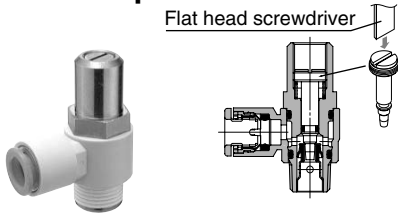


Speed Controller Adjustable by Flat Head Screwdriver with One-touch Fitting

Series AS□□□1F-D

Elbow Type/Universal Type

Flow adjustable by flat head screwdriver
Prevention of an unnecessary manual operation



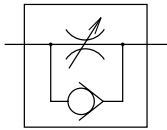
Elbow type



Universal type



JIS Symbol



Flow Direction Symbols on Body

	Meter-out type	Meter-in type
Symbol		
JIS Symbol		

Model

Elbow type	Universal type	Port size	Applicable tubing O.D.												Applicable cylinder bore size (mm)		
			Metric size						Inch size								
			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	10-32 UNF								●	●	●	●				6, 10, 16, 20
AS22□1F-N01	AS23□1F-N01	NPT 1/8								●	●	●	●	●			20, 25, 32
AS22□1F-N02	AS23□1F-N02	NPT 1/4									●	●	●	●	●		20, 25, 32, 40
AS32□1F-N02	AS33□1F-N02	NPT 1/4										●	●	●	●		40, 50, 63
AS32□1F-N03	AS33□1F-N03	NPT 3/8											●	●	●		40, 50, 63
AS42□1F-N04	AS43□1F-N04	NPT 1/2													●	●	63, 80, 100

Note 1) * Elbow type only

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

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

Note 1) In the case of AS121□F-M5 and AS12□1F-U10/32 types
AS13□1F-M5, AS13□1F-U10/32

Note 2) Use caution regarding the max. operating pressure when soft nylon or polyurethane tubing is used. (Refer to pages 15-6-3 to 15-6-5 for details.)

Note 3) Brass parts are all electroless nickel plated, provided as standard.

Flow Rate and Effective Area

Model	AS12□1F AS13□1F	AS22□1F-□01 AS23□1F-□01	AS22□1F-□02 AS23□1F-□02	AS32□1F AS33□1F		AS42□1F AS43□1F						
	Metric size	3.2, 4, 6	3.2, 4, 6, 8, 10	4, 6, 8, 10	6, 8, 10, 12	10, 12	10, 12					
Tubing O.D.	Inch size	1/8", 5/32", 3/16", 1/4"	1/8", 5/32", 5/16"	3/16", 1/4", 5/16", 3/8"	1/4", 5/16"	3/8"	3/8", 1/2"					
Controlled flow (Free flow)	Flow rate (l/min (ANR))	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) Flow rate values are measured at 0.5 MPa and 20°C.

AS

ASP

ASN

AQ

ASV

AK

ASS

ASR

ASF

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

0	Meter-out
1	Meter-in

With One-touch fitting

Type adjustable by flat head screwdriver

With seal

Note) In the case that connecting port is either M5 or 10-32 UNF thread, it is not available with seal. With gasket is provided as standard.

Applicable tubing O.D.

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

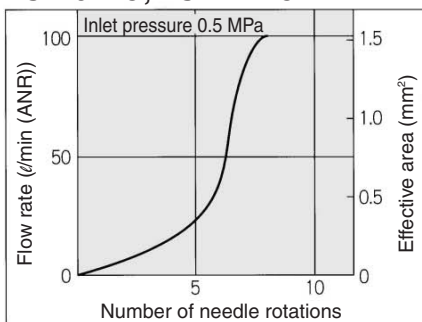
* Use ø1/8" tube.

