

# Speed Controller with One-touch Fitting Stainless Steel Series Elbow Type/Universal Type Series AS-FG



## Stainless specifications for use in corrosive environments. Stainless steel 303 used for metal parts.

Suitable for use on CRT lines where copper ions can cause damage, for washing food processing equipment where there is exposure to water and salt water, etc., and in clean rooms where dust from discoloration and rusting of copper materials is unacceptable.

### Light colors to match equipment

White resin parts are used for bodies and release buttons.

### Threads with and without seal are available as standard.

### Applicable tubing: Inch sizes standardized

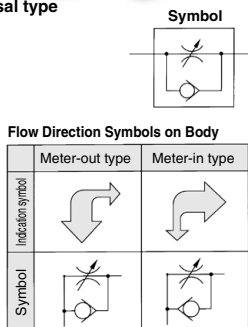
Inch sizes are now available for all models.



### Elbow type



### Universal type



## Model

Elbow type	Universal type	Port size	Applicable tubing O.D.															
			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□1FG-M5	AS13□1FG-M5	M5 x 0.8	●	●	●													
AS22□1FG-01	AS23□1FG-01	R 1/8	●	●	●	●	*											
AS22□1FG-02	AS23□1FG-02	R 1/4	●	●	●	●												
AS32□1FG-02	AS33□1FG-02	R 1/4			●	●	●											
AS32□1FG-03	AS33□1FG-03	R 3/8			●	●	●											
AS42□1FG-04	AS43□1FG-04	R 1/2				●	●											
AS12□1FG-U10/32	AS13□1FG-U10/32	10-32 UNF							●	●	●	●						
AS22□1FG-N01	AS23□1FG-N01	NPT 1/8							●	●	●	●	●					
AS22□1FG-N02	AS23□1FG-N02	NPT 1/4								●	●	●	●	●				
AS32□1FG-N02	AS33□1FG-N02	NPT 1/4									●	●	●	●				
AS32□1FG-N03	AS33□1FG-N03	NPT 3/8										●	●	●				
AS42□1FG-N04	AS43□1FG-N04	NPT 1/2														●	●	●

Note 1) Meter-out and meter-in types can be visually differentiated by the flow direction symbol on the resin body.

Note 2) \* Elbow type only

## 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)
Applicable tubing material	Nylon, Soft nylon, Polyurethane

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

(Refer to pages 411 and 412 for details.)

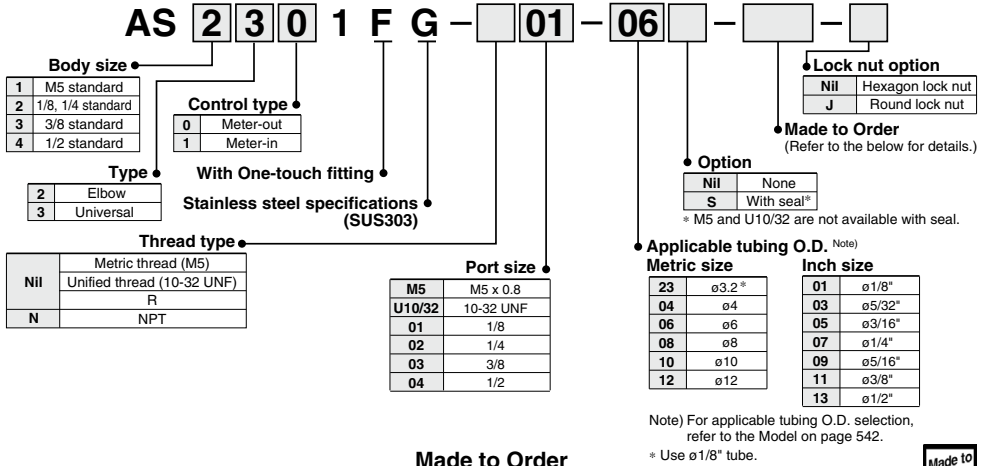
## Flow Rate and Sonic Conductance

Model	AS12□1FG		AS22□1FG-□01		AS22□1FG-□02		AS32□1FG		AS42□1FG			
	AS12□1FG	AS23□1FG-01	AS23□1FG-01	AS23□1FG-02	AS33□1FG	AS43□1FG	AS33□1FG	AS43□1FG	AS43□1FG	AS43□1FG		
Tubing O.D.	Metric size	ø3.2 ø4 ø6	ø3.2 ø4	ø6 ø8 ø10	ø4 ø6 ø8 ø10	ø6 ø8 ø10	ø6 ø8 ø10	ø6 ø8 ø10	ø10 ø12	ø10 ø12		
	Inch size	ø1/8" ø5/32" ø3/16" ø1/4"	ø1/8" ø5/32" ø1/4" ø5/16"	ø3/16" ø1/4" ø5/16"	ø5/32" ø3/16" ø1/4" ø5/16"	ø1/4" ø5/16" ø3/8"	ø1/4" ø5/16" ø3/8"	ø1/4" ø5/16" ø3/8"	ø3/8" ø3/8" ø1/2"	ø3/8" ø3/8" ø1/2"	ø1/2"	
Controlled flow	Flow rate (L/min (ANR))	100	180	230	260	390	460	660	790	920	1580	1710
	Sonic conductance dm <sup>2</sup> /(s bar)	0.28	0.50	0.64	0.72	1.1	1.3	1.8	2.2	2.6	4.4	4.8
Critical pressure ratio	Controlled flow	0.2	0.25		0.3			0.25			0.25	
	Free flow	0.4	0.2		0.3			0.2			0.3	

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

Made to Order  
Made to Order  
(Refer to page 543 for details.)

### How to Order



### Made to Order



**1** Lubricant: Vaseline **X12**

Ex.) AS1201FG-M5-23-X12

**2** Grease-free (Seal: Fluorine Coated) + Throttle Valve (Without Check Valve) **X21**

Ex.) AS1201FG-M5-23-X21

Note 1) Not particle-free  
Note 2) Throttle valve is only compatible with the part no. of the meter-out type.

**3** Throttle Valve (Without Check Valve) **X214**

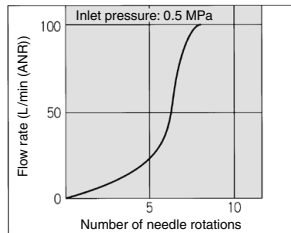
Ex.) AS1201FG-M5-23-X214

Note) Throttle valve is only compatible with the part no. of the meter-out type.

