

Speed Controller with One-touch Fittings

Series AS

Elbow Style, Universal Style

RoHS

Minimizes installation time and cost

Reduces the mounting height and enables compact machinery design. Effective area is larger than the former model.

Tube swivels 360°

Universal style permits 360° piping swivel.

Application to inch size tubing

- Metric size (Release bushing: White color)
ø3.2, ø4, ø6, ø8, ø10, ø12
- Inch size (Release bushing: Orange color)
ø1/8", ø5/32", ø3/16", ø1/4", ø5/16", ø3/8", ø1/2"

Operating pressure 1MPa max.

Accepts

Nylon, Soft nylon and Polyurethane tubing.

Retainer prevents accidental loss of needle

Optional: Hexagonal lock nut, Nickel plated option

Number of needle rotations has been increased (8 to 10 turns)

The increased number of needle rotations (8 to 10 turns) permits easier control at lower speed.

Model

Elbow	Universal	Port size	Applicable tube O.D.												Applicable cylinder bore size (mm)				
			Metric size						Inch size										
			2	3.2	4	6	8	10	12	1/8"	5/32"	3/16"	1/4"	5/16"		3/8"	1/2"		
AS12□1F-M3	AS13□1F-M3	M3	●	●	●							●	●						2.5, 4, 6
AS12□1F-M5	AS13□1F-M5	M5	●	●	●	●						●	●						6, 10, 16, 20
AS12□1F-U10/32	AS13□1F-U10/32	10-32UNF	●	●	●							●	●						6, 10, 16, 20
AS22□1F-01	AS23□1F-01	R(PT)1/8		●	●	●	●	●*				●	●	●	●				20, 25, 32
AS22□1F-02	AS23□1F-02	R(PT)1/4			●	●	●	●				●	●	●	●	●			20, 25, 32, 40
AS32□1F-02	AS33□1F-02	R(PT)1/4				●	●	●	●				●	●	●				40, 50, 63
AS32□1F-03	AS33□1F-03	R(PT)3/8					●	●	●	●				●	●	●			40, 50, 63
AS42□1F-04	AS43□1F-04	R(PT)1/2							●	●						●	●		63, 80, 100

Note 1) *Only elbow style.

Note 2) Distinction between meter-out/meter-in types by appearance.

They are distinguished by the lock nut. The lock nut on the meter-out type is zinc chromated, while the meter-in type is black zinc chromate plated.

Note 3) ●: Brass parts are electroless nickel plated, provided as standard (N specifications).

Note 4) AS12□1F-M5-02 applicable cylinder bore sizes are 2.5, 4, 6.

Specifications

Proof pressure	1.5MPa
Max. operating pressure	1MPa
Min. operating pressure	0.1MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 turns (8 turns ⁽¹⁾)
Applicable tubes ⁽²⁾	Nylon, Soft nylon, Polyurethane
Option	Sealant ⁽³⁾ , Hexagon lock nut, Electroless nickel plated ⁽⁴⁾

Note 1) AS12□1F-M5, AS12□1F-U10/32

AS13□1F-M5, AS13□1F-U10/32

Note 2) Pay attention to the maximum operating pressure when soft nylon or Polyurethane is used. (Refer to p.7-146 and 7-147 in "Best Pneumatics" for further information.)

Note 3) Nickel plated AS12□1F and AS13□1F are standard, not equipped with a seal.

Note 4) Brass parts are all electroless nickel plated.

Air Flow/Effective Area

Model	AS12□1F-M3 AS13□1F-M3 AS12□1F-M5-02	AS12□1F-M5 AS13□1F-M5	AS22□1F-01 AS23□1F-01	AS22□1F-02 AS23□1F-02	AS32□1F AS33□1F	AS42□1F AS43□1F							
	Tube O.D.	Metric size ø2, ø3.2, ø4 Inch size ø1/8", ø5/32"	ø3.2, ø4, ø6	ø3.2, ø4 ø6, ø8, ø10	ø4 ø6 ø8, ø10	ø6 ø8 ø10, ø12	ø10 ø12						
Controlled (Free) flow	Air (l/min(ANR)) Eff. area (mm ²)	20 0.3	100 1.5	180 2.7	230 3.5	260 4	390 6	460 7	660 10	790 12	920 14	1580 24	1710 26

Notes) Supply pressure: 0.5MPa, Temperature: 20°C.
U10/32 has the same specification as M5.

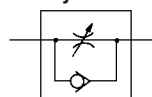
Elbow style



Universal style



JIS Symbol



Indication of air flow direction on body

	Meter-out	Meter-in
Symbol		
JIS Symbol		

With One-touch Fittings: Elbow/Universal Style *Series AS*

How to Order

AS 2 2 1 1F — **01** — **06** **S** — —

Body size

1	M3, M5 standard
2	1/8, 1/4 standard
3	3/8 standard
4	1/2 standard

Style

2	Elbow
3	Universal

Control

0	Meter out
1	Meter in

With One-touch fittings

Thread

—	Meter thread (M3, M5)
—	Unified thread (10-32UNF)
N	R(PT)
N	NPT

Port size

M3	M3
M5	M5
U10/32	10-32UNF
01	1/8
02	1/4
03	3/8
04	1/2

Lock nut option

—	Hexagon lock nut
J	Round lock nut

Option

—	None
S	With sealant
N	Electroless nickel plating

*If more than one option is required, write option parts numbers in the order of "S", "K", "N".

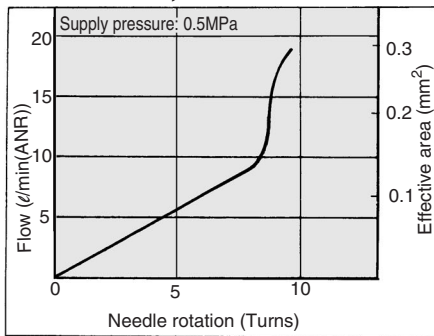
Applicable tube O.D.

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

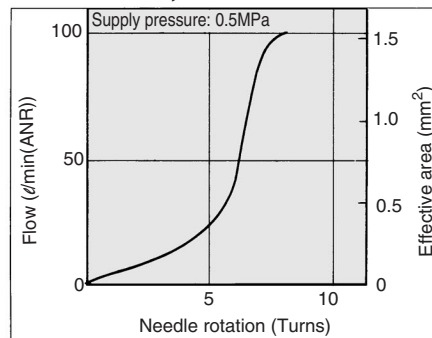
*ø1/8" tube should be used.

Needle Valve/Flow Characteristics

**AS1201F-M3, AS1211F-M3
AS1301F-M3, AS1311F-M3**

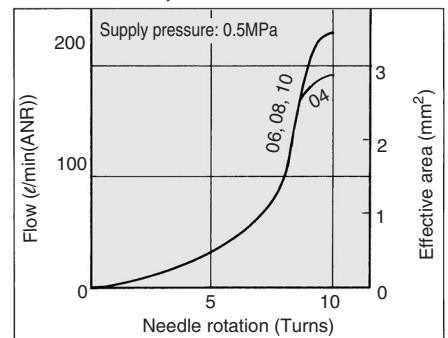


**AS1201F-M5, AS1211F-M5
AS1301F-M5, AS1311F-M5**

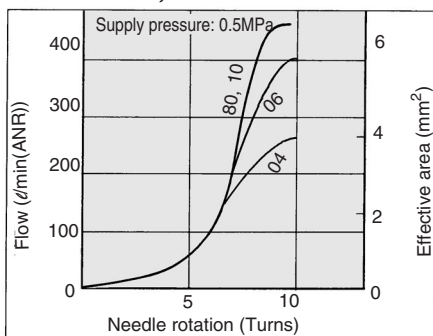


Note) "-U10/32" is the same as "M5".

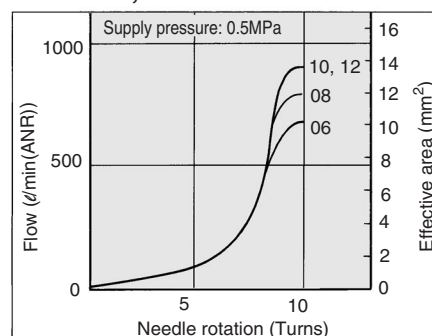
**AS2201F-01, AS2211F-01
AS2301F-01, AS2311F-01**



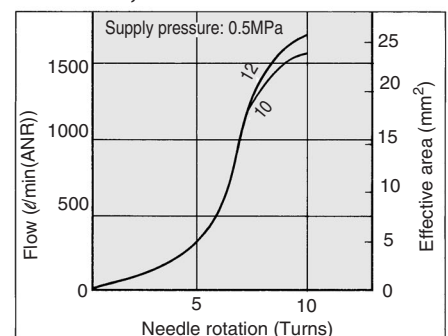
**AS2201F-02, AS2211F-02
AS2301F-02, AS2311F-02**



**AS3201F, AS3211F
AS3301F, AS3311F**



**AS4201F, AS4211F
AS4301F, AS4311F**



Series AS

Made to Order

1 Lubricant: Vaseline **X12**

Ex.) AS2201F-01-04S-X12

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

Ex.) AS2201F-01-04S-X21

Note 1) Not particle-free

Note 2) Throttle valve is only compatible with the part no. of the meter-out type.

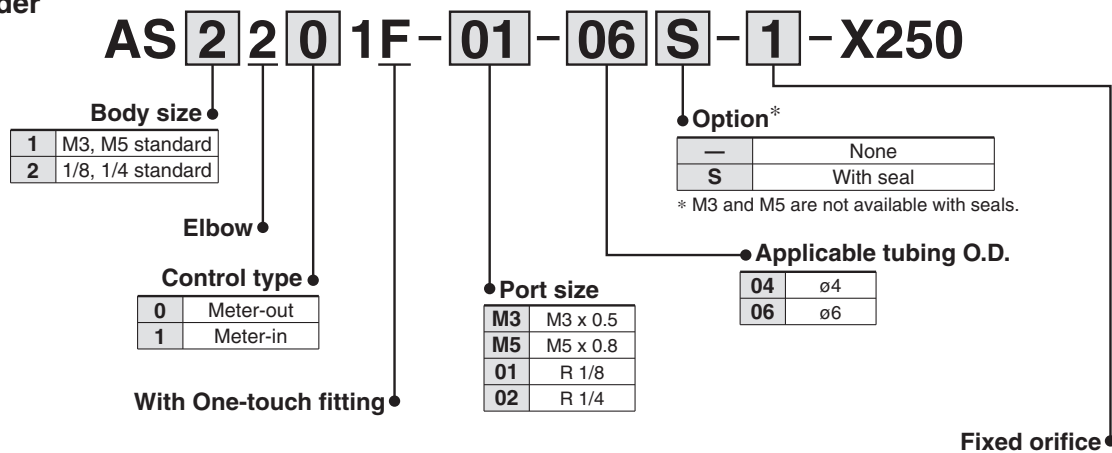
3 Throttle Valve (Without Check Valve) **X214**

Ex.) AS2201F-01-04S-X214

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

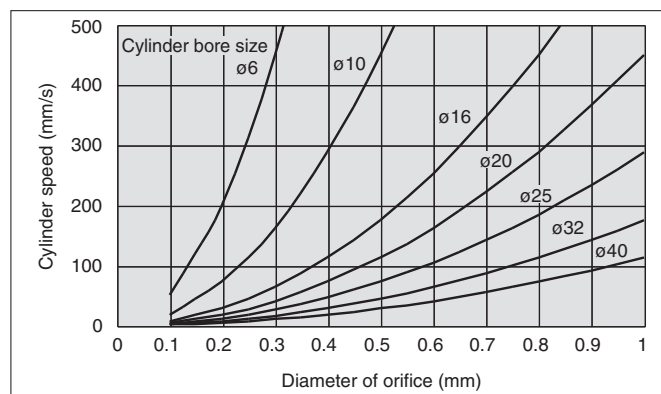
4 Fixed Throttle (No needle function) **X250**

How to Order



Symbol	Fixed orifice	Applicable model			
		AS12□1F-M3-04	AS12□1F-M5-04 AS12□1F-M5-06	AS22□1F-01-04 AS22□1F-01-06	AS22□1F-02-06
1	ø0.1	●	●	●	●
2	ø0.2	●	●	●	●
3	ø0.3	●	●	●	●
4	ø0.4	●	●	●	●
5	ø0.5	●	●	●	●
6	ø0.6	●	●	●	●
7	ø0.7	●	●	●	●
8	ø0.8	●	●	●	●
9	ø0.9	●	●	●	●
10	ø1.0	●	●	●	●

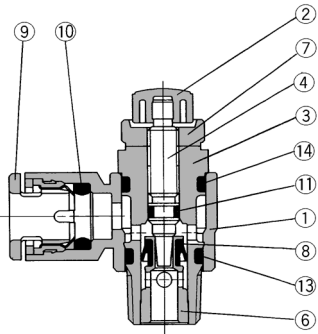
The graph below shows the relationship between orifices for each cylinder bore and cylinder speed. Please refer to it during selection. The cylinder speeds on the graph are theoretical values. Actual values may differ depending on the piping conditions or sliding friction, so please use this graph as a guideline only.



