

# Speed Controller: Standard Type In-line Type

## Series AS

Compact size saves space.

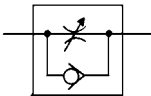
Speed may be accurately controlled even at low speeds.

Constant speed easily set.

Retainer prevents an accidental loss of needle.



JIS Symbol



### Model/Flow Rate and Effective Area

Model	Port size	Free flow		Controlled flow		Applicable cylinder bore size (mm)	Mass (g)
		Flow rate (l/min (ANR))	Effective area (mm <sup>2</sup> )	Flow rate (l/min (ANR))	Effective area (mm <sup>2</sup> )		
AS1000-M3	M3 x 0.5	20	0.3	20	0.3	2.5, 4, 6	4.7
AS1000-M5	M5 x 0.8	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) Flow rate values are measured at 0.5 Mpa and 20°C.

### Specifications

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

Note) ( ): Values for AS1000.

### Accessory

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

Note) AS1000 with nipple: AS1000-M5-N

### Caution

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.

### How to Order

**AS 1 000 - [ ] M5 - [ ]**

**Body size**

1	M3, M5 standard
2	1/8, 1/4 standard
3	3/8 standard
4	1/2 standard
5	1/2 standard

**Thread type**

Nil	Metric thread (M3, M5)
	Rc
N	NPT
F	G

**Bore size**

Bore size	Applicable series
M3	M3 x 0.5 AS1000
M5	M5 x 0.8 AS1000
01	Rc 1/8 AS2000
02	Rc 1/4 AS2000, 3000, 4000, 5000
03	Rc 3/8 AS3000, 4000, 5000
04	Rc 1/2 AS4000, 5000

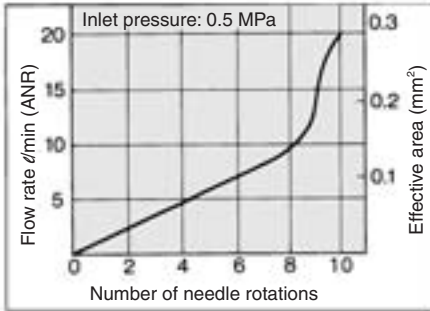
**Option**

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

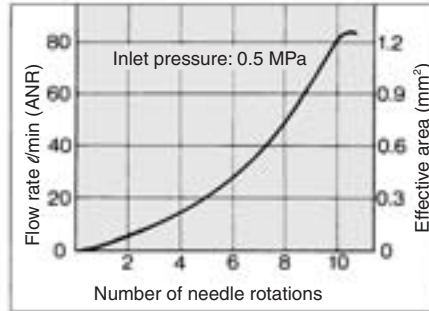
Note 1) AS5000 is available as special.  
AS1000 is not applicable.  
Note 2) AS1000, AS2000 are not applicable.