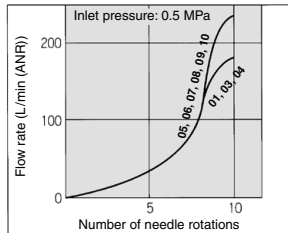
### Needle Valve/Flow Characteristics

Note) The flow characteristics are representative values.

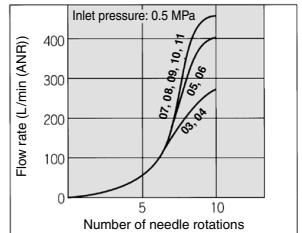
AS12□1FG  
AS13□1FG



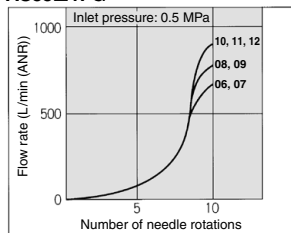
AS22□1FG-□01  
AS23□1FG-□01



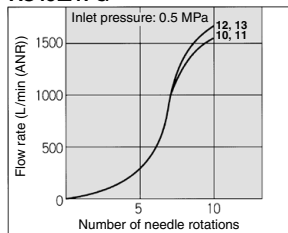
AS22□1FG-□02  
AS23□1FG-□02



AS32□1FG  
AS33□1FG



AS42□1FG  
AS43□1FG



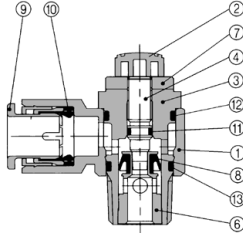
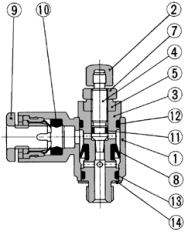
AS  
TMH  
ASD  
AS  
AS-FE  
KE  
AS-FG  
AS-FP  
AS-FM  
AS-D  
AS-T  
ASP  
ASN  
AQ  
ASV  
AK  
VCHC  
ASS  
ASR  
ASQ

# Series AS-FG

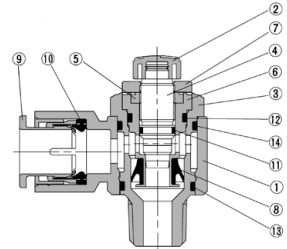
## Construction: Elbow Type

### Meter-out type

M5 type  
U10/32 type

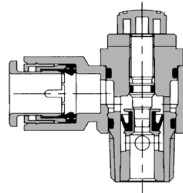
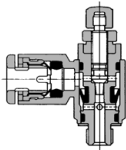


AS3201FG-02

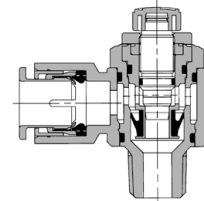


### Meter-in type

M5 type  
U10/32 type



AS3211FG-02



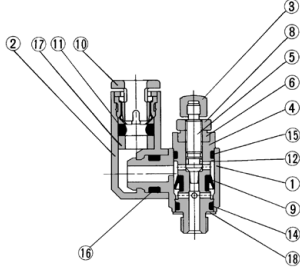
No.	Description	Material	Note
1	Body A	PBT	
2	Handle	PBT	
3	Body B	Stainless steel 303	
4	Needle	Stainless steel 303	
5	Needle guide	Stainless steel 303	
6	Seat ring	Stainless steel 303	
7	Lock nut	Stainless steel 303	
8	U seal	HNBR	
9	Cassette	—	
10	Seal	NBR	
11	O-ring	NBR	
12	O-ring	NBR	
13	O-ring	NBR	
14	O-ring	NBR	
15	Gasket	NBR, Stainless steel	M5 type only

### ⚠ Caution

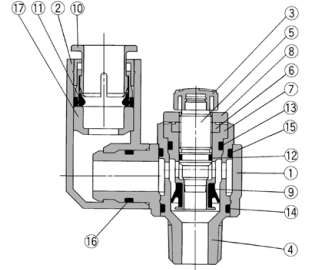
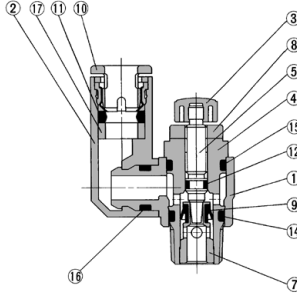
Be sure to read before handling.  
Refer to front matter 56 for Safety Instructions and pages 468 to 471 for Flow Control Equipment Precautions.

**Construction: Universal Type**

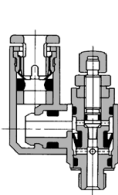
Meter-out type  
M5 type  
U10/32 type



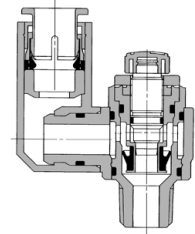
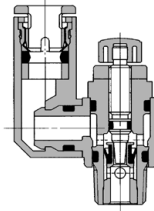
AS3301FG-02



Meter-in type  
M5 type  
U10/32 type



AS3311FG-02



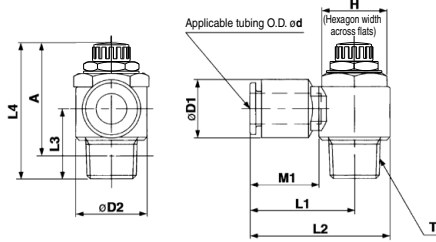
**Component Parts**

No.	Description	Material	Note
1	Body A	PBT	
2	Elbow body	PBT	
3	Handle	PBT	
4	Body B	Stainless steel 303	
5	Needle	Stainless steel 303	
6	Needle guide	Stainless steel 303	
7	Seat ring	Stainless steel 303	
8	Lock nut	Stainless steel 303	
9	U seal	HNBR	
10	Cassette	—	
11	Seal	NBR	
12	O-ring	NBR	
13	O-ring	NBR	
14	O-ring	NBR	
15	O-ring	NBR	
16	O-ring	NBR	
17	Spacer	—	
18	Gasket	NBR, Stainless steel	M5 type only

