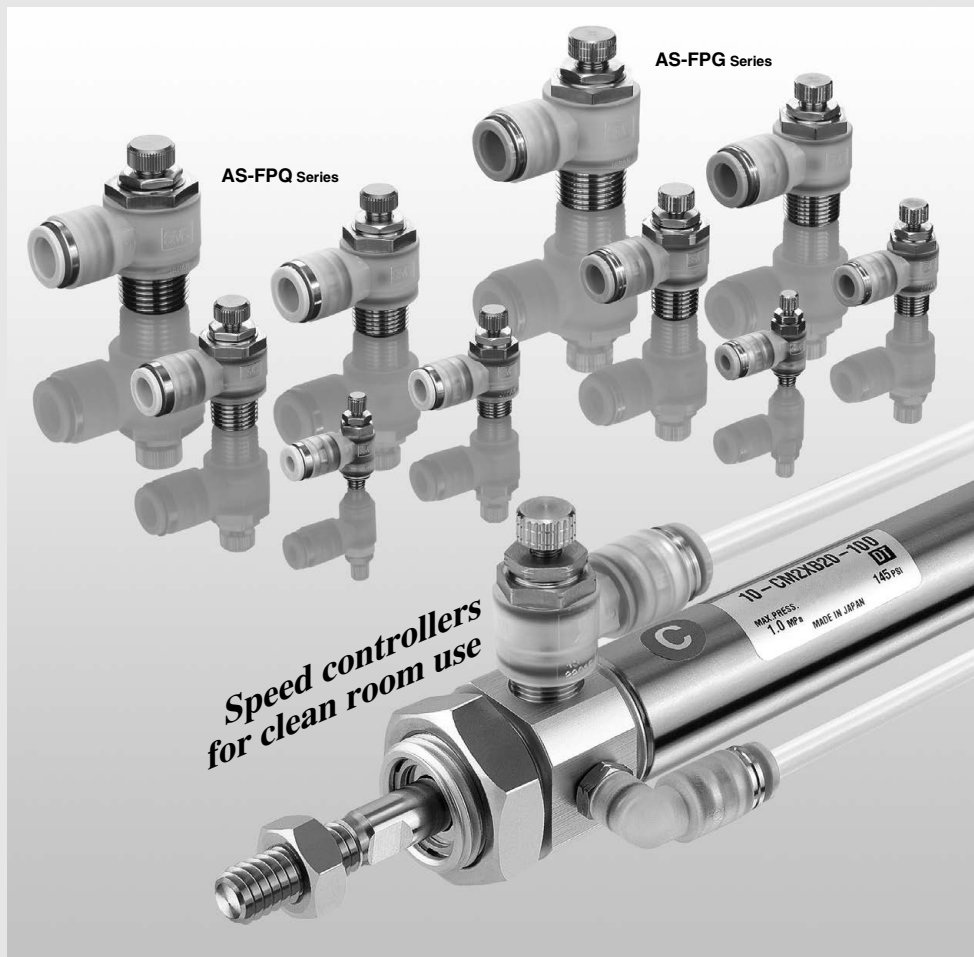


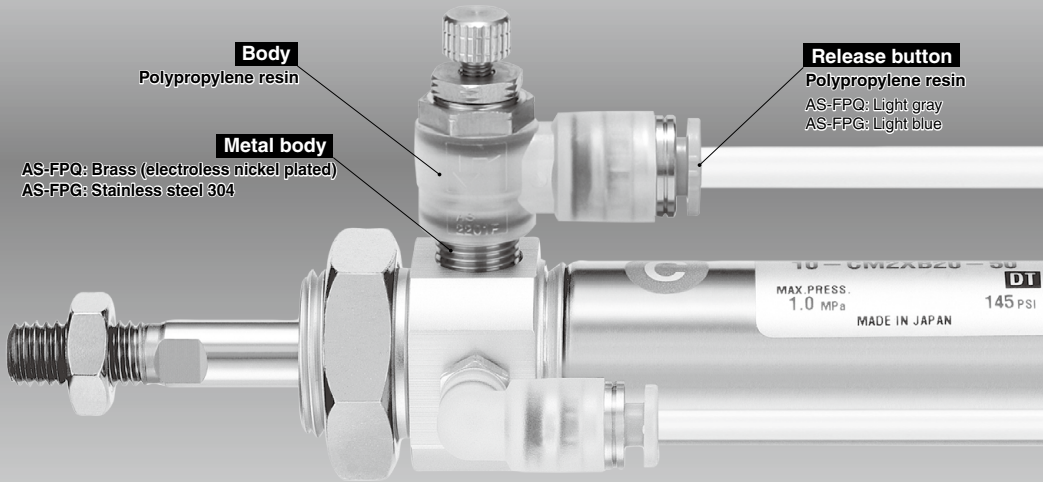
# Clean Speed Controller with One-touch Fitting *AS-FPQ/AS-FPG Series*

