

INFORMATION **New!**

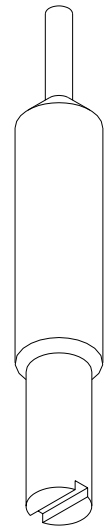
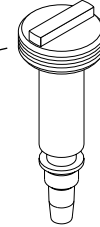
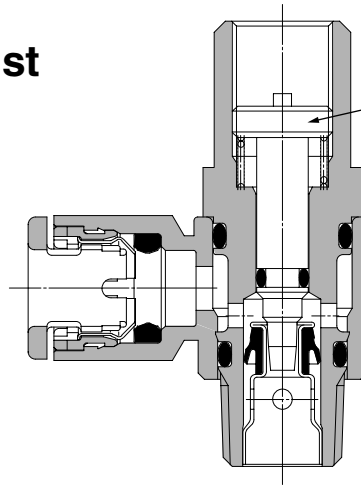
SMC Pneumatics, Inc. 3011 N. Franklin Road Indianapolis, Indiana 46226
1-800-SMC-SMC1 (762-7621) www.smcusa.com US98-E456/E457 4/00

Tamper Proof and Flat Head Screw Driver Adjustable Speed Controller

Tamper Proof Type

Flow rate can be adjusted with a special tool

For extra protection against inadvertent operation

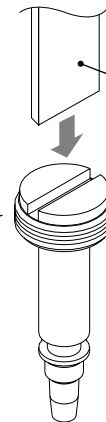
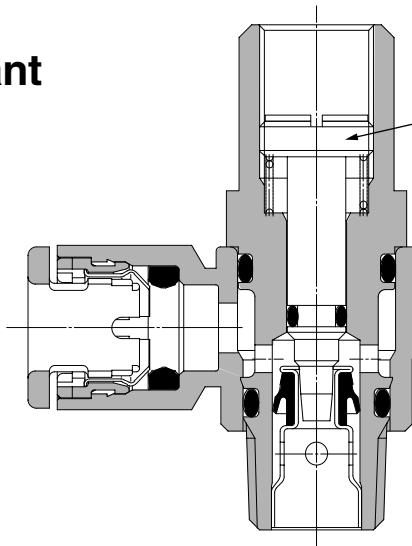


Special tool
Part no.: AS-T-1

Flat Head Screw Driver Adjustable Type

Flow rate can be adjusted with a flat head screw driver

Prevents inadvertent manual operation



Flat head screw driver

Series Variations

Speed controller with One-touch fitting	Elbow type	Universal type	In-line type	Dual speed controller	Model	Cylinder side port size	Applicable tubing O.D.		Applicable cylinder bore size (mm)
							Metric sizes (mm)	Inch sizes (inches)	
							3.2 4 6 8 10 12 1/8 5/32 3/16 1/4 5/16 3/8 1/2		
					AS12□1F	M5	•		6 to 20
					AS22□1F	1/8, 1/4	•	•	20 to 40
					AS32□1F	1/4, 3/8	•	•	40 to 63
					AS42□1F	1/2	•	•	63 to 100
					AS13□1F	M5	•		6 to 20
					AS23□1F	1/8, 1/4	•	•	20 to 40
					AS33□1F	1/4, 3/8	•	•	40 to 63
					AS43□1F	1/2	•	•	63 to 100
					AS1001F		•		6 to 20
					AS2001F		•	•	20 to 32
					AS2051F		•	•	20 to 40
					AS3001F		•	•	40 to 63
					AS4001F		•	•	63 to 100
					ASD230F	M5	•		6 to 20
					ASD330F	1/8	•	•	20 to 32
					ASD430F	1/4	•	•	20 to 40
					ASD530F	1/4	•	•	20 to 40
					ASD530F	3/8	•	•	40 to 63
					ASD630F	1/2	•	•	63 to 100

Standard type speed controller	Elbow type	Model	Cylinder side port size	Piping side port size		Applicable cylinder bore size (mm)
				M5	1/8 1/4 3/8 1/2 3/4 1 1 1/4 1 1/2 2	
				•	•	
		AS1200	M5	•		6 to 25
		AS2200	1/8, 1/4	•	•	20 to 40
		AS3200	1/4, 3/8	•	•	40 to 63
		AS4200	1/2	•		63 to 100

Tamper Proof Speed Controller with One-Touch Fitting

Series AS□□□1F-T Elbow Type/Universal Type

Elbow type



Universal type



Models

Elbow type	Universal type	Port size	Applicable tubing O.D.												Applicable cylinder bore size (mm)		
			Metric sizes						Inch sizes								
			3.2	4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"		1/2"	
AS12□1F-M5	AS13□1F-M5	M5 x 0.8	●	●	●												6, 10, 16, 20
AS22□1F-01	AS23□1F-01	R 1/8	●	●	●	●	●	*									20, 25, 32
AS22□1F-02	AS23□1F-02	R 1/4		●	●	●	●										20, 25, 32, 40
AS32□1F-02	AS33□1F-02	R 1/4			●	●	●	●									40, 50, 63
AS32□1F-03	AS33□1F-03	R 3/8			●	●	●	●									40, 50, 63
AS42□1F-04	AS43□1F-04	R 1/2					●	●									63, 80, 100
AS12□1F-U10/32	AS13□1F-U10/32	10-32UNF							●	●	●	●					6, 10, 16, 20
AS22□1F-N01	AS23□1F-N01	NPT1/8							●	●	●	●	●				20, 25, 32
AS22□1F-N02	AS23□1F-N02	NPT1/4								●	●	●	●	●			20, 25, 32, 40
AS32□1F-N02	AS33□1F-N02	NPT1/4									●	●	●				40, 50, 63
AS32□1F-N03	AS33□1F-N03	NPT3/8									●	●	●				40, 50, 63
AS42□1F-N04	AS43□1F-N04	NPT1/2												●	●		63, 80, 100

Note 1) * Elbow type only.

Note 2) Meter-out and meter-in types can be visually distinguished by the flow direction symbol on the resin body.

Specifications

Proof pressure	1.5MPa (218psi)
Maximum operating pressure	1MPa (145psi)
Minimum operating pressure	0.1MPa (14.5psi)
Ambient and fluid temperature	-5 to 60°C (23° to 140°F) [with no freezing]
Number of needle rotations	10 rotations (8 rotations Note 1))
Applicable tubing material Note 2)	Nylon, Soft nylon, Polyurethane

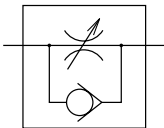
Note 1) For types AS12□1F-M5, AS12□1F-U10/32, AS13□1F-M5 and AS13□1F-U10/32.

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

(Refer to CAT.E501-B "Air Fittings and Tubing" pages 143 and 144 for details.)

Note 3) On standard products, all brass parts are electroless nickel plated.

JIS symbol



Flow direction symbols on body

	Meter-out type	Meter-in type
Symbol		
JIS symbol		

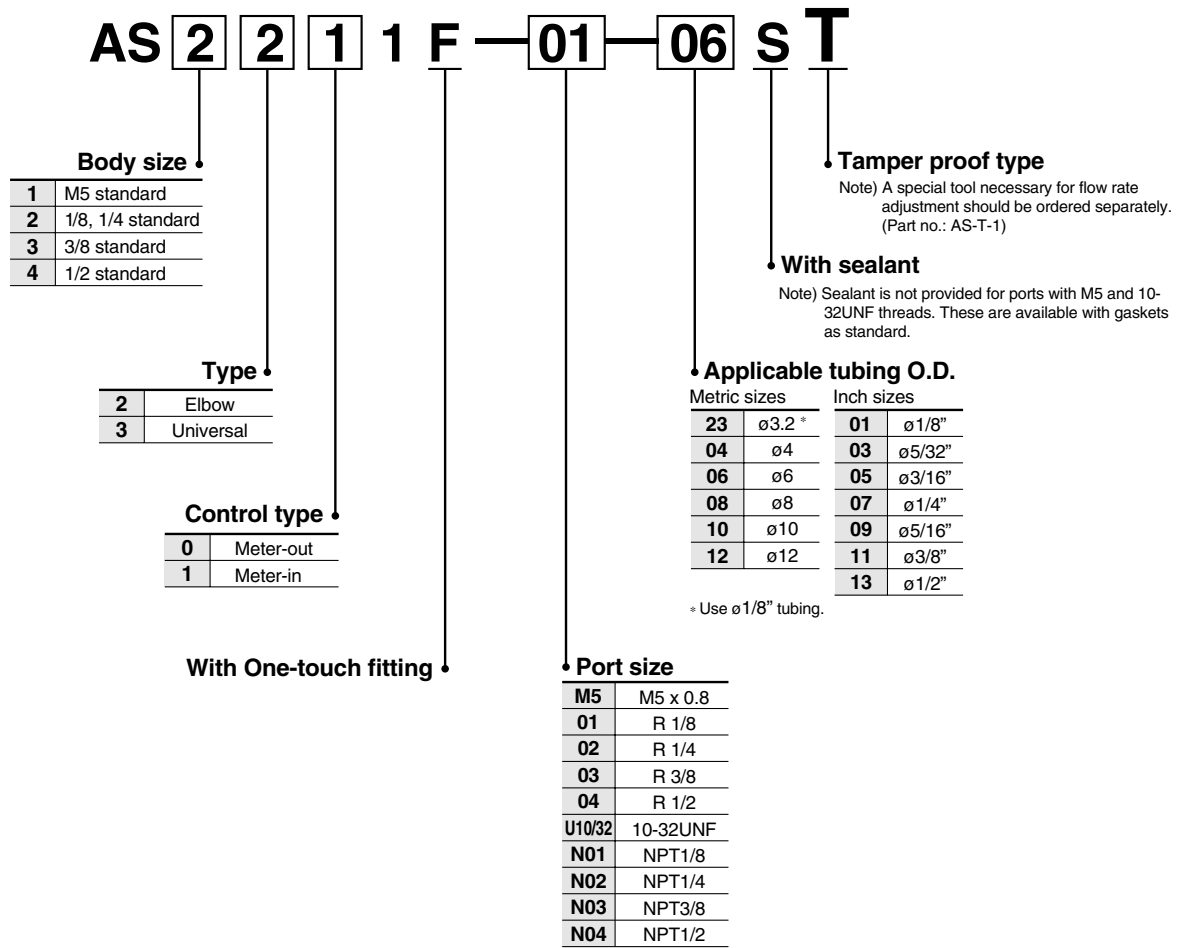
Flow Rate and Effective Area

Models		AS12□1F AS13□1F	AS22□1F-01 AS23□1F-01	AS22□1F-02 AS23□1F-02	AS32□1F AS33□1F	AS42□1F AS43□1F						
Tubing O.D.	Metric sizes	ø3.2, ø4, ø6	ø3.2, ø4, ø6, ø8, ø10	ø4, ø6, ø8, ø10	ø6, ø8, ø10, ø12	ø10, ø12						
	Inch sizes	ø1/8", ø5/32", ø3/16", ø1/4"	ø1/8", ø3/16", ø1/4", ø5/32", ø5/16"	ø5/32", ø3/16", ø1/4", ø5/16", ø3/8"	ø1/4", ø5/16"	ø3/8", ø1/2"						
Controlled flow (Free)	Flow rate $\frac{l}{min}$ (ANR) $\frac{Nl}{min}$	100	180	230	260	390	460	660	790	920	1580	1710
	Effective area mm ²	1.5	2.7	3.5	4	6	7	10	12	14	24	26

Note 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

$1l/min=0.035SCFM$
 $18mm^2=1Cv$

How to Order

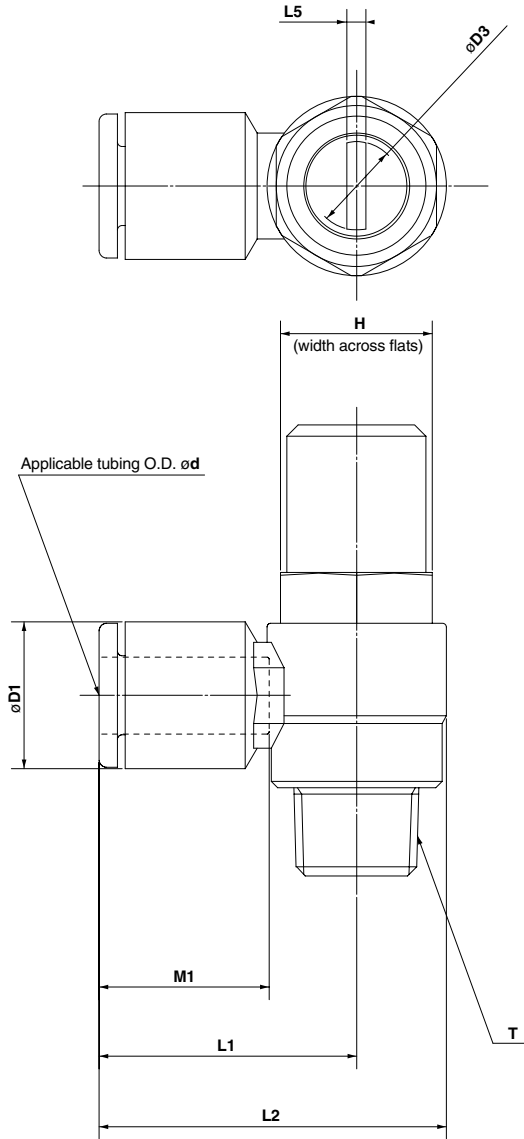
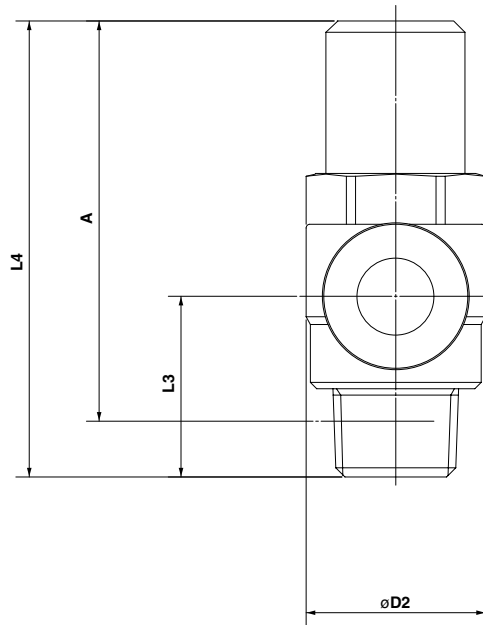