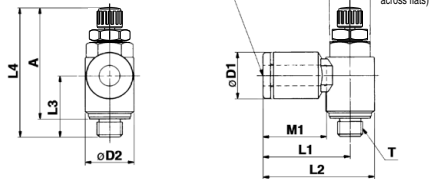
AS
TMH
ASD
AS
AS-FE KE
AS-FG
AS-FP
AS-FM
AS-D AS-T
ASP
ASN
AQ
ASV
AK
VCHC
ASS
ASR ASQ

# Series AS-FG

## Dimensions: Elbow Type



### M5 type U10/32 type



### Metric Size

Model	d	T	H	D1	D2	L1	L2	L3	L4 (1)		A (2)		M1	Weight (g)
									Max.	Min.	Max.	Min.		
AS12□1FG-M5-23	3.2	M5 x 0.8	8	8.4	9.6	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1FG-M5-04	4	M5 x 0.8	8	9.3	9.6	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1FG-M5-06	6	M5 x 0.8	8	11.6	11.6	18.1	22.9	11.7	28.6	25.8	25	22.2	13.5	7
AS22□1FG-01-23	3.2	R 1/8	12	9.3	14.2	20.4	27.5	14.3	36.1	31.1	32.1	27.1	12.7	16
AS22□1FG-01-04	4			9.3		20.4	27.5						12.7	17
AS22□1FG-01-06	6			11.6	14.2	20.4	27.5	13.4	35.2	30.2	32.1	27.1	13.5	19
AS22□1FG-01-08	8	R 1/8	12	15.2	15.2	25.3	32.4		18.5	18.5			18.5	19
AS22□1FG-01-10	10			18.5	32.1	39.2	44.1		21	21			21	21
AS22□1FG-02-04	4			10.4	25.2	34.4			16	16			16	32
AS22□1FG-02-06	6			12.8	18.5	25.2	34.4	17.7	17	17			17	32
AS22□1FG-02-08	8	R 1/4	17	15.2	27.2	36.4			18.5	34			18.5	34
AS22□1FG-02-10	10			18.5	35.3	44.5	18.3		21	36			21	36
AS32□1FG-02-06	6			12.8	27.8	39.3			17	60			17	60
AS32□1FG-02-08	8			15.2	29.5	41			18.5	63			18.5	63
AS32□1FG-02-10	10	R 1/4	19	18.5	23	31.8	43.3	21.3	48.3	43.3	42.8	37.8	21	67
AS32□1FG-02-12	12			20.9	32.8	44.3			22	69			22	69
AS32□1FG-03-06	6			12.8	27.8	39.3			17	55			17	55
AS32□1FG-03-08	8			15.2	29.5	41			18.5	57			18.5	57
AS32□1FG-03-10	10	R 3/8	19	18.5	31.8	43.3	19.8	45.4	40.4	40.4	40.2	35.2	21	59
AS32□1FG-03-12	12			20.9	32.8	44.3			22	61			22	61
AS42□1FG-04-10	10			18.5	33.6	47.9			21	100			21	100
AS42□1FG-04-12	12	R 1/2	24	20.9	35.2	49.5	24.5	56.7	49.2	49.6	42.1	22	21	100

Note 1) Reference dimensions

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

### Inch Size

Model	d	T	H	D1	D2	L1	L2	L3	L4 (1)		A (2)		M1	Weight (g)
									Max.	Min.	Max.	Min.		
AS12□1FG-U10/32-01	1/8"			8.4	9.6	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1FG-U10/32-03	5/32"			11.4	11.4	21.3	26.1	11.7	28.6	25.8	25	22.2	16.5	7
AS12□1FG-U10/32-05	3/16"			12	12	18.3	23.1		18.3	23.1			13.5	7
AS12□1FG-U10/32-07	1/4"			12.7	12.7	20.4	27.5		18.5	18.5			17.5	19
AS22□1FG-N01-01	1/8"			9.3	20.4	27.5			16	16			16	32
AS22□1FG-N01-03	5/32"			11.4	24.9	34.2			17	17			17	32
AS22□1FG-N01-05	3/16"			12.7	25.2	34.5			18.5	34.4			18.5	34
AS22□1FG-N01-07	1/4"			15.2	27.2	36.4			21	36			21	36
AS22□1FG-N01-09	5/16"			17.9	35.3	44.5	18.2		21	36			21	36
AS22□1FG-N02-11	3/8"			15.2	27.2	36.4			18.5	63			18.5	63
AS32□1FG-N02-07	1/4"			10.4	25.2	34.4			16	32			16	32
AS32□1FG-N02-03	5/32"			11.4	24.9	34.2			17.5	34			17.5	34
AS32□1FG-N02-05	3/16"			12.7	25.2	34.5			18.5	34.4			18.5	34
AS32□1FG-N02-07	1/4"			15.2	27.2	36.4			21	36			21	36
AS32□1FG-N02-09	5/16"			17.9	35.3	44.5	18.2		21	36			21	36
AS32□1FG-N02-11	3/8"			15.2	27.2	36.4			18.5	63			18.5	63
AS32□1FG-N02-07	1/4"			10.4	25.2	34.4			16	32			16	32
AS32□1FG-N02-09	5/16"			12.7	25.2	34.5			18.5	34.4			18.5	34
AS32□1FG-N02-11	3/8"			15.2	27.2	36.4			21	36			21	36
AS32□1FG-N03-07	1/4"			13.2	27.8	39.3			17	60			17	60
AS32□1FG-N03-09	5/16"			15.2	29.5	41			18.5	63			18.5	63
AS32□1FG-N03-11	3/8"			17.9	31.8	43.3			21	67			21	67
AS32□1FG-N03-07	1/4"			13.2	27.8	39.3			17	55			17	55
AS32□1FG-N03-09	5/16"			15.2	29.5	41			18.5	57			18.5	57
AS32□1FG-N03-11	3/8"			17.9	31.8	43.3			21	59			21	59
AS42□1FG-N04-11	1/2"			17.9	33.6	47.9			21	100			21	100
AS42□1FG-N04-13	3/8"			23.8	21.7	28.6	35.2	49.5	24.5	56.7	49.2	49.6	22	101