RoHS



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

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



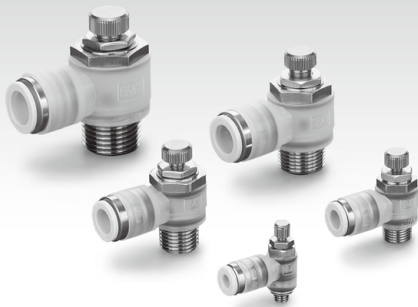
**Body**  
Polypropylene resin

**Release button**  
Polypropylene resin  
AS-FPQ: Light gray  
AS-FPG: Light blue

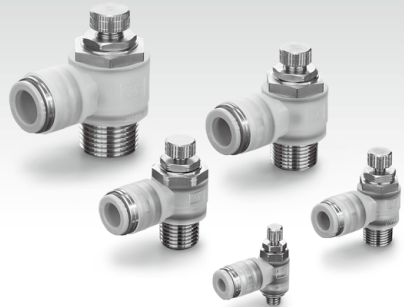
**Metal body**  
AS-FPQ: Brass (electroless nickel plated)  
AS-FPG: Stainless steel 304

Clean Speed Controller  
with One-touch Fitting

## AS-FPQ/FPG Series

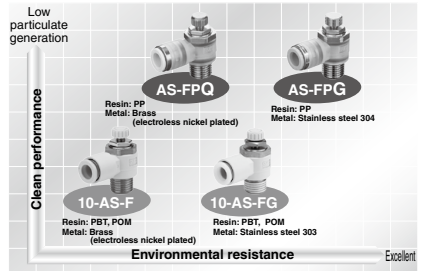


**AS-FPQ Series**  
Brass (electroless nickel plated)



**AS-FPG Series**  
Stainless steel 304

Elbow type	Port size	Applicable tube O.D. (mm)				
		4	6	8	10	12
AS12□1FP□-M5	M5 x 0.8	●	●	●	●	●
AS22□1FP□-01	R 1/8	●	●	●	●	●
AS22□1FP□-02	R 1/4	●	●	●	●	●
AS32□1FP□-03	R 3/8	●	●	●	●	●
AS42□1FP□-04	R 1/2	●	●	●	●	●



# Clean Speed Controller with One-touch Fitting Elbow Type

RoHS

# AS-FPQ/FPG Series

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

Release button color: Light gray

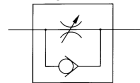


**AS-FPG/Stainless steel 304**

Release button color: Light blue



Symbol



Flow Direction Symbols on Body

	Meter-out type	Meter-in type
Indication symbol		
Symbol		

## Model

Elbow type	Port size	Applicable tubing O.D. (mm)				
		4	6	8	10	12
AS12□1FP□-M5	M5 x 0.8	●	●			
AS22□1FP□-01	R 1/8	●	●	●		
AS22□1FP□-02	R 1/4	●	●	●	●	
AS32□1FP□-03	R 3/8		●	●	●	●
AS42□1FP□-04	R 1/2				●	●

## Specifications

Fluid	Air
Cleanliness class (ISO class)	Class 3 (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)
Oil	Fluorine-based grease

Note 1) The maximum operating pressure is the value at 20°C. Refer to the operating pressure curve for other temperatures.

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.

