03	R 3/8		●	●	●	●						
ASD630F-04	R 1/2				●	●						
ASD230F-U10/32	10-32 UNF						●	●	●	●		
ASD330F-N01	NPT 1/8								●	●	●	
ASD430F-N02	NPT 1/4									●	●	●
ASD530F-N02	NPT 1/4									●	●	●
ASD530F-N03	NPT 3/8									●	●	●
ASD630F-N04	NPT 1/2											●

Specifications

Fluid	Air
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)
Number of needle rotations	10 turns (8 turns ⁽¹⁾)
Applicable tubing material ⁽²⁾	Nylon, Soft nylon, Polyurethane
Option	Round lock nut



Note 1) In the case of ASD230F type

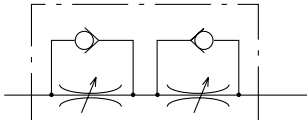
Note 2) Use caution regarding the max. operating pressure when soft nylon or polyurethane tubing is used.

(Refer to pages 371 and 372 for details.)

Note 3) Brass parts are all electroless nickel plated.

The lock nut on the meter-out type is zinc chromated, while the meter-in type is black zinc chromate plated.

JIS Symbol



Flow Direction Symbols on Body

	Meter-out type	Meter-in type
Indication symbol		
Symbol		

Flow Rate and Effective Area

Model		ASD230F	ASD330F	ASD430F		ASD530F			ASD630F	
Tubing O.D.	Metric size	ø4, ø6	ø6, ø8	ø6	ø8, ø10	ø6	ø8	ø10, ø12	ø10	ø12
	Inch size	ø1/8" ø5/32" ø3/16" ø1/4"	ø3/16" ø1/4"	—	ø1/4" ø5/16" ø3/8"	ø1/4"	ø5/16"	ø3/8"	—	ø3/8"
Controlled flow (Free flow)	Flow rate ℓ/min (ANR)	75	175	295	350	500	600	700	1200	1300
	Effective area (mm ²)	1.1	2.7	4.5	5.3	7.6	9.1	10.7	18.3	19.8



Note) Flow rate values are measured at 0.5 MPa and 20°C.

Made to Order



Lubricant: Vaseline

X12

How to Order

ASD 330F - 01 - 06 S - -

Body size

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

Universal

With One-touch fitting

Thread type

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

Lock nut option

Nil	Hexagon lock nut
J	Round lock nut

Made to Order

X12	Lubricant: Vaseline
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Ex.) ASD330F-01-06S-X12

With seal Note)

Note) M5 and U10/32 sizes: s (with seal) is not necessary.

Applicable tubing O.D. Note)

Metric size

04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

Inch size

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

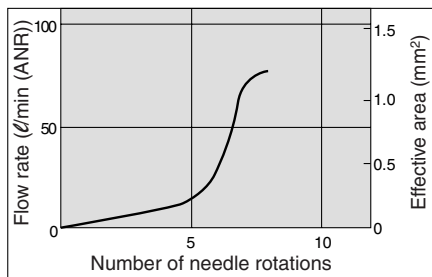
Note) For applicable tubing O.D. selection, refer to the Model on page 438.

Bore size

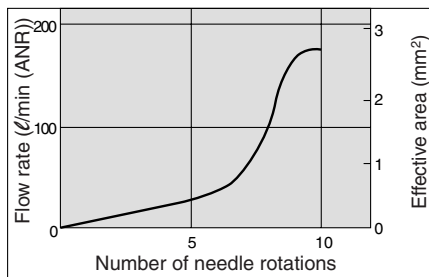
M5	M5 x 0.8
U10/32	10-32 UNF
01	1/8
02	1/4
03	3/8
04	1/2

Needle Valve/Flow Characteristics (Inlet Pressure: 0.5 MPa)