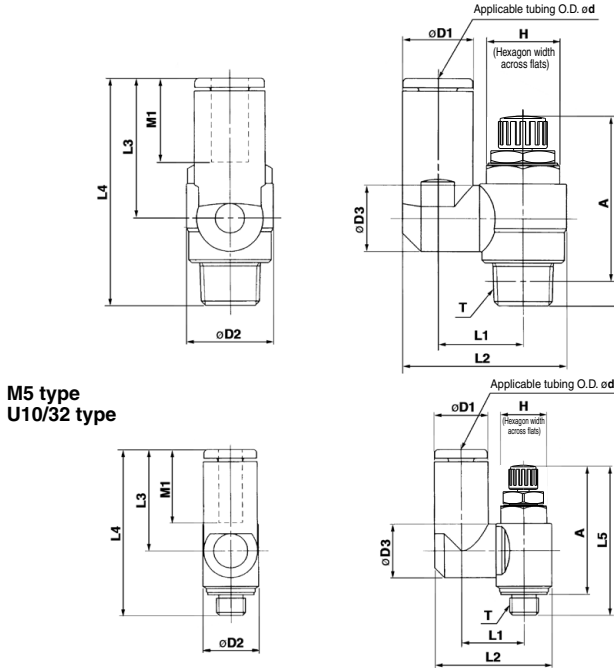
Note 1) Reference dimensions

Note 2) Reference dimensions of 10-32 UNF and NPT threads after installation.

# Speed Controller with One-touch Fitting Stainless Steel Series

## Elbow Type/Universal Type **Series AS-FG**

### Dimensions: Universal Type



### Metric Size

Model	d	T	H	D1	D2	D3	L1	L2	L3	L4	L5 (1)		A (2)		M1	Weight (g)
											Max.	Min.	Max.	Min.		
AS13□1FG-M5-23	3.2		8.4									28.6	28.6	25	12.7	7
AS13□1FG-M5-04	4	M5 x 0.8	8	9.3	9.6	9.3	10.8	20.3	17.5	28.7					13.5	8
AS13□1FG-M5-06	6		11.6												17	17
AS23□1FG-01-23	3.2		8.4												12.7	17
AS23□1FG-01-04	4		8.3												12.7	17
AS23□1FG-01-06	6		11.6												13.5	18
AS23□1FG-01-08	8		15.2												18.5	21
AS23□1FG-02-04	4		10.4												16	32
AS23□1FG-02-06	6		12.8												17	33
AS23□1FG-02-08	8		15.2												18.5	36
AS23□1FG-02-10	10		18.5												21	40
AS23□1FG-02-06	6		12.8												17	60
AS33□1FG-02-08	8		15.2												18.5	63
AS33□1FG-02-10	10		18.5												21	67
AS33□1FG-02-12	12		20.9												22	69
AS33□1FG-03-06	6		12.8												17	56
AS33□1FG-03-08	8		15.2												18.5	59
AS33□1FG-03-10	10		18.5												21	63
AS33□1FG-03-12	12		20.9												22	65
AS43□1FG-04-10	10		28.6												28.6	104
AS43□1FG-04-12	12		31.7												31.7	105

Note 1) Reference dimensions  
 Note 2) 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 (1)		A (2)		M1	Weight (g)
											Max.	Min.	Max.	Min.		
AS13□1FG-U1032-01	1/8"		8.4												12.7	7
AS13□1FG-U1032-03	3/32"	10-32 UNF	9.3												13.7	8
AS13□1FG-U1032-05	3/16"	11.4	9.6	9.3	10.8										16.5	8
AS13□1FG-U1032-07	1/4"		12												13.7	8
AS23□1FG-N01-01	1/8"		8.4												12.7	17
AS23□1FG-N01-03	5/32"		9.3												13.7	18
AS23□1FG-N01-05	3/16"		11.4												16.5	18
AS23□1FG-N01-07	1/4"		12												13.7	18
AS23□1FG-N01-09	5/16"		13.2												18.5	19
AS23□1FG-N02-03	5/32"		10.4												16	32
AS23□1FG-N02-05	3/16"		11.4												17	33
AS23□1FG-N02-07	1/4"		12.8												18.5	36
AS23□1FG-N02-09	5/16"		15.2												21	40
AS23□1FG-N02-11	3/8"		17.9												24	44
AS33□1FG-N02-07	1/4"		13.2												17	60
AS33□1FG-N02-09	5/16"		15.2												18.5	63
AS33□1FG-N03-09	3/8"		17.9												21	69
AS33□1FG-N03-07	1/4"		13.2												17	56
AS33□1FG-N03-09	5/16"		15.2												18.5	59
AS33□1FG-N03-11	3/8"		17.9												21	65
AS43□1FG-N04-11	3/8"		28.6												28.6	104
AS43□1FG-N04-13	1/2"		31.7												31.7	104

Note 1) Reference dimensions  
 Note 2) Reference dimensions of 10-32 UNF and NPT threads after installation.

- AS
- TMH
- ASD
- AS
- AS-FE
- KE
- AS-FG
- AS-FP
- AS-FM
- AS-D
- AS-T
- ASP
- ASN
- AQ
- ASV
- AK
- VCHC
- ASS
- ASR
- ASQ

# Speed Controller with One-touch Fitting Stainless Steel Series In-line Type

## Series AS-FG



### Model

Model	Applicable tubing O.D.												
	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"
AS1001FG	●	●	●				●	●	●	●			
AS2001FG		●	●					●	●	●			
AS2051FG				●	●				●	●	●		
AS3001FG			●	●	●	●				●	●	●	
AS4001FG					●	●						●	●

### 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)
Applicable tubing material	Nylon, Soft nylon, Polyurethane

Note) Use caution regarding the max. operating pressure when soft nylon or polyurethane tubing is used.  
(Refer to pages 411 and 412 for details.)

### Flow Rate and Sonic Conductance

#### Flow Direction Symbols on Body



Model	AS1001FG	AS2001FG		AS2051FG		AS3001FG			AS4001FG		
Tubing O.D.	Metric size	ø3.2 ø4 ø6	ø4 ø6	ø6 ø8	ø6 ø8	ø6 ø8 ø10 ø12	ø10	ø12			
	Inch size	ø1/8" ø5/32" ø3/16"	ø5/32" ø1/4"	ø3/16" ø1/4"	ø3/16" ø5/16"	ø1/4" ø5/16"	ø3/8"	ø3/8"	ø1/2"		
Controlled flow	Flow rate (L/min (ANR))	100	130	230	290	460	420	660	920	1050	1390
Free flow	Sonic conductance dm <sup>3</sup> /(s·bar)	0.28	0.36	0.64	0.8	1.3	1.2	1.8	2.6	2.9	3.9
Critical pressure ratio	Controlled flow	0.2	0.2	0.2	0.2	0.2	0.25	0.25	0.25	0.25	0.25
	Free flow	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25

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



**Made to Order**

(Refer to page 549 for details.)