Port size

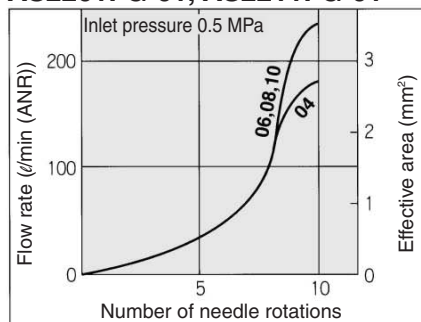
M5	M5 x 0.8
01	R 1/8
02	R 1/4
03	R 3/8
04	R 1/2
U10/32	10-32 UNF
N01	NPT 1/8
N02	NPT 1/4
N03	NPT 3/8
N04	NPT 1/2

Needle Valve/Flow Characteristics

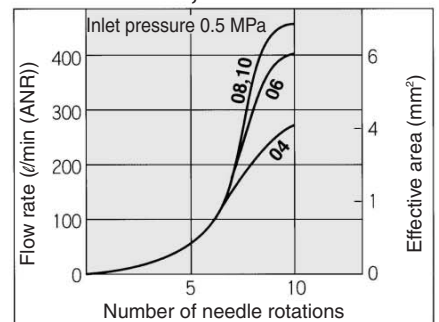
AS1201FG, AS1211FG



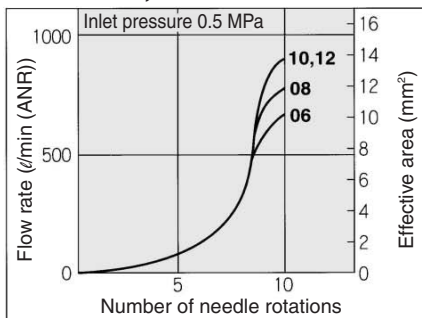
AS2201FG-01, AS2211FG-01



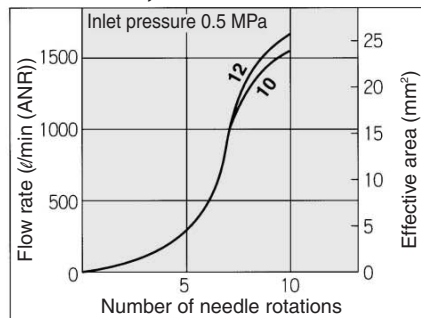
AS2201FG-02, AS2211FG-02



AS3201FG, AS3211FG



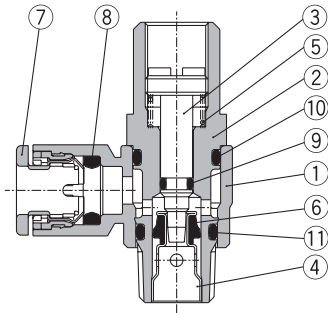
AS4201FG, AS4211FG



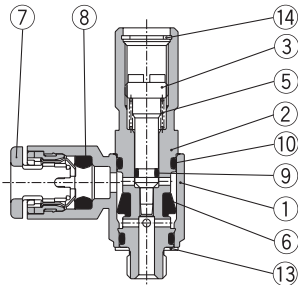
**Speed Controller Adjustable by Flat Head Screwdriver
With One-touch Fitting, Elbow Type/Universal Type**