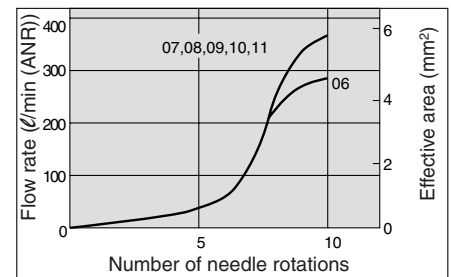
ASD230F



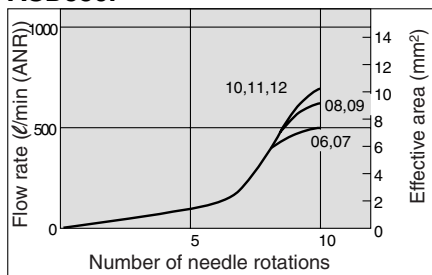
ASD330F



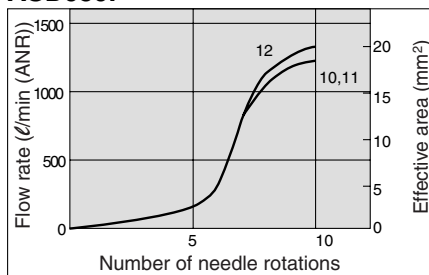
ASD430F



ASD530F



ASD630F



AS

ASP

ASN

AQ

ASV

AK

VCHC

ASS

ASR
ASQ

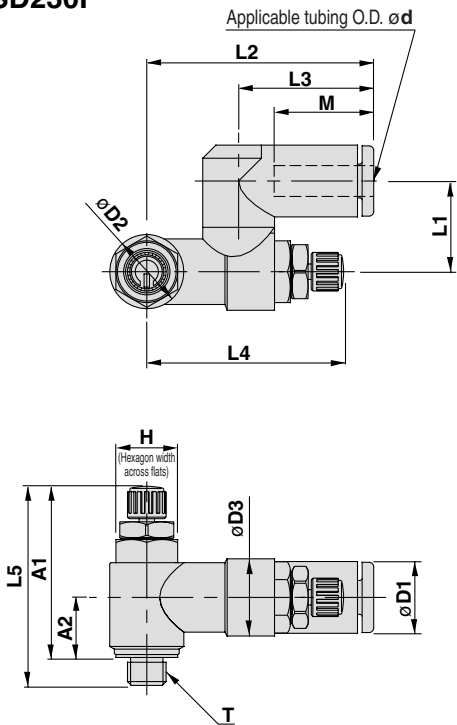
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TMH

