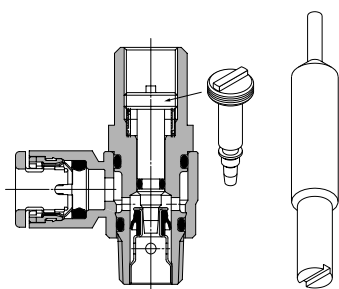


# Tamper Proof Speed Controller with One-touch Fitting

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

Able to adjust flow by a special tool

Prevention of an unnecessary manual operation



Special tool  
Part number: AS-T-1

### 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 <sup>(1)</sup> )
Applicable tubing material <sup>(2)</sup>	Nylon, Soft nylon, Polyurethane

Note 1) In the case of AS12□1F-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.

### 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.

Elbow type



Universal type



### How to Order

AS 2 2 1 1 F - 01 - 06 S T

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

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

Tamper proof

Speed Controller requires a special tool for flow adjustment. Order separately with part number, AS-T-1.

With seal

Note) In 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.

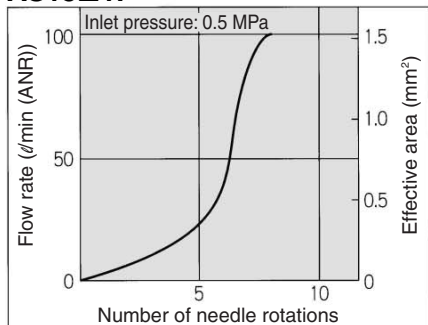
Metric size	Inch size
23	ø3.2"
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12
01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

\* Use ø1/8" tube.

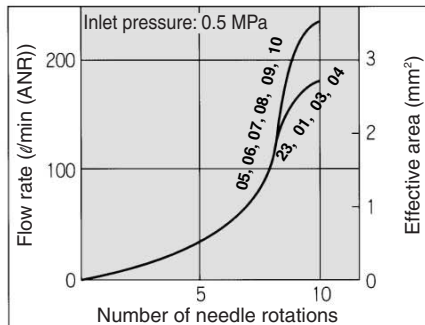
# Tamper Proof Speed Controller With One-touch Fitting, Elbow Type/Universal Type