### How to Order

AS **200** 1 F G - **06** - [ ] - [ ]

**Body size**

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

With One-touch fittings

Stainless steel specifications (Stainless steel 303)

• **Lock nut option**

NII	Hexagon lock nut
J	Round lock nut

• **Made to Order**  
(Refer to the below for details.)

• **Applicable tubing O.D.**

**Metric size**

23	ø3.2*
04	ø4
06	ø6
08	ø8
10	ø10
12	ø12

\* Use ø1/8" tube.

**Inch size**

01	ø1/8"
03	ø5/32"
05	ø3/16"
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"

### Made to Order



Lubricant: Vaseline

**X12**

Ex.) AS1001FG-04-X12

Grease-free (Seal: Fluorine Coated) +  
Throttle Valve (Without Check Valve)

**X21**

Ex.) AS1001FG-04-X21

(Note) Not particle-free

Throttle Valve (Without Check Valve)

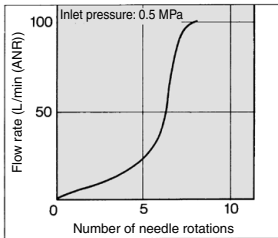
**X214**

Ex.) AS1001FG-04-X214

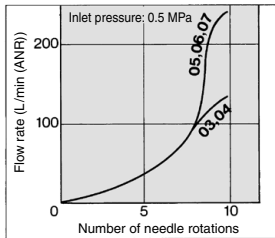
### Needle Valve/Flow Characteristics

(Note) The flow characteristics are representative values.

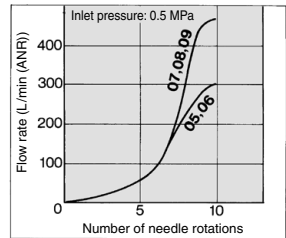
AS1001FG



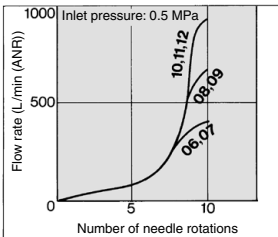
AS2001FG



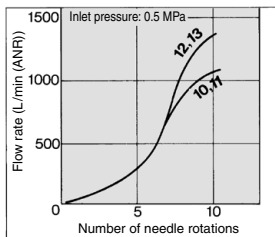
AS2051FG



AS3001FG



AS4001FG

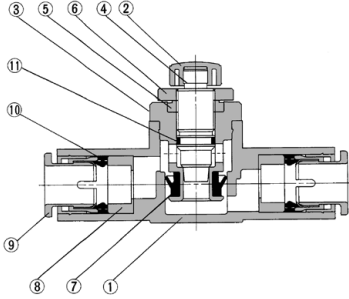


- AS
- TMH
- ASD
- AS
- AS-FE
- KE
- AS-FG
- AS-FP
- AS-FM
- AS-D
- AS-T
- ASP
- ASN
- AQ
- ASV
- AK
- VCHC
- ASS
- ASR
- ASQ



# Series AS-FG

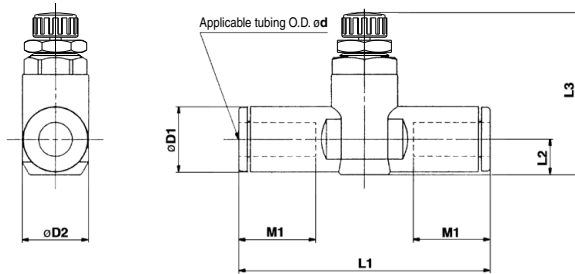
## Construction



### Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Handle	PBT	
3	Body B	Stainless steel 303	
4	Needle	Stainless steel 303	
5	Needle guide	Stainless steel 303	
6	Lock nut	Stainless steel 303	
7	U seal	HNBR	
8	Spacer	—	
9	Cassette	—	
10	Seal	NBR	
11	O-ring	NBR	

## Dimensions



### Metric Size

Model	d	D1	D2	L1	L2	L3 <sup>(1)</sup>		M1	Weight (g)
						Max.	Min.		
AS1001FG-23	3.2	8.4	10.5	38	4.5	23.5	20.7	12.7	6
AS1001FG-04	4	9.3		39.2	5.2	24.2	21.4	7	7
AS1001FG-06	6	11.6	12.3	40.7	6.2	25.2	22.4	13.5	8
AS2001FG-04	4	9.3		40.7	5.2	32.6	27.6	12.7	12
AS2001FG-06	6	11.6	15.5	44.8	6.3	33.7	28.7	13.5	13
AS2051FG-06	6	12.8		53.2	6.7	35.2	30.2	17	22
AS2051FG-08	8	15.2	20.6	59.8	8.1	32.6	27.6	18	25
AS3001FG-06	6	12.8		59	7.4	38.3	33.3	17	36
AS3001FG-08	8	15.2	27.6	64.4	8.2	39.1	34.1	18	40
AS3001FG-10	10	18.5		71.6	9.8	40.6	35.6	21	44
AS3001FG-12	12	20.9	27.6	76	11	41.8	36.8	22	48
AS4001FG-10	10	18.5		77.7	11.3	51.1	43.6	21	85
AS4001FG-12	12	20.9		82.1		52.1	44.6	22	89

Note 1) Reference dimensions

### Inch Size

Model	d	D1	D2	L1	L2	L3 <sup>(1)</sup>		M1	Weight (g)
						Max.	Min.		
AS1001FG-01	1/8"	8.4	10.5	38	4.5	23.5	20.7	12.7	6
AS1001FG-03	5/32"	9.3		39.2	5.2	24.2	21.4	7	7
AS1001FG-05	3/16"	11.4	12.3	48.7	6.2	25.2	22.4	13.7	9
AS1001FG-07	1/4"	12		40.7					
AS2001FG-03	5/32"	9.3	12.3	40.7	5.2	32.6	27.6	12.7	12
AS2001FG-05	3/16"	11.4		50	6.2	33.6	28.6	16.5	18
AS2001FG-07	1/4"	13.2	15.5	52.2	7.1	34.5	29.5	17	16
AS2051FG-05	3/16"	11.4		52.2	6.2	34.6	29.6	16.5	24
AS2051FG-07	1/4"	13.2	20.6	54.4	7.1	35.5	30.5	17	22
AS2051FG-09	5/16"	15.2		59.8	8.1	32.6	27.6	18	25
AS3001FG-07	1/4"	13.2	27.6	59	7.4	38.3	33.3	17	36
AS3001FG-09	5/16"	15.2		64.4	8.2	39.1	34.1	18	40
AS3001FG-11	3/8"	17.9	27.6	70.8	9.5	40.3	35.3	21	52
AS4001FG-11	3/8"	17.9		76.9	10.3	51	43.5	21	93
AS4001FG-13	1/2"	21.7		83.1	11.6	52.4	44.9	22	106

