

# Clean Speed Controller with One-touch Fitting

## Series AS-FPQ/AS-FPG



**AS-FPQ: Brass (electroless nickel plated) and  
AS-FPG: Stainless steel 304 are now available as a series.**

AS

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ASN

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ASV

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VCHC

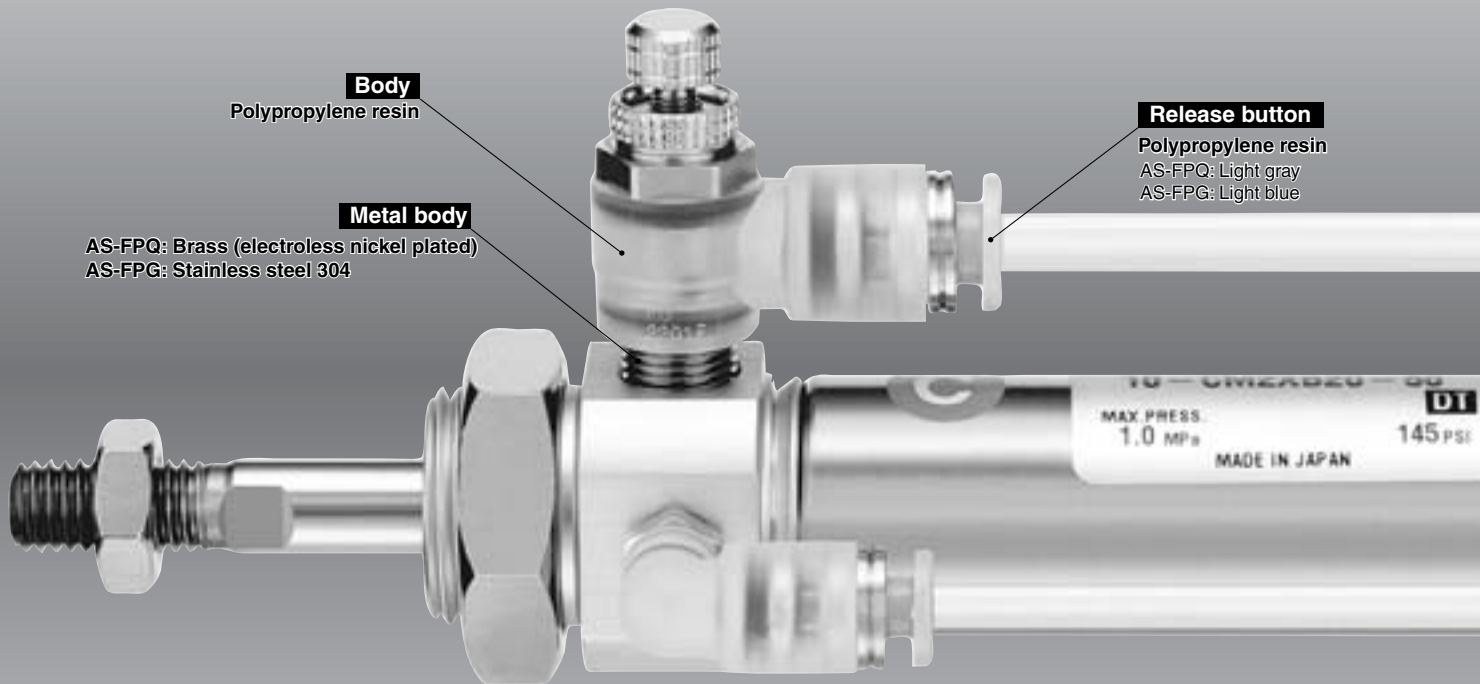
ASS

ASR  
ASQ

KE

TMH

# Low particulate generating speed controllers designed for use in clean rooms



Clean Speed Controller  
with One-touch Fitting

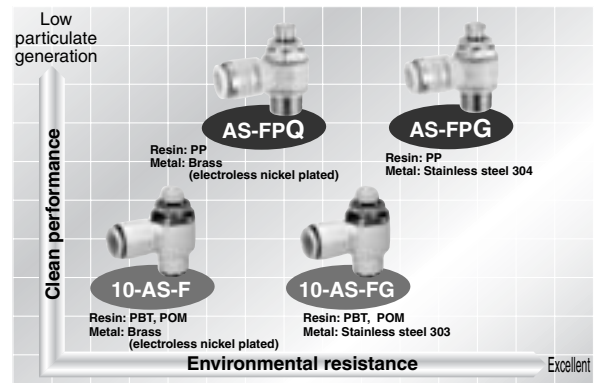
## Series AS-FPQ/FPG



**Series AS-FPQ**  
Brass (electroless nickel plated)

**Series AS-FPG**  
Stainless steel 304

Elbow type	Port size	Applicable tube O.D. (mm)					Applicable cylinder bore size (mm)
		4	6	8	10	12	
AS12□1FP□-M5	M5 x 0.8	●	●	●	●	●	6, 10, 16, 20
AS22□1FP□-01	R 1/8	●	●	●	●	●	20, 25, 32
AS22□1FP□-02	R 1/4	●	●	●	●	●	20, 25, 32, 40
AS32□1FP□-03	R 3/8	●	●	●	●	●	40, 50, 63
AS42□1FP□-04	R 1/2	●	●	●	●	●	63, 80, 100



# Clean Speed Controller with One-touch Fitting Elbow Type

# Series AS-FPQ/FPG

**AS-FPQ/Brass** (electroless nickel plated)

Release button color: Light gray

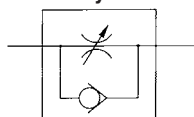


**AS-FPG/Stainless steel 304**

Release button color: Light blue



JIS Symbol



Flow Direction Symbols on Body

	Meter-out type	Meter-in type
Symbol		