## Needle Valve/Flow Characteristics

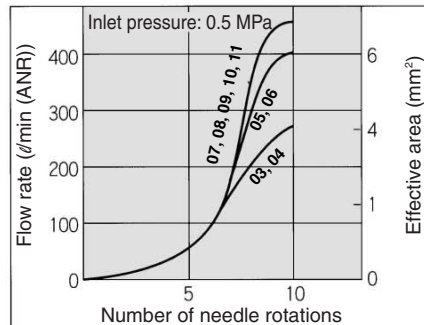
**AS12□1F**  
**AS13□1F**



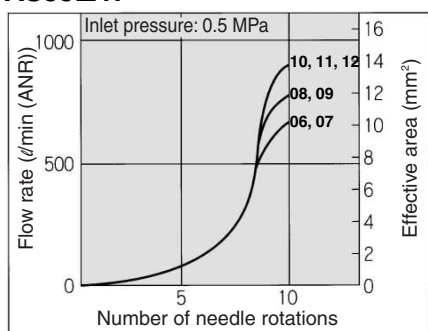
**AS22□1F-□01**  
**AS23□1F-□01**



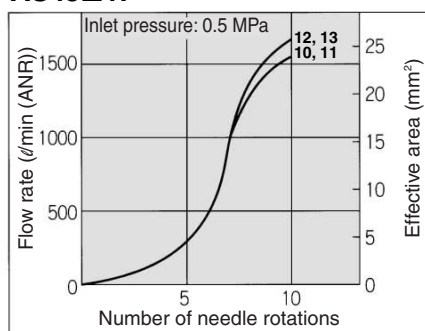
**AS22□1F-□02**  
**AS23□1F-□02**



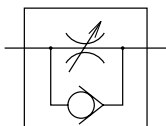
**AS32□1F**  
**AS33□1F**



**AS42□1F**  
**AS43□1F**



JIS Symbol



Flow Direction Symbols on Body

	Meter-out type	Meter-in type
Symbol		
JIS Symbol		

## 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		
Tubing O.D.	Metric size	ø3.2, ø4, ø6	ø3.2, ø4 ø6, ø8, ø10	ø4	ø6	ø8, ø10	ø6	ø8	ø10, ø12	ø10	ø12	
	Inch size	ø1/8", ø5/32" ø3/16", ø1/4"	ø1/8" ø5/32" ø3/16", ø1/4" 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)	Flow rate (l/min (ANR))	100	180	230	260	390	460	660	790	920	1580	1710
	Effective area (mm <sup>2</sup> )	1.5	2.7	3.5	4	6	7	10	12	14	24	26

(Note) Flow rate values are at a pressure of 0.5 MPa and a temperature of 20°C.