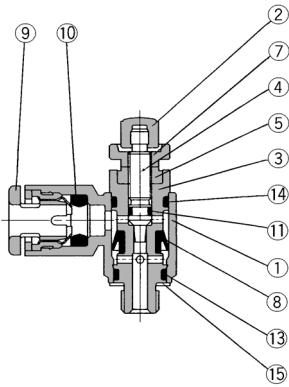
With One-touch Fittings: Elbow/Universal Style *Series AS*

Construction

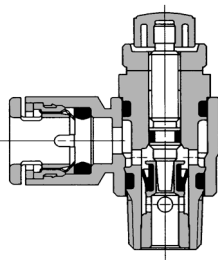
**Elbow style
Meter-out**



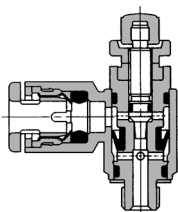
**M3 port
M5 port
U10/32 port**



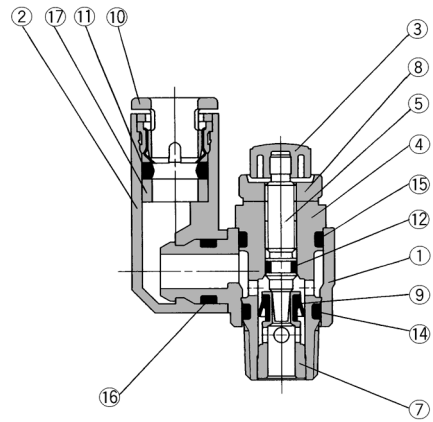
Meter-in



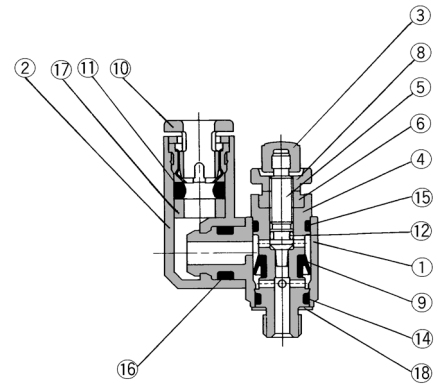
**M3 port
M5 port
U10/32 port**



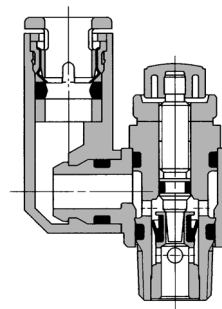
**Universal style
Meter-out**



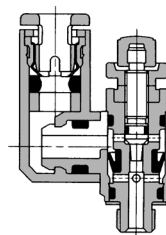
**M3 port
M5 port
U10/32 port**



Meter-in



**M3 port
M5 port
U10/32 port**

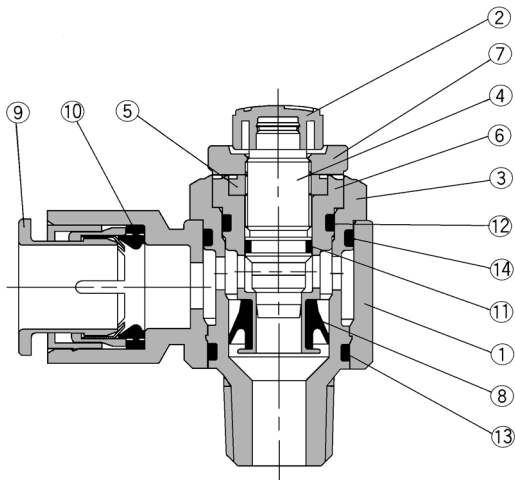


Series AS

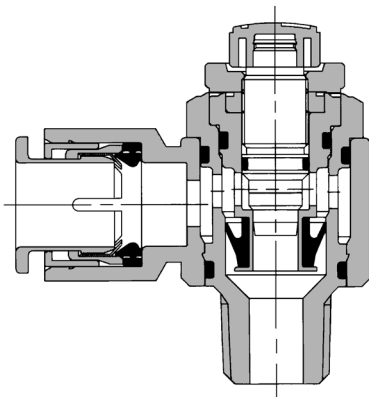
Construction

Elbow style

Meter-out AS3201F-02



Meter-in AS3211F-02



Component Parts

No.	Description	Material	Note
①	Body A	PBT	
②	Handle	PBT ⁽¹⁾	
③	Body B	Brass ⁽²⁾	Electroless nickel plated
④	Needle	Brass	Electroless nickel plated
⑤	Needle guide	Brass	Electroless nickel plated
⑥	Seat ring	Brass	See Note 3
⑦	Lock nut	Steel	Zinc chromated ⁽⁴⁾
⑧	U-packing	HNBR	
⑨	Cassette	POM, Stainless steel	
⑩	Packing	NBR	
⑪	O ring	NBR	
⑫	O ring	NBR	
⑬	O ring	NBR	
⑭	O ring	NBR	
⑮	Gasket	NBR, Stainless steel	

Note 1) AS12□1F-M3-02 and AS12□1F-M5-02 are made of electroless nickel plated brass.

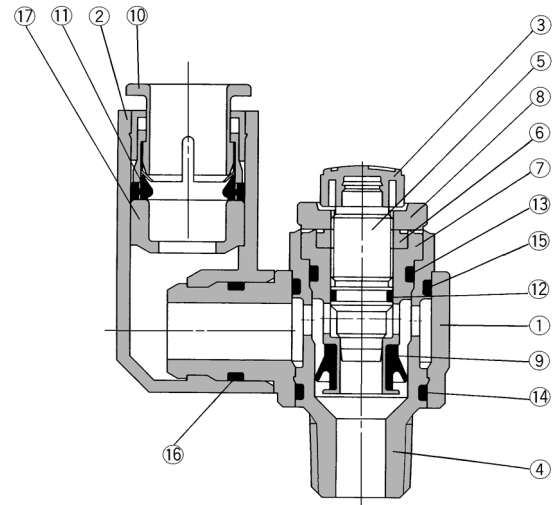
Note 2) AS12□1F-M3: Stainless

Note 3) AS22□1F, AS32□1F-02: Electroless nickel plated

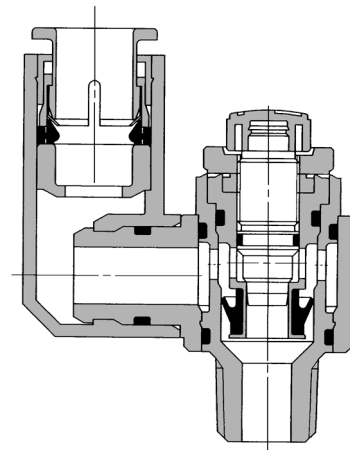
Note 4) Meter-in type: Black zinc chromated

Universal style

Meter-out AS3301F-02



Meter-in AS3311F-02



Component Parts

No.	Description	Material	Note
①	Body A	PBT	
②	Elbow body	PBT	
③	Handle	PBT	
④	Body B	Brass ⁽¹⁾	Electroless nickel plated
⑤	Needle	Brass	Electroless nickel plated
⑥	Needle guide	Brass	Electroless nickel plated
⑦	Seat ring	Brass	See Note 2
⑧	Lock nut	Steel	Zinc chromated ⁽³⁾
⑨	U-packing	HNBR	
⑩	Cassette	POM, Stainless steel	
⑪	Packing	NBR	
⑫	O ring	NBR	
⑬	O ring	NBR	
⑭	O ring	NBR	
⑮	O ring	NBR	
⑯	O ring	NBR	
⑰	Spacer	POM	
⑱	Gasket	NBR, Stainless steel	

Note 1) AS13□1F-M3: Stainless

Note 2) AS23□1F, AS33□1F-02: Electroless nickel plated

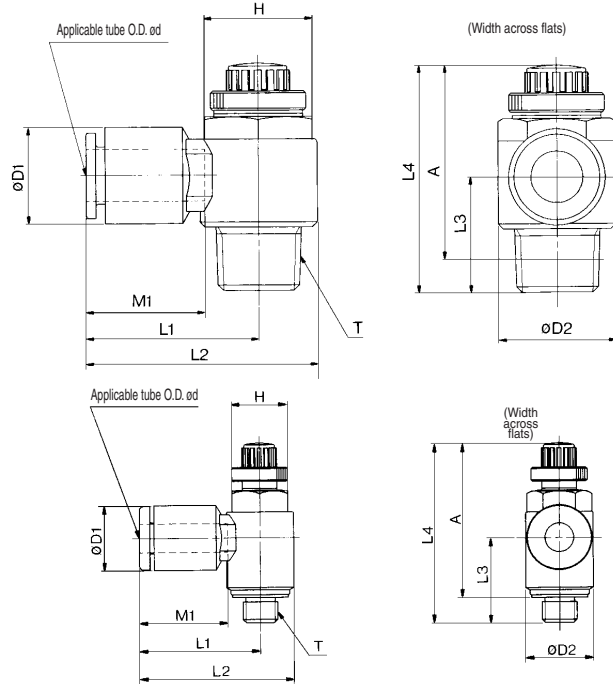
Note 3) Meter-in type: Black zinc chromated

With One-touch Fittings: Elbow/Universal Style *Series AS*



Elbow Style

M3 port
M5 port
U10/32 port



Metric

Model	Tube O.D. d	T	H ⁽¹⁾	D1	D2	L1	L2	L3	L4		A ⁽²⁾		M1	Weight (g)
									MAX.	MIN.	MAX.	MIN.		
AS12□1F-M3-02	2	M3	5.5	6	5.2	11.4	—	11	26.8	24.3	24.3	21.8	8.8	2.4
AS12□1F-M3-02		M5	7	—	—	—	—	11.5	27.3	24.8	—	—	—	3
AS12□1F-M3-23	3.2	M3	5.5	8.4	7.2	16.1	19.7	10.5	26.6	24.1	24	21.5	12.7	4
AS12□1F-M3-04				9.3										
AS12□1F-M5-23	3.2	M5	8	8.4	9.6	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1F-U10/32-23				10-32UNF										
AS12□1F-M5-04	4	M5	8	9.3	9.6	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1F-U10/32-04														
AS12□1F-M5-06	6	M5	11.6	9.6	18.1	22.9	11.7	13.5	28.6	25.8	25	22.2	12.7	7
AS12□1F-U10/32-06														
AS22□1F-01-23	3.2	R(PT) 1/8	12 (12.7)	9.3	14.2	20.4	27.5	13.4	35.2	30.2	32.1	27.1	12.7	16
AS22□1F-01-04	4			9.3										20.4
AS22□1F-01-06	6	R(PT) 1/8	12 (12.7)	11.6	14.2	20.4	27.5	13.4	35.2	30.2	32.1	27.1	12.7	17
AS22□1F-01-08	8			15.2										25.3
AS22□1F-01-10	10	R(PT) 1/8	12 (12.7)	18.5	14.2	33.1	40.2	14.1	35.2	30.2	32.1	27.1	12.7	21
AS22□1F-02-04	4			10.4										25.2
AS22□1F-02-06	6	R(PT) 1/8	17 (17.5)	12.8	18.5	25.2	34.4	17.7	39.9	34.9	34.4	29.4	12.7	17
AS22□1F-02-08	8			15.2										27.2
AS22□1F-02-10	10	R(PT) 1/8	17 (17.5)	18.5	14.2	33.9	43.2	19.5	39.9	34.9	34.4	29.4	12.7	36
AS32□1F-02-06	6			12.8										27.8
AS32□1F-02-08	8	R(PT) 1/4	19	15.2	23	29.5	41	21.3	48.3	43.3	42.8	37.8	12.7	18.5
AS32□1F-02-10	10			18.5										31.8
AS32□1F-02-12	12	R(PT) 1/4	19	20.9	23	32.8	44.3	21.3	48.3	43.3	42.8	37.8	12.7	69
AS32□1F-03-06	6			12.8										27.8
AS32□1F-03-08	8	R(PT) 3/8	23	15.2	19.8	29.5	41	19.8	45.4	40.4	40.2	35.2	12.7	18.5
AS32□1F-03-10	10			18.5										31.8
AS32□1F-03-12	12	R(PT) 3/8	23	20.9	19.8	32.8	44.3	21.3	48.3	43.3	42.8	37.8	12.7	61
AS42□1F-04-10	10			18.5										33.6
AS42□1F-04-12	12	R(PT) 1/2	24 (23.8)	20.9	28.6	34.6	48.9	24.5	56.7	49.2	49.6	42.1	12.7	101
AS42□1F-04-13	13			21.7										35.2