JIS Symbol		

## Model

Elbow type	Port size	Applicable tubing O.D. (mm)					Applicable cylinder bore size (mm)
		4	6	8	10	12	
AS12□1FP□-M5	M5 x 0.8	●	●				6, 10, 16, 20
AS22□1FP□-01	R 1/8	●	●	●			20, 25, 32
AS22□1FP□-02	R 1/4	●	●	●	●		20, 25, 32, 40
AS32□1FP□-03	R 3/8		●	●	●	●	40, 50, 63
AS42□1FP□-04	R 1/2				●	●	63, 80, 100

## Specifications

Fluid	Air
Particulate generation grade	Grade 1 (1)
Proof pressure (20°C)	1.5 MPa (2)
Maximum operating pressure (20°C)	1 MPa (3)
Minimum operating pressure	0.1 MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 rotations (8 rotations (4))
Oil	Fluorine-based grease

Note 1) Refer to particulate generation grade classifications.

Note 2) Proof pressure is 1.5 times higher than maximum operating pressure.

Note 3) The value of the maximum operating pressure is at a temperature of 20°C. In other cases, refer to "Relationship between Operating Temperature and Max. Operating Pressure" below.

Note 4) For AS12□1FP□

## Flow Rate and Effective Area

Model		AS12□1FP□-M5		AS22□1FP□-01		AS22□1FP□-02		AS32□1FP□-03		AS42□1FP□-04	
Tubing O.D.	Metric sizes	ø4	ø6	ø4	ø6	ø8	ø10	ø6	ø8	ø10	ø12
Controlled flow	Flow rate /min (ANR)	100	180	230	260	390	460	660	790	920	1580
(free) flow	Effective area mm <sup>2</sup>	1.5	2.7	3.5	4	6	7	10	12	14	24

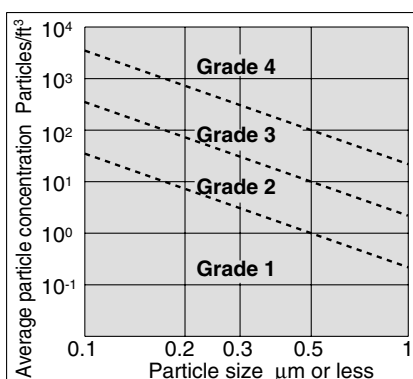
Note) Flow rate values are at a pressure of 0.5MPa, and temperature of 20°C.