Construction

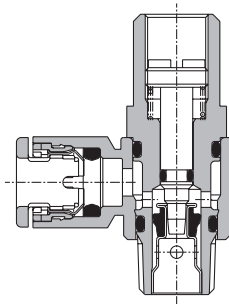
**Elbow type
Meter-out type**



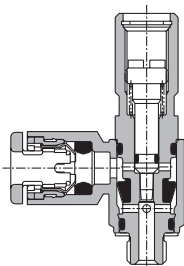
**M5 type
U10/32 port**



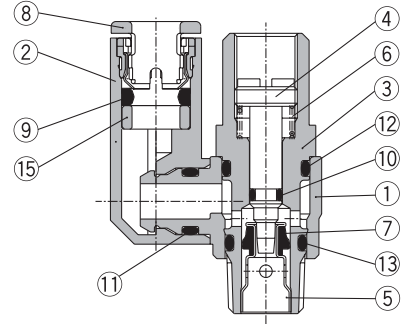
Meter-in type



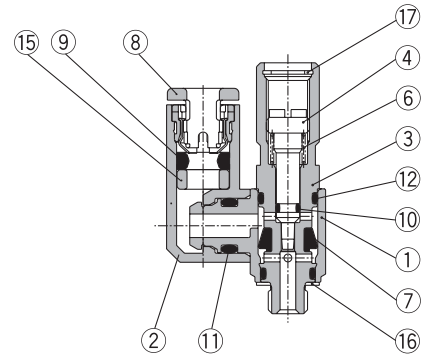
**M5 type
U10/32 port**



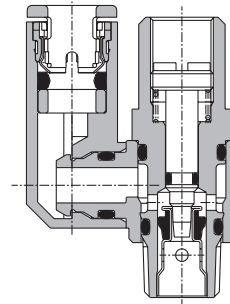
**Universal type
Meter-out type**



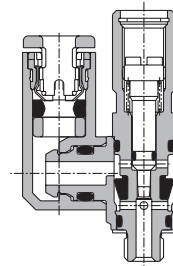
**M5 type
U10/32 port**



Meter-in type



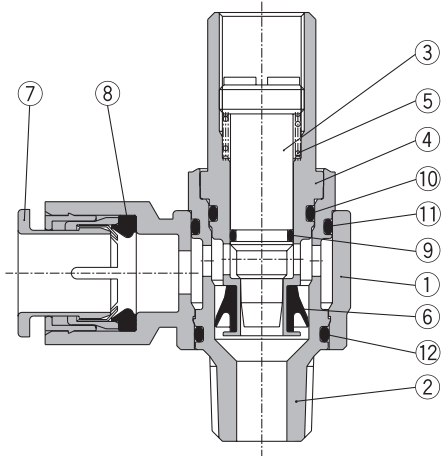
**M5 type
U10/32 port**



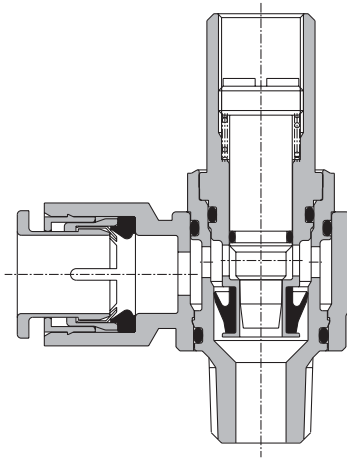
- AS
- ASP
- ASN
- AQ
- ASV
- AK
- ASS
- ASR
- ASF