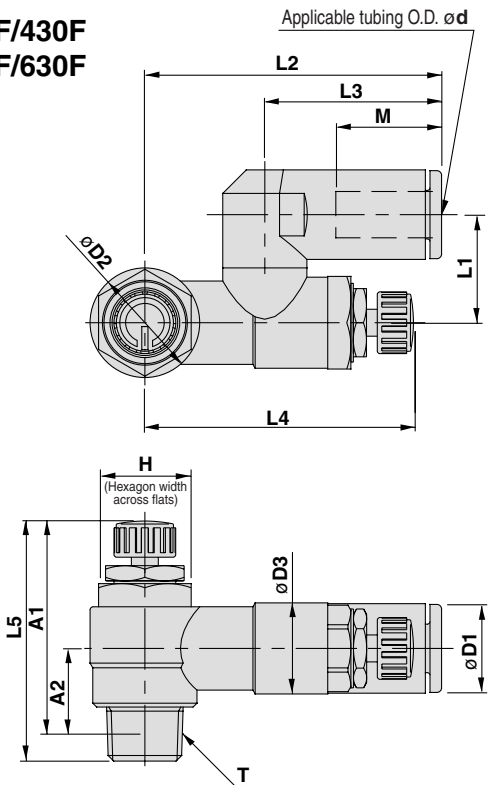
Series ASD

Dimensions: Metric Size

ASD230F



ASD330F/430F
ASD530F/630F



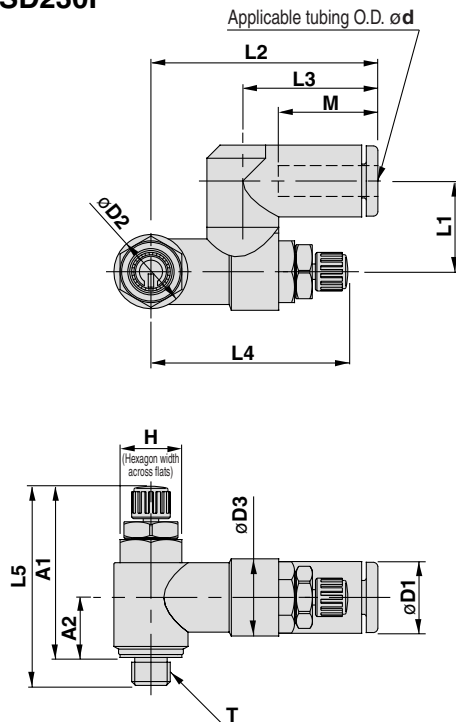
Metric Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4 ⁽¹⁾		L5 ⁽¹⁾		A1 ⁽²⁾		A2 ⁽²⁾	M	Mass (g)
										Max.	Min.	Max.	Min.	Max.	Min.			
ASD230F-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	12.9	12
ASD230F-M5-06	6			11.6				32.5	20.6									
ASD330F-01-06S	6	R 1/8	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
ASD330F-01-08S	8			15.2			15.8	44.8	28.2	38.9	33.9							
ASD430F-02-06S	6	R 1/4	17	12.8	18.5	15	18	43.5	25.2	41.7	36.7	39.9	34.9	34.4	29.4	11	17	53
ASD430F-02-08S	8			15.2				46.5	28.2									
ASD430F-02-10S	10			18.5				49.3	31									
ASD530F-02-06S	6	R 1/4	19	12.8	23	19.8	20.3	48.3	25.2	46.9	41.9	48.3	43.3	42.8	37.8	15.4	17	74
ASD530F-02-08S	8			15.2				51.3	28.2									
ASD530F-02-10S	10			18.5			23.1	54.1	32.6								21	80
ASD530F-02-12S	12			20.9				55.9	34.4									
ASD530F-03-06S	6	R 3/8	19	12.8	23	19.8	20.3	48.3	25.2	46.9	41.9	45.4	40.4	40	35	14	17	74
ASD530F-03-08S	8			15.2				51.3	28.2									
ASD530F-03-10S	10			18.5			23.1	54.1	32.6								21	98
ASD530F-03-12S	12			20.9				55.9	34.4									
ASD630F-04-10S	10	R 1/2	24	18.5	28.6	26.5	25.9	64.3	32.6	64.8	57.3	56.7	49.2	49.6	42.1	18.6	21	177
ASD630F-04-12S	12			20.9				66.1	34.4									

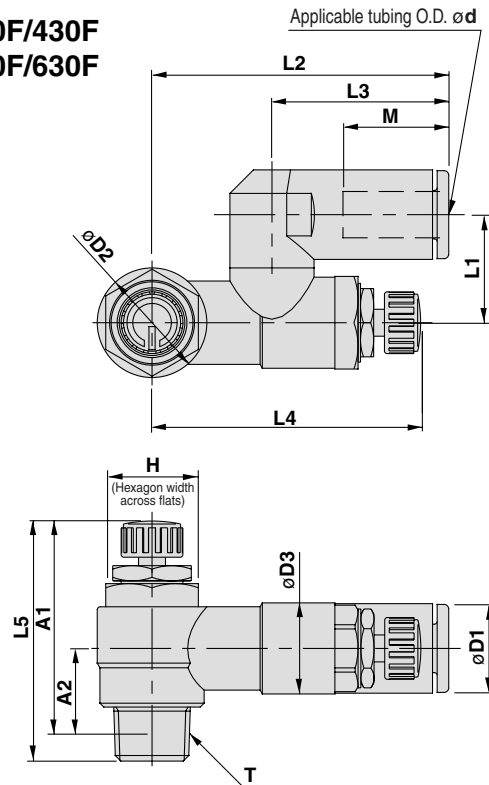
Note 1) Reference dimensions
Note 2) Reference dimensions of M5 x 0.8, R threads after installation.