## Recommended Applicable Tubing

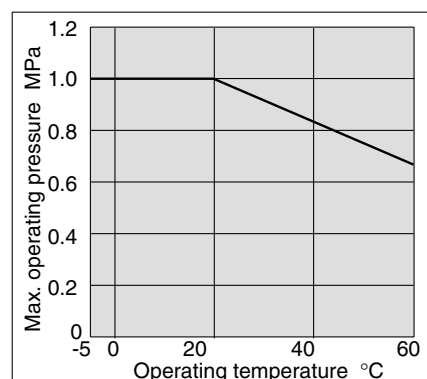
Tubing material	Clean series polyurethane tubing: Series 10
Tubing O.D.	ø4, ø6, ø8, ø10, ø12

Polyurethane tubing: Series TU, Nylon tubing: Series T and Soft nylon tubing: Series TS can also be used. However, the degree of clean performance will decline.

## Particulate Generation Grade Classifications



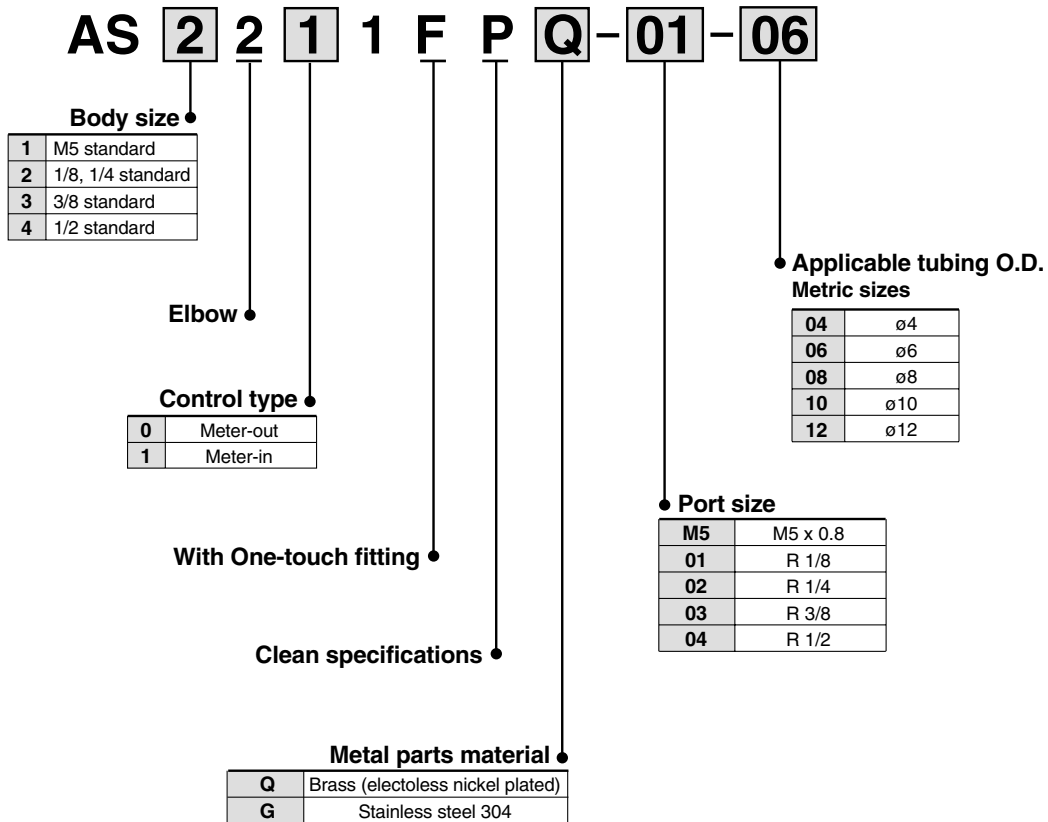
## Relation between Operating Temp. and Max. Operating Pressure



Note) Refer to back page 10 for details.