Construction

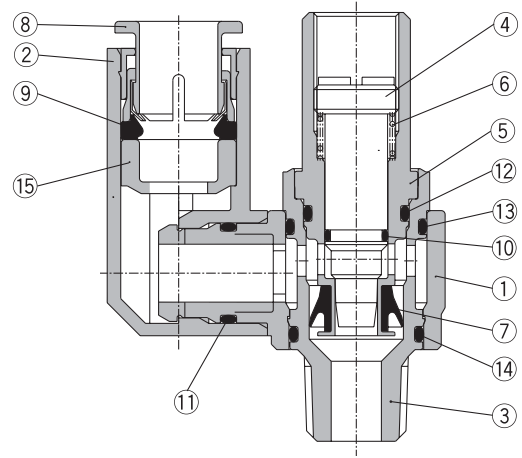
Elbow type Meter-out AS3201F-02



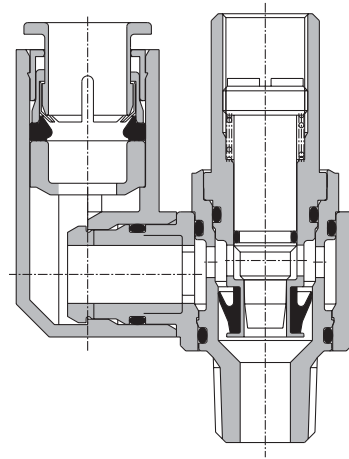
Meter-out AS3301F-02



Universal type Meter-out AS3301F-02



Meter-out AS3311F-02



Component Parts

No.	Description	Material	Note
①	Body A	PBT	
②	Body B	Brass	Electroless nickel plated
③	Needle	Brass	Electroless nickel plated
④	Seat ring	Brass	Electroless nickel plated
⑤	Spring	Steel wire	
⑥	U seal	HNBR	
⑦	Cassette	POM, Stainless steel ^{Note)}	
⑧	Seal	NBR	
⑨	O-ring	NBR	
⑩	O-ring	NBR	
⑪	O-ring	NBR	
⑫	O-ring	POM	
⑬	Gasket	NBR, Stainless steel	
⑭	Retaining ring for hole type C	Tool steel	

Note) $\phi 10$, $\phi 12$, $\phi 1/8$ ", $\phi 1/2$ " are made of POM, stainless steel, brass (Electroless nickel plated).