Series AS□□□1F-T

Dimensions (mm)

1in=25.4mm

Elbow type



Metric sizes

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5	A*	M1
AS12□1F-M5-23T	3.2	M5 x 0.8	8	8.4	9.6	4.5	17.3	22.1	12.3	31	0.7	28.4	12.7
AS12□1F-M5-04T	4			9.3									
AS12□1F-M5-06T	6			11.6									
AS22□1F-01-23ST	3.2	R 1/8	12	8.4	14.2	7	20.4	27.5	14.3	35.6	1.5	32	12.7
AS22□1F-01-04ST	4			9.3									
AS22□1F-01-06ST	6			11.6									
AS22□1F-01-08ST	8	R 1/4	17	15.2	18.5	7	25.3	32.4	18.2	40.7	1.5	36.7	18.5
AS22□1F-01-10ST	10			18.5									
AS22□1F-02-04ST	4			10.4									
AS22□1F-02-06ST	6	R 1/4	17	12.8	18.5	7	27.2	36.4	18.2	40.7	1.5	36.7	17
AS22□1F-02-08ST	8			15.2									
AS22□1F-02-10ST	10			18.5									
AS32□1F-02-06ST	6	R 1/4	19	12.8	23	9.5	27.8	39.3	21.8	55.3	1.5	49.3	17
AS32□1F-02-08ST	8			15.2									
AS32□1F-02-10ST	10			18.5									
AS32□1F-02-12ST	12	R 3/8	19	20.9	23	9.5	27.8	39.3	20.9	53.7	1.5	47.7	22
AS32□1F-03-06ST	6			12.8									
AS32□1F-03-08ST	8			15.2									
AS32□1F-03-10ST	10	R 1/2	24	18.5	28.6	12	33.6	47.9	25.4	63.8	1.5	55.8	21
AS32□1F-03-12ST	12			20.9									
AS42□1F-04-10ST	10			18.5									
AS42□1F-04-12ST	12	R 1/2	24	20.9	28.6	12	34.6	48.9	25.4	63.8	1.5	55.8	22
AS42□1F-04-12ST	12			20.9									

* Reference dimension for M5 x 0.8 and R threads after installation.

Inch sizes

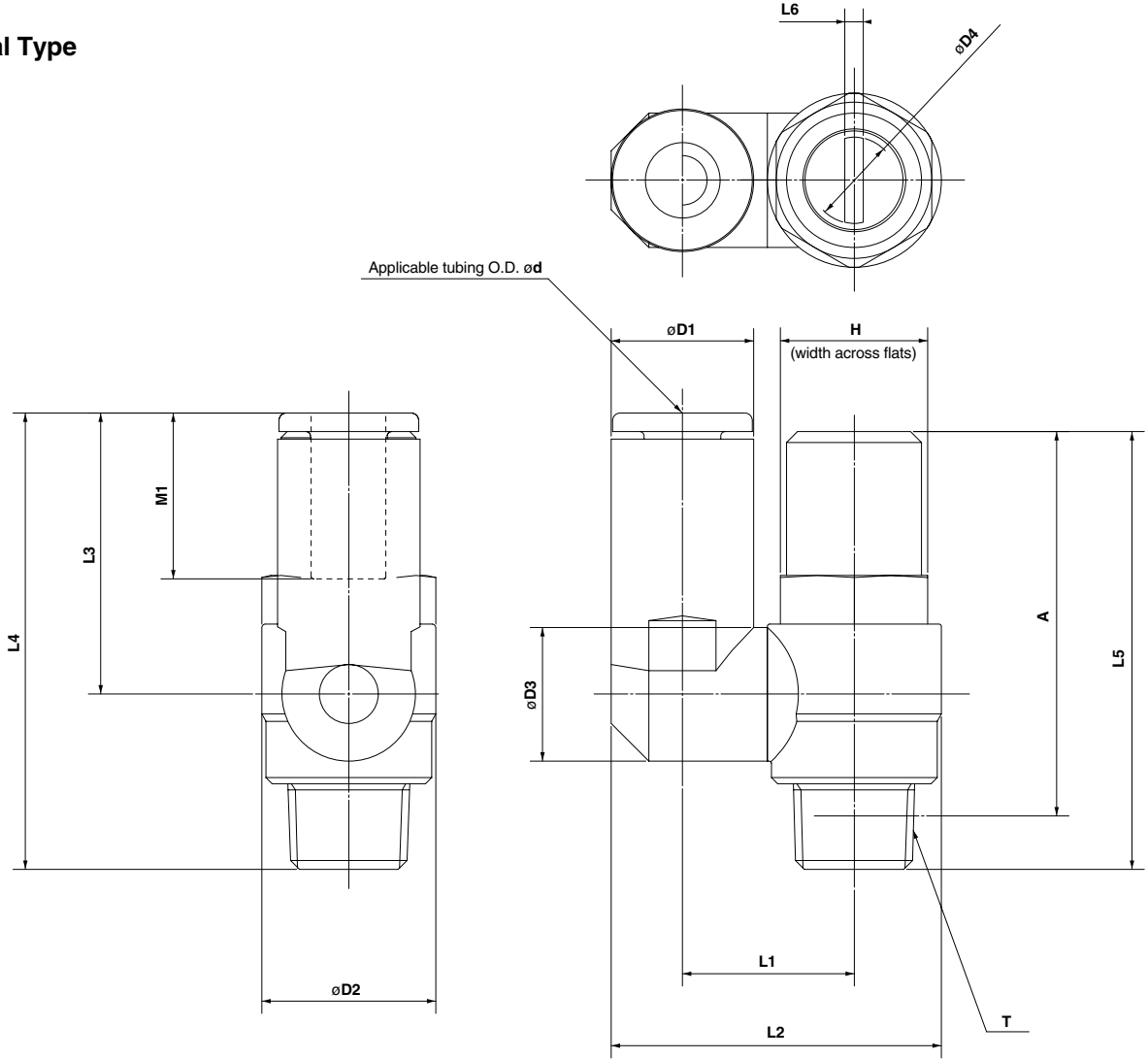
Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5	A*	M1
AS12□1F-U10/32-01T	1/8"	10-32UNF	8	8.4	9.6	4.5	17.3	22.1	12.3	31	0.7	28.4	12.7
AS12□1F-U10/32-03T	5/32"			9.3									
AS12□1F-U10/32-05T	3/16"			11.4									
AS12□1F-U10/32-07T	1/4"	NPT1/8	12.7	12	14.2	7	20.4	27.5	14.3	35.6	1.5	32	13.5
AS22□1F-N01-01ST	1/8"			9.3									
AS22□1F-N01-03ST	5/32"			11.4									
AS22□1F-N01-05ST	3/16"	NPT1/8	12.7	13.2	14.2	7	23.1	30.2	14.3	35.6	1.5	32	16.5
AS22□1F-N01-07ST	1/4"			23.9									
AS22□1F-N01-09ST	5/16"			25.3									
AS22□1F-N02-03ST	5/32"	NPT1/4	17.5	10.4	18.5	7	25.2	34.4	18.2	40.7	1.5	36.7	16
AS22□1F-N02-05ST	3/16"			11.4									
AS22□1F-N02-07ST	1/4"			13.2									
AS22□1F-N02-09ST	5/16"	NPT1/4	19	15.2	23	9.5	27.2	36.4	18.2	53.7	1.5	47.7	17
AS22□1F-N02-11ST	3/8"			17.9									
AS32□1F-N02-07ST	1/4"			27.8									
AS32□1F-N02-09ST	5/16"	NPT3/8	19	13.2	23	9.5	29.5	41	20.9	53.7	1.5	47.7	17
AS32□1F-N02-11ST	3/8"			17.9									
AS32□1F-N03-07ST	1/4"			27.8									
AS32□1F-N03-09ST	5/16"	NPT3/8	19	15.2	23	9.5	29.5	41	20.9	53.7	1.5	47.7	18.5
AS32□1F-N03-11ST	3/8"			17.9									
AS32□1F-N03-13ST	3/8"			27.8									
AS42□1F-N04-11ST	3/8"	NPT1/2	23.8	17.9	28.6	12	33.6	47.9	25.4	63.8	1.5	55.8	21
AS42□1F-N04-13ST	1/2"			21.7									

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

Dimensions (mm)

1in=25.4mm

Universal Type



Metric sizes

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A*	M1
AS13□1F-M5-23T	3.2	M5 x 0.8	8	8.4	9.6	9.3	4.5	10.8	19.8	17.5	28.7	31	0.7	28.4	12.7
AS13□1F-M5-04T	4			9.3					20.3	28.7	12.7				
AS13□1F-M5-06T	6			11.6					21.4	20.6	31.8				13.5
AS23□1F-01-23ST	3.2	R 1/8	12	8.4	14.2	9.3	7	13.1	24.4	17.5	31.8	35.6	1.5	32	12.7
AS23□1F-01-04ST	4			9.3					24.9	37.2	13.5				
AS23□1F-01-06ST	6			11.6					26.9	22.9	37.2				13.5
AS23□1F-01-08ST	8	15.2	12.9	16.2	30.9	28.2	41.7	18.5							
AS23□1F-02-04ST	4	R 1/4	17	10.4	18.5	10.9	7	16.2	30.6	21.9	40.1	40.7	1.5	36.7	16
AS23□1F-02-06ST	6			12.8					34	25.2	42.6				17
AS23□1F-02-08ST	8			15.2					35.2	28.2	45.6				18.5
AS23□1F-02-10ST	10	18.5	20.2	38.7	31	48.4	21								
AS33□1F-02-06ST	6	R 1/4	19	12.8	23	12.9	9.5	20.6	38.5	25.2	47	55.3	1.5	49.3	17
AS33□1F-02-08ST	8			15.2					39.7	28.2	50				18.5
AS33□1F-02-10ST	10			18.5					43.7	32.6	53.5				21
AS33□1F-02-12ST	12	20.9	16.2	23	44.9	34.4	56.2	22							
AS33□1F-03-06ST	6	R 3/8	19	12.8	23	12.9	9.5	20.6	38.5	25.2	46.1	53.7	1.5	47.7	17
AS33□1F-03-08ST	8			15.2					39.7	28.2	49.1				18.5
AS33□1F-03-10ST	10			18.5					43.7	32.6	53.5				21
AS33□1F-03-12ST	12	20.9	16.2	23	44.9	34.4	55.3	22							
AS43□1F-04-10ST	10	R 1/2	24	18.5	28.6	16.2	12	25.8	49.4	32.6	58	63.8	1.5	55.8	21
AS43□1F-04-12ST	12			20.9					19.4	26.8	52				36.3

* Reference dimension for M5 x 0.8 and R threads after installation.

Inch sizes

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A*	M1
AS13□1F-U1032-01T	1/8"	10-32UNF	8	8.4	9.6	9.3	4.5	10.8	19.8	17.5	28.7	31	0.7	28.4	12.7
AS13□1F-U1032-03T	5/32"			9.3					20.3	28.7	12.7				
AS13□1F-U1032-05T	3/16"			11.4					21.3	23.3	34.5				16.5
AS13□1F-U1032-07T	1/4"			12					21.6	20.7	31.9				13.7
AS23□1F-N01-01ST	1/8"	NPT1/8	12.7	8.4	14	10.9	7	14	24.4	17.5	31.8	35.6	1.5	32	12.7
AS23□1F-N01-03ST	5/32"			9.3					24.9	37.2	13.5				
AS23□1F-N01-05ST	3/16"			11.4					26.8	23.9	41.7				16.5
AS23□1F-N01-07ST	1/4"			13.2					29.9	25.6	37.2				18.5
AS23□1F-N01-09ST	5/16"	15.2	12.9	16.2	30.9	28.2	41.7	21							
AS23□1F-N02-03ST	5/32"	NPT1/4	17.5	10.4	19	12.9	7	16.2	30.6	21.9	40.1	40.7	1.5	36.7	16
AS23□1F-N02-05ST	3/16"			11.4					31.1	23.9	42.6				17
AS23□1F-N02-07ST	1/4"			13.2					34.2	25.6	45.6				18.5
AS23□1F-N02-09ST	5/16"			15.2					35.2	28.2	48.4				21
AS23□1F-N02-11ST	3/8"	17.9	20.2	38.7	31	47	21								
AS33□1F-N02-07ST	1/4"	NPT1/4	19	13.2	23	12.9	9.5	20.6	38.7	25.6	50	55.3	1.5	49.3	17
AS33□1F-N02-09ST	5/16"			15.2					39.7	28.2	54.4				18.5
AS33□1F-N02-11ST	3/8"			17.9					43.7	32.6	56.2				21
AS33□1F-N02-13ST	7/16"			19.4					47.6	36.5	59.1				22
AS33□1F-N03-07ST	1/4"	NPT3/8	19	13.2	23	12.9	9.5	20.6	38.7	25.6	46.1	53.7	1.5	47.7	17
AS33□1F-N03-09ST	5/16"			15.2					39.7	28.2	49.1				18.5
AS33□1F-N03-11ST	3/8"			17.9					43.7	32.6	53.5				21
AS33□1F-N03-13ST	7/16"			19.4					47.6	36.5	59.1				22
AS43□1F-N04-11ST	3/8"	NPT1/2	23.8	17.9	29	16.2	12	25.8	49.4	32.6	55.3	63.8	1.5	55.8	21
AS43□1F-N04-13ST	1/2"			21.7					19.4	26.8	52				36.3

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

Tamper Proof Speed Controller with One-Touch Fittings

Series AS 1F-T In-line Type



Models

Model	Applicable tubing O.D.												Applicable cylinder bore size (mm)	
	Metric sizes						Inch sizes							
	3.2	4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"		1/2"
AS1001F	●	●	●				●	●	●	●				6, 10, 16, 20
AS2001F		●	●					●	●	●				20, 25, 32
AS2051F			●	●					●	●	●			20, 25, 32, 40
AS3001F			●	●	●	●			●	●	●			40, 50, 63
AS4001F					●	●						●	●	63, 80, 100

Specifications

Proof pressure	1.5MPa (218psi)
Maximum operating pressure	1MPa (145psi)
Minimum operating pressure	0.1MPa (14.5psi)
Ambient and fluid temperature	-5 to 60°C (23° to 140°F) [with no freezing]
Number of needle rotations	10 rotations (8 rotations <small>Note 1</small>)
Applicable tubing material <small>Note 2</small>	Nylon, Soft nylon, Polyurethane

Note 1) For type AS1001F

Note 2) Use caution regarding the maximum operating pressure with soft nylon and polyurethane.
(Refer to CAT.E501-B "Air Fittings and Tubing" pages 143 and 144 for details.)