## Needle Valve/Flow Characteristics

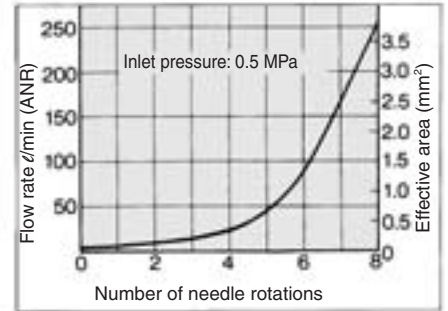
**AS1000-M3**



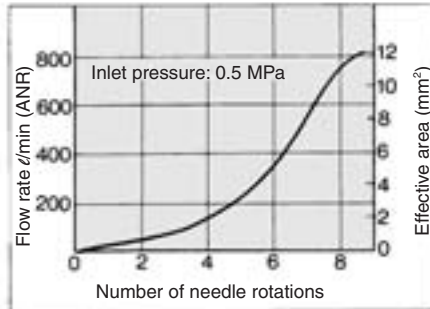
**AS1000-M5**



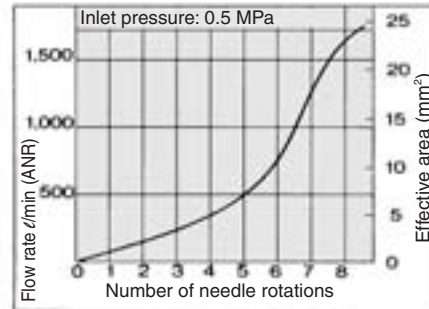
**AS2000**



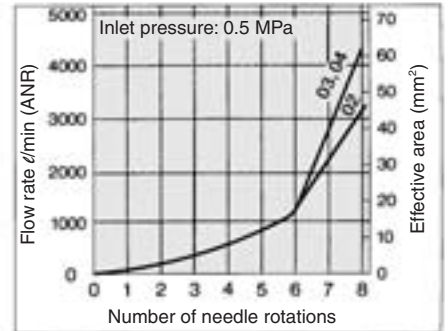
**AS3000**



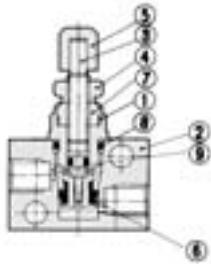
**AS4000**



**AS5000**



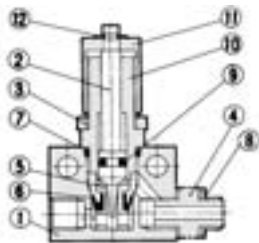
### Construction: AS1000-M3



#### 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	Brass	Electroless nickel plated
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

### Construction: AS1000-M5



#### Component Parts

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

\* Electroless nickel plated

No.	Description	Material	Note
9	O-ring	NBR	
10	Needle guide	Brass	Electroless nickel plated
11	Handle	Brass	Electroless nickel plated
12	E type snap ring	Steel	Black oxidized coated

#### Replacement Parts

No.	Description	Material	Part no.
5	Valve seat	Brass	1429138
6	U seal	HNBR	142964-3
7	O-ring	NBR	ø9 x ø7 x ø1
8	Gasket	PVC	M-5G1

Note) Construction drawing: AS-1000-M5-N  
In case of AS1000-M5, nipples and gaskets are not attached.

AS

ASP

ASN

AQ

ASV

AK

VCHC

ASS

ASR

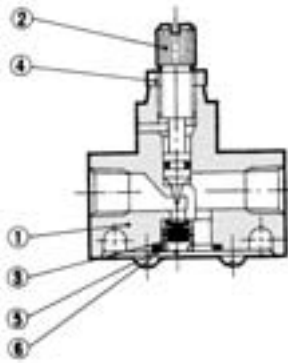
ASQ

KE

TMH

# Series AS

## Construction: AS2000/3000



### Component Parts

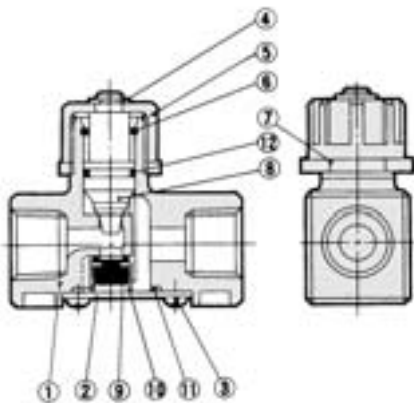
No.	Description	Model	
		AS2000	AS3000
1	Body	Zinc alloy	Aluminum alloy
2	Needle *	Brass	Brass
4	Lock nut *	Brass	Carbon steel

\* Electroless nickel plated

### Replacement Parts

No.	Description	Model	
		AS2000	AS3000
3	Valve	143022	14283
5	O-ring	143021	14284
6	Spring	143023	14282

## Construction: AS4000



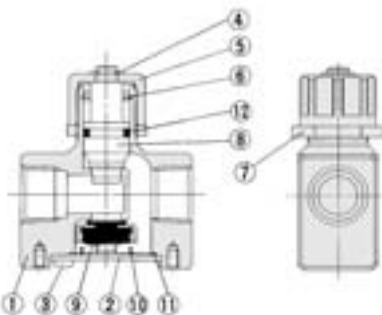
### Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Chromated
2	Cap	Rolled steel	Zinc chromated
3	Cross-recessed head cap screw	Steel wire	4 x 0.7 x 8
4	E type snap ring	Stainless steel	JIS B 2805 Nominal 6
5	Handle	Zinc alloy	Black zinc chromate plated
6	Ring	Steel wire	Zinc chromated
7	Lock nut	Zinc alloy	
8	Needle	Aluminum alloy	
12	O-ring	NBR	

### Replacement Parts

No.	Description	Material	Parts no.
9	Valve	NBR, Brass	143145
10	Spring	Stainless steel	143146
11	O-ring	NBR	143147

## Construction: AS5000



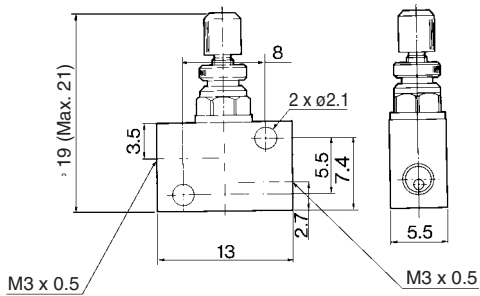
### Component Parts

No.	Description	Material	Note
1	Body	Aluminum alloy	Chromated
2	Cap	Rolled steel	Nickel plated
3	Cross-recessed head cap screw	Steel wire	M4 x 0.7 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	