Component Parts

No.	Description	Material	Note
①	Body A	PBT	
②	Elbow body	PBT	
③	Body B	Brass	Electroless nickel plated
④	Needle	Brass	Electroless nickel plated
⑤	Seat ring	Brass	Electroless nickel plated
⑥	Spring	Steel wire	
⑦	U seal	HNBR	
⑧	Cassette	POM, Stainless steel ⁽¹⁾	
⑨	Seal	NBR	
⑩	O-ring	NBR	
⑪	O-ring	NBR	
⑫	O-ring	NBR	
⑬	O-ring	NBR	
⑭	O-ring	NBR	
⑮	Spacer	POM ⁽²⁾	
⑯	Gasket	NBR, Stainless steel	
⑰	Retaining ring for hole type C	Tool steel	

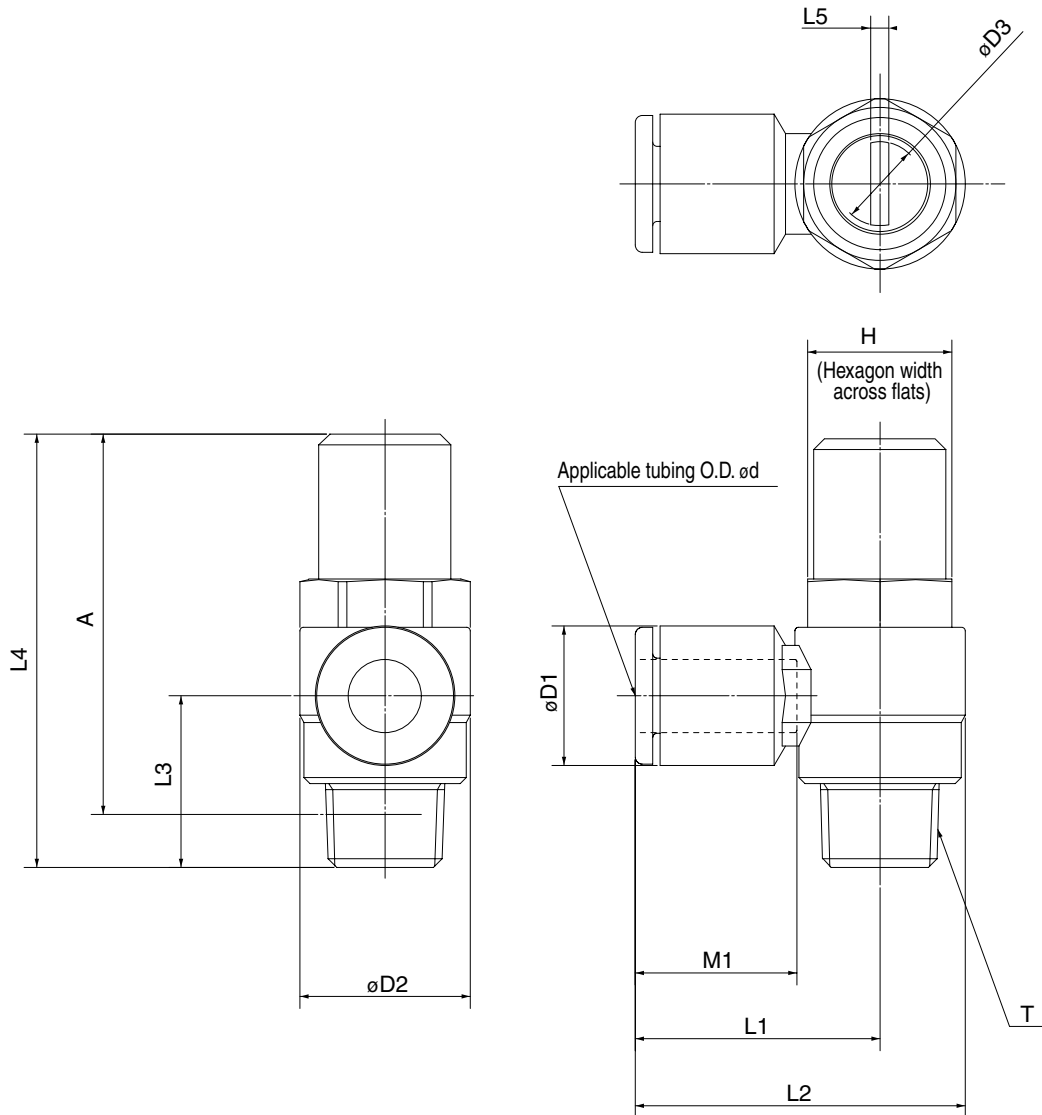
Note 1) $\phi 3/16$ ", $\phi 5/16$ ", $\phi 3/8$ ", $\phi 1/2$ " are made of POM, stainless steel, brass (Electroless nickel plated).