## Flow Rate and Sonic Conductance

Model	AS12□1FP□-M5	AS22□1FP□-01		AS22□1FP□-02		AS32□1FP□-03		AS42□1FP□-04				
		ø4	ø6	ø4	ø6	ø8	ø10	ø10	ø12			
Tubing O.D.	Metric sizes ø6	ø4	ø6	ø4	ø6	ø8	ø10	ø10	ø12			
Controlled flow	Flow rate L/min (ANR)	100	180	230	260	390	460	660	790	920	1580	1710
	Sonic conductance dm <sup>3</sup> /(s·bar)	0.28	0.5	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	

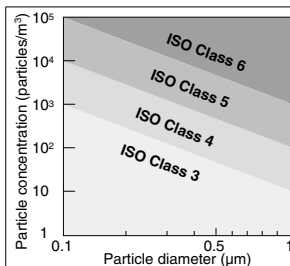
Note) Flow rate values are at a pressure of 0.5 MPa, and temperature of 20°C.

## Recommended Applicable Tubing

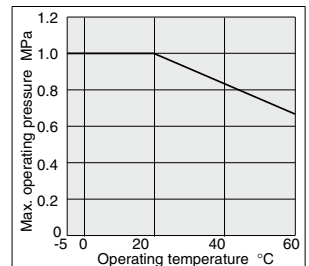
Tubing material	Clean series polyurethane tubing: 10 series
Tubing O.D.	ø4, ø6, ø8, ø10, ø12

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

## Particle Generation Classification



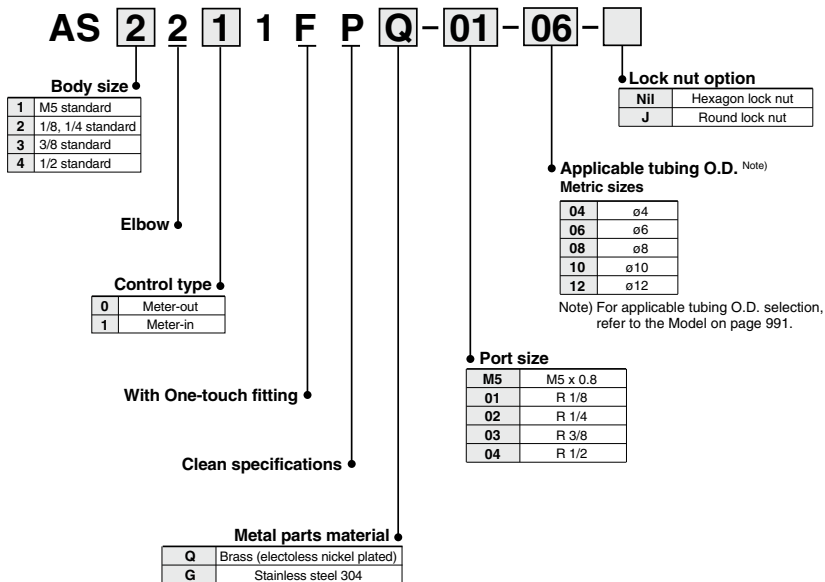
## Relation between Operating Temp. and Max. Operating Pressure



Note) Refer to the [Web Catalog](#) for details.

# AS-FPQ/FPG Series

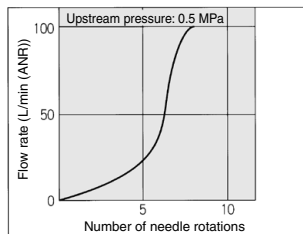
## How to Order



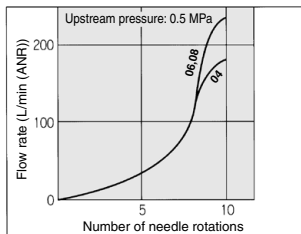
## Needle Valve/Flow Rate Characteristics

(Note) The flow rate characteristics are representative values.