Inch

Model	Tube O.D. d	T	H ⁽¹⁾	D1	D2	L1	L2	L3	L4		A ⁽²⁾		M1	Weight (g)
									MAX.	MIN.	MAX.	MIN.		
AS12□1F-M3-01	1/8"	M3	5.5	8.4	7.2	16.1	19.7	10.5	26.6	24.1	24	21.5	12.7	4
AS12□1F-M3-03	5/32"			9.3										
AS12□1F-M5-01	1/8"	M5	8	8.4	9.6	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1F-U10/32-01	1/8" 10-32UNF			—										
AS12□1F-M5-03	5/32"	M5	8	9.3	10-32UNF	17.3	22.1	12.3	28.6	25.8	25	22.2	12.7	7
AS12□1F-U10/32-03	5/32" 10-32UNF			—										
AS22□1F-01-01	1/8"	1/8	12 (12.7)	9.3	14.2	20.4	27.5	13.4	35.2	30.2	32.1	27.1	12.7	16
AS22□1F-01-03	5/32"			9.3										20.4
AS22□1F-01-05	3/16"	1/8	12 (12.7)	11.4	14.2	23.1	30.2	13.4	35.2	30.2	32.1	27.1	12.7	17
AS22□1F-01-07	1/4"			13.2										23.9
AS22□1F-01-09	5/16"	1/8	12 (12.7)	15.2	14.2	25.3	32.4	14.1	35.2	30.2	32.1	27.1	12.7	21
AS22□1F-02-03	5/32"			17 (17.5)										10.4
AS22□1F-02-05	3/16"	1/4	17 (17.5)	11.4	18.5	24.9	34.2	17.7	39.9	34.9	34.4	29.4	12.7	17
AS22□1F-02-07	1/4"			13.2										18.5
AS22□1F-02-09	5/16"	1/4	17 (17.5)	15.2	14.2	27.2	36.4	19.5	39.9	34.9	34.4	29.4	12.7	21
AS22□1F-02-11	3/8"			17.9										27.8
AS22□1F-02-11	3/8"	1/4	19	17.9	23	33.9	43.2	19.5	48.3	43.3	42.8	37.8	12.7	21
AS32□1F-02-07	1/4"			13.2										27.8
AS32□1F-02-09	5/16"	3/8	19	15.2	23	29.5	41	21.3	48.3	43.3	42.8	37.8	12.7	18.5
AS32□1F-02-11	3/8"			17.9										31.8
AS32□1F-03-07	1/4"	3/8	19	13.2	23	27.8	39.3	19.5	48.3	43.3	42.8	37.8	12.7	17
AS32□1F-03-09	5/16"			15.2										29.5
AS32□1F-03-11	3/8"	3/8	19	17.9	23	31.8	43.3	19.5	48.3	43.3	42.8	37.8	12.7	21
AS42□1F-04-11	3/8"			13.2										27.8
AS42□1F-04-13	1/2"	1/2	24 (23.8)	17.9	28.6	33.6	47.9	24.5	56.7	49.2	49.6	42.1	12.7	100
AS42□1F-04-13	1/2"			21.7										35.2

Note 1) () are the dimensions of NPT thread.
Note 2) Reference thread dimensions after being screwed in.

Note 1) () are the dimensions of NPT thread.
Note 2) Reference thread dimensions after being screwed in.

Elbow Style

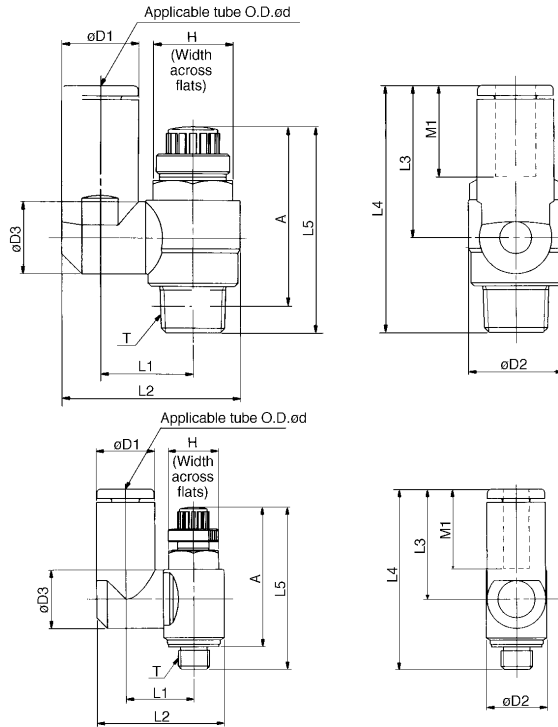
File	Model	Port size	Detail No.							
			Tube O.D.							
			3.2	4	6	8	10	12		
SAS21F1N	AS12□1F-M3-□	M3	#1	#2	—	—	—	—	—	—
	AS12□1F-M5-□	M5	#3	#4	#5	—	—	—	—	—
	AS22□1F-01-□S	R(PT)1/8	#6	#7	#8	#9	#10	—	—	—
	AS22□1F-02-□S	R(PT)1/4	—	#11	#12	#13	#14	—	—	—
	AS32□1F-03-□S	R(PT)3/8	—	—	#15	#16	#17	#18	—	—
	AS42□1F-04-□S	R(PT)1/2	—	—	—	—	#19	#20	—	—

Series AS



Universal Style

M3 port
M5 port
U10/32 port



Metric

Model	d	T	H ⁽¹⁾	D1	D2	D3	L1	L2	L3	L4	L5		A ⁽²⁾		M1	Weight (g)
											MAX.	MIN.	MAX.	MIN.		
AS13□1F-M3-23	3.2	M3	5.5	8.4	7.2	7.2	10.1	17.9	17.6	28.3	26.6	24.1	24	21.5	12.7	4
AS13□1F-M3-04	4			9.3				18.3	17.9	28.6						
AS13□1F-M5-23	3.2	M5	8	8.4	9.6	9.3	10.8	20.3	17.5	28.7	28.6	25.8	25	22.2	7	12.7
AS13□1F-U10/32-23		10-32UNF														
AS13□1F-M5-04	4	M5	8	9.3	9.6	9.3	10.8	20.3	17.5	28.7	28.6	25.8	25	22.2	7	12.7
AS13□1F-U10/32-04		10-32UNF														
AS13□1F-M5-06	6	M5	8	11.6	9.6	9.3	10.8	20.3	17.5	28.7	28.6	25.8	25	22.2	7	12.7
AS13□1F-U10/32-06		10-32UNF														
AS23□1F-01-23	3.2	1/8	12	8.4	14.2	9.3	13.1	24.4	17.5	30.9	35.2	30.2	32.1	27.1	12.7	17
AS23□1F-01-04	4			9.3				24.9								
AS23□1F-01-06	6	1/8	12	11.6	14.2	10.9	14	26.9	22.9	36.3	35.2	30.2	32.1	27.1	13.5	21
AS23□1F-01-08	8			15.2				30.9								
AS23□1F-02-04	4	1/4	17	10.4	18.5	10.9	16.2	30.6	21.9	39.6	39.9	34.9	34.4	29.4	16	32
AS23□1F-02-06	6			12.8				18.4								
AS23□1F-02-08	8	1/4	17	15.2	18.5	12.9	18.3	35.2	28.2	45.1	39.9	34.9	34.4	29.4	18.5	36
AS23□1F-02-10	10			18.5				20.2								
AS33□1F-02-06	6	3/8	19	12.8	23	12.9	20.6	38.5	25.2	46.5	48.3	43.3	42.8	37.8	17	60
AS33□1F-02-08	8			15.2				12.9								
AS33□1F-02-10	10	3/8	19	18.5	23	16.2	23	43.7	32.6	53.9	48.3	43.3	42.8	37.8	21	67
AS33□1F-02-12	12			20.9				23								
AS33□1F-03-06	6	3/8	19	12.8	23	12.9	20.6	38.5	25.2	45	45.4	40.4	40	35	17	56
AS33□1F-03-08	8			15.2				12.9								
AS33□1F-03-10	10	3/8	19	18.5	23	16.2	23	43.7	32.6	52.4	45.4	40.4	40	35	21	63
AS33□1F-03-12	12			20.9				23								
AS43□1F-04-10	10	1/2	24	18.5	28.6	16.2	25.8	49.4	32.6	57.1	56.7	49.2	49.6	42.1	21	104
AS43□1F-04-12	12			(23.8)				21.7								

Note 1) () are the dimensions of NPT thread
Note 2) Reference thread dimensions after being screwed in

Inch

Model	Tube O.D. d	T	H ⁽¹⁾	D1	D2	D3	L1	L2	L3	L4	L5		A ⁽²⁾		M1	Weight (g)
											MAX.	MIN.	MAX.	MIN.		
AS13□1F-M3-01	1/8"	M3	5.5	8.4	7.2	7.2	10.1	17.9	17.6	28.3	26.6	24.1	24	21.5	12.7	4
AS13□1F-M3-03	5/32"			9.3				18.3	17.9	28.6						
AS13□1F-M5-01	1/8"	M5	8	8.4	9.6	9.3	10.8	20.3	17.5	28.7	28.6	25.8	25	22.2	7	12.7
AS13□1F-U10/32-01	1/8"															
AS13□1F-M5-03	5/32"	M5	8	9.3	9.6	9.3	10.8	20.3	17.5	28.7	28.6	25.8	25	22.2	7	12.7
AS13□1F-U10/32-03	5/32"															
AS23□1F-01-01	1/8"	1/8	12	8.4	14.2	9.3	13.1	24.4	17.5	30.9	35.2	30.2	32.1	27.1	12.7	17
AS23□1F-01-03	5/32"			9.3				24.9								
AS23□1F-01-05	3/16"	1/8	12	11.6	14.2	10.9	14	26.8	23.9	30.9	35.2	30.2	32.1	27.1	16.5	18
AS23□1F-01-07	1/4"			13.2				29.9								
AS23□1F-01-09	5/16"	1/8	12	15.2	14.2	12.9	16.2	30.9	28.2	40.8	35.2	30.2	32.1	27.1	18.5	21
AS23□1F-02-03	5/32"			10.4				10.9								
AS23□1F-02-05	3/16"	1/4	17	11.6	18.5	10.9	16.2	31.1	23.9	42.1	39.9	34.9	34.4	29.4	16.5	33
AS23□1F-02-07	1/4"			13.2				18.5								
AS23□1F-02-09	5/16"	1/4	17	15.2	18.5	12.9	18.3	35.2	28.2	47.4	39.9	34.9	34.4	29.4	18.5	39
AS23□1F-02-11	3/8"			18.5				20.2								
AS33□1F-02-07	1/4"	3/8	19	13.2	23	12.9	20.6	38.7	25.6	50	48.3	43.8	42.8	37.8	17	60
AS33□1F-02-09	5/16"			15.2				12.9								
AS33□1F-02-11	3/8"	3/8	19	18.5	23	16.2	23	43.7	32.6	56.2	48.3	43.8	42.8	37.8	21	69
AS33□1F-03-07	1/4"			13.2				12.9								
AS33□1F-03-09	5/16"	3/8	19	15.2	23	12.9	20.6	39.7	28.2	48	45.4	40.4	40.2	35.2	18.5	59
AS33□1F-03-11	3/8"			18.5				16.2								
AS43□1F-04-11	3/8"	1/2	24	18.5	28.6	16.2	25.8	49.4	32.6	54.4	56.7	49.2	49.6	42.1	21	104
AS43□1F-04-13	1/2"			(23.8)				21.7								

Note 1) () are the dimensions of NPT thread
Note 2) Reference thread dimensions after being screwed in