Dimensions: Inch Size

ASD230F



**ASD330F/430F
ASD530F/630F**



Inch Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4 (1)		L5 (1)		A1 (2)		A2 (2)	M	Mass (g)
										Max.	Min.	Max.	Min.	Max.	Min.			
ASD230F-U10/32-01	1/8"	10-32 UNF	8	8.4	9.6	10	11.7	29.4	17.5	28.3	25.5	28.6	25.8	25	22.2	7.8	12.9	12
ASD230F-U10/32-03	5/32"			9.3														13
ASD230F-U10/32-05	3/16"			11.4														15
ASD230F-U10/32-07	1/4"			12														13
ASD330F-N01-05S	3/16"	NPT 1/8	12.7	11.6	14.2	11.8	14	39.5	23.9	39.6	34.6	35.2	30.2	32	27	10.6	16.5	30
ASD330F-N01-07S	1/4"			13.2			15.8	42.2	25.6	38.9	33.9						17	31
ASD330F-N01-09S	5/16"			15.2				44.8	28.2								18.5	
ASD430F-N02-07S	1/4"	NPT 1/4	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
ASD430F-N02-09S	5/16"			15.2				46.5	28.2								18.5	
ASD430F-N02-11S	3/8"			18.5			19.7	49.3	31								21	62
ASD530F-N02-07S	1/4"			13.2			20.3	48.7	25.6								17	
ASD530F-N02-09S	5/16"	NPT 1/4	19	15.2	23	19.8		51.3	28.2	46.9	41.9	48.3	43.3	43	38	15.4	18.5	76
ASD530F-N02-11S	3/8"			18.5			23.1	54.1	32.6								21	84
ASD530F-N03-07S	1/4"	NPT 3/8	19	13.2	23	19.8	20.3	48.7	25.6	46.9	41.9	45.4	40.4	40.3	35.3	14	17	93
ASD530F-N03-09S	5/16"			15.2				51.3	28.2								18.5	
ASD530F-N03-11S	3/8"			18.5			23.1	54.1	32.6								21	102
ASD630F-N04-11S	3/8"	NPT 1/2	23.8	18.5	28.6	26.5	25.9	64.3	32.6	64.8	57.3	56.7	49.2	49.6	42.1	18.6	21	180

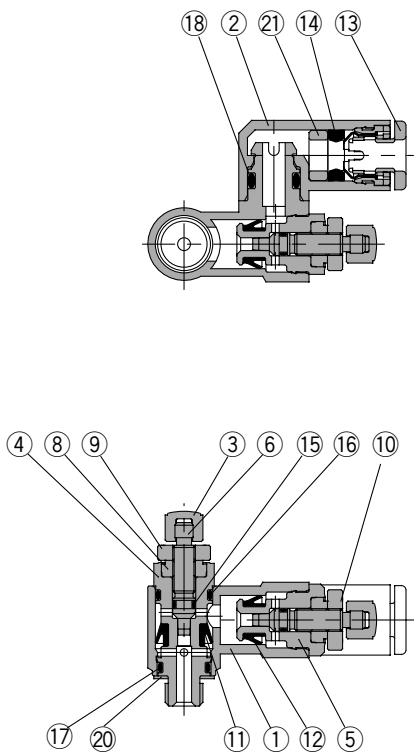
Note 1) Reference dimensions

Note 2) Reference dimensions of U10/32 and NPT threads after installation.