Note 1) Reference dimensions

## Stainless Steel Speed Controller (Elbow Type) Series ASG

### Material:

### Stainless steel 316

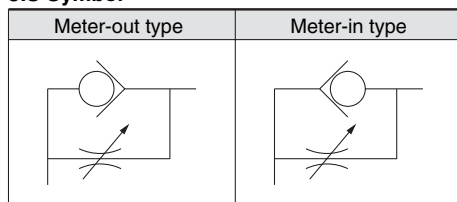
(Sealant: Special FKM  
 Seat ring: Stainless steel 303)

### Applicable tubing materials

- FEP
- PFA
- Nylon
- Soft nylon
- Polyurethane
- Polyolefin



### JIS Symbol



Conforms to Food Sanitation Laws  
 (Material of the component parts meets the apparatus  
 and container packaging standards.)

### Flow Rate and Effective Area

Model	ASG22□F-M5	ASG32□F-01	ASG42□F-02	ASG52□F-03	ASG62□F-04				
Tubing O.D. (mm)	ø4, ø6	ø4, ø6, ø8	ø6, ø8, ø10	ø8, ø10, ø12	ø12				
Controlled (free) flow	Flow rate (l/min (ANR))	100	180	230	390	460	790	920	1580
	Effective area (mm <sup>2</sup> )	1.5	2.7	3.5	6	7	12	14	24

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

### Model

Elbow type	Port size	Applicable tubing O.D. (mm)					Applicable cylinder bore size (mm)
		4	6	8	10	12	
ASG22□F-M5	M5 x 0.8	●	●				6, 10, 16, 20
ASG32□F-01	R1/8	●	●	●			20, 25, 32
ASG42□F-02	R1/4		●	●	●		20, 25, 32, 40
ASG52□F-03	R3/8			●	●	●	40, 50, 63
ASG62□F-04	R1/2					●	63, 80, 100

### Specifications

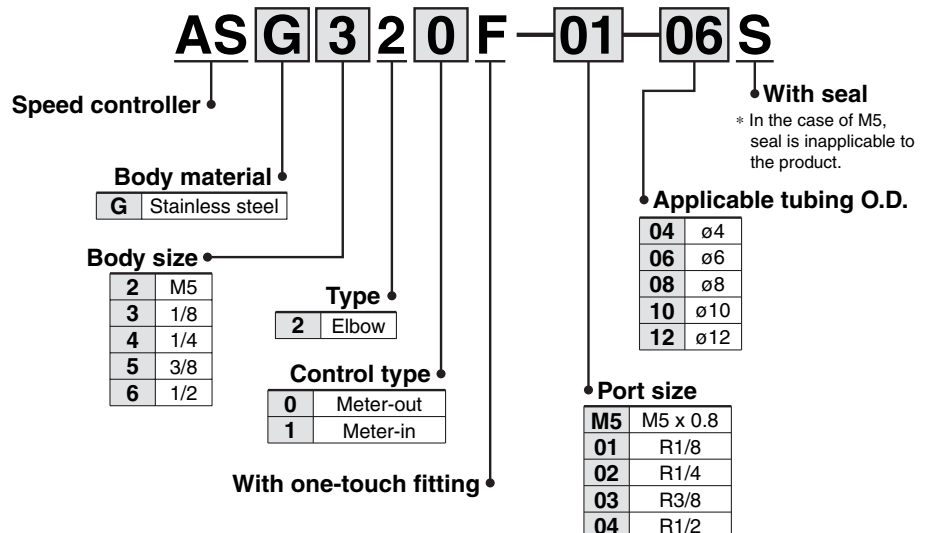
Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 turns (8 turns <sup>Note 1)</sup> )
Applicable tubing material	FEP, PFA, Nylon, Soft nylon, Polyurethane <sup>Note 3)</sup> , Polyolefin

Note 1) In case of ASG22□F-M5

Note 2) Please be cautious of the max. operating pressure when soft nylon or polyurethane tubing is used.

Note 3) When polyurethane tubing is used, please use an inner sleeve.