Note 2) $\phi 3/16$ ", $\phi 3/8$ ", $\phi 1/2$ " are made of brass (Electroless nickel plated).

Speed Controller Adjustable by Flat Head Screwdriver With One-touch Fitting, Elbow Type/Universal Type

Dimensions

Elbow type



- AS
- ASP
- ASN
- AQ
- ASV
- AK
- ASS
- ASR
- ASF

Metric Size

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	27.4	12.7						
AS12□1F-M5-04D	4			9.3										18.1	22.9	11.7			
AS12□1F-M5-06D	6			11.6										20.4	27.5	14.3			
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	31.6	13.5						
AS22□1F-01-04SD	4			9.3										25.3	32.4	15			
AS22□1F-01-06SD	6			11.6										33.1	40.2	15			
AS22□1F-01-08SD	8	15.2	33.1	40.2	15	21	16												
AS22□1F-01-10SD	10	18.5	33.1	40.2	15	21	17												
AS22□1F-02-04SD	4	R 1/4	17	10.4	18.5	7.2	25.2	34.4	18.2	40.7	1.2	34.7	18.5						
AS22□1F-02-06SD	6			12.8										27.2	36.4	20			
AS22□1F-02-08SD	8			15.2										33.9	43.2	20			
AS22□1F-02-10SD	10	18.5	33.9	43.2	20	21	17												
AS32□1F-02-06SD	6	R 1/4	19	12.8	23	9.8	27.8	39.3	21.8	55.3	1.2	49.3	18.5						
AS32□1F-02-08SD	8			15.2										29.5	41	20.9	53.7	1.2	47.4
AS32□1F-02-10SD	10			18.5										31.8	43.3	20.9	53.7	1.2	47.4
AS32□1F-02-12SD	12	20.9	32.8	44.3	20.9	53.7	1.2	47.4											
AS32□1F-03-06SD	6	R 3/8	19	12.8	23	9.8	27.8	39.3	20.9	53.7	1.2	47.4	18.5						
AS32□1F-03-08SD	8			15.2										29.5	41	20.9	53.7	1.2	47.4
AS32□1F-03-10SD	10			18.5										31.8	43.3	20.9	53.7	1.2	47.4
AS32□1F-03-12SD	12	20.9	32.8	44.3	20.9	53.7	1.2	47.4											
AS42□1F-04-10SD	10	R 1/2	24	18.5	28.6	12.4	33.6	47.9	25.4	63.8	1.2	55.8	21						
AS42□1F-04-12SD	12			20.9										34.6	48.9	25.4	63.8	1.2	55.8

