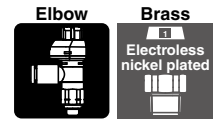
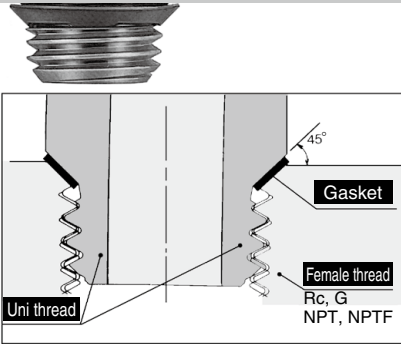


Uni Thread Type Speed Controller with Indicator (Elbow Type) **AS-FS Series**



New-stand male threads for piping that reduces the screw-in time by 1/3.



Shape of Uni thread ridge

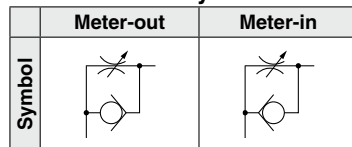
Use of the chamfered surface of the female thread as the seat surface and adoption of gaskets made by laminating NBR on both surfaces of stainless steel plates achieve secure sealing regardless of the difference of diameters due to the female thread type, deviations due to the tolerance, or the size of the chamfered corner.

(Any standard chamfered female thread can be used.)

A ridge shape has been created as a Uni thread for common applications for Rc, G, NPT and NPTF.

The gasket seal method drastically cuts piping work-hours.

Flow Direction Symbols on Body



Caution

Be sure to read this before handling the products. Refer to the back cover for safety instructions. For flow control equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: <http://www.smcworld.com>

Model

Model	Uni thread size	Applicable tubing O.D.												
		Metric size						Inch size						
		3.2	4	6	8	10	12	16	1/8"	5/32"	1/4"	5/16"	3/8"	1/2"
AS22□1FS□-U01	1/8	●	●	●	●	●			●	●	●	●		
AS22□1FS□-U02	1/4	●	●	●	●	●			●	●	●	●	●	
AS32□1FS□-U02	1/4			●	●	●	●				●	●	●	
AS32□1FS□-U03	3/8			●	●	●	●				●	●	●	
AS42□1FS□-U04	1/2					●	●	●					●	●

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*1

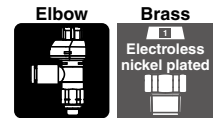
*1 Use caution at the max. operating pressure when using soft nylon or polyurethane tubing. (For details, refer to the Web Catalog.)

Flow Rate and Sonic Conductance

Model	AS22□1FS□-U01	AS22□1FS□-U02	AS32□1FS□	AS42□1FS□
Tubing O.D.	Metric size	ø3.2 ø4 ø6 ø8 ø10	ø3.2 ø4 ø6 ø8 ø10	ø6 ø8 ø10 ø12 ø10 ø12 ø16
	Inch size	ø1/8" ø5/32" ø1/4" ø5/16"	ø1/8" ø5/32" — ø1/4" ø5/16" ø3/8"	ø1/4" ø5/16" ø3/8" ø3/8" ø1/2"
C values: Sonic conductance dm ³ /(s·bar)	Free flow	0.4 0.6 0.6 0.7 1.0 1.3 1.5	1.6 1.7 2.5 4.4 4.8	2.1 2.4 3.3 4.4 4.9
	Controlled flow	0.4 0.7 0.8 0.6 0.9 1.3	2.1 2.4 3.3 4.4 4.9	
b values: Critical pressure ratio	Free flow	0.2 0.3 0.3 0.4	0.4 0.3 0.3	
	Controlled flow	0.2 0.3 0.3 0.4	0.3 0.3 0.3	

* C and b values are for controlled flow with the needle fully open and free flow with the needle fully closed.

AS-FS Series



How to Order

AS 2 2 0 1 FS □ - U01 - 06

Body size

2	1/8, 1/4
3	3/8
4	1/2

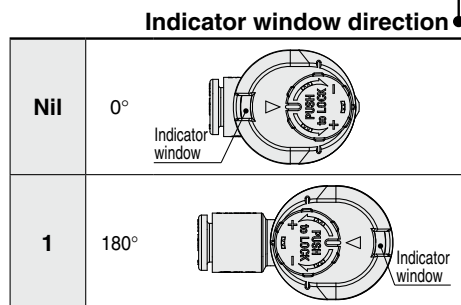
Type

2	Elbow
---	-------

Control type*1

0	Meter-out
1	Meter-in

*1 Meter-out and meter-in types can be visually identified by color of the knob.
 Meter-out: Gray
 Meter-in: Light blue



* Orientation of indicator direction is fixed when manufacturing, and cannot be changed by the user.