AS

ASP

ASN

AQ

ASV

AK

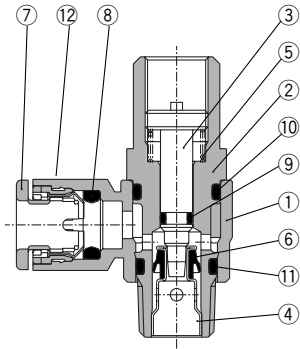
ASS

ASR

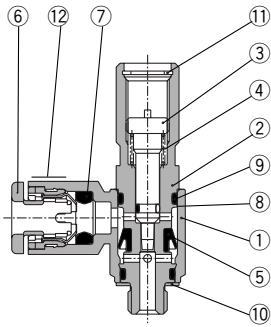
ASF

## Construction

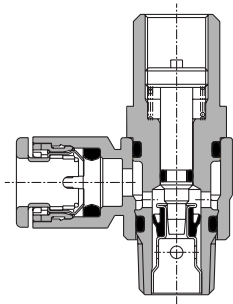
### Elbow type Meter-out type



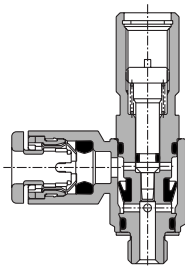
### M5 type U10/32 type



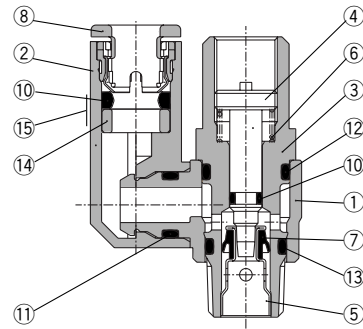
### Meter-in type



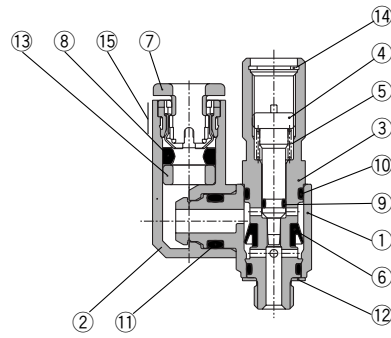
### M5 type U10/32 type



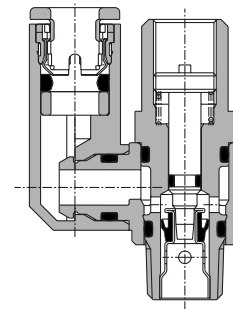
### Universal type Meter-out type



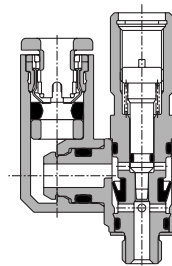
### M5 type U10/32 type



### Meter-in type



### M5 type U10/32 type



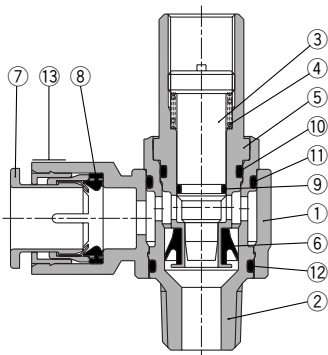
# Tamper Proof Speed Controller

## With One-touch Fitting, Elbow Type/Universal Type

### Construction

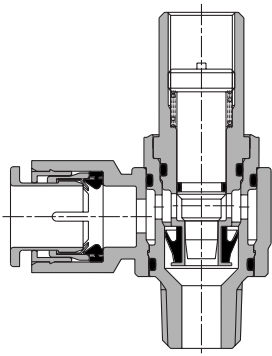
#### Elbow type Meter-out type

**AS3201F-02**



#### Meter-in type

**AS3211F-02**



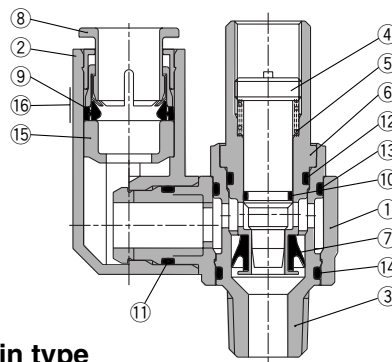
#### Component Parts

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	NBR	
⑬	Gasket	NBR, Stainless steel	
⑭	Retaining ring for hole type C	Tool steel	

Note)  $\phi 10$ ,  $\phi 12$ ,  $\phi 3/8$ ",  $\phi 1/2$ " are made of POM, stainless steel, and brass (Electroless nickel plated).

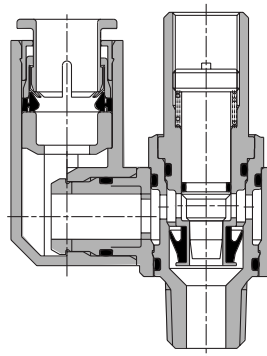
#### Universal type Meter-out type

**AS3301F-02**



#### Meter-in type

**AS3311F-02**



#### 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	

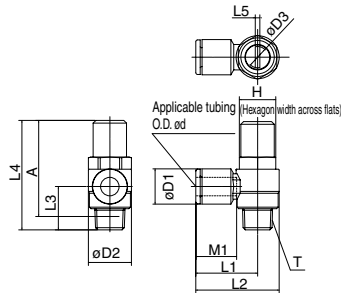
Note 1)  $\phi 3/16$ ",  $\phi 5/16$ ",  $\phi 3/8$ ",  $\phi 1/2$ " are made of POM, stainless steel, brass (Electroless nickel plated).

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

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

## Dimensions

### Elbow type



### Metric Size

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	27.4	12.7				
AS12□1F-M5-04T	4			9.3			20.4	27.5	12.7								
AS12□1F-M5-06T	6			11.6			18.1	22.9	11.7					13.5			
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	31.6	12.7				
AS22□1F-01-04ST	4			9.3										25.3	32.4	18.5	
AS22□1F-01-06ST	6			11.6										18.1	22.9	11.7	21
AS22□1F-01-08ST	8	R 1/4	17	12.8	18.5	7	27.2	36.4	18.2	40.7	1.5	34.7	18.5				
AS22□1F-01-10ST	10			15.2										33.1	40.2	15	21
AS22□1F-02-04ST	4			10.4										25.2	34.4	18.2	17
AS22□1F-02-06ST	6	R 1/4	17	12.8	18.5	7	27.2	36.4	18.2	40.7	1.5	34.7	18.5				
AS22□1F-02-08ST	8			15.2										33.9	43.2	20	21
AS22□1F-02-10ST	10			18.5										27.8	39.3	17	17
AS32□1F-02-06ST	6	R 1/4	19	12.8	23	9.5	29.5	41	21.8	55.3	1.5	49.3	18.5				
AS32□1F-02-08ST	8			15.2										31.8	43.3	21	18.5
AS32□1F-02-10ST	10			18.5										27.8	39.3	17	17
AS32□1F-02-12ST	12	R 3/8	19	15.2	23	9.5	29.5	41	20.9	53.7	1.5	47.4	22				
AS32□1F-03-06ST	6			12.8										32.8	44.3	22	18.5
AS32□1F-03-08ST	8			15.2										31.8	43.3	21	18.5
AS32□1F-03-10ST	10	R 3/8	19	18.5	23	9.5	31.8	43.3	20.9	53.7	1.5	47.4	22				
AS32□1F-03-12ST	12			20.9										32.8	44.3	22	18.5
AS42□1F-04-10ST	10			18.5										27.8	39.3	17	17
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										34.6	48.9	25.4	63.8