* Reference dimensions of M5 x 0.8, R threads after installation.

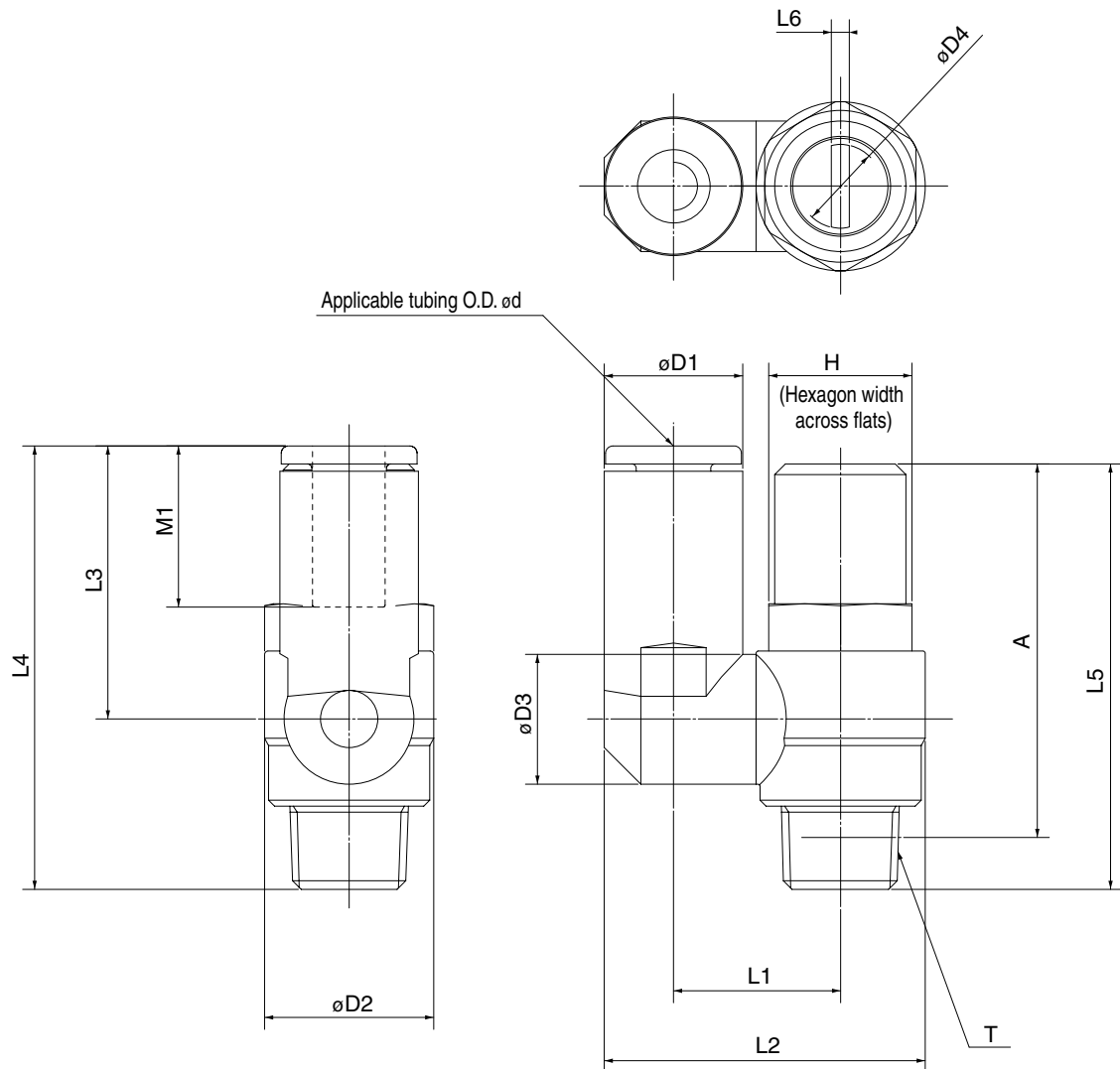
Inch Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5	A*	M1						
AS12□1F-U10/32-01D	1/8"	10-32 UNF	8	8.4	9.6	4.7	17.3	22.1	12.3	31	0.7	27.4	12.7						
AS12□1F-U10/32-03D	5/32"			9.3										18.1	22.9	11.7			
AS12□1F-U10/32-05D	3/16"			11.4										20.4	27.5	14.3			
AS12□1F-U10/32-07D	1/4"	12	20.4	27.5	14.3	13.5													
AS22□1F-N01-01SD	1/8"	NPT 1/8	12.7	8.4	14.2	7.2	20.4	27.5	14.3	35.6	1.2	31.6	12.7						
AS22□1F-N01-03SD	5/32"			9.3										23.1	30.2	14.3	35.6	1.2	31.6
AS22□1F-N01-05SD	3/16"			11.4										23.1	30.2	14.3	35.6	1.2	31.6
AS22□1F-N01-07SD	1/4"	13.2	23.1	30.2	14.3	35.6	1.2	31.6											
AS22□1F-N01-09SD	5/16"	15.2	23.1	30.2	14.3	35.6	1.2	31.6											
AS22□1F-N02-03SD	5/32"	NPT 1/4	17.5	10.4	18.5	7.2	25.2	34.4	18.2	40.7	1.2	34.7	16						
AS22□1F-N02-05SD	3/16"			11.4										24.9	34.2	18.2	40.7	1.2	34.7
AS22□1F-N02-07SD	1/4"			13.2										24.9	34.2	18.2	40.7	1.2	34.7
AS22□1F-N02-09SD	5/16"	15.2	24.9	34.2	18.2	40.7	1.2	34.7											
AS22□1F-N02-11SD	3/8"	17.9	24.9	34.2	18.2	40.7	1.2	34.7											
AS32□1F-N02-07SD	1/4"	NPT 1/4	19	13.2	23	9.8	27.8	39.3	21.8	55.3	1.2	49.3	17						
AS32□1F-N02-09SD	5/16"			15.2										29.5	41	21.8	55.3	1.2	49.3
AS32□1F-N02-11SD	3/8"			17.9										29.5	41	21.8	55.3	1.2	49.3
AS32□1F-N03-07SD	1/4"	NPT 3/8	19	13.2	23	9.8	27.8	39.3	20.9	53.7	1.2	47.4	17						
AS32□1F-N03-09SD	5/16"			15.2										29.5	41	20.9	53.7	1.2	47.4
AS32□1F-N03-11SD	3/8"			17.9										29.5	41	20.9	53.7	1.2	47.4
AS42□1F-N04-11SD	3/8"	NPT 1/2	23.8	17.9	28.6	12.4	33.6	47.9	25.4	63.8	1.2	55.8	21						
AS42□1F-N04-13SD	1/2"			21.7										35.2	49.5	25.4	63.8	1.2	55.8