Applicable tubing O.D.*1

Metric size		Inch size	
Tubing O.D.		Tubing O.D.	
23	ø3.2*2	01	ø1/8"
04	ø4	03	ø5/32"
06	ø6	07	ø1/4"
08	ø8	09	ø5/16"
10	ø10	11	ø3/8"
12	ø12	13	ø1/2"
16	ø16		

*1 For selecting applicable tubing O.D., refer to the "Model" on page 28.
 Metric size and inch size types can be visually identified by color of the release button.

Metric size: Light gray
 Inch size: Orange

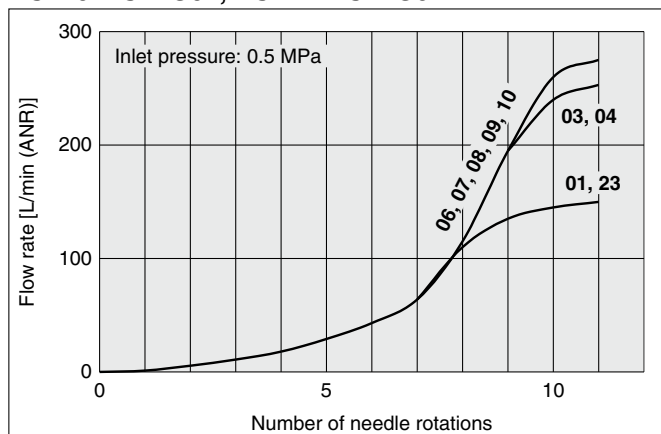
*2 Use ø1/8" tubing.

Port size

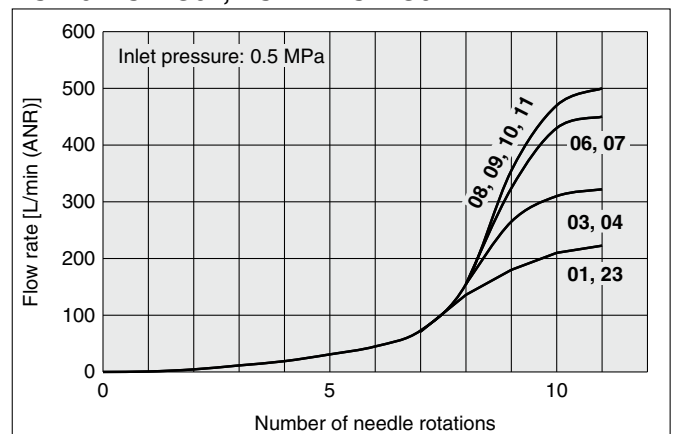
U01	Uni 1/8
U02	Uni 1/4
U03	Uni 3/8
U04	Uni 1/2