Universal Style

File	Model	Port size	Detail No.					
			Tube O.D.					
			3.2	4	6	8	10	12
SAS31F1N	AS13 □1F-M3-□	M3	#1	#2	—	—	—	—
	AS13 □1F-M5-□	M5	#3	#4	#5	—	—	—
	AS23 □1F-01-□S	R(PT)1/8	#6	#7	#8	#9	—	—
	AS23 □1F-02-□S	R(PT)1/4	—	#10	#11	#12	#13	—
	AS33 □1F-03-□S	R(PT)3/8	—	—	#14	#15	#16	#17
	AS43 □1F-04-□S	R(PT)1/2	—	—	—	—	#18	#19

Speed Controller with One-touch Fittings

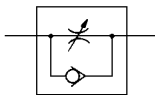
Series AS

Metal Body Elbow Style

RoHS



JIS Symbol

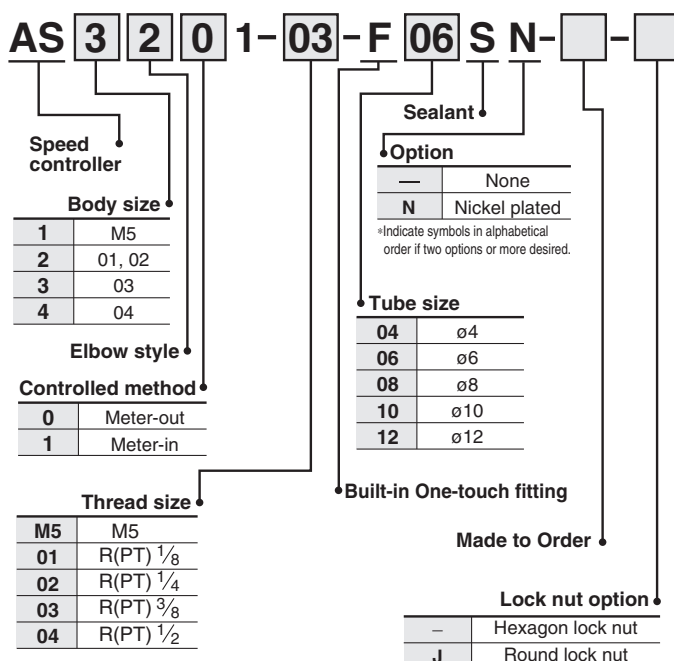


Model

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

Note 1) ●: Nickel plated model is standard.

How to Order



Speed controller with built-in One-touch fitting for metal body specifications

- Uses flame resistant resin as standard. (UL standard V-0)

Specifications

Proof pressure	1.5MPa
Max. operating pressure	1MPa
Min. operating pressure	0.1MPa
Ambient and fluid temperature	-5 to 60°C
Number of needle rotations	10 turns (8 turns ⁽¹⁾)
Applicable tubes	Nylon, Soft nylon, Polyurethane
Option	Hexagon lock nut, Electroless nickel plated ⁽²⁾

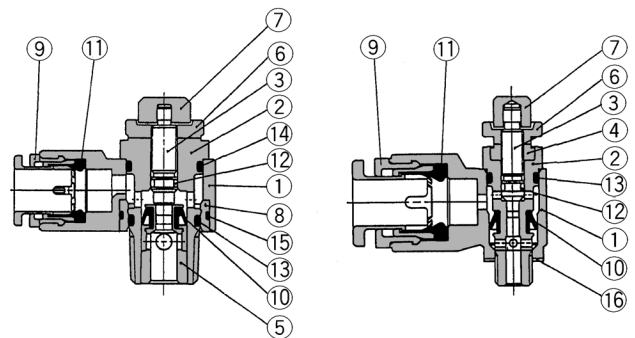
Distinction between meter-out/meter-in types by appearance. They are distinguished by the lock nut.

The lock nut on the meter-out type is zinc chromated while the meter-in type is black zinc chromate plated.

Note 1) M5 size

Note 2) All the brass parts are electroless nickel plated.

Construction



Component Parts

No.	Description	Material	Notes
①	Body A	Zinc alloy	Chromated
②	Body B	Brass	Electroless nickel plated
③	Needle	Brass	Electroless nickel plated
④	Needle guide	Brass	M5: Electroless nickel plated
⑤	Seat ring	Brass	(1)
⑥	Lock nut	Steel	Zinc chromated ⁽²⁾
⑦	Handle	Brass	Electroless nickel plated
⑧	Bushing	PBT	
⑨	Cassette	POM/Stainless steel	
⑩	U packing	NBR	
⑪	Packing	NBR	
⑫	O ring	NBR	
⑬	O ring	NBR	
⑭	O ring	NBR	
⑮	O ring	NBR	
⑯	Gasket	NBR/Stainless steel	Only M5 port

Note 1) *AS2□□1*: Electroless nickel plated

Note 2) Meter-in type: Black zinc chromated

Series AS

Made to Order

1 Lubricant: Vaseline **X12**

Ex.) AS1201-M5-F04-X12

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

Ex.) AS1201-M5-F04-X21

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

Ex.) AS1201-M5-F04-X214

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

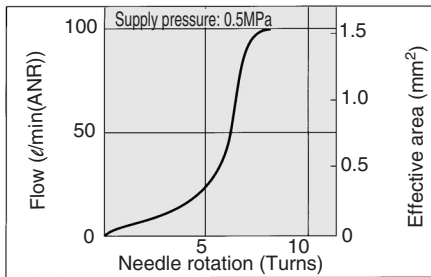
Note) Throttle valve is only compatible with the part no. of the meter-out type.

Flow/Effective area

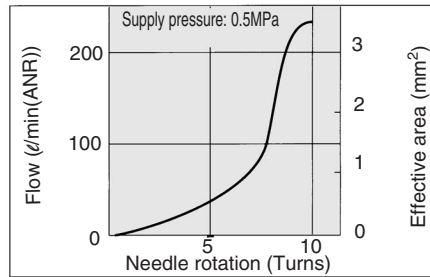
Model		AS12□1-M5	AS22□1-01	AS22□1-02		AS32□1-03		AS42□1-04	
Tube O.D		ø4, ø6	ø6, ø8	ø6	ø8	ø8	ø10	ø10	ø12
Controlled (Free) flow	Flow (ℓ/min (ANR))	100	230	390	460	790	920	1580	1710
	Effective area (mm ²)	1.5	3.5	6	7	12	14	24	26

Needle Valve/Flow Characteristics

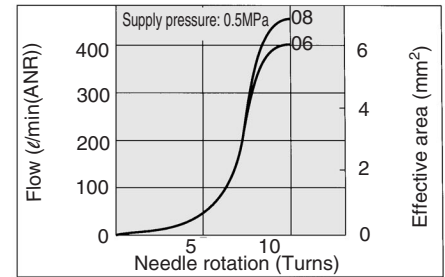
AS12□1



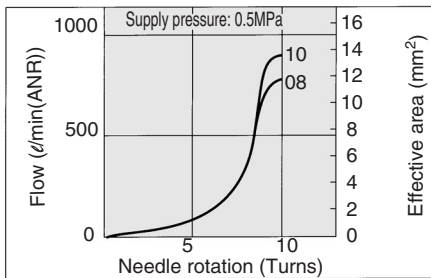
AS22□1-01



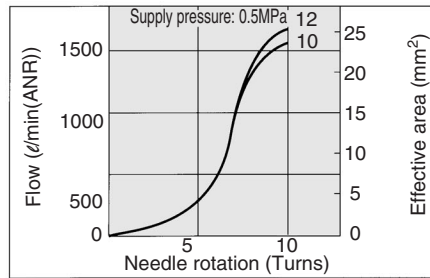
AS22□1-02



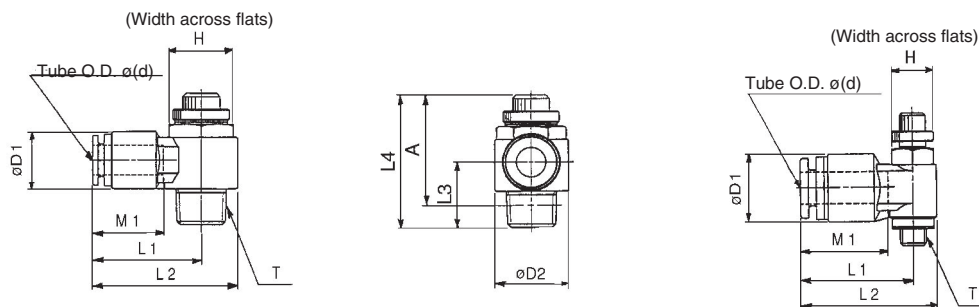
AS32□1



AS42□1



Dimensions



Model	Applicable tube O.D. ød	T	H	D1	D2	L1	L2	L3	L4		A ⁽¹⁾		M1	Weight (g)
									MAX	MIN	MAX	MIN		
AS12□1-M5-F04	4	M5	8	13	9	21	25.5	11.2	28.3	25.5	25	22.2	16	12.7
AS12□1-M5-F06	6					21.5	26						17	12.5
AS22□1-01-F06S	6	R (PT) ^{1/8}	12	15.5	14.6	26.6	33.9	14.7	35.5	30.5	32.4	27.4	17	33.7
AS22□1-01-F08S	8												18.5	30.7
AS22□1-02-F06S	6	R (PT) ^{1/4}	17	15.5	19.5	28.7	38.5	17.7	40.3	35.3	34.8	29.8	17	56.3
AS22□1-02-F08S	8												18.5	52.1
AS22□1-02-F10S	10												21	56.2
AS32□1-03-F08S	8												27.4	21
AS32□1-03-F10S	10	R (PT) ^{3/8}	19	18.2	24.3	32.7	44.9	20.1	45.8	40.8	40.6	35.6	18.5	92.9
AS32□1-03-F10S	10												21	87.6
AS42□1-04-F10S	10	R (PT) ^{1/2}	24	22.3	28.5	36.1	50.4	25.5	54.7	49.7	47.4	42.4	21	153.8
AS42□1-04-F12S	12												22	145.5

Note 1) Reference dimensions of thread M5, R (PT) after being screwed in

Speed Controller with One-touch Fittings

Series AS

In-line Style

RoHS

Minimizes installation time and cost

Reduce the mounting height and enables compact machinery design. Effective area is larger than the former model.

Application to inch size tubing

- **Metric size** (Release bushing: White color)
 $\phi 3.2, \phi 4, \phi 6, \phi 8, \phi 10, \phi 12$
- **Inch size** (Release bushing: Orange color)
 $\phi 1/8", \phi 5/32", \phi 3/16", \phi 1/4", \phi 5/16", \phi 3/8", \phi 1/2"$

Operating pressure 1MPa max.

Applicable tube material

Nylon, Soft nylon and Polyurethane tubing

Retainer prevents accidental loss of needle

Optional: Hexagonal lock nut, Nickel plated option

Number of needle rotations has been increased (8 to 10 turns)

The increased number of needle rotations (8 to 10 turns) permits easy control at low speed.

In-line style

Model

Model	Applicable tube 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"	
AS1001F	●	●	●				●	●							6, 10, 16, 20
AS2001F		●	●				●	●	●						20, 25, 32
AS2051F			●	●					●	●	●				20, 25, 32, 40
AS3001F			●	●	●	●			●	●	●				40, 50, 63
AS4001F					●	●						●	●		63, 80, 100

Note) ●: Nickel plated model is standard.

Specifications

Proof pressure	1.5MPa
Max. operating pressure	1MPa
Min. operating pressure	0.1MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 turns (8 turns ⁽¹⁾)
Applicable tubes ⁽²⁾	Nylon, Soft nylon, Polyurethane
Option	Hexagonal lock nut, Nickel plated ⁽³⁾

Note 1) AS1001F

Note 2) Pay attention to the maximum operating pressure when soft nylon or polyurethane is used. (Refer to p. 7-146 and 7-147 in "Best Pneumatics for further information.)

Note 3) Brass parts are all electroless nickel plated.

Air Flow/Effective Area

Model	AS1001F	AS2001F	AS2051F	AS3001F	AS4001F						
Applicable tube O.D.	Metric size $\phi 3.2, \phi 4, \phi 6$ Inch size $\phi 1/8", \phi 5/32"$	$\phi 4$ $\phi 5/32"$	$\phi 6$ $\phi 3/16", \phi 1/4"$	$\phi 6$ $\phi 3/16"$ $\phi 1/4, \phi 5/16$	$\phi 6$ $\phi 1/4$ $\phi 5/16$ $\phi 3/8"$	$\phi 8$ $\phi 10, \phi 12$ $\phi 3/8"$ $\phi 1/2"$					
Controlled (Free) Flow	Air flow ($\phi/\text{min(ANR)}$) Effective area (mm^2)	100 1.5	130 2	230 3.5	290 4.5	460 7	420 6.5	660 10	920 14	1050 16	1390 21

Note) Supply pressure: 0.5MPa, Temperature: 20°C.