Flow Rate and Effective Area

Models	AS1001F	AS2001F	AS2051F	AS3001F	AS4001F						
Tubing O.D.	Metric sizes	ø3.2, ø4, ø6	ø4	ø6	ø6	ø8	ø6	ø8	ø10, ø12	ø10	ø12
	Inch sizes	ø1/8", ø5/32", ø3/16", ø1/4"	ø5/32"	ø3/16", ø1/4"	ø3/16"	ø1/4", ø5/16"	ø1/4"	ø5/16"	ø3/8"	ø3/8"	ø1/2"
Controlled (Free) flow	Flow rate $\frac{dmin}{N/min}$ (ANR)	100	130	230	290	460	420	660	920	1050	1390
	Effective area mm ²	1.5	2	3.5	4.5	7	6.5	10	14	16	21

Note 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

$\frac{1}{18mm^2} = 0.035SCFM$
 $\frac{1}{18mm^2} = 1Cv$

How to Order

AS 200 1F — 06 T

Body size

100	M5 standard
200	1/8 standard
205	1/4 standard
300	3/8 standard
400	1/2 standard

With One-touch fitting

Tamper proof type

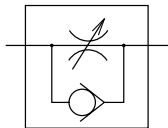
Note) A special tool necessary for flow rate adjustment should be ordered separately. (Part no.: AS-T-1)

Applicable tubing O.D.

Metric sizes		Inch sizes	
23	ø3.2*	01	ø1/8"
04	ø4	03	ø5/32"
06	ø6	05	ø3/16"
08	ø8	07	ø1/4"
10	ø10	09	ø5/16"
12	ø12	11	ø3/8"
		13	ø1/2"

* Use ø1/8" tubing.

JIS symbol

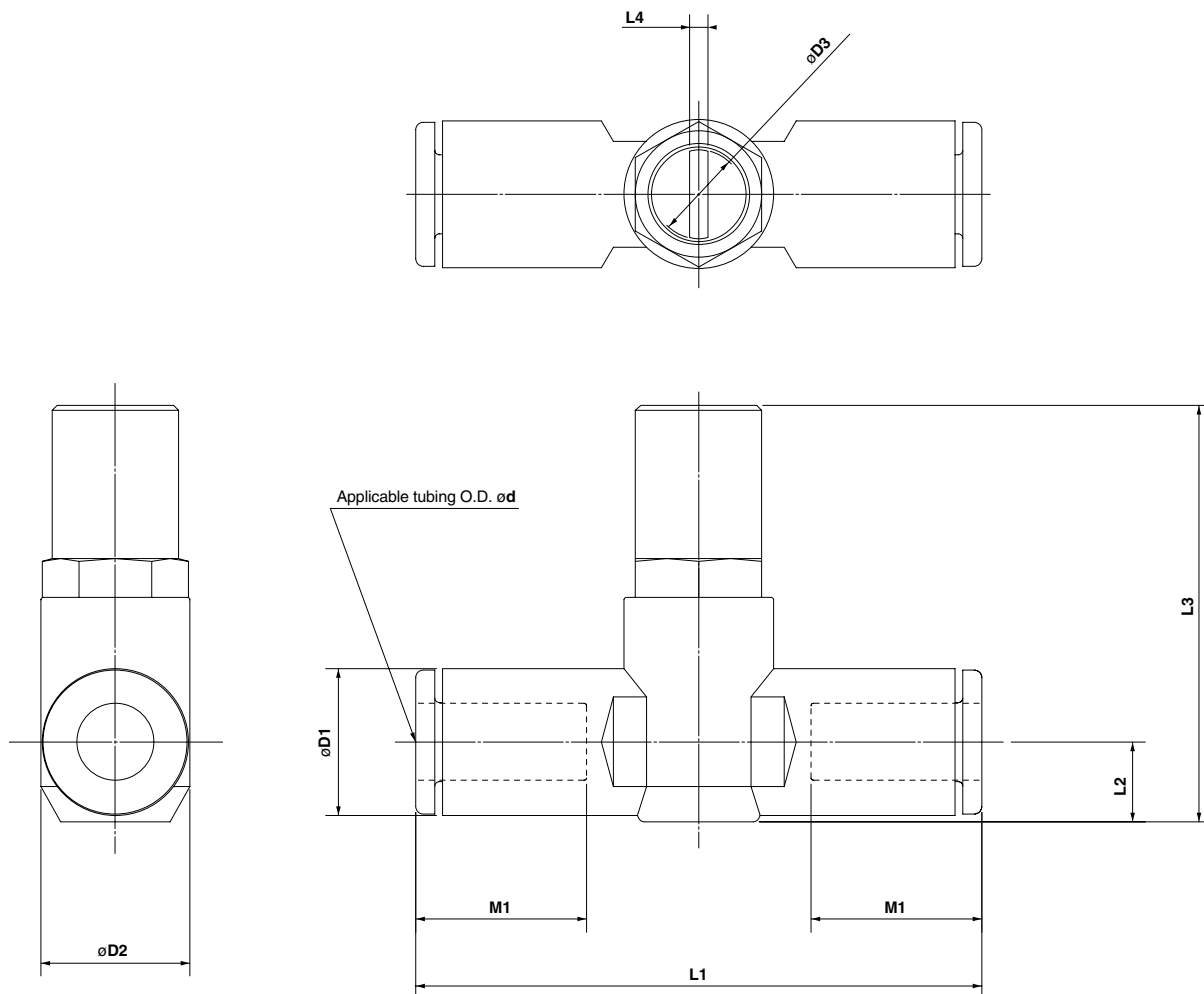


Flow direction symbol on body



Dimensions (mm)

1in=25.4mm



Metric sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	M1
AS1001F-23T	3.2	8.4	10	4.5	38	4.5	26	0.7	12.7
AS1001F-04T	4	9.3			39.2	5.2	26.6		
AS1001F-06T	6	11.6			40.7	6.2	27.7		
AS2001F-04T	4	9.3	11.8	7	40.7	5.2	31.9	1.5	12.7
AS2001F-06T	6	11.6			44.8	6.3	33		
AS2051F-06T	6	12.8			53.2	6.7	35.2		
AS2051F-08T	8	15.2	14.8	7	59.8	8.1	36.5	1.5	18
AS3001F-06T	6	12.8			59	7.4	45		
AS3001F-08T	8	15.2			64.4	8.2	45.8		
AS3001F-10T	10	18.5	19.8	9.5	71.6	9.8	47.3	1.5	21
AS3001F-12T	12	20.9			76	11	48.5		
AS4001F-10T	10	18.5			82	11.3	55.4		
AS4001F-12T	12	20.9	26.5	12	82	11.3	55.4	1.5	21
AS4001F-12T	12	20.9							

Inch sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	M1
AS1001F-01T	1/8"	8.4	10	4.5	38	4.5	26	0.7	12.7
AS1001F-03T	5/32"	9.3			39.2	5.2	26.6		
AS1001F-05T	3/16"	11.4			48.7	6.2	27.7		
AS1001F-07T	1/4"	12	11.8	7	40.7	5.2	31.9	1.5	12.7
AS2001F-03T	5/32"	9.3			40.7	5.2	31.9		
AS2001F-05T	3/16"	11.4			50	6.2	32.8		
AS2001F-07T	1/4"	13.2	14.8	7	52.2	7.1	33.7	1.5	17
AS2051F-05T	3/16"	11.4			52.2	6.2	34.9		
AS2051F-07T	1/4"	13.2			54.4	7.1	35.7		
AS2051F-09T	5/16"	15.2	19.8	9.5	59.8	8.1	36.7	1.5	18
AS3001F-07T	1/4"	13.2			59	7.4	45.2		
AS3001F-09T	5/16"	15.2			64.4	8.2	46		
AS3001F-11T	3/8"	17.9	26.5	12	70.8	9.5	47.2	1.5	21
AS4001F-11T	3/8"	17.9			76.9	10.3	55.5		
AS4001F-13T	1/2"	21.7			83.1	11.6	56.9		

Tamper Proof Dual Speed Controller with One-Touch Fitting

Series ASD F-T



Models

Model	Port size	Applicable tubing O.D.														
		Metric sizes					Inch sizes									
		4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"				
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	10-32UNF						●	●	●	●						
ASD330F-N01	NPT1/8								●	●	●					
ASD430F-N02	NPT1/4									●	●	●				
ASD530F-N02	NPT1/4									●	●	●				
ASD530F-N03	NPT3/8									●	●	●				
ASD630F-N04	NPT1/2															●

Specifications

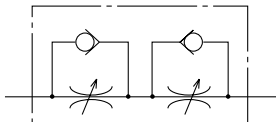
Proof pressure	1.5MPa (218psi)
Maximum operating pressure	1MPa (145psi)
Minimum operating pressure	0.1MPa (14.5psi)
Ambient and fluid temperature	-5 to 60°C (23° to 140°F) [with no freezing]
Number of needle rotations	10 rotations (8 rotations Note 1))
Applicable tubing material Note 2)	Nylon, Soft nylon, Polyurethane

Note 1) For type ASD230F

Note 2) Use caution regarding the maximum operating pressure with soft nylon and polyurethane. (Refer to CAT.E501-B "Air Fittings and Tubing" pages 143 and 144 for details.)

Note 3) On standard products, all brass parts are electroless nickel plated.

JIS symbol



Flow direction symbols on body

	Meter-out type	Meter-in type
Symbol		
JIS symbol		

Flow Rate and Effective Area

Model	ASD230F		ASD330F		ASD430F		ASD530F			ASD630F	
	Metric sizes	ASD230F	ASD330F	ASD430F	ASD530F	ASD530F	ASD530F	ASD530F	ASD630F	ASD630F	
Tubing O.D.	Metric sizes	ø4, ø6	ø6, ø8	ø6	ø8, ø10	ø6	ø8	ø10, ø12	ø10	ø12	
	Inch sizes	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 rate ^{l/min (ANR)} (l/min)	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 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

¹l/min=0.035SCFM
18mm²=1Cv

How to Order

ASD **3** **3** **0** **F** — **01** — **06** **S** **T**

Body size

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

Type

3	Universal
---	-----------

With One-touch fitting

Tamper proof type

Note) A special tool necessary for flow rate adjustment should be ordered separately. (Part no.: AS-T-1)

With sealant

Note) Sealant is not provided for ports with M5 and 10-32UNF threads. These are available with gaskets as standard.

Applicable tubing O.D.

Metric sizes		Inch sizes	
04	ø4	01	ø1/8"
06	ø6	03	ø5/32"
08	ø8	05	ø3/16"
10	ø10	07	ø1/4"
12	ø12	09	ø5/16"
		11	ø3/8"

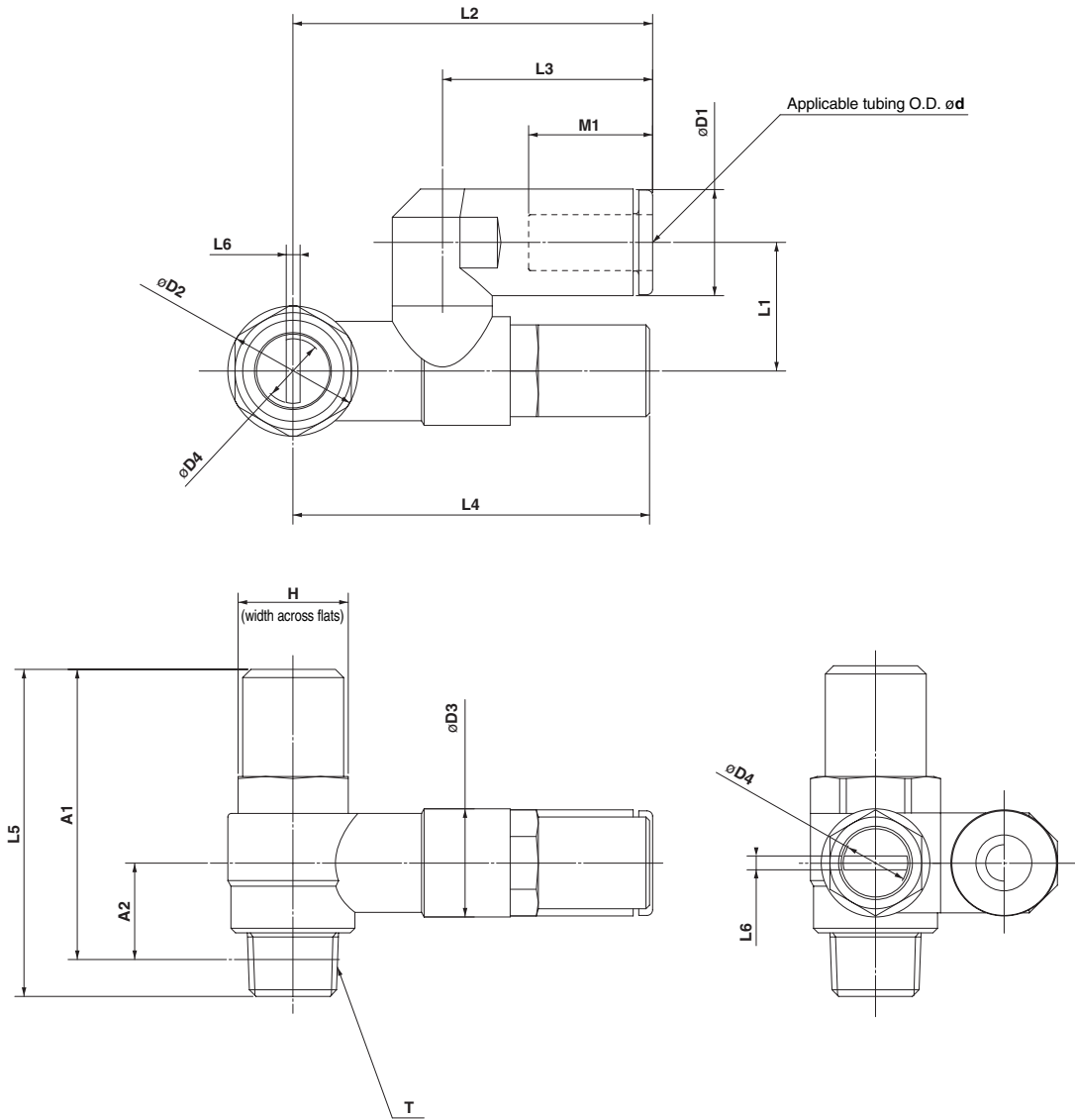
Port size

M5	M5 x 0.8
01	R 1/8
02	R 1/4
03	R 3/8
04	R 1/2
U10/32	10-32UNF
N01	NPT1/8
N02	NPT1/4
N03	NPT3/8
N04	NPT1/2

Dimensions (mm)