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

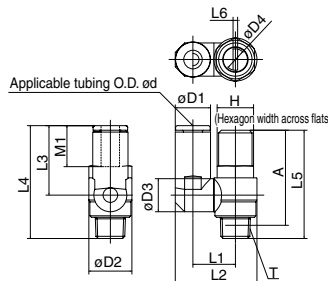
### Inch Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5	A*	M1			
AS12□1F-U10/32-01T	1/8"	10-32 UNF	8	8.4	9.6	4.5	17.3	22.1	12.3	31	0.7	27.4	12.7			
AS12□1F-U10/32-03T	5/32"			9.3			20.4	27.5	12.7							
AS12□1F-U10/32-05T	3/16"			11.4			18.1	22.9	11.7					13.5		
AS12□1F-U10/32-07T	1/4"	NPT 1/8	12.7	12	14.2	7	23.1	30.2	14.3	35.6	1.5	31.6	18.5			
AS22□1F-N01-01ST	1/8"			8.4										25.3	32.4	18.5
AS22□1F-N01-03ST	5/32"			9.3										20.4	27.5	12.7
AS22□1F-N01-05ST	3/16"	NPT 1/8	12.7	11.4	14.2	7	23.1	30.2	14.3	35.6	1.5	31.6	16.5			
AS22□1F-N01-07ST	1/4"			13.2										23.9	31	18.5
AS22□1F-N01-09ST	5/16"			15.2										25.3	32.4	15
AS22□1F-N02-03ST	5/32"	NPT 1/4	17.5	10.4	18.5	7	25.2	34.5	18.2	40.7	1.5	34.7	16			
AS22□1F-N02-05ST	3/16"			11.4										24.9	34.2	17
AS22□1F-N02-07ST	1/4"			13.2										25.2	34.5	20
AS22□1F-N02-09ST	5/16"	NPT 1/4	19	15.2	23	9.5	29.5	41	21.8	55.3	1.5	49.3	18.5			
AS22□1F-N02-11ST	3/8"			17.9										31.8	43.3	21
AS32□1F-N02-07ST	1/4"			13.2										27.8	39.3	17
AS32□1F-N02-09ST	5/16"	NPT 1/4	19	15.2	23	9.5	29.5	41	20.9	53.7	1.5	47.4	22			
AS32□1F-N02-11ST	3/8"			17.9										31.8	43.3	21
AS32□1F-N03-07ST	1/4"			13.2										27.8	39.3	17
AS32□1F-N03-09ST	5/16"	NPT 3/8	19	15.2	23	9.5	29.5	41	20.9	53.7	1.5	47.4	18.5			
AS32□1F-N03-11ST	3/8"			17.9										31.8	43.3	21
AS42□1F-N04-11ST	3/8"			NPT 1/2										23.8	17.9	28.6
AS42□1F-N04-13ST	1/2"	21.7	35.2		49.5	25.4	63.8	1.5	55.8	22						