How to Order

JIS Symbol

AS 400 1F — 12 K

Body size

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

Option*

—	None
K	Hexagonal lock nut
N	Electroless nickel plated

*Indicate symbols in alphabetical order if two options or more desired.

With One-touch fittings

Applicable tube O.D.

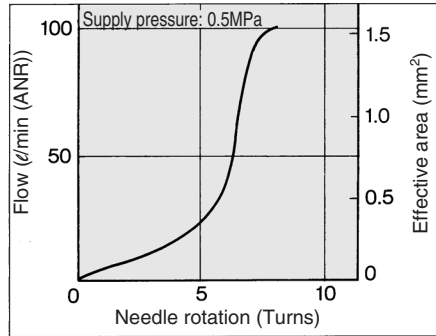
Metric size	Inch size
23	$\phi 3.2^*$
04	$\phi 4$
06	$\phi 6$
08	$\phi 8$
10	$\phi 10$
12	$\phi 12$
01	$\phi 1/8"$
03	$\phi 5/32"$
05	$\phi 3/16"$
07	$\phi 1/4"$
09	$\phi 5/16"$
11	$\phi 3/8"$
13	$\phi 1/2"$

*Use $\phi 1/8"$ tubing.

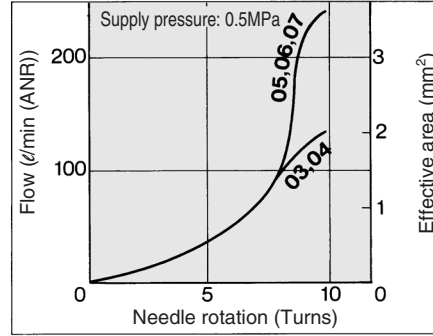
Series AS

Needle Valve/Flow Characteristic

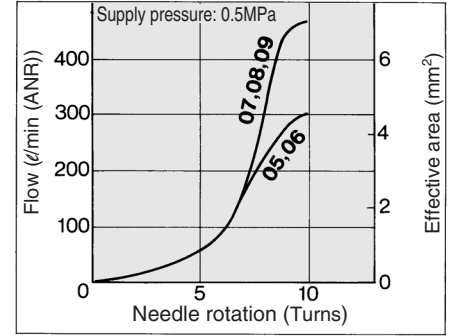
AS1001F



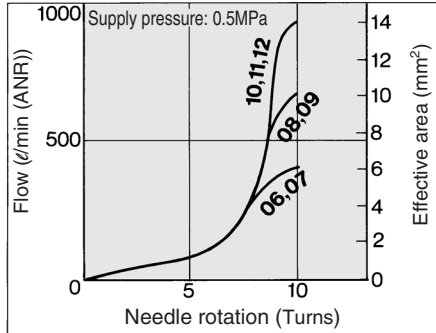
AS2001F



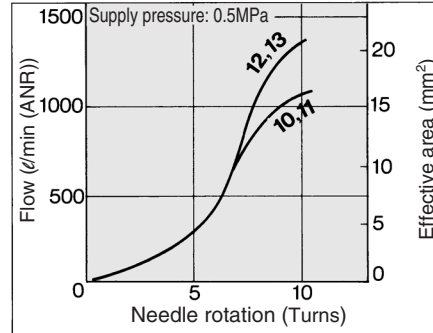
AS2051F



AS3001F

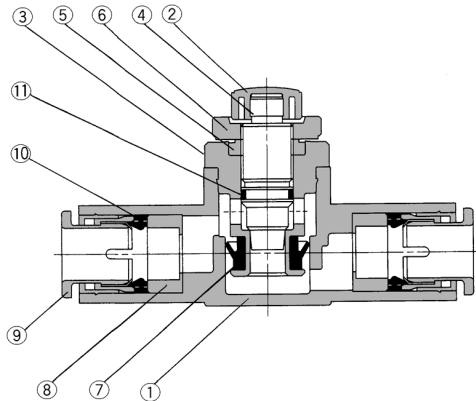


AS4001F



With One-touch Fittings: In-line Style *Series AS*

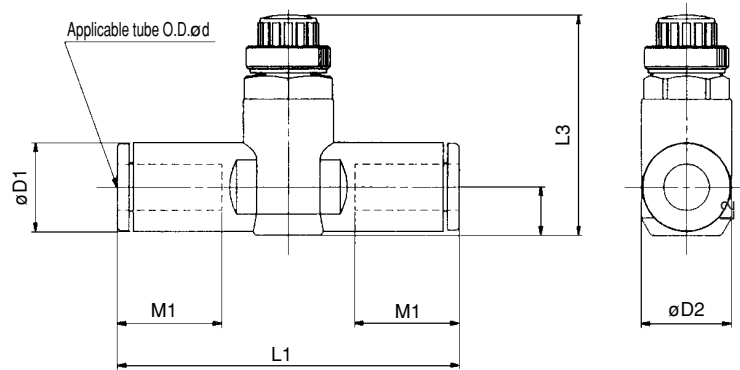
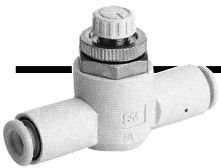
Construction



Component Parts

No.	Description	Material	Note
①	Body A	PBT	
②	Handle	PBT	
③	Body B	Brass	Electroless nickel plated
④	Needle	Brass	Electroless nickel plated
⑤	Needle guide	Brass	Electroless nickel plated
⑥	Lock nut	Brass ⁽¹⁾	Electroless nickel plated
⑦	U-packing	NBR	
⑧	Spacer	Brass ⁽²⁾	
⑨	Cassette	POM, Stainless steel	
⑩	Packing	NBR	
⑪	O ring	NBR	

Note 1) AS2 □□1F: Steel
 Note 2) ø3.2, ø4, ø6, ø1/8", ø5/32" (Except for AS3001F-006): POM



Metric

Model	Tube O.D. d	D1	D2	L1	L2	L3		M1	Weight (g)
						MAX.	MIN.		
AS1001F-23	3.2	8.4	10	38.0	4.5	23.5	20.7	12.7	6
AS1001F-04	4	9.3		39.2	5.2	24.2	21.4	7	
AS1001F-06	6	11.6		40.7	6.2	25.2	22.4	13.5	8
AS2001F-04	4	9.3	11.8	40.7	5.2	32.6	27.6	12.7	12
AS2001F-06	6	11.6		44.8	6.3	33.7	28.7	13.5	13
AS2051F-06	6	12.8	14.8	53.2	6.7	35.2	30.2	17	26
AS2051F-08	8	15.2		59.8	8.1	36.5	31.5	18	31
AS3001F-06	6	12.8	19.8	59	7.4	38.3	33.3	17	18
AS3001F-08	8	15.2		64.4	8.2	39.1	34.1	18	21
AS3001F-10	10	18.5		71.6	9.8	40.6	35.6	21	32
AS3001F-12	12	20.9	26.5	76	11	41.8	36.8	22	33
AS4001F-10	10	18.5		82	11.3	51.1	43.6	21	36
AS4001F-12	12	20.9				52.1	44.6	22	40

Inch

Model	Tube O.D. d	D1	D2	L1	L2	L3		M1	Weight (g)
						MAX.	MIN.		
AS1001F-01	1/8"	8.4	10	38	4.5	23.5	20.7	12.7	6
AS1001F-03	5/32"	9.3		39.2	5.2	24.2	21.4	7	
AS2001F-03	5/32"	9.3	11.8	40.7	5.2	32.6	27.6	12.7	12
AS2001F-05	3/16"	11.4		50	6.2	33.6	28.6	16.5	18
AS2001F-07	1/4"	13.2	14.8	52.2	7.1	34.5	29.5	17	21
AS2051F-05	3/16"	11.4		52.2	6.2	34.6	29.6	16.5	24
AS2051F-07	1/4"	13.2	19.8	54.4	7.1	35.5	30.5	17	26
AS2051F-09	5/16"	15.2		59.8	8.1	36.5	31.5	18	31
AS3001F-07	1/4"	13.2	26.5	59	7.4	38.3	33.3	17	42
AS3001F-09	5/16"	15.2		64.4	8.2	39.1	34.1	18	46
AS3001F-11	3/8"	17.9	26.5	70.8	9.5	40.3	35.3	21	53
AS4001F-11	3/8"	17.9		76.9	10.3	51	43.5	21	97
AS4001F-13	1/2"	21.7		83.1	11.6	52.4	44.9	22	106

In-line Style

File	Model	Detail No.					
		Tube O.D.					
		3.2	4	6	8	10	12
SAS01F1N	AS1001F-□	#1	#2	#3	—	—	—
	AS2001F-□	—	#4	#5	—	—	—
	AS2051F-□	—	—	#6	#7	—	—
	AS3001F-□	—	—	—	#8	#9	#10 #11
	AS4001F-□	—	—	—	—	#12	#13

Speed Controller Standard

Series AS

Metal Body Elbow Style



Minimizes installation time and cost
Fittings and tubes are not necessary because this type screws directly into the actuator. Thus, piping labour and cost can be eliminated.

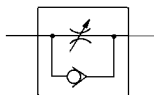
Body swivels 360°
Swivel type allows free setting of piping.

Speed can be accurately controlled even at low speeds.

Constant speed control is possible. Retainer prevents accidental loss of needle



JIS Symbol



Specifications

Specifications	Model	AS1200-M3	AS1400-M3	AS12□0-M5	AS12□0-U10/32	AS22□0-01	AS22□0-02	AS32□0-03	AS42□0-04
Port size		M3		M5	10-32UNF	1/8	1/4	3/8	1/2
Applicable cylinder bore size (mm)		2.5, 4, 6		6, 10, 15, 20, 25		20, 25, 32, 40		32, 40, 50, 63, 80, 100	
Proof pressure		1.05MPa		1.5MPa					
Max. operating pressure		0.7MPa		1MPa					
Min. operating pressure		0.1MPa		0.1MPa					
Ambient and fluid temperature		-5 to 60°C (No freezing)							
Number of needle rotations		10 turns		8 turns		10 turns			
Option		—		Hexagonal lock nut		Sealant, Hexagonal lock nut, Nickel plated			
Weight (g)		3	6	10		29	64	106	181
Controlled flow	Air flow (l/min(ANR))	20		105		230	460	920	1700
	(Free flow) Effective area (mm ²)	0.3		1.6		3.5	7	14	26

Note 1) Supply pressure: 0.5MPa. Temperature: 20°C.

Note 2) Meter-in type not available on AS1200-M3, AS1400-M3

Note 3) Distinction between meter-out/meter-in types by appearance.

They are distinguished by the lock nut. The meter-out types is zinc chromated, while the meter-in type is black zinc chromate plated.

Note 4) AS12□0, AS1400, AS22□0: Brass parts are electroless nickel plated, provided as standard (N specification).

How to Order

AS 2 2 0 0 - [] 01 - S [] - []

Body size

1	M3, M5
2	1/8, 1/4
3	3/8
4	1/2

Style

2	Direct connection elbow
4	Direct connection flat elbow

Controlled

0	Meter-out
1	Meter-in

Thread

Symbol	Cylinder side	Tubing side
-	R(PT)	Rc(PT)
	Metric thread (M3, M5)	
	Unified thread (10-32UNF)	
N	NPT	
F	G*	

* Male thread comes with R thread

Made to Order

Lock nut option

-	Hexagon lock nut
J	Round lock nut

Options

-	None
S	Sealant
N	Electroless nickel plated (AS42□0 Only)

*Indicate symbols in alphabetical order if two options or more desired.

Port size

Symbol	Port size	Model
M3	M3	AS1200-M3 AS1400-M3
M5	M5	AS12□0-M5
U10/32	10-32UNF	AS12□0-U10/32
01	1/8	AS22□0-01
02	1/4	AS22□0-02
03	3/8	AS32□0-03
04	1/2	AS42□0-04

Standard: Metal Body Elbow Style *Series AS*

Made to Order

1 Lubricant: Vaseline **X12**

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

Ex.) AS2200-01-X12

Ex.) AS2200-01-X21

Note 1) Not particle-free

Note 2) Throttle valve is only compatible with the part no. of the meter-out type.