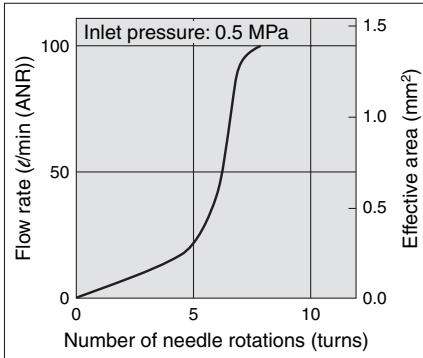
### How to Order



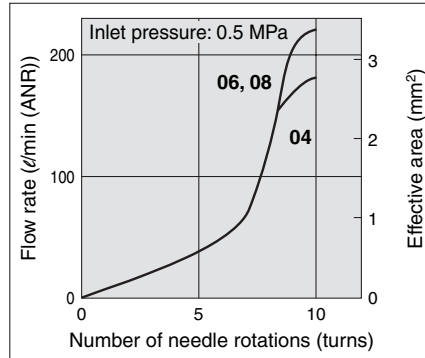
# Series ASG

## Needle Valve: Flow Characteristics

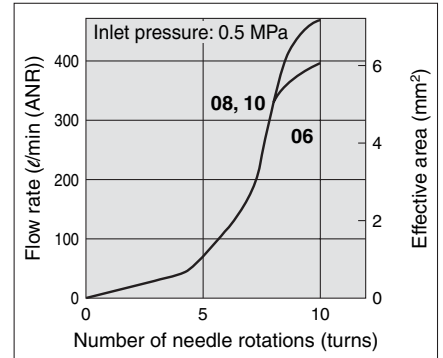
**ASG220F-M5**  
**ASG221F-M5**



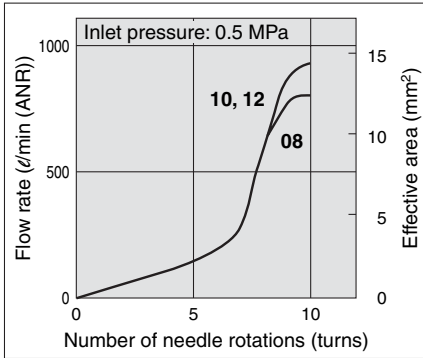
**ASG320F-01**  
**ASG321F-01**



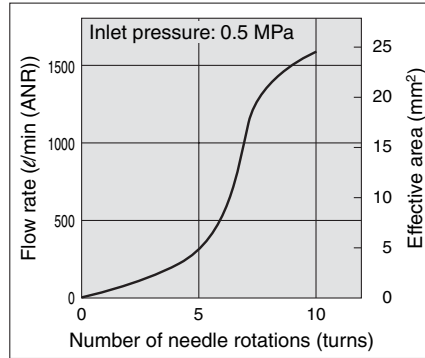
**ASG420F-02**  
**ASG421F-02**



**ASG520F-03**  
**ASG521F-03**



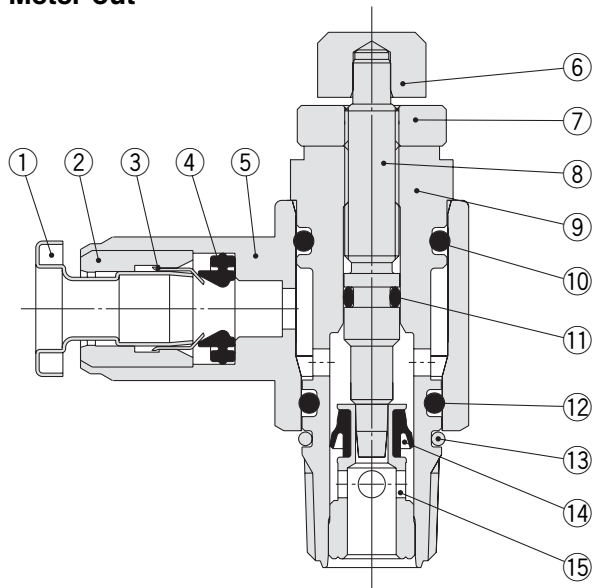
**ASG620F-04**  
**ASG621F-04**



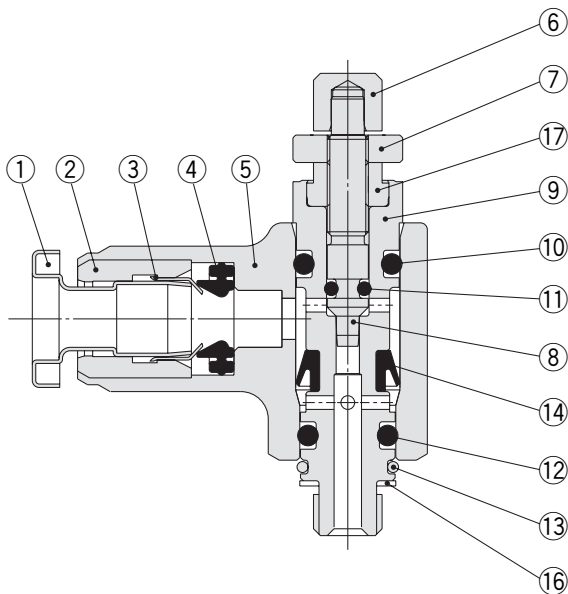
## Construction

### Elbow type

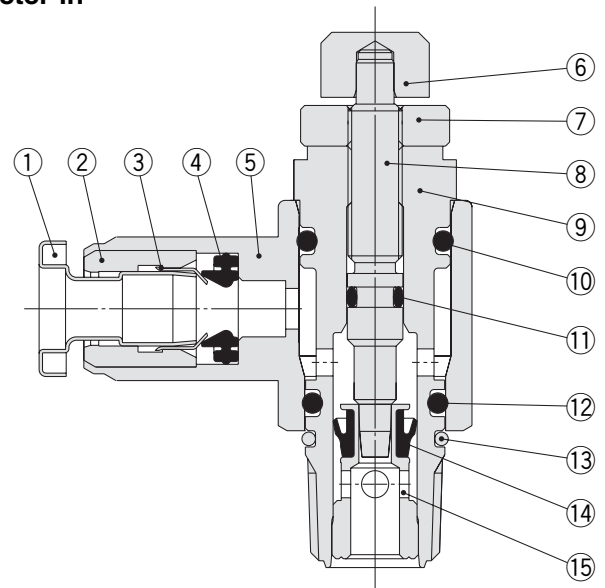
#### Meter-out



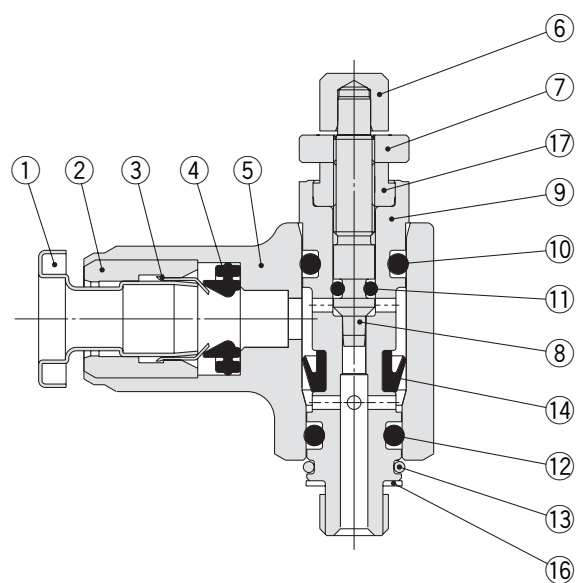
#### M5 port



#### Meter-in



#### M5 port



## Component Parts

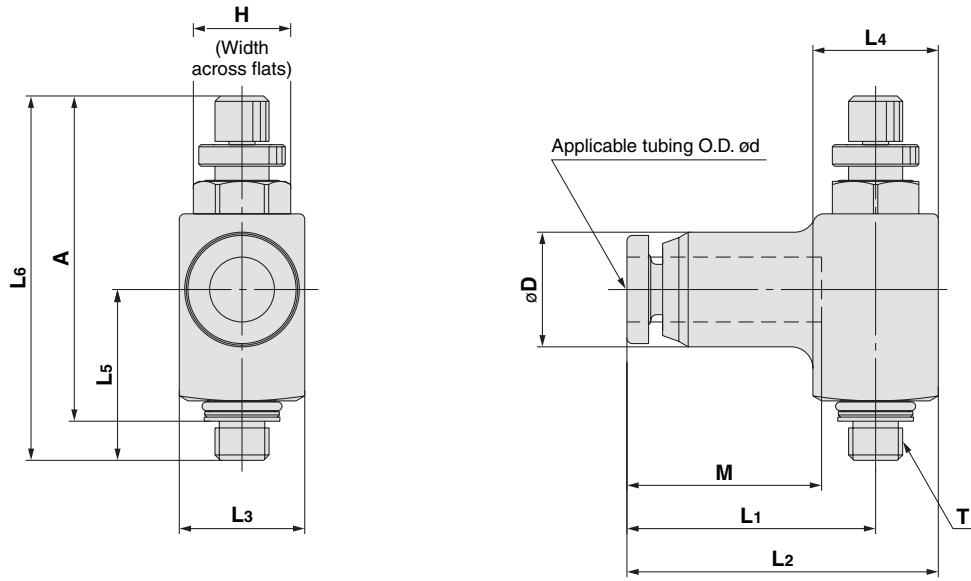
No.	Description	Material
1	Release button	Stainless steel 316
2	Guide	Stainless steel 316
3	Chuck	Stainless steel 316
4	Seal	Special FKM
5	Body A	Stainless steel 316
6	Handle	Stainless steel 316
7	Lock nut	Stainless steel 316
8	Needle	Stainless steel 316
9	Body B	Stainless steel 316

No.	Description	Material
10	O-ring	Special FKM
11	O-ring	Special FKM
12	O-ring	Special FKM
13	Ring	Stainless steel 316
14	U-seal	FKM
15	Seat ring	Stainless steel 303