Needle Valve: Flow Rate Characteristics

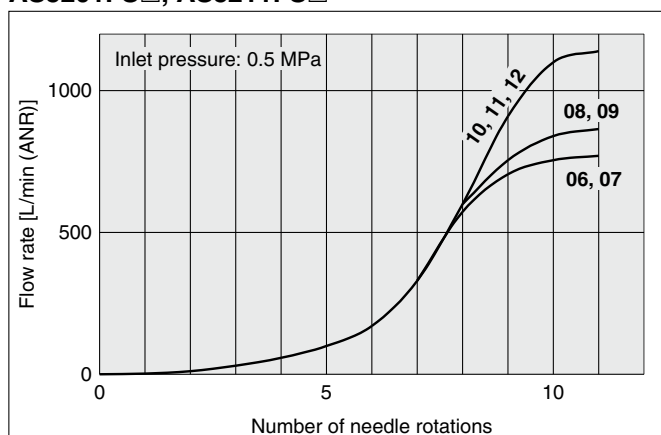
AS2201FS□-U01, AS2211FS□-U01



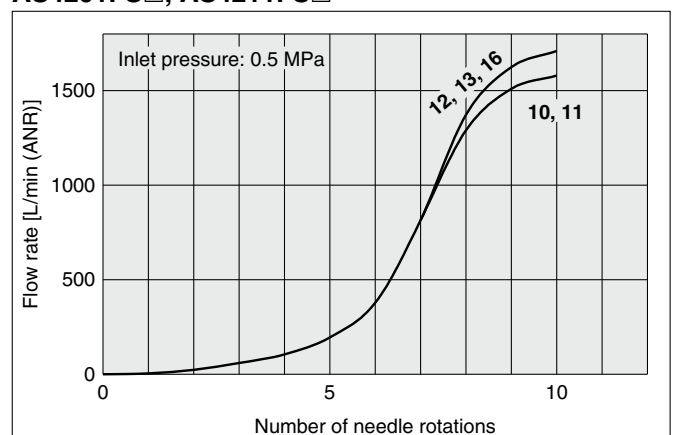
AS2201FS□-U02, AS2211FS□-U02



AS3201FS□, AS3211FS□



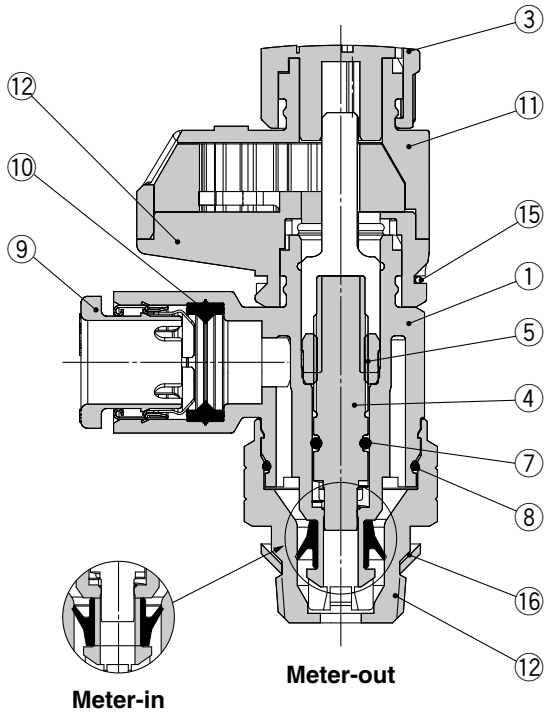
AS4201FS□, AS4211FS□



* The numbers above the flow rate characteristic curves in the charts show the applicable tubing outside diameter as defined by the product number.

Construction: **Elbow Type**

AS22□1FS□-U01-06A



Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Body B	Brass	Electroless nickel plating
3	Knob	POM	
4	Needle	PBT	
5	Needle guide	Brass	Electroless nickel plating
6	U-seal	HNBR	
7	O-ring	NBR	
8	O-ring	NBR	
9	Cassette	—	
10	Seal	NBR	
11	Bonnet A	POM	
12	Bonnet B	POM	
13	Gear	POM	
14	Indicator gear	POM	
15	Clip	Stainless steel	
16	Gasket	NBR/Stainless steel	