1in=25.4mm

Metric sizes



Metric sizes

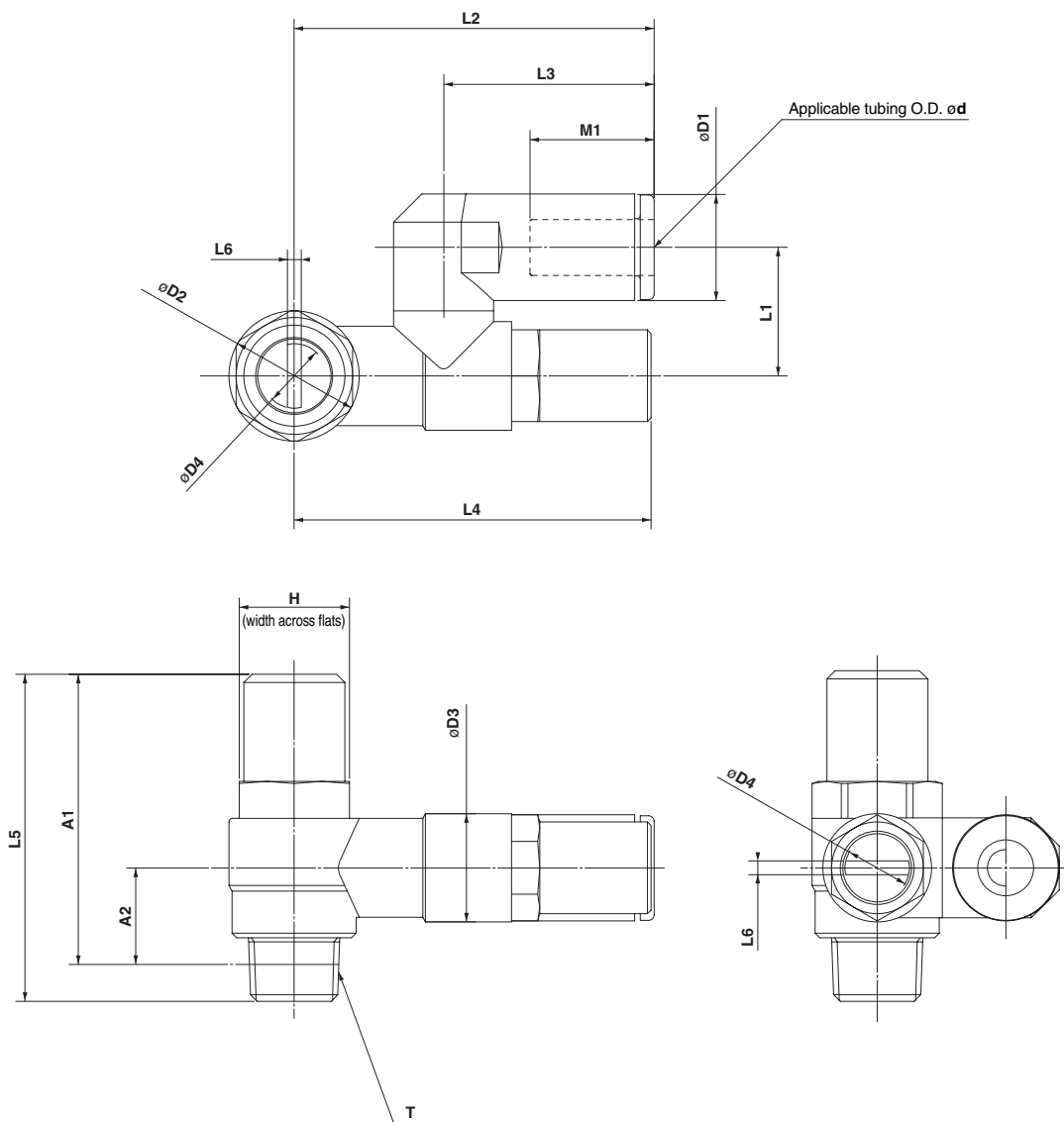
Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A1*	A2*	M1
ASD230F-M5-04T	4	M5 x 0.8	8	9.3	9.6	10	4.5	11.7	29.4	17.5	30.7	31	0.7	28.4	7.8	12.9
ASD230F-M5-06T	6			11.6					20.6	13.7						
ASD330F-01-06ST	6	R 1/8	12	11.6	14.2	11.8	7	14	38.5	22.9	38.9	35.6	1.5	32	10.6	13.7
ASD330F-01-08ST	8			15.2					28.2	18.5						
ASD430F-02-06ST	6	R 1/4	17	12.8	18.5	15	7	18	43.5	25.2	41.7	40.7	1.5	36.7	11	17
ASD430F-02-08ST	8			15.2					28.2	18.5						
ASD430F-02-10ST	10			18.5				19.7	49.3	31						21
ASD530F-02-06ST	6	R 1/4	19	12.8	23	19.8	9.5	20.3	48.3	25.2	53.7	55.3	1.5	49.3	15.4	17
ASD530F-02-08ST	8			15.2					28.2	18.5						
ASD530F-02-10ST	10			18.5				23.1	54.1	32.6						21
ASD530F-02-12ST	12			20.9					55.9	34.4						22
ASD530F-03-06ST	6	R 3/8	19	12.8	23	19.8	9.5	20.3	48.3	25.2	53.7	53.7	1.5	47.7	14	17
ASD530F-03-08ST	8			15.2					28.2	18.5						
ASD530F-03-10ST	10			18.5				23.1	54.1	32.6						21
ASD530F-03-12ST	12			20.9					55.9	34.4						22
ASD630F-04-10ST	10	R 1/2	24	18.5	28.6	26.5	12	25.9	64.3	32.6	69.1	63.8	1.5	55.8	18.6	21
ASD630F-04-12ST	12			20.9					34.4	22						

* Reference dimension for M5 x 0.8 and R threads after installation.

Dimensions (mm)

1in=25.4mm

Inch sizes



Inch sizes

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A1*	A2*	M1
ASD230F-U10/32-01T	1/8"	10-32UNF	8	8.4	9.6	10	4.5	11.7	29.4	17.5	30.7	31	0.7	28.4	7.8	12.9
ASD230F-U10/32-03T	5/32"			9.3					35.2	23.3						
ASD230F-U10/32-05T	3/16"			11.4					32.6	20.7						
ASD230F-U10/32-07T	1/4"			12					32.6	20.7						
ASD330F-N01-05ST	3/16"	NPT1/8	12.7	11.6	14.2	11.8	7	14	38.5	23.9	38.9	35.6	1.5	31.6	10.6	16.5
ASD330F-N01-07ST	1/4"			13.2				42.2	25.6	17						
ASD330F-N01-09ST	5/16"			15.2				44.8	28.2	18.5						
ASD430F-N02-07ST	1/4"	NPT1/4	17.5	13.2	18.5	15	7	18	43.9	25.6	41.7	40.7	1.5	36.9	11	17
ASD430F-N02-09ST	5/16"			15.2				46.5	28.2	18.5						
ASD430F-N02-11ST	3/8"			18.5				49.3	31	21						
ASD530F-N02-07ST	1/4"			13.2				48.7	25.6	17						
ASD530F-N02-09ST	5/16"	NPT1/4	19	15.2	23	19.8	9.5	20.3	51.3	28.2	53.7	55.3	1.5	49.5	15.4	18.5
ASD530F-N02-11ST	3/8"			18.5				54.1	32.6	21						
ASD530F-N03-07ST	1/4"			13.2				48.7	25.6	17						
ASD530F-N03-09ST	5/16"	NPT3/8	19	15.2	23	19.8	9.5	20.3	51.3	28.2	53.7	53.7	1.5	48	14	18.5
ASD530F-N03-11ST	3/8"			18.5				54.1	32.6	21						
ASD630F-N04-11ST	3/8"	NPT1/2	23.8	18.5	28.6	26.5	12	25.9	64.3	32.6	69.1	63.8	1.5	56.1	18.6	21

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

Tamper Proof Speed Controller Standard Type

Series AS□2□0-T Metal Elbow Type



Specifications

Specifications	Model	AS12□0-M5	AS12□0-U10/32	AS22□0-□01	AS22□0-□02	AS32□0-□02	AS32□0-□03	AS42□0-□04
Port size		M5 x 0.8	10-32UNF	1/8	1/4	1/4	3/8	1/2
Applicable cylinder bore size (mm)		6, 10, 16, 20, 25		20, 25, 32, 40		32, 40, 50, 63		80, 100
Proof pressure		1.5MPa (218psi)						
Maximum operating pressure		1MPa (145psi)						
Minimum operating pressure		0.1MPa (14.5psi)						
Ambient and fluid temperature		-5 to 60°C (23° to 140°F) [with no freezing]						
Number of needle rotations		8 rotations			10 rotations			
Controlled flow (Free)	Flow rate l/min (ANR) $\{Nl/min\}$	105	230	460	920	1700		
	Effective area mm^2	1.6	3.5	7	14	26		

Note 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

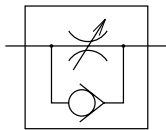
Note 2) Meter-out and meter-in types can be visually distinguished by the flow direction symbol on the metal body.

Note 3) On standard products, all brass parts are electroless nickel plated.

$1l/m=0.035SCFM$
 $18mm^2=Cv$

How to Order

JIS symbol



AS 2 2 0 0 - 01 - S T

Body size

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

Tamper proof type

Note) A special tool necessary for flow rate adjustment should be ordered separately. (Part no.: AS-T-1)

With sealant

Note) Sealant is not provided for ports with M5 and 10-32UNF threads. These are available with gaskets as standard.

Type

2	Elbow
---	-------

Port size

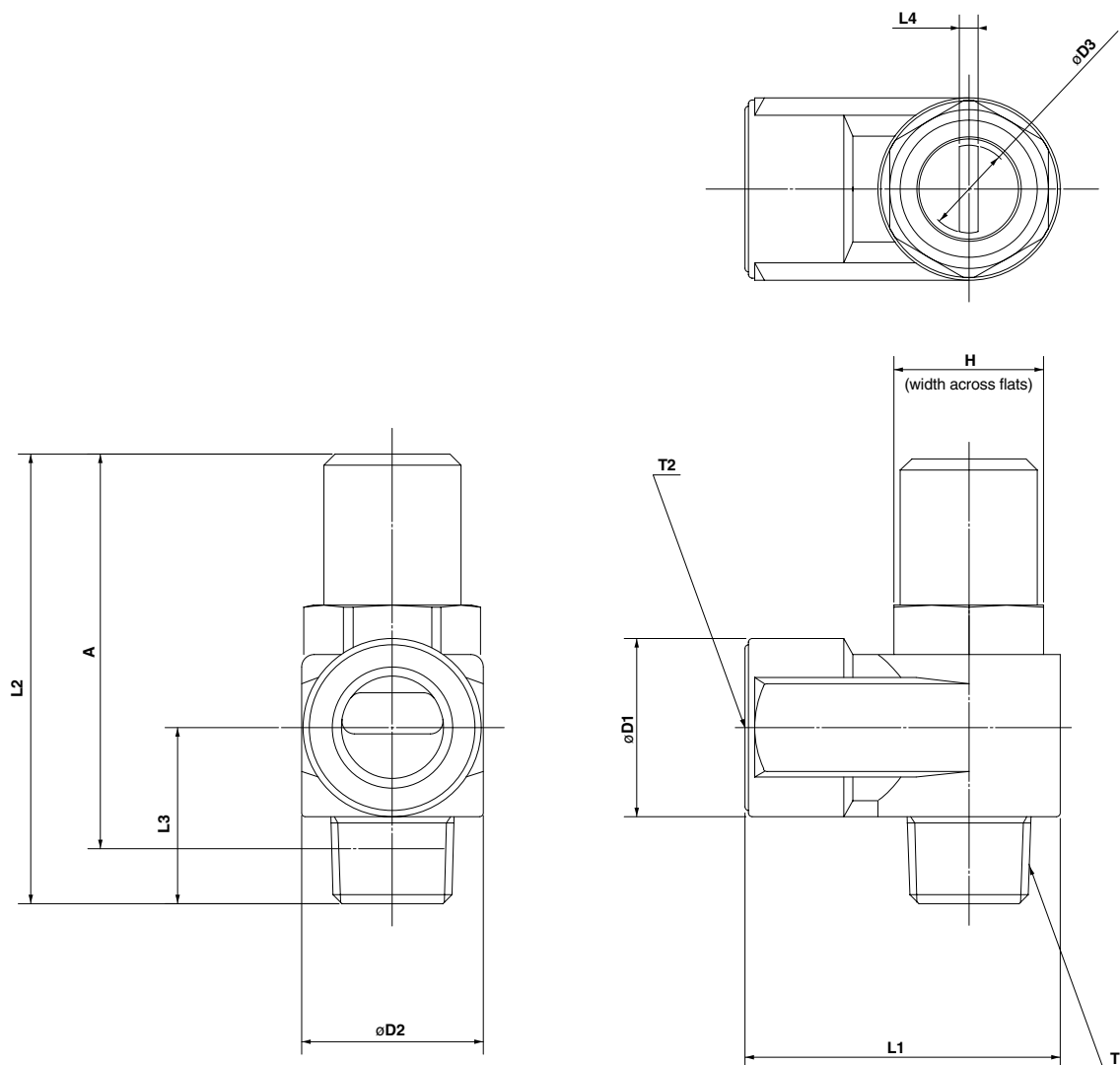
Symbol	Cylinder side	Solenoid valve side
M5	M5 x 0.8	M5 x 0.8
01	R 1/8	Rc 1/8
02	R 1/4	Rc 1/4
03	R 3/8	Rc 3/8
04	R 1/2	Rc 1/2
F01	R 1/8	PF1/8
F02	R 1/4	PF1/4
F03	R 3/8	PF3/8
F04	R 1/2	PF1/2
U10/32	10-32UNF	10-32UNF
N01	NPT1/8	NPT1/8
N02	NPT1/4	NPT1/4
N03	NPT3/8	NPT3/8
N04	NPT1/2	NPT1/2