16	Gasket	Stainless steel 316, Special FKM
17	Needle guide	Stainless steel 316

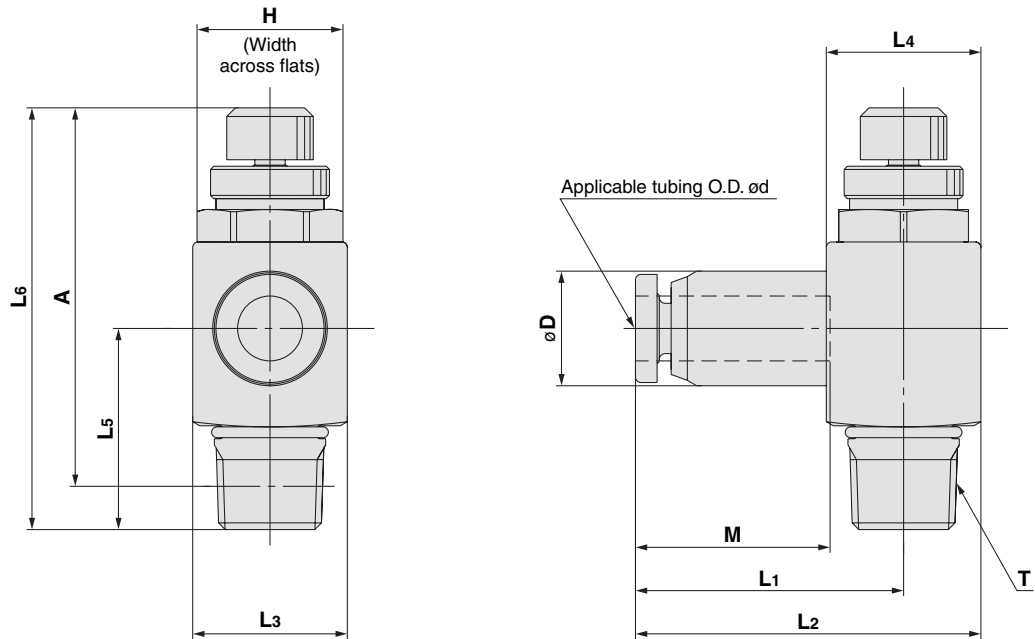
# Series ASG

## Dimensions

### ASG22□F-M5



### ASG32□F-01 ASG42□F-02 ASG52□F-03 ASG62□F-04



Model	Applicable tubing O.D. øD	T	H	D	L1	L2	L3	L4	L5	L6		A <sup>Note)</sup>		M	Weight (g)
										Max.	Min.	Max.	Min.		
ASG22□F-M5-04	4	M5 x 0.8	8	10.6	23	28.8	11.6		15.8	37.2	33.7	33.7	30.2	18.2	25.2
ASG22□F-M5-06	6			13	23.6	30.6				14	44	39	40	35	18.8
ASG32□F-01-04S	4	1/8	12	10.6	24.8	32	14.3		18.6	44	39	40	35	18.2	39.4
ASG32□F-01-06S	6			13	25.4	32.6				14.3	44	39	40	35	18.8
ASG32□F-01-08S	8	1/4	17	15	27.5	35.5	16		24.2	53.5	48.5	47.5	42.5	20.9	52.4
ASG42□F-02-06S	6			13	27.3	36.2				17.9	53.5	48.5	47.5	42.5	18.8
ASG42□F-02-08S	8	1/2	24	15	29.4	38.3	17.9		26.5	58.7	53.7	52.7	47.7	20.9	80.3
ASG42□F-02-10S	10			18	31.9	41.4				19	58.7	53.7	52.7	47.7	23
ASG52□F-03-08S	8	3/8	19	15	31.1	41.7	21.2		26.5	58.7	53.7	52.7	47.7	20.9	117.0
ASG52□F-03-10S	10			18	33.6	44.2				21.2	58.7	53.7	52.7	47.7	23
ASG52□F-03-12S	12	1/2	24	20.8	35.4	46.3	21.8		30	65.9	58.4	54.3	46.8	24.8	137.8
ASG62□F-04-12S	12			20.8	37.6	50.5				25.8	65.9	58.4	54.3	46.8	24.8

Note) Reference thread dimensions after installation.