### Replacement Parts

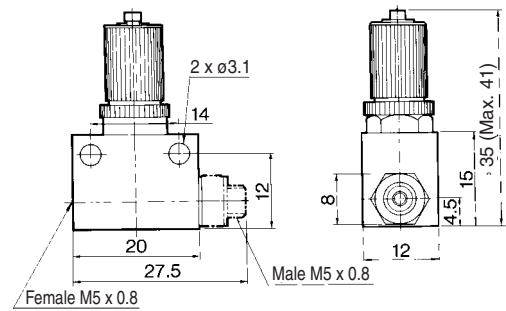
No.	Description	Material	Parts no.
9	Valve	NBR, Stainless steel	14143
10	Spring	Stainless steel	14144
11	Seal	NBR	14147

**Dimensions: AS1000-M3**



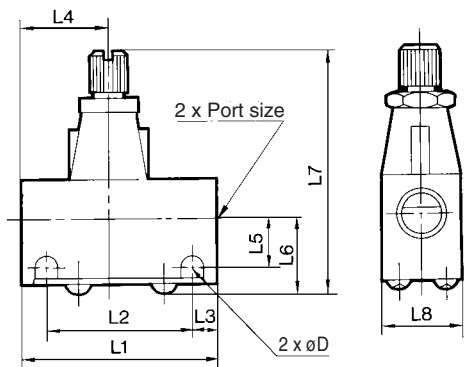
\* Reference dimensions

**Dimensions: AS1000-M5**



\* Reference dimensions

**Dimensions: AS2000/3000**

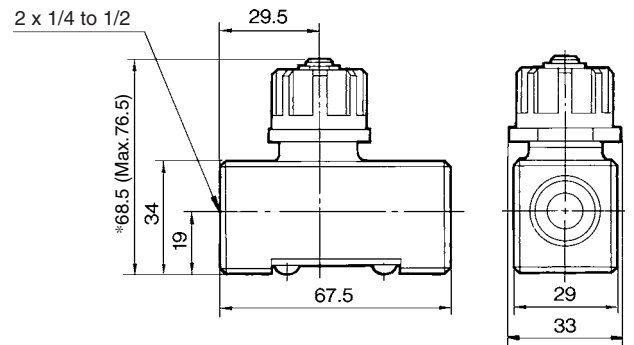


**Dimensions**

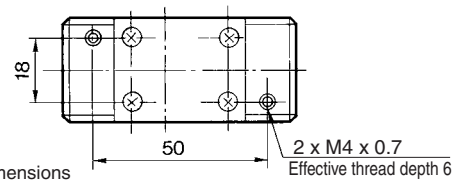
Model	Bore size	L1	L2	L3	L4	L5	L6	L7 (1)		L8	D
								Max.	Min.		
AS2000-01	Rc 1/8	40	30	5	17	10	15.5	54.5	50	16	4.5
AS2000-02	Rc 1/4	40	30	5	23	11.5	17	56	51.5	20	4.5
AS3000-02, 03	Rc 1/4, 3/8	56	45.5	5.25	25	13.2	20.6	68	61	26	5.5

Note 1) L7: Reference dimensions

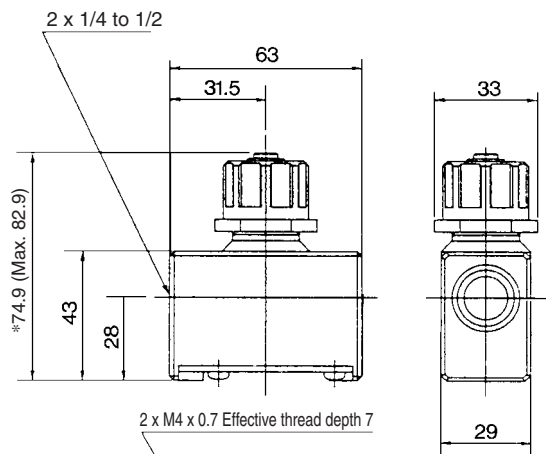
**Dimensions: AS4000**



\* Reference dimensions



**Dimensions: AS5000**



\* Reference dimensions

- AS
- ASP
- ASN
- AQ
- ASV
- AK
- VCHC
- ASS
- ASR
- ASQ
- KE
- TMH