Control type

0	Meter-out
1	Meter-in

Dimensions (mm)

1in=25.4mm



Dimensions

Model	T1	T2	H	D1	D2	D3	L1	L2	L3	L4	A*
AS12□ 0-M5-T	M5 x 0.8	M5 x 0.8	8	9	9	4.5	10	31	10.3	0.7	28.4
AS12□ 0-U10/32-T	10-32UNF	10-32UNF									
AS22□ 0-01-ST	R 1/8	Rc 1/8	12	14.3	14.6	7	18	35.6	14.1	1.5	32
AS22□ 0-F01-ST		PF 1/8									
AS22□ 0-N01-ST	NPT 1/8	NPT 1/8	12.7	18	19.5	7	27.2	40.7	18	1.5	36.7
AS22□ 0-02-ST	R 1/4	Rc 1/4									
AS22□ 0-F02-ST		PF 1/4									
AS22□ 0-N02-ST	NPT 1/4	NPT 1/4	17.5								
AS32□ 0-02-ST	R 1/4	Rc 1/4	19	22.5	24.3	9.5	30	55.3	22.4	1.5	49.3
AS32□ 0-F02-ST		PF 1/4									
AS32□ 0-N02-ST	NPT 1/4	NPT 1/4	19	22.5	24.3	9.5	30	53.7	20.8	1.5	47.7
AS32□ 0-03-ST	R 3/8	Rc 3/8									
AS32□ 0-F03-ST		PF 3/8	PF 3/8	24	27.5	28.5	12	38.5	63.8	26.7	1.5
AS32□ 0-N03-ST	NPT 3/8	NPT 3/8									
AS42□ 0-04-ST	R 1/2	Rc 1/2	24	27.5	28.5	12	38.5	63.8	26.7	1.5	55.8
AS42□ 0-F04-ST		PF 1/2									
AS42□ 0-N04-ST	NPT 1/2	NPT 1/2	23.8								

*Reference dimension for threads after installation

Flat Head Screw Driver Adjustable Speed Controller with One-Touch Fitting

Series AS□□□1F-D Elbow Type/Universal Type

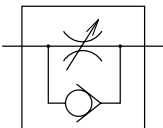
Elbow type



Universal type



JIS symbol



Flow direction symbols on body

	Meter-out type	Meter-in type
Symbol		
JIS symbol		

Models

Elbow type	Universal type	Port size	Applicable tubing O.D.												Applicable cylinder bore size (mm)		
			Metric sizes						Inch sizes								
			3.2	4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"		1/2"	
AS12□1F-M5	AS13□1F-M5	M5 x 0.8	●	●	●												6, 10, 16, 20
AS22□1F-01	AS23□1F-01	R 1/8	●	●	●	●	●										20, 25, 32
AS22□1F-02	AS23□1F-02	R 1/4		●	●	●	●										20, 25, 32, 40
AS32□1F-02	AS33□1F-02	R 1/4			●	●	●	●									40, 50, 63
AS32□1F-03	AS33□1F-03	R 3/8			●	●	●	●									40, 50, 63
AS42□1F-04	AS43□1F-04	R 1/2					●	●									63, 80, 100
AS12□1F-U10/32	AS13□1F-U10/32	10-32UNF								●	●	●	●				6, 10, 16, 20
AS22□1F-N01	AS23□1F-N01	NPT1/8								●	●	●	●	●			20, 25, 32
AS22□1F-N02	AS23□1F-N02	NPT1/4								●	●	●	●	●			20, 25, 32, 40
AS32□1F-N02	AS33□1F-N02	NPT1/4										●	●	●			40, 50, 63
AS32□1F-N03	AS33□1F-N03	NPT3/8										●	●	●			40, 50, 63
AS42□1F-N04	AS43□1F-N04	NPT1/2												●	●		63, 80, 100

Note 1) * Elbow type only.

Note 2) Meter-out and meter-in types can be visually distinguished by the flow direction symbol on the resin body.

Specifications

Proof pressure	1.5MPa (218psi)
Maximum operating pressure	1MPa (145psi)
Minimum operating pressure	0.1MPa (14.5psi)
Ambient and fluid temperature	-5 to 60°C (23° to 140°F) [with no freezing]
Number of needle rotations	10 rotations (8 rotations ^{Note 1)})
Applicable tubing material ^{Note 2)}	Nylon, Soft nylon, Polyurethane

Note 1) For types AS12□1F-M5, AS12□1F-U10/32, AS13□1F-M5 and AS13□1F-U10/32.

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

(Refer to CAT.E501-B "Air Fittings and Tubing" pages 143 and 144 for details.)

Note 3) On standard products, all brass parts are electroless nickel plated.

Flow Rate and Effective Area

Models		AS12□1F AS13□1F	AS22□1F-□01 AS23□1F-□01	AS22□1F-□02 AS23□1F-□02	AS32□1F AS33□1F			AS42□1F AS43□1F				
Tubing O.D.	Metric sizes	ø3.2, ø4, ø6	ø3.2, ø4, ø6, ø8, ø10	ø4, ø6, ø8, ø10	ø6, ø8, ø10, ø12	ø10, ø12	ø10, ø12	ø10, ø12				
	Inch sizes	ø1/8", ø5/32", ø3/16", ø1/4"	ø1/8", ø3/16", ø1/4", ø5/32", ø5/16"	ø5/32", ø3/16"	ø1/4", ø5/16", ø3/8"	ø1/4", ø5/16"	ø3/8"	ø3/8", ø1/2"				
Controlled flow (Free)	Flow rate l/min (ANR) (Nl/min)	100	180	230	260	390	460	660	790	920	1580	1710
	Effective area mm ²	1.5	2.7	3.5	4	6	7	10	12	14	24	26

Note 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

$1l/min=0.035SCFM$
 $18mm^2=1Cv$

How to Order

AS **2** **2** **1** **1** F — **01** — **06** S **D**

Body size

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

Type

2	Elbow
3	Universal

Control type

0	Meter-out
1	Meter-in

With One-touch fitting

Flat head screw driver adjustable type

With sealant

Note) Sealant is not provided for ports with M5 and 10-32UNF threads. These are available with gaskets as standard.

Applicable tubing O.D.

Metric sizes		Inch sizes	
23	ø3.2*	01	ø1/8"
04	ø4	03	ø5/32"
06	ø6	05	ø3/16"
08	ø8	07	ø1/4"
10	ø10	09	ø5/16"
12	ø12	11	ø3/8"
		13	ø1/2"

* Use ø1/8" tubing.

Port size

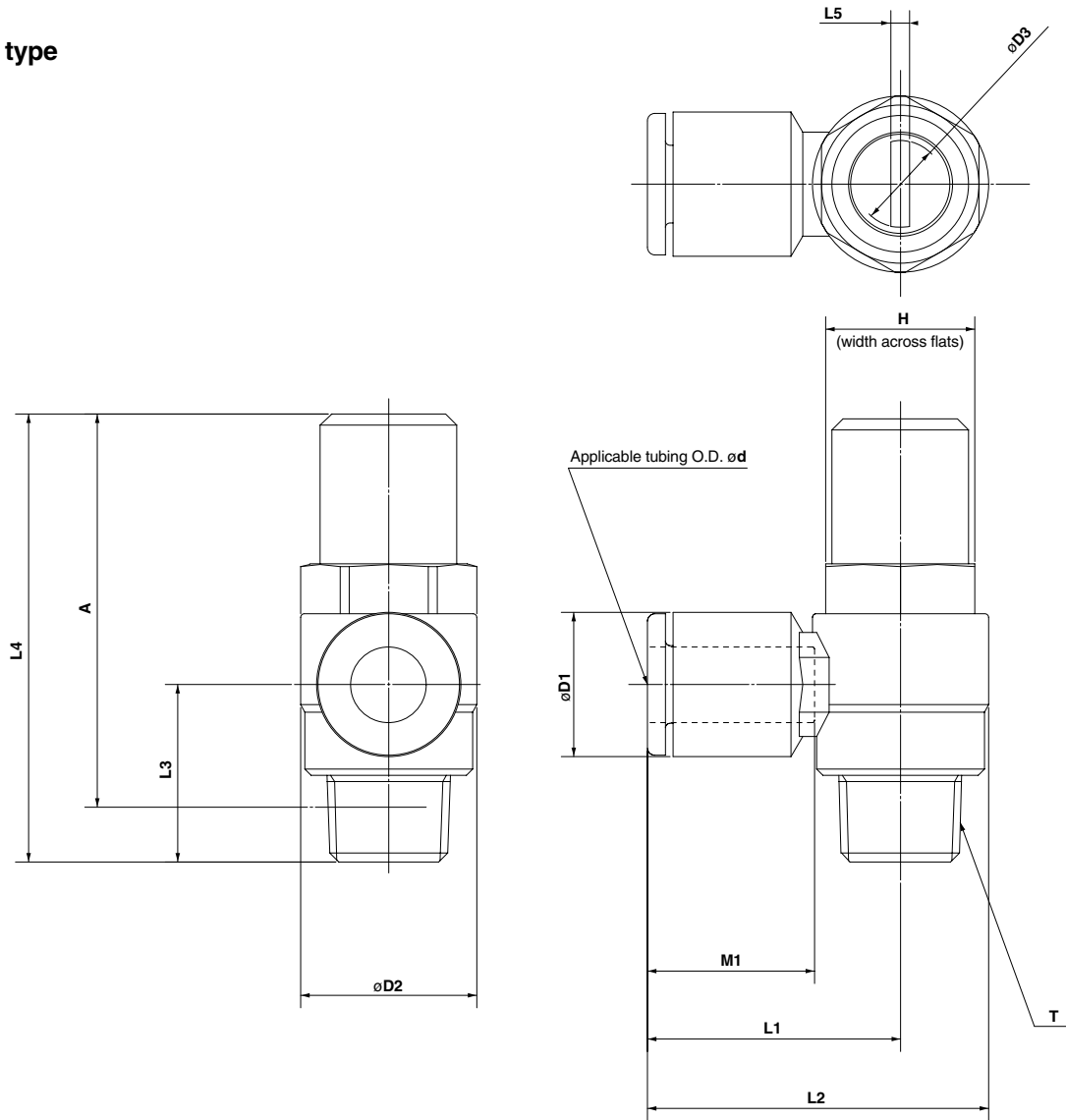
M5	M5 x 0.8
01	R 1/8
02	R 1/4
03	R 3/8
04	R 1/2
U10/32	10-32UNF
N01	NPT1/8
N02	NPT1/4
N03	NPT3/8
N04	NPT1/2

Series AS□□□1F-T

Dimensions (mm)

1in=25.4mm

Elbow type



Metric sizes

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5	A*	M1				
AS12□1F-M5-23D	3.2	M5 x 0.8	8	8.4	9.6	4.7	17.3	22.1	12.3	31	0.7	28.4	12.7				
AS12□1F-M5-04D	4			9.3			22.1	12.3									
AS12□1F-M5-06D	6			11.6			22.9	11.7									
AS22□1F-01-23SD	3.2	R 1/8	12	8.4	14.2	7.2	20.4	27.5	14.3	35.6	1.2	32	12.7				
AS22□1F-01-04SD	4			9.3			27.5	14.3									
AS22□1F-01-06SD	6			11.6			32.4	14.3									
AS22□1F-01-08SD	8			15.2			33.1	40.2	15					21			
AS22□1F-01-10SD	10			18.5			40.2	15									
AS22□1F-02-04SD	4			10.4			25.2	34.4	18.2						40.7	1.2	36.7
AS22□1F-02-06SD	6			12.8			27.2	36.4									
AS22□1F-02-08SD	8	15.2	27.2	36.4													
AS22□1F-02-10SD	10	18.5	33.9	43.2	20	21											
AS32□1F-02-04SD	4	10.4	25.2	34.4	18.2		40.7	1.2	36.7								
AS32□1F-02-06SD	6	12.8	27.2	36.4													
AS32□1F-02-08SD	8	15.2	27.2	36.4													
AS32□1F-02-10SD	10	18.5	33.9	43.2	20	21											
AS32□1F-03-04SD	4	10.4	25.2	34.4	18.2		40.7	1.2	36.7								
AS32□1F-03-06SD	6	12.8	27.2	36.4													
AS32□1F-03-08SD	8	15.2	27.2	36.4													
AS32□1F-03-10SD	10	18.5	33.9	43.2	20	21											
AS32□1F-03-12SD	12	20.9	32.8	44.3	20												
AS42□1F-04-10SD	10	18.5	27.8	39.3	20.9	53.7	1.2	47.7									
AS42□1F-04-12SD	12	20.9	27.8	39.3													
AS42□1F-04-10SD	10	18.5	27.8	39.3	20.9	53.7	1.2	47.7									
AS42□1F-04-12SD	12	20.9	27.8	39.3													

* Reference dimension for M5 x 0.8 and R threads after installation.