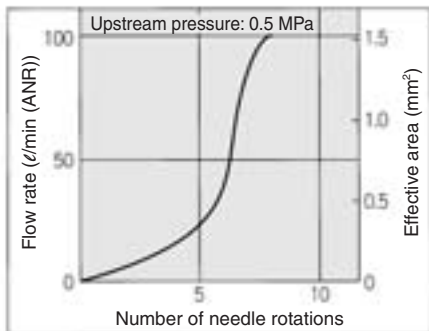
# Series AS-FPQ/FPG

## How to Order

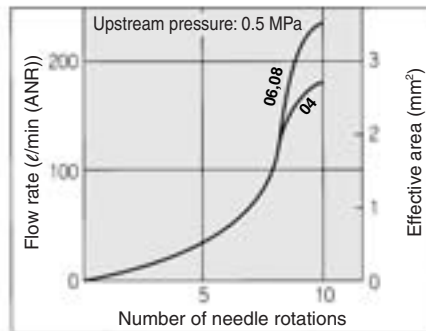


## Needle Valve/Flow Characteristics

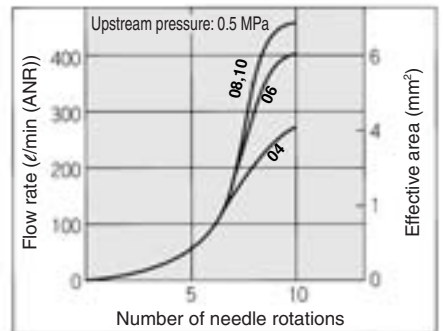
AS12□1FP□-M5



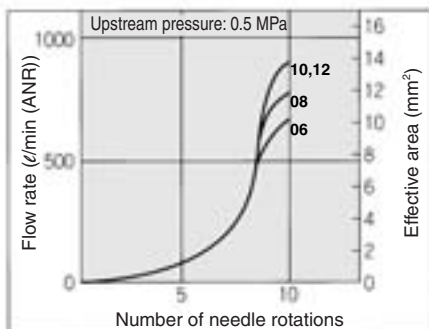
AS22□1FP□-01



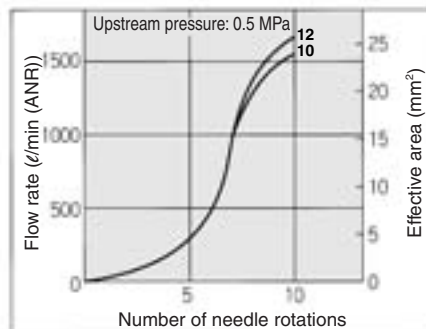
AS22□1FP□-02



AS32□1FP□-03

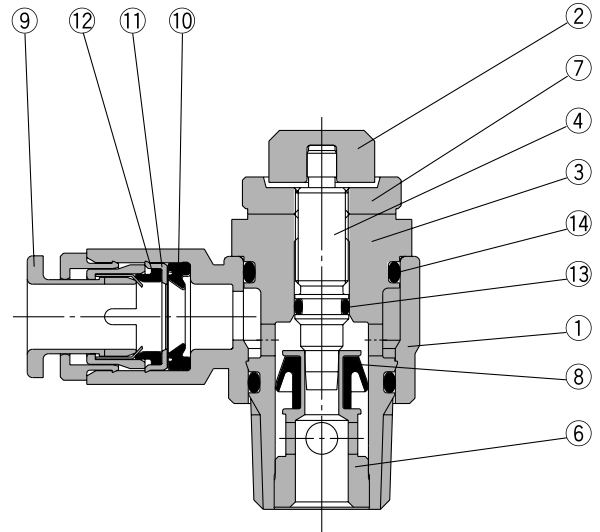
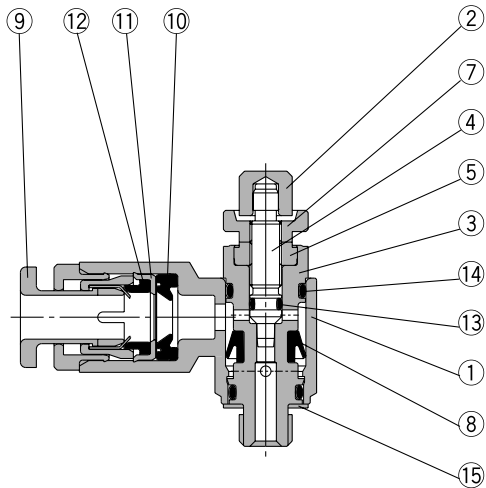