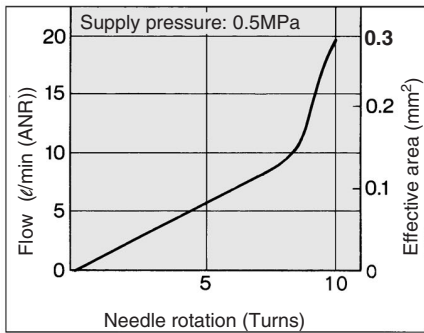
3 Throttle Valve (Without Check Valve) **X214**

Ex.) AS2200-01-X214

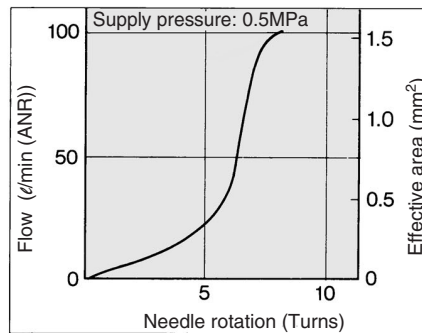
Note) Throttle valve is only compatible with the part no. of the meter-out type.

Needle Valve/Flow Characteristics

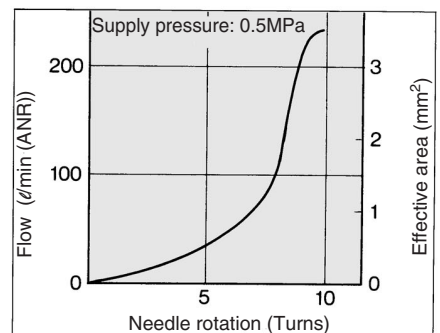
AS1200-M3, AS1400-M3



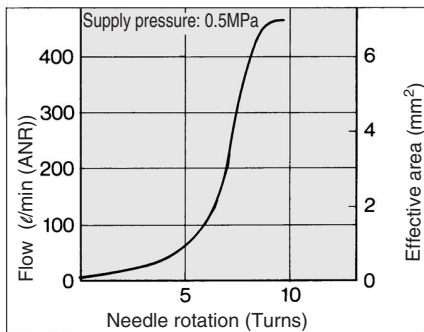
AS12□0-M5, AS12□0-U10/32



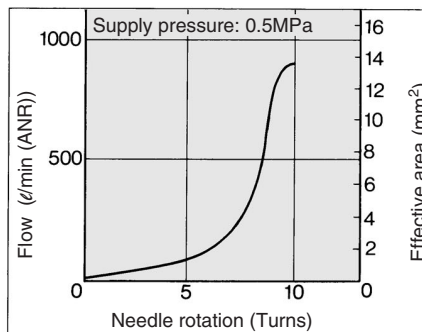
AS22□0-01



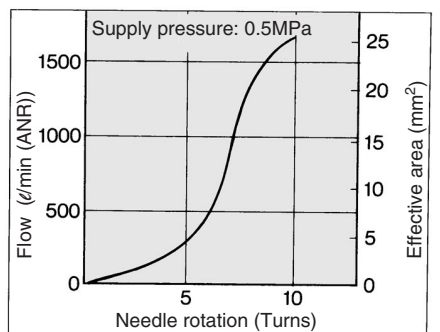
AS22□0-02



AS32□0

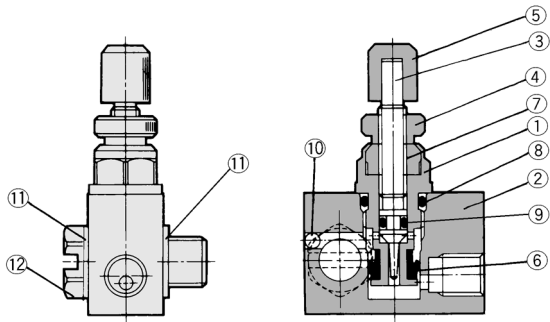


AS42□0



Series AS

AS1400-M3/Construction



Component Parts

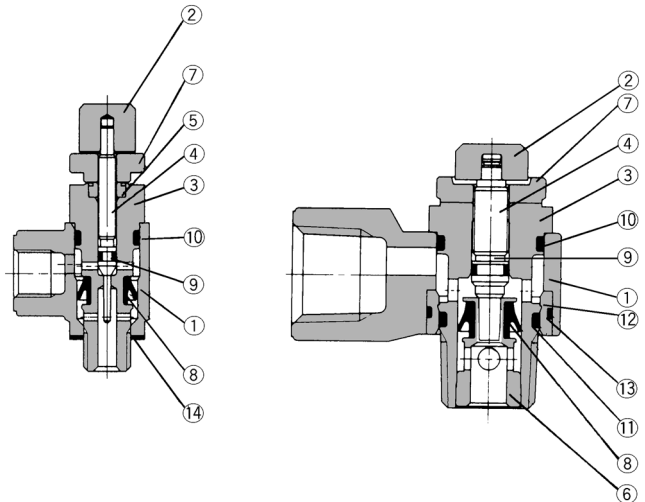
No.	Description	Material	Note
①	Body B	Brass	Electroless nickel plated
②	Body A	Brass	Electroless nickel plated
③	Needle	Brass	Electroless nickel plated
④	Lock nut	Steel	Zinc chromated
⑤	Handle	Brass	Electroless nickel plated
⑥	U-packing	NBR	
⑦	Needle guide	Brass	Electroless nickel plated
⑧	O ring	NBR	
⑨	O ring	NBR	
⑩	Steel ball	Chromium bearing steel	
⑪	Gasket	PVC	
⑫	Joint	Brass	Electroless nickel plated

AS1200-M3, AS12□0-M5, AS22□0/32□0/42□0/Construction

Meter out

AS1200-M3, M5, U10/32

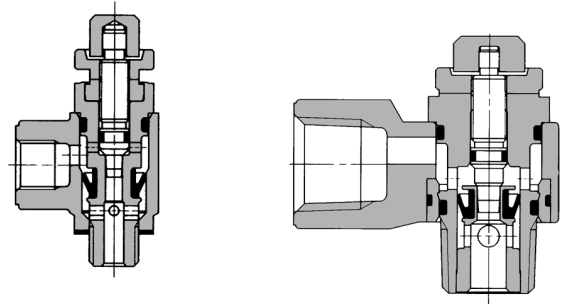
AS2200/3200/4200



Meter in

AS1210-M5, U10/32

AS2210/3210/4210



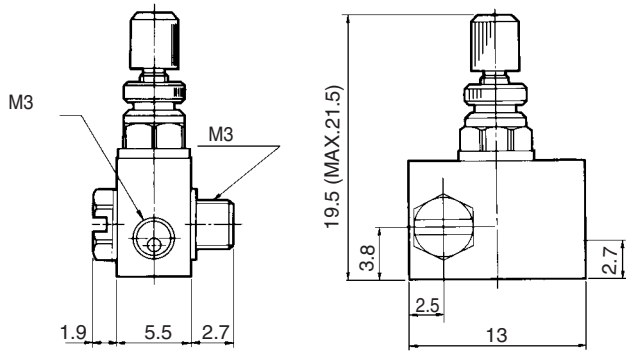
Component Parts

No.	Description	Material	Note
①	Body A	Zinc alloy	
②	Handle	Brass	Electroless nickel plated
③	Body B	Brass	Electroless nickel plated
④	Needle	Brass	Electroless nickel plated
⑤	Needle guide	Brass	Electroless nickel plated
⑥	Seat ring	Brass	Electroless nickel plated ⁽¹⁾
⑦	Lock nut	Steel	Zinc chromated ⁽²⁾
⑧	U-seal	HNBR	
⑨	O ring	NBR	
⑩	O ring	NBR	
⑪	O ring	NBR	
⑫	Bush	PBT	01 to 04 type
⑬	O ring	NBR	01 to 04 type
⑭	Gasket	PVC	M3 type
		NBR, Stainless steel	M5, U10/32 types

Note 1) AS42□0 only: Option symbol "N" addition is electroless nickel plated.
 Note 2) Meter-in type: Black zinc chromated

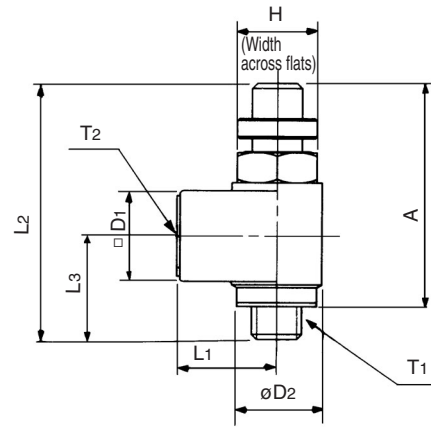
Standard: Metal Body Elbow Style *Series AS*

AS1400-M3/Dimensions

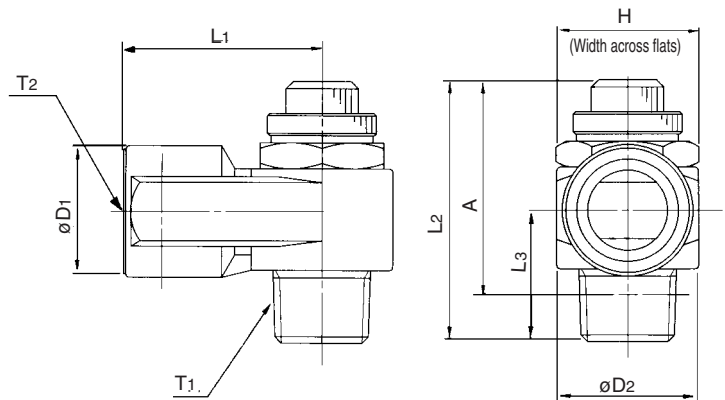


AS-1200-M3, AS12□0-M5, AS22□0, 32□0, 42□0/Dimensions

AS1200-M3 AS12□0-M5



AS22□0/32□0/42□0



Dimensions

Model	T1	T2	H ⁽¹⁾	L1	L2		L3	D1	D2	A	
					MAX.	MIN.				MAX.	MIN.
AS1200-M3	M3	M3	4.5	6.6	23.5	21.5	8	5	5	20.5	18.5
AS1200-M5	M5	M5	8	10	28.3	25.5	10.3	9	9	25	22.2
AS1200-U10/32	10-32UNF	10-32UNF									
AS22□0-01	1/8	1/8	12(12.7)	18	35.5	30.5	13.2	14.3	14.6	32.4	27.4
AS22□0-02	1/4	1/4	17(17.5)	27.2	40.3	35.3	17.5	18	19.5	34.8	29.8
AS32□0-03	3/8	3/8	19	30	45.8	40.8	19.7	22.5	24.3	40.6	35.6
AS42□0-04	1/2	1/2	24(23.8)	38.5	54.7	49.7	25.8	27.5	28.5	47.4	42.4

Note 1) () are the dimensions of "NPT" thread.

Speed Controller Standard Series AS

In-line Style

RoHS

Compact size saves space.
Speed may be accurately controlled even at low speeds.
Constant speed easily set.
Retainer prevents accidental loss of needle.



Model

Model	Port size	Free flow		Controlled flow		Applicable cylinder bore size (mm)	Weight (g)
		Air flow (l/min(ANR))	Effective area (mm ²)	Air flow (l/min(ANR))	Effective area (mm ²)		
AS1000-M3	M3	20	0.3	20	0.3	2.5, 4, 6	4.7
AS1000-M5	M5	90	1.4	80	1.2	6, 10, 16, 20, 25	33
AS2000-01	1/8	340	5.2	250	3.8	20, 25, 32, 40	90
AS2000-02	1/4	340	5.2	250	3.8		115
AS3000-02	1/4	810	12.3	810	12.3	32, 40, 50, 63	130
AS3000-03	3/8	810	12.3	810	12.3		124
AS4000-02	1/4	1,670	25.5	1,670	25.5	40, 50, 63 80, 100	221
AS4000-03	3/8	1,670	25.5	1,670	25.5		214
AS4000-04	1/2	1,670	25.5	1,670	25.5		205
AS5000-02	1/4	2,840	44	2,840	44	40, 50, 63 80, 100	242
AS5000-03	3/8	4,270	66	4,270	66		233
AS5000-04	1/2	4,270	66	4,270	66		224

Note) Supply pressure: 0.5MPa, Temperature: 20°C.

Specifications

Proof pressure ⁽¹⁾	1.5MPa (1.05MPa)
Max. operating pressure ⁽¹⁾	1MPa (0.7MPa)
Min. operating pressure ⁽¹⁾	0.05MPa (0.1MPa)
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotation ⁽¹⁾	8 turns (10 turns)

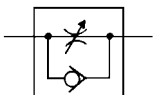
Note 1) (): Values for AS1000.