Inch sizes

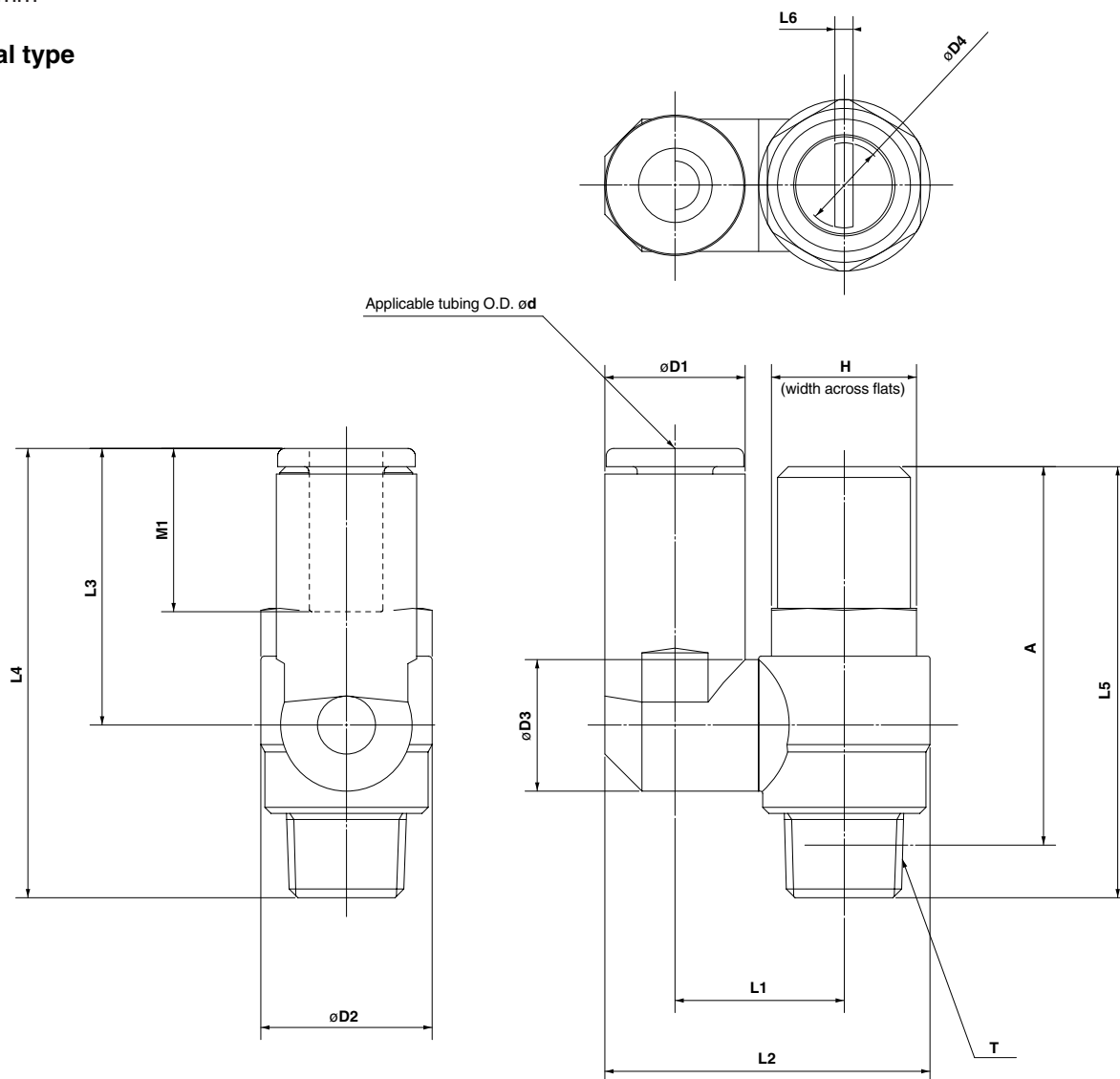
Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5	A*	M1				
AS12□1F-U10/32-01D	1/8"	10-32UNF	8	8.4	9.6	4.7	17.3	22.1	12.3	31	0.7	28.4	12.7				
AS12□1F-U10/32-03D	5/32"			9.3			22.1	12.3									
AS12□1F-U10/32-05D	3/16"			11.4			26.1	11.7									
AS12□1F-U10/32-07D	1/4"	12	18.3	23.1	14.3	35.6	1.2	32	12.7								
AS22□1F-N01-01SD	1/8"	8.4	20.4	27.5													
AS22□1F-N01-03SD	5/32"	9.3	27.5	14.3													
AS22□1F-N01-05SD	3/16"	NPT1/8	12.7	11.4						14.2	7.2	23.1	30.2	21			
AS22□1F-N01-07SD	1/4"	13.2	23.9	31													
AS22□1F-N01-09SD	5/16"	15.2	25.3	32.4						15	21						
AS22□1F-N02-03SD	5/32"	10.4	25.2	34.4													
AS22□1F-N02-05SD	3/16"	11.4	24.9	34.2	18.2	17											
AS22□1F-N02-07SD	1/4"	NPT1/4	17.5	13.2	18.5		7.2	25.2	34.5	40.7	1.2	36.7	18.5				
AS22□1F-N02-09SD	5/16"	15.2	27.2	36.4	20	21											
AS22□1F-N02-11SD	3/8"	17.9	33.9	43.2													
AS32□1F-N02-07SD	1/4"	13.2	27.8	39.3	18.2	47.7	1.2	49.3									
AS32□1F-N02-09SD	5/16"	NPT1/4	19	15.2					23	9.8	29.5	41	21.8	55.3	1.2	49.3	18.5
AS32□1F-N02-11SD	3/8"	17.9	31.8	43.3													
AS32□1F-N03-07SD	1/4"	13.2	27.8	39.3	18.2	47.7	1.2	49.3									
AS32□1F-N03-09SD	5/16"	NPT3/8	19	15.2					23	9.8	29.5	41	20.9	53.7	1.2	47.7	18.5
AS32□1F-N03-11SD	3/8"	17.9	31.8	43.3													
AS42□1F-N04-11SD	3/8"	17.9	33.6	47.9	25.4	63.8	1.2	55.8									
AS42□1F-N04-13SD	1/2"	NPT1/2	23.8	17.9					28.6	12.4	35.2	49.5	25.4	63.8	1.2	55.8	22

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

Dimensions (mm)

1in=25.4mm

Universal type



Metric sizes

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A*	M1
AS13□1F-M5-23D	3.2			8.4				19.8							12.7
AS13□1F-M5-04D	4	M5 x 0.8	8	9.3	9.6	9.3	4.7	10.8	20.3	17.5	28.7	31	0.7	28.4	12.7
AS13□1F-M5-06D	6			11.6					21.4	20.6	31.8				13.5
AS23□1F-01-23SD	3.2			8.4		9.3		13.1	24.4	17.5	31.8				12.7
AS23□1F-01-04SD	4	R 1/8	12	9.3	14.2		7.2		24.9		31.8			32	12.7
AS23□1F-01-06SD	6			11.6		10.9		14	26.9	22.9	37.2	35.6	1.2		13.5
AS23□1F-01-08SD	8			15.2	12.9			16.2	30.9	28.2	41.7				18.5
AS23□1F-02-04SD	4			10.4	10.9			16.2	30.6	21.9	40.1				16
AS23□1F-02-06SD	6	R 1/4	17	12.8	18.5		7.2	18.4	34	25.2	42.6	40.7	1.2	36.7	17
AS23□1F-02-08SD	8			15.2		12.9		18.3	35.2	28.2	45.6				18.5
AS23□1F-02-10SD	10			18.5				20.2	38.7	31	48.4				21
AS33□1F-02-06SD	6			12.8		12.9		20.6	38.5	25.2	47				17
AS33□1F-02-08SD	8	R 1/4	19	15.2	23		9.8		39.7	28.2	50	55.3	1.2	49.3	18.5
AS33□1F-02-10SD	10			18.5				23	43.7	32.6	54.4				21
AS33□1F-02-12SD	12			20.9		16.2		23	44.9	34.4	56.2				22
AS33□1F-03-06SD	6			12.8		12.9		20.6	38.5	25.2	46.1				17
AS33□1F-03-08SD	8	R 3/8	19	15.2	23		9.8		39.7	28.2	49.1	53.7	1.2	47.7	18.5
AS33□1F-03-10SD	10			18.5		16.2		23	43.7	32.6	53.5				21
AS33□1F-03-12SD	12			20.9				23	44.9	34.4	55.3				22
AS43□1F-04-10SD	10			18.5	28.6	16.2	12.4	25.8	49.4	32.6	58	63.8	1.2	55.8	21
AS43□1F-04-12SD	12	R 1/2	24	20.9	19.4			26.8	52	36.3	61.7				22

* Reference dimension for M5 x 0.8 and R threads after installation.

Inch sizes

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A*	M1
AS13□1F-U10/32-01D	1/8"			8.4				19.8							12.7
AS13□1F-U10/32-03D	5/32"	10-32UNF	8	9.3	9.6	9.3	4.7	10.8	20.3	17.5	28.7	31	0.7	28.4	12.7
AS13□1F-U10/32-05D	3/16"			11.4					21.3	23.3	34.5				16.5
AS13□1F-U10/32-07D	1/4"			12					21.6	20.7	31.9				13.7
AS23□1F-N01-01SD	1/8"			8.4		9.3		13.1	24.4	17.5	31.8				12.7
AS23□1F-N01-03SD	5/32"			9.3					24.9		31.8				13.5
AS23□1F-N01-05SD	3/16"	NPT1/8	12.7	11.4	14	10.9	7.2	14	26.8	23.9	35.6	35.6	1.2	32	16.5
AS23□1F-N01-07SD	1/4"			13.2					29.9	25.6	37.2				18.5
AS23□1F-N01-09SD	5/16"			15.2	12.9			16.2	30.9	28.2	41.7				21
AS23□1F-N02-03SD	5/32"			10.4		10.9		16.2	30.6	21.9	40.1				16
AS23□1F-N02-05SD	3/16"			11.4					31.1	23.9	42.6				17
AS23□1F-N02-07SD	1/4"	NPT1/4	17.5	13.2	19	12.9	7.2	18.3	34.2	25.6	45.6	40.7	1.2	36.7	18.5
AS23□1F-N02-09SD	5/16"			15.2	12.9				35.2	28.2	48.4				21
AS23□1F-N02-11SD	3/8"			17.9				20.2	38.7	31	47				21
AS33□1F-N02-07SD	1/4"			13.2		12.9		20.6	38.7	25.6	50				17
AS33□1F-N02-09SD	5/16"	NPT1/4	19	15.2	23	9.8		20.6	39.7	28.2	54.4	55.3	1.2	49.3	18.5
AS33□1F-N02-11SD	3/8"			17.9		16.2		23	43.7	32.6	56.2				21
AS33□1F-N03-07SD	1/4"			13.2		12.9		20.6	38.7	25.6	46.1				17
AS33□1F-N03-09SD	5/16"	NPT3/8	19	15.2	23	9.8		20.6	39.7	28.2	49.1	53.7	1.2	47.7	18.5
AS33□1F-N03-11SD	3/8"			17.9		16.2		23	43.7	32.6	53.5				21
AS43□1F-N04-11SD	3/8"			17.9	29	16.2	12.4	25.8	49.4	32.6	55.3	63.8	1.2	55.8	21
AS43□1F-N04-13SD	1/2"	NPT1/2	23.8	21.7	19.4			26.8	52	36.3	58				22

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

Flat Head Screw Driver Adjustable Speed Controller with One-Touch Fittings

Series AS 1F-D

In-line Type



Models

Model	Applicable tubing O.D.												Applicable cylinder bore size (mm)	
	Metric sizes						Inch sizes							
	3.2	4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"		1/2"
AS1001F	●	●	●				●	●	●	●				6, 10, 16, 20
AS2001F		●	●					●	●	●				20, 25, 32
AS2051F			●	●					●	●	●			20, 25, 32, 40
AS3001F			●	●	●	●				●	●	●		40, 50, 63
AS4001F					●	●						●	●	63, 80, 100

Specifications

Proof pressure	1.5MPa (218psi)
Maximum operating pressure	1MPa (145psi)
Minimum operating pressure	0.1MPa (14.5psi)
Ambient and fluid temperature	-5 to 60°C (23° to 140°F) [with no freezing]
Number of needle rotations	10 rotations (8 rotations <small>Note 1</small>)
Applicable tubing material <small>Note 2</small>	Nylon, Soft nylon, Polyurethane

Note 1) For type AS1001F

Note 2) Use caution regarding the maximum operating pressure with soft nylon and polyurethane. (Refer to CAT.E501-B "Air Fittings and Tubing" pages 143 and 144 for details.)

Flow Rate and Effective Area

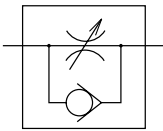
Model	AS1001F	AS2001F	AS2051F	AS3001F	AS4001F						
Tubing O.D.	Metric sizes	ø3.2, ø4, ø6	ø4, ø6	ø6, ø8	ø6, ø8, ø10, ø12						
	Inch sizes	ø1/8", ø5/32", ø3/16", ø1/4"	ø5/32", ø3/16", ø1/4"	ø3/16", ø1/4", ø5/16"	ø1/4", ø5/16", ø3/8", ø3/8", ø1/2"						
Controlled (Free) flow	Flow rate $\frac{d}{min}$ (ANR) $\frac{L}{min}$	100	130	230	290	460	420	660	920	1050	1390
	Effective area mm ²	1.5	2	3.5	4.5	7	6.5	10	14	16	21