AS42□1FP□-04

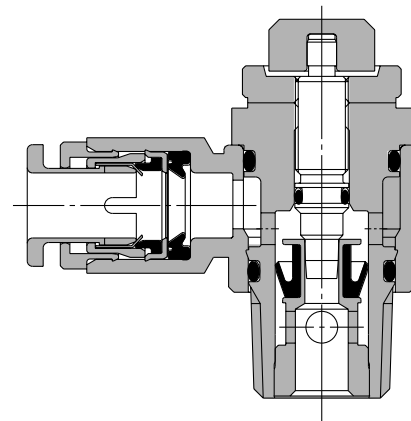
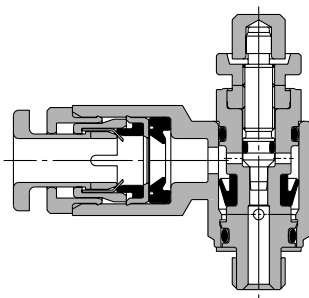


## Construction

### Meter-out type M5 type



### Meter-in type M5 type



### Component Parts

No.	Description	AS□□□1FPQ		AS□□□1FPG	
		Material	Note	Material	Note
1	Body A	Polypropylene resin		Polypropylene resin	
2	Knob	Brass	Electroless nickel plated	Stainless steel 304	
3	Body B	Brass	Electroless nickel plated	Stainless steel 304	
4	Needle	Brass	Electroless nickel plated	Stainless steel 304	
5	Needle guide	Brass	Electroless nickel plated	Stainless steel 304	
6	Seat ring	Brass	Electroless nickel plated	Stainless steel 304	
7	Lock nut	Brass	Electroless nickel plated	Stainless steel 304	
8	U seal	HNBR		HNBR	
9	Cassette	Polypropylene resin Stainless steel 304, Brass	Brass parts are electroless nickel plated	Polypropylene resin Stainless steel 304	
10	Seal	NBR		NBR	
11	Stopper	Stainless steel 304		Stainless steel 304	
12	Cushion	NBR		NBR	
13	O-ring	NBR		NBR	
14	O-ring	NBR		NBR	
15	Gasket	NBR, Stainless steel 304		NBR, Stainless steel 304	

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VCHC

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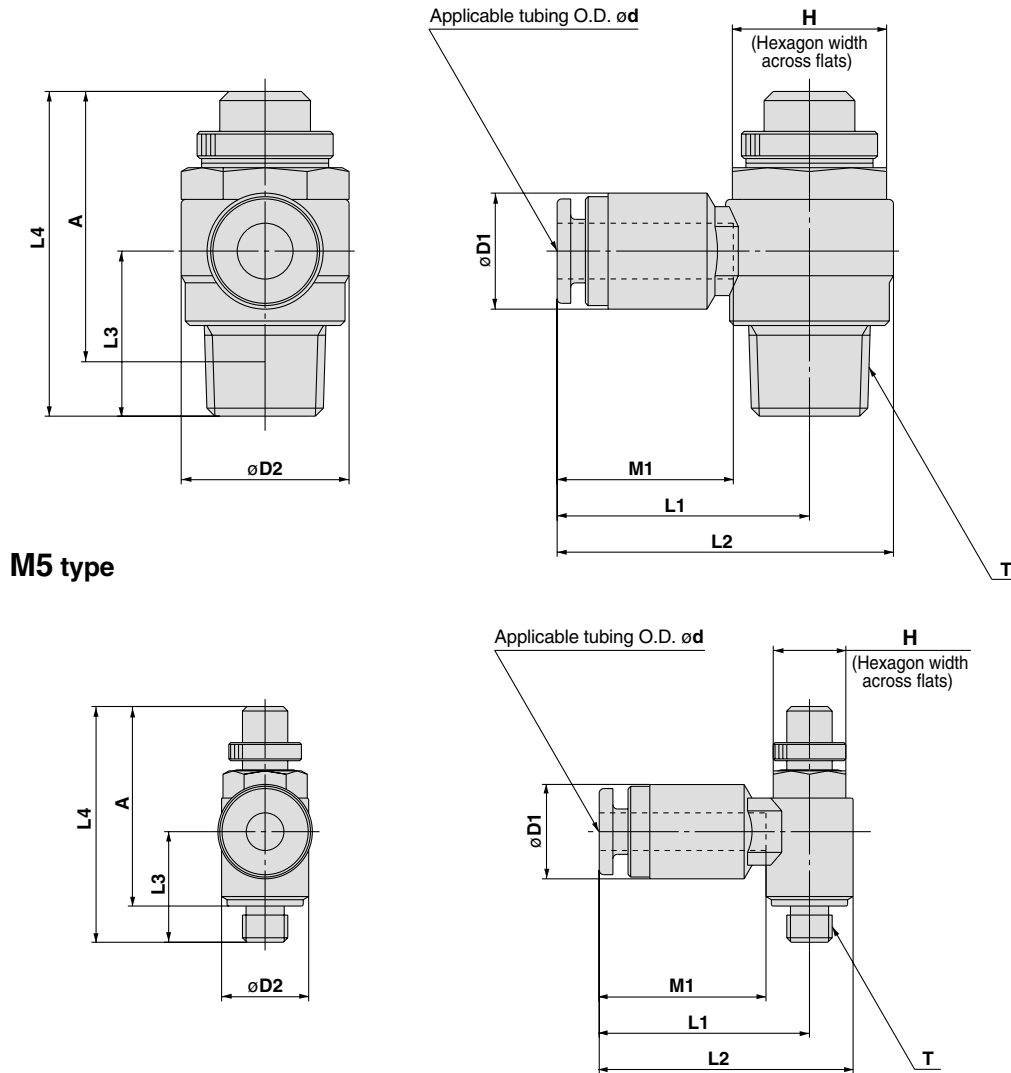
ASQ