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

Dimensions

Universal type



Metric Size

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A	M1
AS13□1F-M5-23SD	3.2	M5 x 0.8	8	8.4	9.6	9.3	4.7	10.8	19.8	17.5	28.7	31	0.7	27.4	12.7
AS13□1F-M5-04D	4			9.3					20.3						
AS13□1F-M5-06D	6			11.6					21.4						
AS23□1F-01-23SD	3.2	R 1/8	12	8.4	14.2	9.3	7.2	13.1	24.4	17.5	31.8	35.6	1.2	31.6	12.7
AS23□1F-01-04SD	4			9.3					24.9						
AS23□1F-01-06SD	6			11.6					14						
AS23□1F-01-08SD	8			15.2					16.2						
AS23□1F-02-04SD	4	R 1/4	17	10.4	18.5	10.9	7.2	18.4	30.6	21.9	40.1	40.7	1.2	34.7	16
AS23□1F-02-06SD	6			12.8					34						
AS23□1F-02-08SD	8			15.2					28.2						
AS23□1F-02-10SD	10			18.5					20.2						
AS23□1F-02-06SD	6	R 1/4	19	12.8	23	12.9	9.8	20.6	38.5	25.2	47	55.3	1.2	49.3	17
AS33□1F-02-08SD	8			15.2					39.7						
AS33□1F-02-10SD	10			18.5					43.7						
AS33□1F-02-12SD	12			20.9					44.9						
AS33□1F-03-06SD	6	R 3/8	19	12.8	23	12.9	9.8	20.6	38.5	25.2	46.1	53.7	1.2	47.4	17
AS33□1F-03-08SD	8			15.2					39.7						
AS33□1F-03-10SD	10			18.5					43.7						
AS33□1F-03-12SD	12			20.9					44.9						
AS43□1F-04-10SD	10	R 1/2	24	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			20.9					26.8						

* Reference dimensions of M5 x 0.8, R threads after installation.

Inch Size

Model	d	T	H	D1	D2	D3	D4	L1	L2	L3	L4	L5	L6	A	M1
AS13□1F-U10/32-01D	1/8"	10-32 UNF	8	8.4	9.6	9.3	4.7	10.8	19.8	17.5	28.7	31	0.7	27.4	12.7
AS13□1F-U10/32-03D	5/32"			9.3					20.3						
AS13□1F-U10/32-05D	3/16"			11.4					21.3						
AS13□1F-U10/32-07D	1/4"			12					21.6						
AS23□1F-N01-01SD	1/8"	NPT 1/8	12.7	8.4	14	9.3	7.2	14	24.4	17.5	31.8	35.6	1.2	31.6	12.7
AS23□1F-N01-03SD	5/32"			9.3					26.8						
AS23□1F-N01-05SD	3/16"			11.4					23.9						
AS23□1F-N01-07SD	1/4"			13.2					29.9						
AS23□1F-N01-09SD	5/16"	NPT 1/4	17.5	15.2	19	10.9	7.2	18.3	30.9	28.2	41.7	40.7	1.2	34.7	18.5
AS23□1F-N02-03SD	5/32"			10.4					30.6						
AS23□1F-N02-05SD	3/16"			11.4					31.1						
AS23□1F-N02-07SD	1/4"			13.2					34.2						
AS23□1F-N02-09SD	5/16"	NPT 1/4	19	15.2	23	12.9	9.8	20.6	35.2	25.6	46.1	55.3	1.2	49.3	18.5
AS23□1F-N02-11SD	3/8"			17.9					38.7						
AS33□1F-N02-07SD	1/4"			13.2					37.7						
AS33□1F-N02-09SD	5/16"			15.2					39.7						
AS33□1F-N02-11SD	3/8"	NPT 3/8	19	17.9	23	12.9	9.8	20.6	43.7	32.6	56.2	53.7	1.2	47.4	21
AS33□1F-N03-07SD	1/4"			13.2					38.7						
AS33□1F-N03-09SD	5/16"			15.2					39.7						
AS33□1F-N03-11SD	3/8"			17.9					43.7						
AS43□1F-N04-10SD	3/8"	NPT 1/2	23.8	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"			21.7					19.4						

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