Note 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

$\frac{1}{min} = 0.035 SCFM$
 $18mm^2 = 1Cv$

How to Order

JIS symbol



Flow direction symbol on body



AS 200 1F — 06 D

Body size

100	M5 standard
200	1/8 standard
205	1/4 standard
300	3/8 standard
400	1/2 standard

With One-touch fitting

Flat head screw driver adjustable type

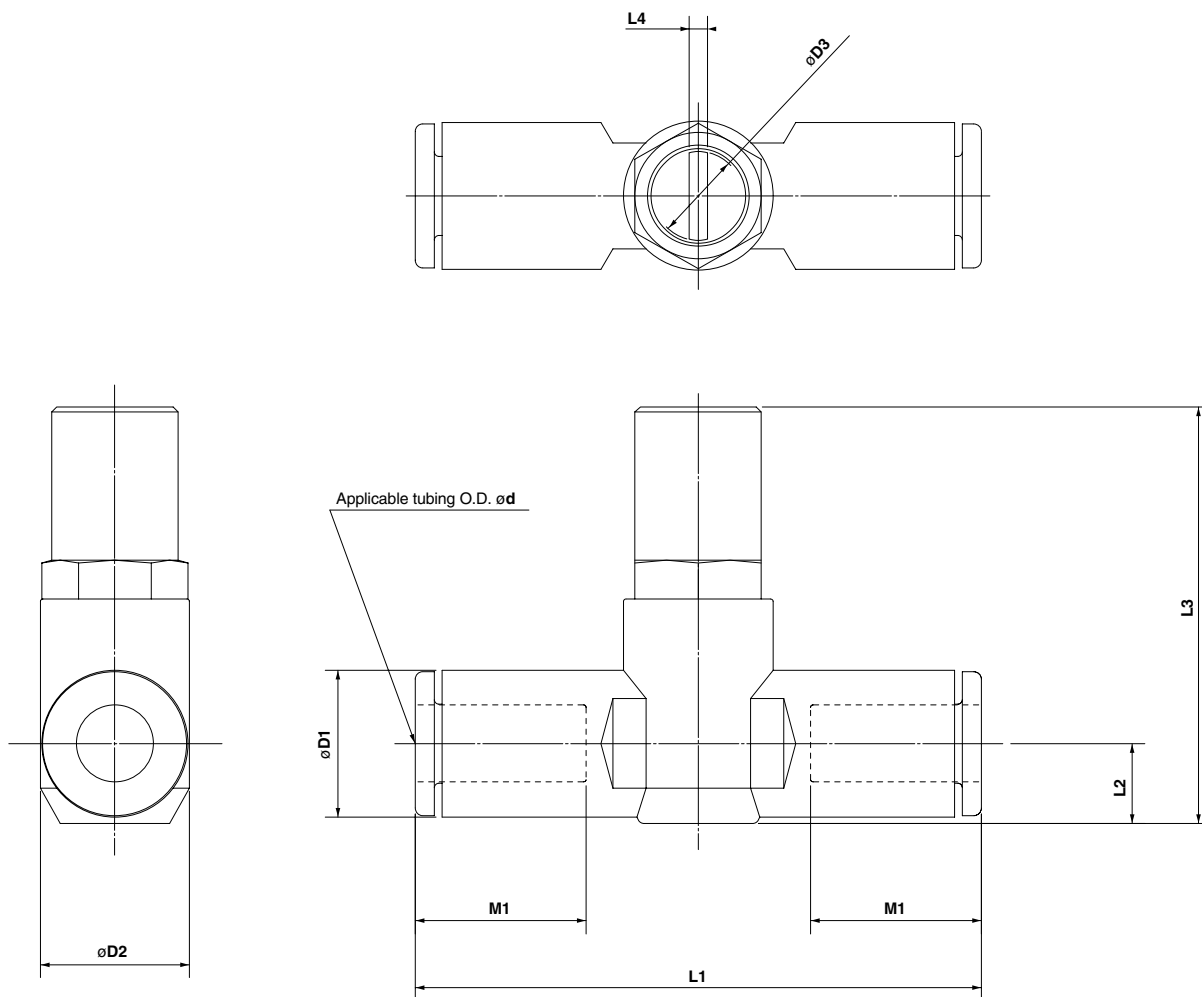
Applicable tubing O.D.

Metric sizes	Inch sizes
23	ø3.2"
01	ø1/8"
04	ø4
03	ø5/32"
06	ø6
05	ø3/16"
08	ø8
07	ø1/4"
10	ø10
09	ø5/16"
12	ø12
11	ø3/8"
13	ø1/2"

* Use ø1/8" tubing.

Dimensions (mm)

1in=25.4mm



Metric sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	M1
AS1001F-23D	3.2	8.4	10	4.7	38	4.5	26	0.7	12.7
AS1001F-04D	4	9.3			39.2	5.2	26.6		
AS1001F-06D	6	11.6	11.8	7.2	40.7	6.2	27.7	1.2	13.5
AS2001F-04D	4	9.3			40.7	5.2	31.9		
AS2001F-06D	6	11.6	14.8	7.2	44.8	6.3	33	1.2	13.5
AS2051F-06D	6	12.8			53.2	6.7	35.2		
AS2051F-08D	8	15.2	19.8	9.8	59.8	8.1	36.5	1.2	18
AS3001F-06D	6	12.8			59	7.4	45		
AS3001F-08D	8	15.2	26.5	12.4	64.4	8.2	45.8	1.2	18
AS3001F-10D	10	18.5			71.6	9.8	47.3		
AS3001F-12D	12	20.9	26.5	12.4	76	11	48.5	1.2	22
AS4001F-10D	10	18.5			82	11.3	55.4		
AS4001F-12D	12	20.9					56.4		22

Inch sizes

Model	d	D1	D2	D3	L1	L2	L3	L4	M1
AS1001F-01D	1/8"	8.4	10	4.7	38	4.5	26	0.7	12.7
AS1001F-03D	5/32"	9.3			39.2	5.2	26.6		
AS1001F-05D	3/16"	11.4	11.8	7.2	40.7	6.2	27.7	1.2	13.5
AS1001F-07D	1/4"	12			40.7	5.2	31.9		
AS2001F-03D	5/32"	9.3	14.8	7.2	40.7	5.2	31.9	1.2	12.7
AS2001F-05D	3/16"	11.4			50	6.2	32.8		
AS2001F-07D	1/4"	13.2	19.8	9.8	52.2	7.1	33.7	1.2	17
AS2051F-05D	3/16"	11.4			52.2	6.2	34.9		
AS2051F-07D	1/4"	13.2	26.5	12.4	54.4	7.1	35.7	1.2	17
AS2051F-09D	5/16"	15.2			59.8	8.1	36.7		
AS3001F-07D	1/4"	13.2	26.5	12.4	59	7.4	45.2	1.2	17
AS3001F-09D	5/16"	15.2			64.4	8.2	46		
AS3001F-11D	3/8"	17.9	26.5	12.4	70.8	9.5	47.2	1.2	21
AS4001F-11D	3/8"	17.9			76.9	10.3	55.5		
AS4001F-13D	1/2"	21.7			83.1	11.6	56.9		22

Flat Head Screw Driver Adjustable Dual Speed Controller with One-Touch Fitting

Series ASD□□□F-D

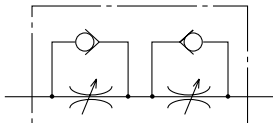
Models



Model	Port size	Applicable tubing O.D.													
		Metric sizes					Inch sizes								
		4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"	3/8"			
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	10-32UNF						●	●	●	●					
ASD330F-N01	NPT1/8								●	●	●				
ASD430F-N02	NPT1/4									●	●	●			
ASD530F-N02	NPT1/4									●	●	●			
ASD530F-N03	NPT3/8									●	●	●			
ASD630F-N04	NPT1/2											●			

Specifications

JIS symbol



Proof pressure	1.5MPa (218psi)
Maximum operating pressure	1MPa (145psi)
Minimum operating pressure	0.1MPa (14.5psi)
Ambient and fluid temperature	-5 to 60°C (23° to 140°F) [with no freezing]
Number of needle rotations	10 rotations (8 rotations Note 1))
Applicable tubing material Note 2)	Nylon, Soft nylon, Polyurethane

Note 1) For type ASD230F

Note 2) Use caution regarding the maximum operating pressure with soft nylon and polyurethane.
(Refer to CAT.E501-B "Air Fittings and Tubing" pages 143 and 144 for details.)

Note 3) On standard products, all brass parts are electroless nickel plated.

Flow direction symbols on body

	Meter-out type	Meter-in type
Symbol		
JIS symbol		

Flow Rate and Effective Area

Model	ASD230F	ASD330F	ASD430F		ASD530F			ASD630F		
			ø6	ø8, ø10	ø6	ø8	ø10, ø12	ø10	ø12	
Tubing O.D.	Metric sizes	ø4, ø6	ø6, ø8	ø6	ø8, ø10	ø6	ø8	ø10, ø12	ø10	ø12
	Inch sizes	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 rate $\frac{l}{min}$ (ANR) (Nl/min)	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 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

$\frac{l}{min} = 0.035 SCFM$
 $18mm^2 = 1Cv$

How to Order

ASD **3** **3** **0** **F** — **01** — **06** **S** **D**

Body size

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

Type

3	Universal
---	-----------

With One-touch fitting

Flat head screw driver adjustable type

With sealant

Note) Sealant is not provided for ports with M5 and 10-32UNF threads. These are available with gaskets as standard.

Applicable tubing O.D.

Metric sizes		Inch sizes	
04	ø4	01	ø1/8"
06	ø6	03	ø5/32"
08	ø8	05	ø3/16"
10	ø10	07	ø1/4"
12	ø12	09	ø5/16"
		11	ø3/8"

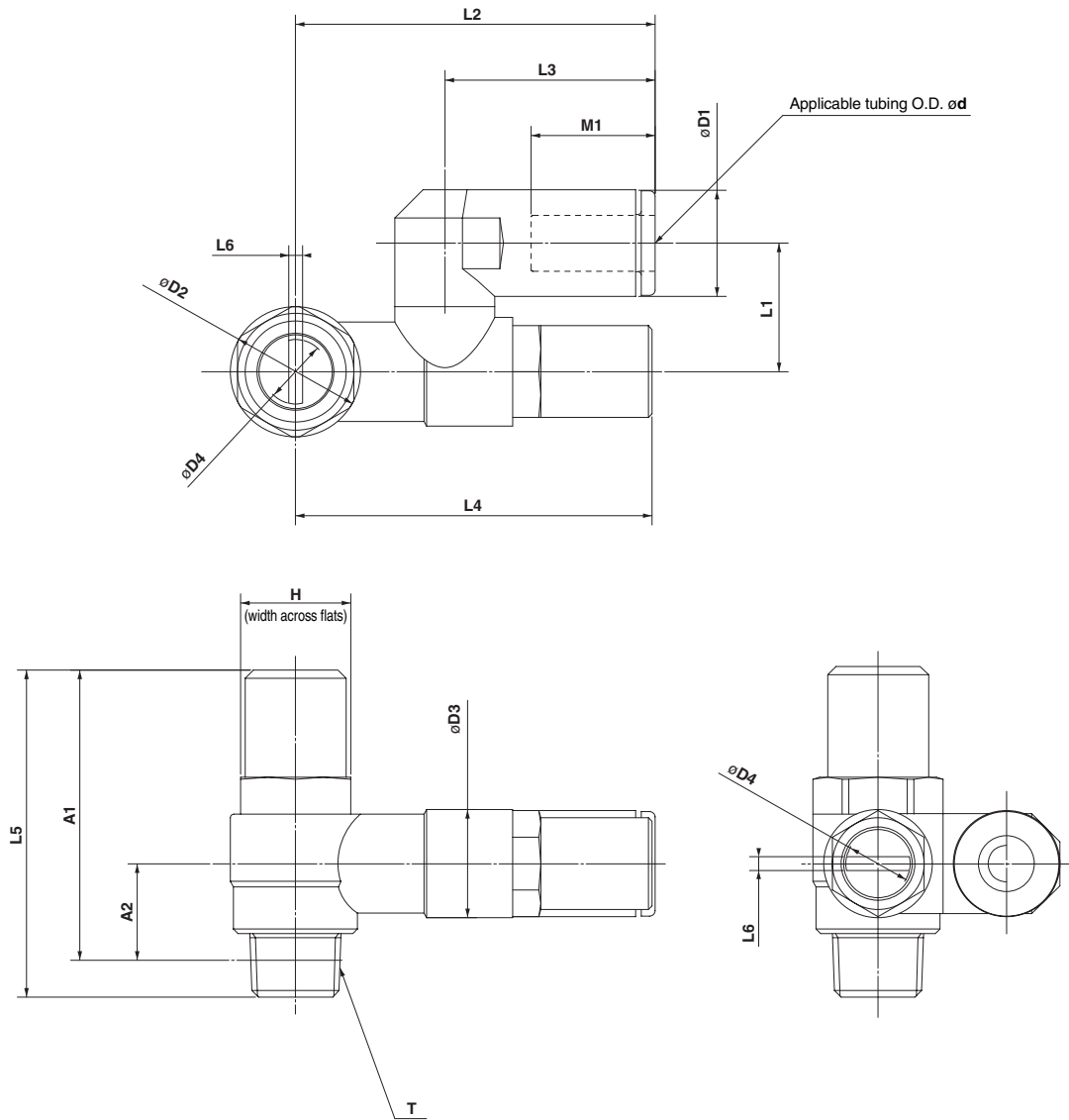
Port size

M5	M5 x 0.8
01	R 1/8
02	R 1/4
03	R 3/8
04	R 1/2
U10/32	10-32UNF
N01	NPT1/8
N02	NPT1/4
N03	NPT3/8
N04	NPT1/2

Dimensions (mm)