Accessories

Description	Part No.	Applicable model
Nipple	M-5N	AS1000

Note) AS1000 with nipple: AS1000-M5-N

Symbol JIS



How to Order

E AS 1 000 - [] M5 [] []

- Body size**

1	M3, M5
2	1/8, 1/4
3	3/8
4	1/2
5	1/2
- Ordering source area code**

-	Japan, Asia Australia
E	Europe
N	North America
- Thread**

-	M3, M5
N	NPT
F	G (PF)
- Lock nut option**

-	Hexagon lock nut
J ⁽³⁾	Round lock nut

Note 3) Only for AS1000
- Option**

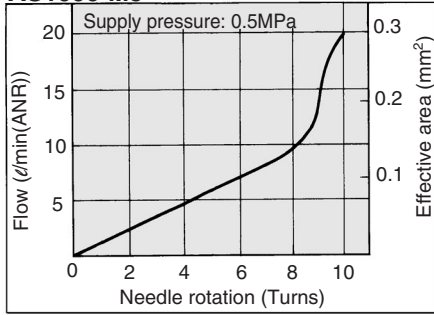
H ⁽¹⁾	High temperature (-5 to 80°C)
L ⁽²⁾	Low temperature (-30 to 60°C)

Note 1) AS5000 is available as special AS1000 is not applicable
Note 2) AS1000, AS2000 are not applicable
- Port size**

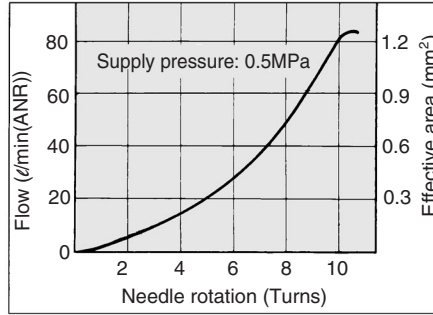
Port size	Applicable model
M3	M3 AS1000
M5	M5 AS1000
01	1/8 AS2000
02	1/4 AS2000, 3000, 4000, 5000
03	3/8 AS3000, 4000, 5000
04	1/2 AS4000, 5000

Needle Valve/Flow Characteristics

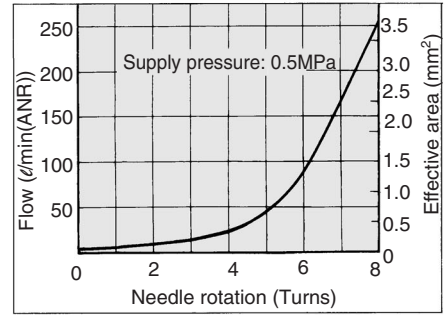
AS1000-M3



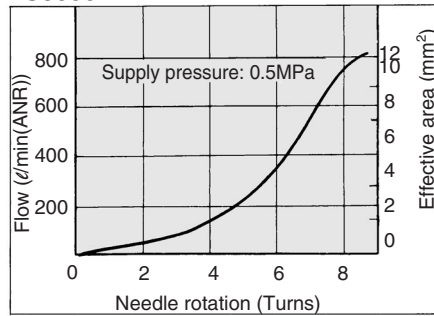
AS1000-M5



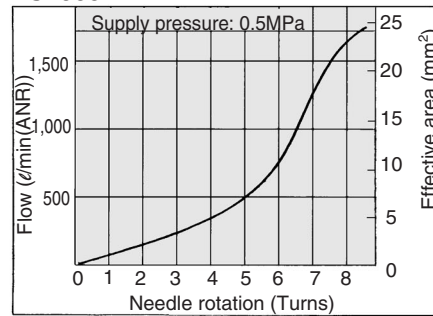
AS2000



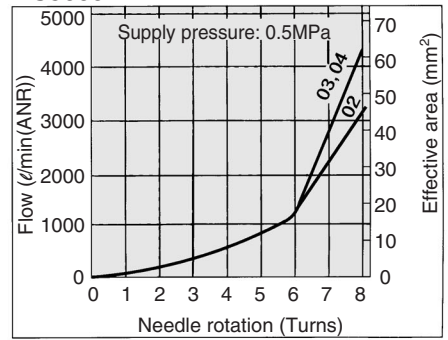
AS3000



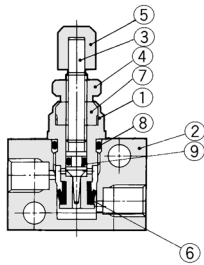
AS4000



AS5000



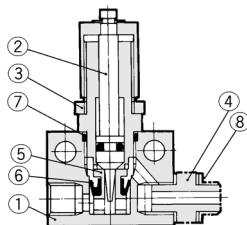
AS1000-M3/Construction



Component Parts

No.	Description	Material	Note
①	Body B	Brass	Electroless nickel plated
②	Body	Brass	Electroless nickel plated
③	Needle	Brass	Electroless nickel plated
④	Lock nut	Steel	Zinc chromated
⑤	Handle	Brass	Electroless nickel plated
⑥	U seal	HNBR	
⑦	Needle guide	Brass	Electroless nickel plated
⑧	O ring	NBR	4.5 X 3 X 0.75
⑨	O ring	NBR	2.2 X 0.8 X 0.7

AS1000-M5/Construction



Component Parts

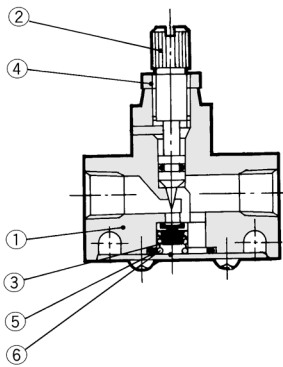
No.	Description	Material
①	Body	Zinc alloy
②	Needle	Stainless steel
③	Lock nut*	Steel
④	Nipple	Stainless steel

*Zinc chromated

No.	Description	Material
⑤	Valve seat	Brass
⑥	U-packing	NBR
⑦	O ring	NBR
⑧	Gasket	PVC

Series AS

AS2000, 3000/Construction

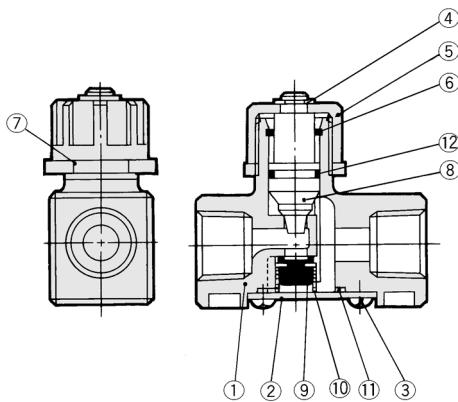


Component Parts

No.	Description	Model	
		AS2000	AS3000
①	Body	Zinc alloy	Aluminum alloy
②	Needle*	Brass	Brass
④	Lock nut*	Brass	Carbon steel
③	Valve		
⑤	O ring		
⑥	Spring		

*Electroless nickel plated

AS4000/Construction

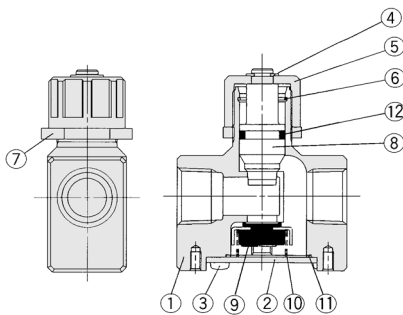


Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Chromated
②	Cap	Rolled steel	Zinc chromated
③	Head cap screw	Steel wire	4 X 0.7 X 8
④	E type snap ring	Stainless steel	JIS B2805 Nominal 6
⑤	Handle	Zinc	Chromated
⑥	Ring	Steel wire	Zinc chromated
⑦	Lock nut	Zinc alloy	
⑧	Needle	Aluminum alloy	
⑫	O ring	NBR	

No.	Description	Material
⑨	Valve	NBR, Brass
⑩	Spring	Stainless steel
⑪	O ring	NBR

AS5000/Construction



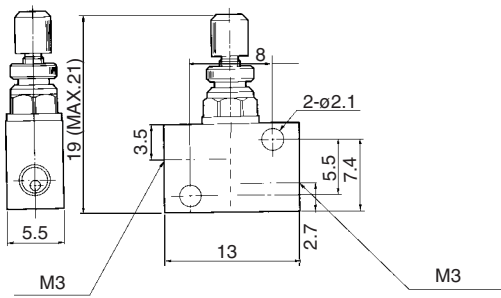
Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Chromated
②	Cap	Rolled steel	Nickel plated
③	Head cap screw	Steel wire	M4 X 8 Nickel plated
④	E type snap ring	Stainless steel	JIS B 2805 Nominal 6
⑤	Handle	Zinc alloy	Chromated
⑥	Ring	Stainless steel	
⑦	Lock nut	Zinc alloy	Chromated
⑧	Needle	Aluminum alloy	Chromated
⑫	O ring	NBR	JIS B2401 P12

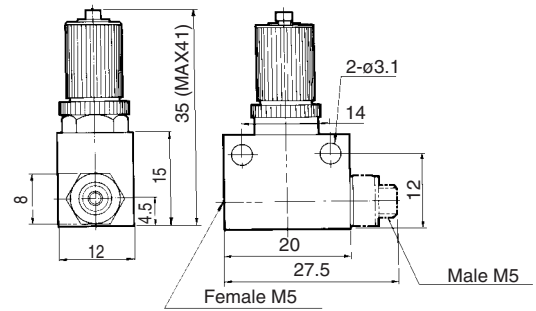
No.	Description	Material
⑨	Valve	NBR, Stainless steel
⑩	Spring	Stainless steel
⑪	Packing	NBR

Standard: In-line Style *Series AS*

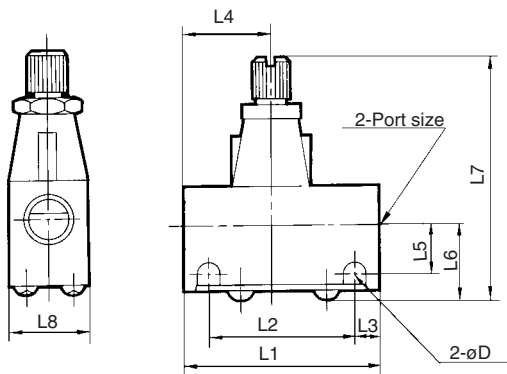
AS1000-M3/Dimensions



AS1000-M5/Dimensions



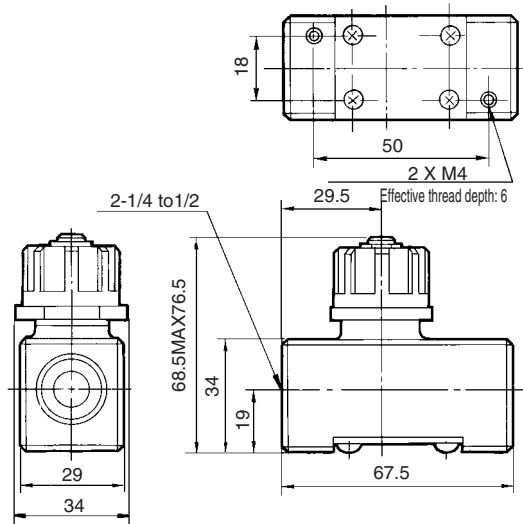
AS2000-3000/Dimensions



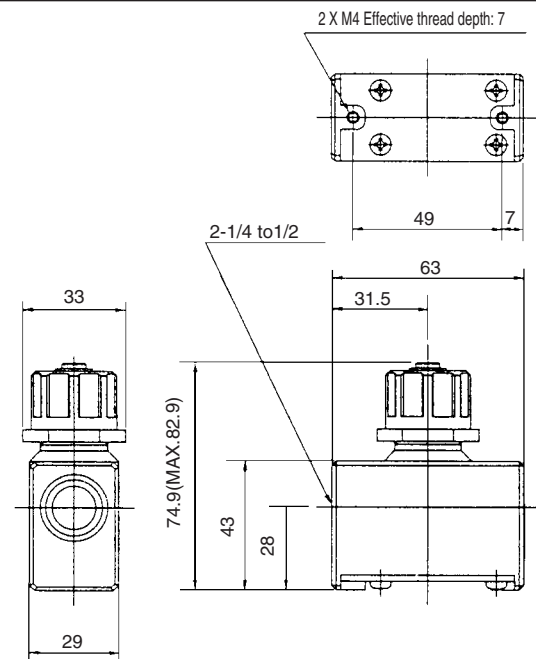
Dimensions

Model	Port size	L1	L2	L3	L4	L5	L6	L7		L8	D
								MAX.	MIN.		
AS2000-01	1/8	40	30	5	17	10	15.5	54.5	50	16	4.5
AS2000-02	1/4	40	30	5	23	11.5	17	56	51.5	20	4.5
AS3000-02, 03	1/4, 3/8	56	45.5	5.25	25	13.2	20.6	68	61	26	5.5

AS4000/Dimensions



AS5000/Dimensions



Speed Controller Standard Series AS

Large Flow In-line Style

RoHS

Constant speed easily set.
Speed may be accurately controlled
even at low speeds.
Retainer prevents accidental loss
of needle.