\* 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-M5-23T	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	27.4	12.7	
AS13□1F-M5-04T	4			9.3				20.3	20.3	17.5	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	10.9	7	13.1	24.4	17.5	31.8	35.6	1.5	31.6	12.7	
AS23□1F-01-04ST	4			9.3				24.9	22.9	37.2	13.5					
AS23□1F-01-06ST	6			11.6				14	26.9	37.2	18.5					
AS23□1F-01-08ST	8	R 1/4	17	15.2	12.9	9.5	16.2	30.9	28.2	41.7	40.7	1.5	34.7	18.5		
AS23□1F-02-04ST	4			10.4				16.2	30.6	21.9					40.1	16
AS23□1F-02-06ST	6			12.8				18.4	34	25.2					42.6	17
AS23□1F-02-08ST	8	R 1/4	17	15.2	12.9	9.5	18.3	35.2	28.2	45.6	40.7	1.5	34.7	18.5		
AS23□1F-02-10ST	10			18.5				20.2	38.7	31					48.4	21
AS23□1F-02-12ST	12			20.9				20.2	38.7	31					48.4	22
AS33□1F-02-06ST	6	R 1/4	19	12.8	12.9	9.5	20.6	38.5	25.2	47	55.3	1.5	49.3	18.5		
AS33□1F-02-08ST	8			15.2				39.7	28.2	50					21	
AS33□1F-02-10ST	10			18.5				43.7	32.6	54.4					21	
AS33□1F-02-12ST	12	R 3/8	19	20.9	16.2	23	44.9	34.4	56.2	53.7	1.5	47.4	22			
AS33□1F-03-06ST	6			12.8				38.5	25.2					46.1	17	
AS33□1F-03-08ST	8			15.2				39.7	28.2					49.1	18.5	
AS33□1F-03-10ST	10	R 3/8	19	18.5	23	9.5	43.7	32.6	53.5	53.7	1.5	47.4	21			
AS33□1F-03-12ST	12			20.9				44.9	34.4					55.3	22	
AS43□1F-04-10ST	10			18.5				27.8	39.3					17	17	
AS43□1F-04-12ST	12	R 1/2	24	20.9	28.6	12	25.8	49.4	32.6	58	63.8	1.5	55.8	21		
AS43□1F-04-12ST	12			20.9				26.8	52	36.3					61.7	63.8

\* 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-U10/32-01T	1/8"	10-32 UNF	8	8.4	9.6	9.3	4.5	10.8	19.8	17.5	28.7	31	0.7	27.4	12.7	
AS13□1F-U10/32-03T	5/32"			9.3				20.3	20.3	17.5	28.7					12.7
AS13□1F-U10/32-05T	3/16"			11.4				21.3	23.3	34.5	13.5					
AS13□1F-U10/32-07T	1/4"	NPT 1/8	12.7	12	14.2	7	14	26.8	23.9	31.8	35.6	1.5	31.6	16.5		
AS23□1F-N01-01ST	1/8"			8.4				30.9	28.2	41.7					18.5	
AS23□1F-N01-03ST	5/32"			9.3				20.4	27.5	12.7						
AS23□1F-N01-05ST	3/16"	NPT 1/8	12.7	11.4	14.2	7	14	26.8	23.9	31.8	35.6	1.5	31.6	18.5		
AS23□1F-N01-07ST	1/4"			13.2				29.9	25.6	37.2					21	
AS23□1F-N01-09ST	5/16"			15.2				30.9	28.2	41.7					18.5	
AS23□1F-N02-03ST	5/32"	NPT 1/4	17.5	10.4	18.5	7	16.2	30.6	21.9	40.1	40.7	1.5	34.7	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					21	
AS23□1F-N02-09ST	5/16"	NPT 1/4	19	15.2	23	9.5	20.2	38.7	31	47	55.3	1.5	49.3	18.5		
AS23□1F-N02-11ST	3/8"			17.9				35.2	28.2	48.4					21	
AS33□1F-N02-07ST	1/4"			13.2				38.7	31	47					21	
AS33□1F-N02-09ST	5/16"	NPT 1/4	19	15.2	23	9.5	20.6	38.7	25.6	50	55.3	1.5	49.3	18.5		
AS33□1F-N02-11ST	3/8"			17.9				39.7	28.2	54.4					21	
AS33□1F-N03-07ST	1/4"			13.2				43.7	32.6	54.4					17	
AS33□1F-N03-09ST	5/16"	NPT 3/8	19	15.2	23	9.5	20.6	39.7	28.2	49.1	53.7	1.5	47.4	18.5		
AS33□1F-N03-11ST	3/8"			17.9				43.7	32.6	53.5					21	
AS43□1F-N04-11ST	3/8"			NPT 1/2				23.8	17.9	28.6					12	25.8
AS43□1F-N04-13ST	1/2"	21.7	26.8		52	36.3	58		63.8		1.5	55.8	22			

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