1in=25.4mm

Metric sizes



Metric sizes

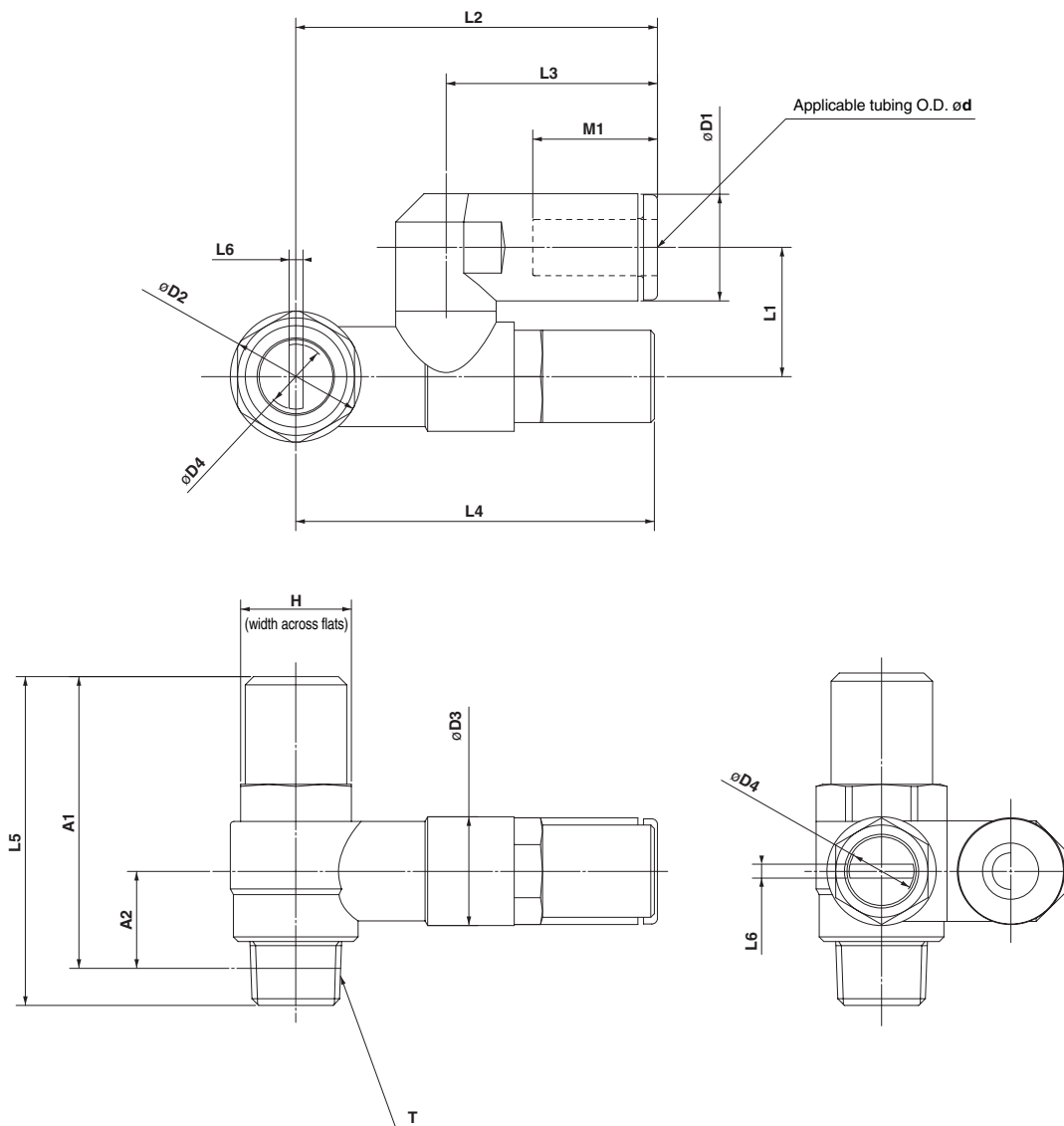
Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A1*	A2*	M1
ASD230F-M5-04D	4	M5 x 0.8	8	9.3	9.6	10	4.7	11.7	29.4	17.5	30.7	31	0.7	28.4	7.8	12.9
ASD230F-M5-06D	6			11.6					32.5	20.6						13.7
ASD330F-01-06SD	6	R 1/8	12	11.6	14.2	11.8	7.2	14	38.5	22.9	38.9	35.6	1.2	32	10.6	13.7
ASD330F-01-08SD	8			15.2				44.8	28.2	18.5						
ASD430F-02-06SD	6	R 1/4	17	12.8	18.5	15	7.2	18	43.5	25.2	41.7	40.7	1.2	36.7	11	17
ASD430F-02-08SD	8			15.2				46.5	28.2	18.5						
ASD430F-02-10SD	10			18.5				19.7	49.3	31						21
ASD530F-02-06SD	6	R 1/4	19	12.8	23	19.8	9.8	20.3	48.3	25.2	53.7	55.3	1.2	49.3	15.4	17
ASD530F-02-08SD	8			51.3					28.2	18.5						
ASD530F-02-10SD	10			18.5				54.1	32.6	21						
ASD530F-02-12SD	12			20.9				55.9	34.4	22						
ASD530F-03-06SD	6	R 3/8	19	12.8	23	19.8	9.8	20.3	48.3	25.2	53.7	53.7	1.2	47.7	14	17
ASD530F-03-08SD	8			51.3					28.2	18.5						
ASD530F-03-10SD	10			18.5				54.1	32.6	21						
ASD530F-03-12SD	12			20.9				55.9	34.4	22						
ASD630F-04-10SD	10	R 1/2	24	18.5	28.6	26.5	12.4	25.9	64.3	32.6	69.1	63.8	1.2	55.8	18.6	21
ASD630F-04-12SD	12			20.9					66.1	34.4						22

* Reference dimension for M5 x 0.8 and R threads after installation.

Dimensions (mm)

1in=25.4mm

Inch sizes



Inch sizes

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A1*	A2*	M1
ASD230F-U10/32-01D	1/8"	10-32UNF	8	8.4	9.6	10	4.7	11.7	29.4	17.5	30.7	31	0.7	28.4	7.8	12.9
ASD230F-U10/32-03D	5/32"			9.3					35.2	23.3						
ASD230F-U10/32-05D	3/16"			11.4					32.6	20.7						
ASD230F-U10/32-07D	1/4"			12					32.6	20.7						
ASD330F-N01-05SD	3/16"	NPT1/8	12.7	11.6	14.2	11.8	7.2	14	38.5	23.9	38.9	35.6	1.2	31.6	10.6	16.5
ASD330F-N01-07SD	1/4"			13.2				42.2	25.6	17						
ASD330F-N01-09SD	5/16"			15.2				44.8	28.2	18.5						
ASD430F-N02-07SD	1/4"	NPT1/4	17.5	13.2	18.5	15	7.2	18	43.9	25.6	41.7	40.7	1.2	36.9	11	17
ASD430F-N02-09SD	5/16"			15.2				46.5	28.2	18.5						
ASD430F-N02-11SD	3/8"			18.5				49.3	31	21						
ASD530F-N02-07SD	1/4"	NPT1/4	19	13.2	23	19.8	9.8	20.3	48.7	25.6	53.7	55.3	1.2	49.5	15.4	17
ASD530F-N02-09SD	5/16"			15.2				51.3	28.2	18.5						
ASD530F-N02-11SD	3/8"			18.5				54.1	32.6	21						
ASD530F-N03-07SD	1/4"	NPT3/8	19	13.2	23	19.8	9.8	20.3	48.7	25.6	53.7	53.7	1.2	48	14	17
ASD530F-N03-09SD	5/16"			15.2				51.3	28.2	18.5						
ASD530F-N03-11SD	3/8"			18.5				54.1	32.6	21						
ASD630F-N04-11SD	3/8"	NPT1/2	23.8	18.5	28.6	26.5	12.4	25.9	64.3	32.6	69.1	63.8	1.2	56.1	18.6	21

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

Flat Head Screw Driver Adjustable Speed Controller/Standard Type

Series AS□2□0-D Metal Elbow Type

Specifications



Specifications	Model	AS12□0-M5	AS12□0-U10/32	AS22□0-□01	AS22□0-□02	AS32□0-□02	AS32□0-□03	AS42□0-□04
Port size		M5 x 0.8	10-32UNF	1/8	1/4	1/4	3/8	1/2
Applicable cylinder bore size (mm)		6, 10, 16, 20, 25		20, 25, 32, 40		32, 40, 50, 63		80, 100
Proof pressure		1.5MPa (218psi)						
Maximum operating pressure		1MPa (145psi)						
Minimum operating pressure		0.1MPa (14.5psi)						
Ambient and fluid temperature		-5 to 60°C (23° to 140°F) [with no freezing]						
Number of needle rotations		8 rotations			10 rotations			
Controlled flow (Free)	Flow rate z/min (ANR) (Nz/min)	105	230	460	920	1700		
	Effective area mm ²	1.6	3.5	7	14	26		

Note 1) Flow rate values are at a pressure of 0.5MPa (72.5psi) and temperature of 20°C (68°F).

Note 2) Meter-out and meter-in types can be visually distinguished by the flow direction symbol on the metal body.

Note 3) On standard products, all brass parts are electroless nickel plated.

1z/min=0.035SCFM
18mm²=1Cv

How to Order

AS **2** **2** **0** **0** - **01** - **S** **D**

Body size

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

Type

2	Elbow
---	-------

Control type

0	Meter-out
1	Meter-in

Flat head screw driver adjustable type

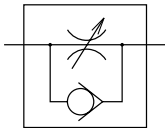
With sealant

Note) Sealant is not provided for ports with M5 and 10-32UNF threads. These are available with gaskets as standard.

Port size

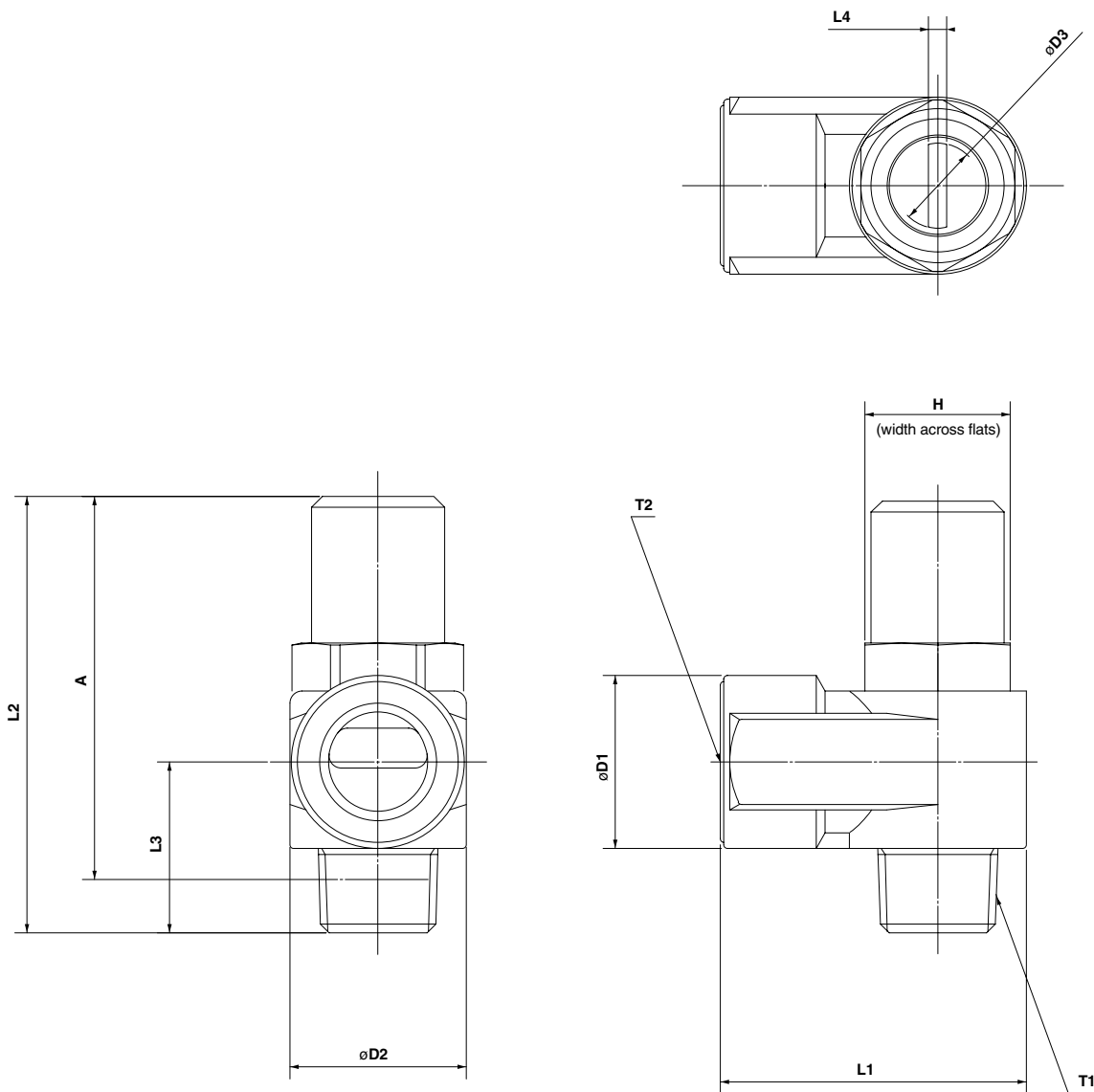
Symbol	Cylinder side	Solenoid valve side
M5	M5 x 0.8	M5 x 0.8
01	R 1/8	Rc 1/8
02	R 1/4	Rc 1/4
03	R 3/8	Rc 3/8
04	R 1/2	Rc 1/2
F01	R 1/8	PF1/8
F02	R 1/4	PF1/4
F03	R 3/8	PF3/8
F04	R 1/2	PF1/2
U10/32	10-32UNF	10-32UNF
N01	NPT1/8	NPT1/8
N02	NPT1/4	NPT1/4
N03	NPT3/8	NPT3/8
N04	NPT1/2	NPT1/2

JIS symbol



Dimensions (mm)

1in=25.4mm



Dimensions

Model	T1	T2	H	D1	D2	D3	L1	L2	L3	L4	A*
AS12□0-M5-D	M5 x 0.8	M5 x 0.8	8	9	9	4.7	10	31	10.3	0.7	28.4
AS12□0-U10/32-D	10-32UNF	10-32UNF									
AS22□0-01-SD	R 1/8	Rc 1/8	12	14.3	14.6	7.2	18	35.6	14.1	1.2	32
AS22□0-F01-SD		PF1/8									
AS22□0-N01-SD	NPT1/8	NPT1/8	12.7	18	19.5	7.2	27.2	40.7	18	1.2	36.7
AS22□0-02-SD	R 1/4	Rc 1/4									
AS22□0-F02-SD	NPT1/4	PF1/4	17.5	22.5	24.3	9.8	30	55.3	22.4	1.2	49.3
AS22□0-N02-SD		NPT1/4									
AS32□0-02-SD	R 1/4	Rc 1/4	19	22.5	24.3	9.8	30	53.7	20.8	1.2	47.7
AS32□0-F02-SD	R 3/8	PF3/8									
AS32□0-N02-SD	NPT1/4	NPT1/4	19	22.5	24.3	9.8	30	53.7	20.8	1.2	47.7
AS32□0-03-SD	R 3/8	Rc 3/8									
AS32□0-F03-SD	NPT3/8	PF3/8	24	27.5	28.5	12.4	38.5	63.8	26.7	1.2	55.8
AS32□0-N03-SD		NPT3/8									
AS42□0-04-SD	R 1/2	Rc 1/2	23.8	27.5	28.5	12.4	38.5	63.8	26.7	1.2	55.8
AS42□0-F04-SD	R 1/2	PF1/2									
AS42□0-N04-SD	NPT1/2	NPT1/2									

*Reference dimension for threads after installation

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