Model

Model	Port size	Free flow		Controlled flow		Applicable cylinder bore size (mm)	Weight (kg)
		Air flow (l/min (ANR))	Effective area (mm ²)	Air flow (l/min (ANR))	Effective area (mm ²)		
AS420-02	1/4	2,500	38	3,600	55	63, 80, 100, 125	0.34
AS420-03	3/8	5,000	77	4,800	74		0.33
AS420-04	1/2	6,600	100	6,700	102		0.32
AS500-06	3/4	10,100	154	8,100	123	140, 160, 180, 200	0.36
AS600-10	1	15,100	230	16,900	258	160, 180, 200, 250	0.7
AS800-12	1 1/4	35,400	540	38,500	586	300	1.4
AS900-14	1 1/2	52,000	792	47,500	724		3.3
AS900-20	2	57,800	880	60,800	926		3.3

Note) Supply pressure: 0.5MPa, Temperature: 20°C.

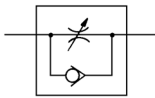
Specifications

Proof pressure	1.5MPa
Max. operating pressure	1MPa
Min. operating pressure	0.05MPa
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 turns (12 turns ⁽¹⁾)

Note 1) (): Values for AS800, AS900.

How to Order

JIS Symbol



E AS 42 0 - 02

- Area code**
 - Japan, Asia, Australia, North America
 - E** Europe

* For Europe select thread G
- Body size**
 - 42 1/2
 - 50 3/4
 - 60 1
 - 80 1 1/4
 - 90 1 1/2
- Port thread**
 - Rc
 - N NPT
 - F G
- Port size**

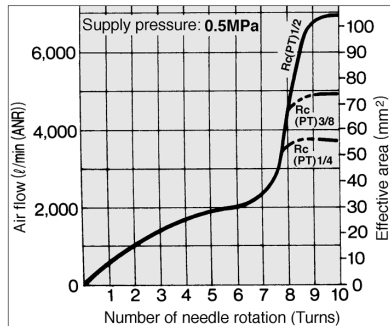
Port size	Applicable model
02	1/4
03	3/8
04	1/2
06	3/4
10	1
12	1 1/4
14	1 1/2
20	2
- Option**

-	None
H ⁽¹⁾	High temperature (-5 to 80°C)
L ⁽²⁾	Low temperature (-30 to 60°C)

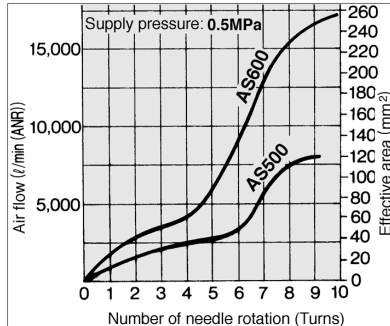
Note 1) AS800 is available as special.
Note 2) AS900 is available as special.

Needle/Flow Characteristics

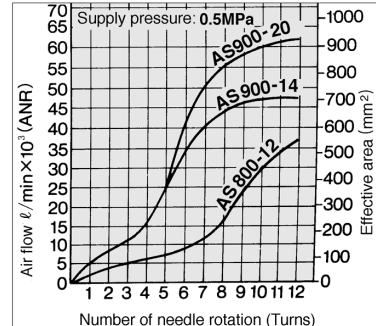
AS420



AS500/600

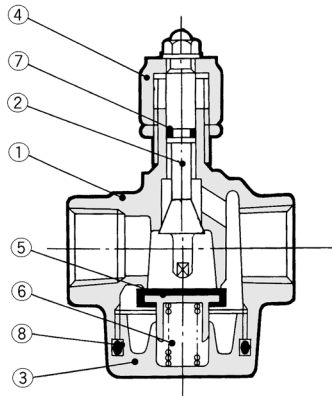


AS800/900



Standard: Large Flow In-line Style *Series AS*

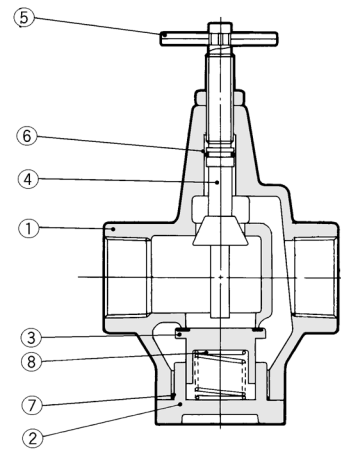
AS420, 500, 600/Construction



Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Chromated
②	Needle	Brass	—
③	Bottom cover	Aluminum alloy	Chromated
④	Handle	Zinc	Chromated
⑤	Check valve	Brass	
⑥	Spring	Stainless steel	
⑦	O ring	NBR	
⑧	O ring	NBR	

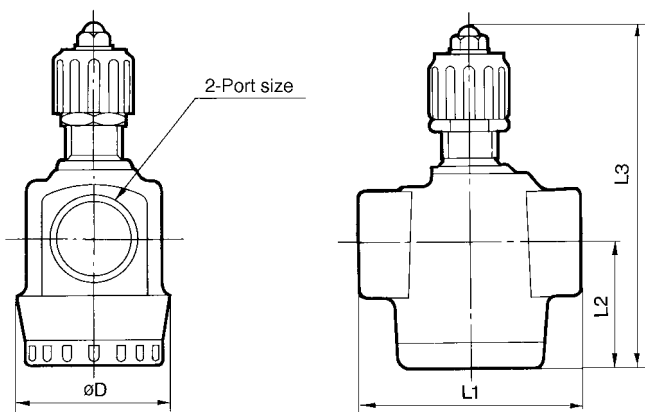
AS800, 900/Construction



Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Chromated
②	Valve guide	Aluminum alloy	Chromated
③	Check valve	Brass	Rubber lining
④	Needle	Brass	
⑤	Handle	Carbon steel	Chromated
⑥	O ring	NBR	
⑦	O ring	NBR	
⑧	Spring	Stainless steel	

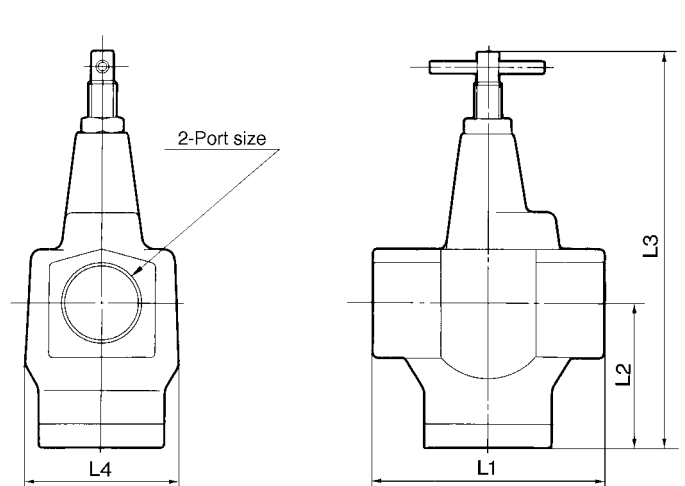
AS420, 500, 600/Dimensions



Dimensions

Model	Port size	L1	L2	L3		D
				MAX.	MIN.	
AS420	1/4, 3/8, 1/2	67.5	38	122	112	50
AS500	3/4	74	42	115	105	50
AS600	1	90	55	158	148	62

AS800, 900/Dimensions



Dimensions

Model	Port size	L1	L2	L3		L4
				MAX.	MIN.	
AS800	1 1/4	120	74	204	192	80
AS900	1 1/2, 2	150	93	262	250	94

Speed Controller Standard

Series AS

In-line Push locking Style

RoHS

Lock speed setting, with the touch of a button
It can be locked only by pushing the handle after adjustment.

Convenient opening indication scale
The opening indication scale for the needle valve is provided on the handle to facilitate speed adjustments.

Easy speed control at low flow volume ranges

Possible to control the mass velocity

Constant knob constructed of metal to withstand heavy usage
In addition to the standard handle made of resin, a heavy-duty metal handle is also available.

Retainer prevents accidental loss of needle

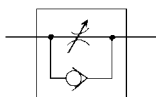
Specifications

Specifications	Model	AS3500-02	AS3500-03
	Resin knob	AS3500-02-2	AS3500-03-2
	Metal knob		
Port size		1/4	3/8
Applicable cylinder bore size (mm)		40, 50, 63	
Proof pressure		1.5 MPa	
Max. operating pressure		1 MPa	
Min. operating pressure		0.05 MPa	
Ambient and fluid temperature		-5 to 60 °C (No freezing)	
Number of needle rotations		8 turns	
Weight		130g (Metallic handle: 140g)	
Free flow	Air flow (ℓ/min(ANR))	810	
	Effective area (mm ²)	12.3	
Controlled flow	Air flow (ℓ/min(ANR))	810	
	Effective area (mm ²)	12.3	

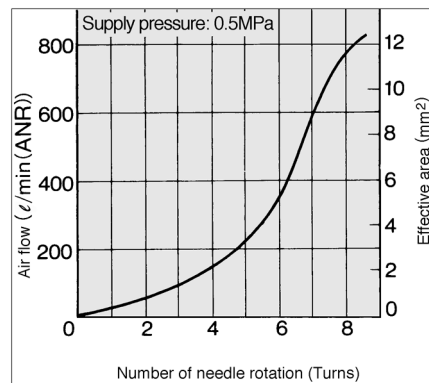
Note) Supply pressure: 0.5 MPa, Temperature: 20 °C.



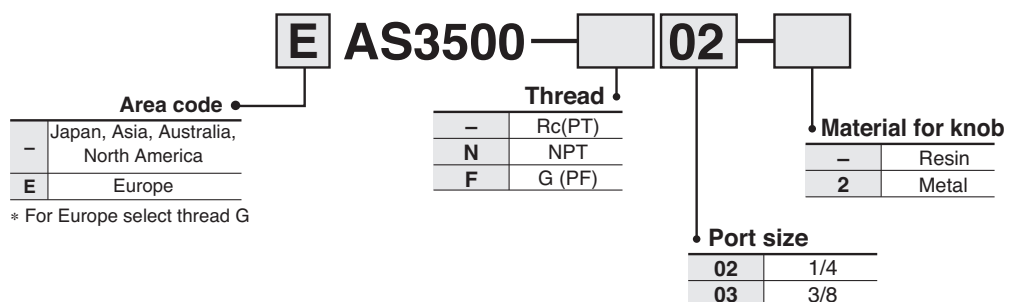
JIS Symbol



Needle/Flow Characteristics AS3500

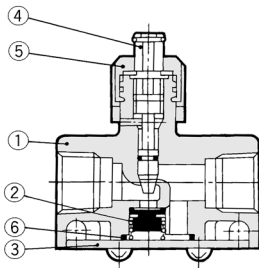


How to Order

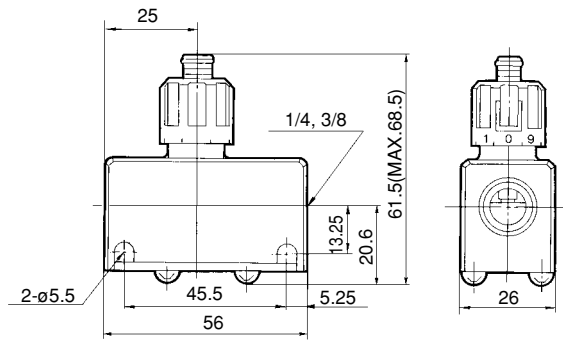


Standard: In-line Push Locking Style *Series AS*

Construction



Dimensions



Component Parts

No.	Description	Material	Note
①	Body	Aluminum alloy	Chromated
②	Valve	NBR	
③	Cap	Rolled steel	Electroless nickel plated
④	Needle	Brass	
⑤	Handle	POM	Black
		Zinc alloy	Black
⑥	O ring	NBR	