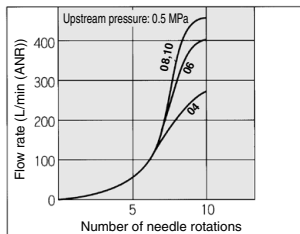
AS12□1FP□-M5



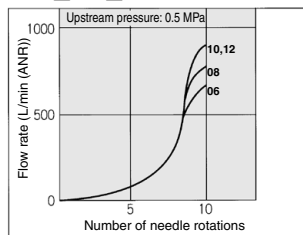
AS22□1FP□-01



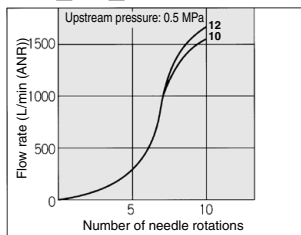
AS22□1FP□-02



AS32□1FP□-03

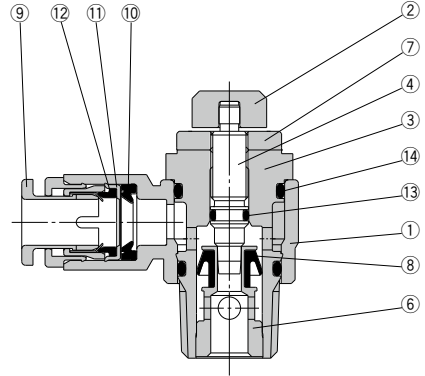
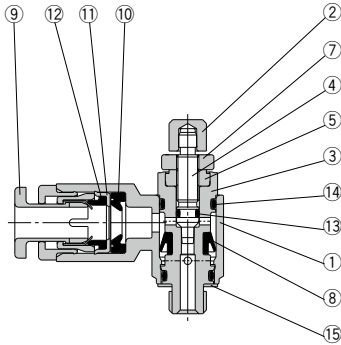


AS42□1FP□-04

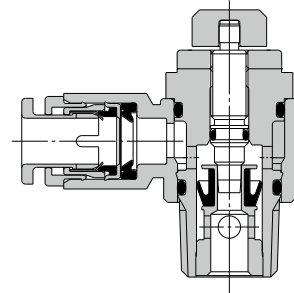
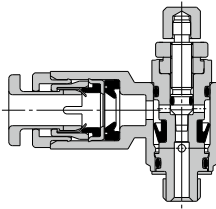


## Construction

### Meter-out type M5 type



### Meter-in type M5 type



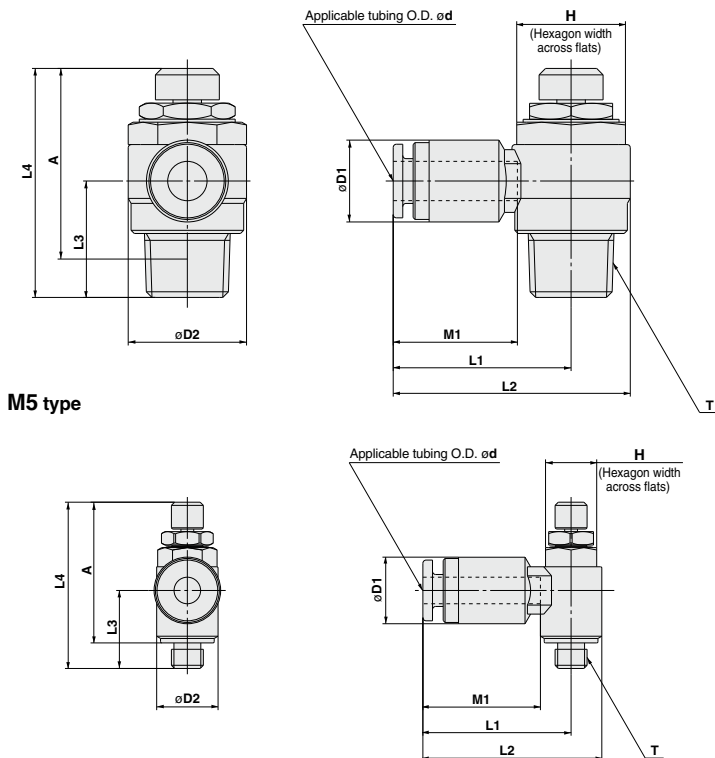
## Component Parts

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	Steel <sup>(1)</sup>	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	

(Note) The material of the lock nut option-J (round type) is brass. However, note that only the AS2□1FPQ uses steel.

# AS-FPQ/FPG Series

## Dimensions



M5 type

Model	Tubing O.D. d	T	H	D1	D2	L1	L2	L3 (4)	L4 (1) (4)		A (2)		M1	Weight (g) (3)	
									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)
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)
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)
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)
AS32□1FP□-03-10	10			18.5		33.6	45.1	(20.9)					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			21.7		38.2	52.5						(25.4)	(58.1)	(50.6)

Note 1) Reference dimensions

Note 2) Reference dimension for threads after installation

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

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



# AS-FPQ/FPG Series Specific Product Precautions

Be sure to read this before handling the products. Refer to page 11 for safety instructions and pages 19 to 22 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.