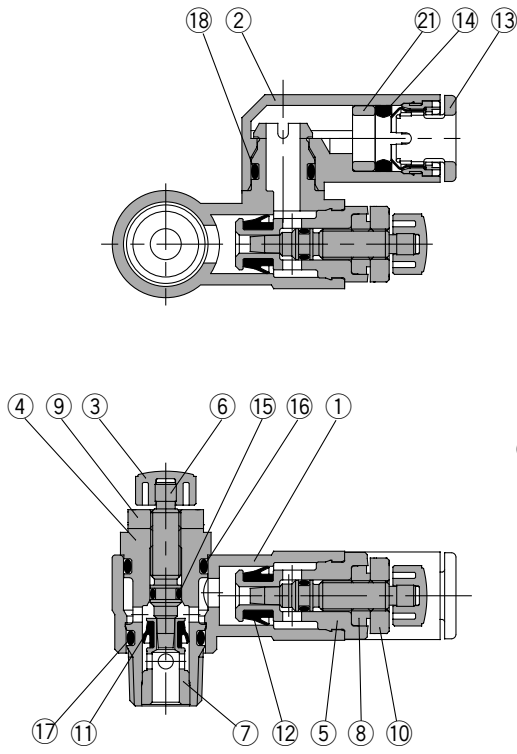
Series ASD

Construction

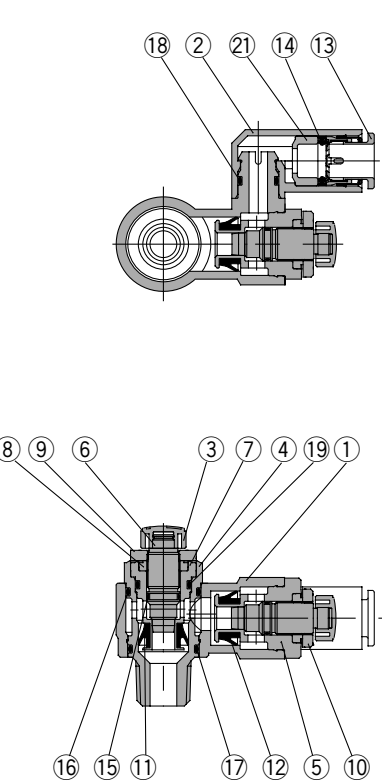
ASD230F



ASD330F/430F ASD530F/630F



ASD530F-02



Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Elbow body	PBT	
3	Handle	PBT	
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	Brass ⁽¹⁾	Electroless nickel plated
10	Lock nut	Brass ⁽¹⁾	Black zinc chromate plated

Component Parts

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	O-ring	NBR	
19	O-ring	NBR	
20	Gasket	Stainless steel, NBR	ASD230F only
21	Spacer	—	

 Note 1) ASD330F and 430F types are made of steel.



Series ASD

Specific Product Precautions

Be sure to read before handling. Refer to front matters 58 and 59 for Safety Instructions and pages 412 to 414 for Flow Control Equipment Precautions.

Design/Selection

Caution

1. Single acting cylinder

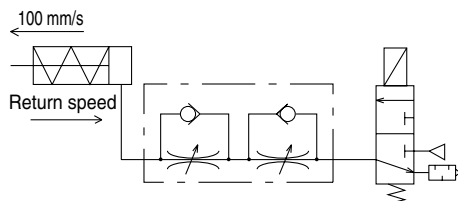
When controlling a single acting cylinder, the cylinder's return speed will differ depending on the operating conditions. Operate referring to the maximum return speed shown in the table below.

Speed Controller	Cylinder	Solenoid valve	Tubing	Silencer	Maximum return speed (mm/s)		
					100	200	300
ASD230F	CJ2	VJ500	TU0604 1m	AN110-01	ø6		
					ø10		
					ø16		
ASD330F	CM2	VZ500	TU0604 1m	AN110-01	ø20		
					ø25		
					ø32		

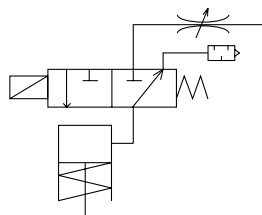
<Operating conditions>

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

* Values 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 Series AS-F with -X214 for the throttle valve.

AS

ASP

ASN

AQ

ASV

AK

VCHC

ASS

ASR

ASQ

KE

TMH