AS-FS

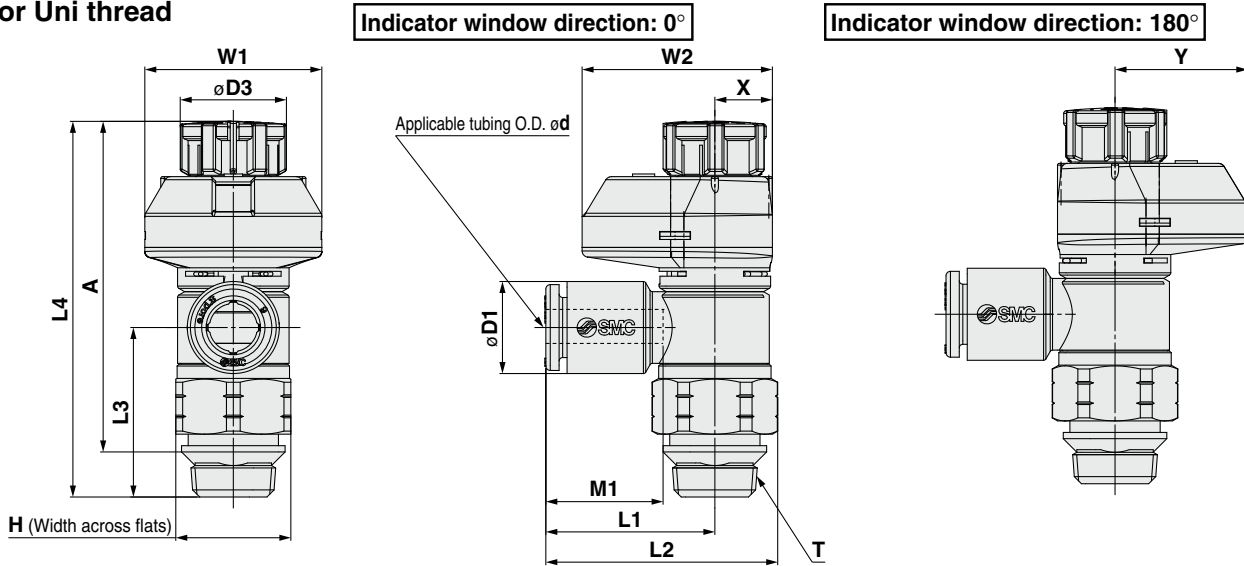
AS-FSG

Uni-AS-FS

AS-FS Series

Dimensions: Elbow Type

Seal method: Gasket seal
For Uni thread



Metric Size

Model	d	T	H	D1	D3	L1	L2	L3	L4*1		A*2		M	W1	W2	X	Y	Weight [g]						
									Unlocked	Locked	Unlocked	Locked												
AS22□1FS□-U01-23	3.2	1/8	13 (12.7)	7.2	12	19.1	26.1 (26)	19.1	43.9	42.4	40.8	39.3	13.3	20	21.5	6.5	15	13 (13)						
AS22□1FS□-U01-04	4			8.2															22.4	29.4 (29.3)	14.2	15 (14)		
AS22□1FS□-U01-06	6			10.4															25.3	32.3 (32.2)	15.6	16 (15)		
AS22□1FS□-U01-08	8			13.2																				
AS22□1FS□-U01-10	10			15.9																				
AS22□1FS□-U02-23	3.2	1/4	17 (17.5)	7.2	13	20.9	30 (30.3)	22.6	49.7	48.3	44.2	42.8	13.3	21.5	24	7.8	16.2	24 (25)						
AS22□1FS□-U02-04	4			8.2															23.4	32.5 (32.8)	14.2	25 (26)		
AS22□1FS□-U02-06	6			10.4															23.9	33 (33.3)	15.6	26 (27)		
AS22□1FS□-U02-08	8			13.2															26.9	36 (36.3)				
AS22□1FS□-U02-10	10			15.9																				
AS32□1FS□-U02-06	6	1/4	19	10.4	16.6	21.8	32.1	36.4	63.1	61.7	57.9	56.5	13.3	24.5	28.5	9.3	19.2	47 (48)						
AS32□1FS□-U02-08	8			13.2															22.7	33	14.2	48 (49)		
AS32□1FS□-U02-10	10			15.9															26.7	37	15.6	50 (51)		
AS32□1FS□-U02-12	12			18.5															29.7	40	17			
AS32□1FS□-U03-06	6			10.4															21.8	32.1	28.7			
AS32□1FS□-U03-08	8	3/8	19	13.2	16.6	22.7	33	28	55.4	54	50.2	48.8	13.3	24.5	28.5	9.3	19.2	36 (37)						
AS32□1FS□-U03-10	10																		15.9	26.7	37	14.2	39 (40)	
AS32□1FS□-U03-12	12																		18.5	29.7	40	17	41 (42)	
AS42□1FS□-U04-10	10																		15.9	27.4	40.3 (40.2)	36.2	15.6	60 (59)
AS42□1FS□-U04-12	12																		18.5	30.8	43.7 (43.6)	35.1	17	62 (61)
AS42□1FS□-U04-16	16	23.8	34.8	47.7 (47.6)	32.7	20.6	66 (65)																	

*1 Reference dimensions *2 Reference dimensions of threads after installation * The values in () are for NPT thread.

Inch Size

Model	d	T	H	D1	D3	L1	L2	L3	L4*1		A*2		M	W1	W2	X	Y	Weight [g]				
									Unlocked	Locked	Unlocked	Locked										
AS22□1FS□-U01-01	1/8"	1/8	13 (12.7)	7.2	12	19.1	26.1 (26)	19.1	43.9	42.4	40.8	39.3	13.3	20	21.5	6.5	15	13 (13)				
AS22□1FS□-U01-03	5/32"			8.2															20.8	27.8 (27.7)	14.2	14 (13)
AS22□1FS□-U01-07	1/4"			11.2															22.4	29.4 (29.3)	15.6	15 (14)
AS22□1FS□-U01-09	5/16"			13.2																		
AS22□1FS□-U02-01	1/8"			7.2															20.9	30 (30.3)	22.6	49.7
AS22□1FS□-U02-03	5/32"	8.2	23.4	32.5 (32.8)	14.2	24 (25)																
AS22□1FS□-U02-07	1/4"	11.2	23.9	33 (33.3)	15.6	25 (26)																
AS22□1FS□-U02-09	5/16"	13.2	26.4	35.5 (35.8)																		
AS22□1FS□-U02-11	3/8"	15.5																				
AS32□1FS□-U02-07	1/4"	3/8	19	11.2	16.6	21.8	32.1	36.4	63.1	61.7	57.9	56.5	13.3	24.5	28.5	9.3	19.2	47 (48)				
AS32□1FS□-U02-09	5/16"			13.2															22.7	33	14.2	48 (49)
AS32□1FS□-U02-11	3/8"			15.5															26.7	37	15.6	50 (51)
AS32□1FS□-U03-07	1/4"			11.2															21.8	32.1	28.7	
AS32□1FS□-U03-09	5/16"			13.2															22.7	33	28	
AS32□1FS□-U03-11	3/8"	15.5	26.7	37	28.2																	
AS42□1FS□-U04-11	3/8"	1/2	24 (23.8)	15.5	18.8	27.4	40.3 (40.2)	36.2	64.1	62.5	57	55.4	15.6	26	29	10	19	60 (59)				
AS42□1FS□-U04-13	1/2"			19.3															30.9	43.8 (43.7)	34.7	17

*1 Reference dimensions *2 Reference dimensions of threads after installation * The values in () are for NPT thread.