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# Series AS-FPQ/FPG

## Dimensions



Model	Tubing O.D. $\phi$	T	H	D1	D2	L1	L2	L3 <sup>(4)</sup>	L4 <sup>(1)(4)</sup>		A <sup>(2)</sup>		M1	Mass (g) <sup>(3)</sup>			
									Max.	Min.	Max.	Min.		1*	2*		
AS12□1FP□-M5-04	4	M5 x 0.8	8	10.4	9.6	22.2	27	12.2	28.8	26	25.2	22.4	17	7	7		
AS12□1FP□-M5-06	6			12.8		23.2	28	(12.2)	(28.8)	(26)			18.5	8	8		
AS22□1FP□-01-04	4	R 1/8	12	10.4	14.2	24.3	31.4	13.4	35.5	30.5	32.4	27.4	17	17	17		
AS22□1FP□-01-06	6			12.8		25.3	32.4						(14.3)	(36.4)	(31.4)	18.5	18
AS22□1FP□-01-08	8			15.2		27.5	34.6							20.5	20	20	
AS22□1FP□-02-04	4	R 1/4	17	10.4	18.5	26.8	36	17.7	40.3	35.3	34.8	29.4	17	33	33		
AS22□1FP□-02-06	6			12.8		26.8	36						(18.2)	(40.8)	(35.8)	18.5	33
AS22□1FP□-02-08	8			15.2		29.4	38.6							20.5	35	35	
AS22□1FP□-02-10	10			18.5		37.3	46.5	18.3 (18.8)						23	38	38	
AS32□1FP□-03-06	6	R 3/8	19	12.8	23	29.4	40.9	19.8	45.8	40.8	40.6	35.6	18.5	59	55		
AS32□1FP□-03-08	8			15.2		31.9	43.4						(20.9)	(46.9)	(41.9)	20.5	61
AS32□1FP□-03-10	10			18.5		33.6	45.1							23	63	59	
AS32□1FP□-03-12	12			20.9		34.8	46.3							24	65	61	
AS42□1FP□-04-10	10	R 1/2	24	18.5	28.6	35.6	49.9	24.5	57.2	49.7	49.9	42.4	23	107	100		
AS42□1FP□-04-12	12			20.9		37.2	51.5	(25.4)	(58.1)	(50.6)			24	109	102		

Note 1) Reference dimensions

Note 2) Reference dimension for threads after installation

Note 3) 1\* is the weight for type AS□2□1FPQ (brass + electroless nickel plated), 2\* is the weight for type AS□2□1FPG (Stainless steel 304).

Note 4) Dimensions of AS□2□1FPQ, ( ): AS□2□1FPG



# Series *AS-FPQ/FPG* Specific Product Precautions

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

## Handling

### **Caution**

1. Store away from direct sunlight at 40°C or less.
2. Open the inner package of the double packaging in a clean room or other clean environment.

## Piping

### **Caution**

1. Be sure to use sealant tape or liquid gasket at the taper thread part. Using without sealant tape or liquid gasket can cause air leakage.

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