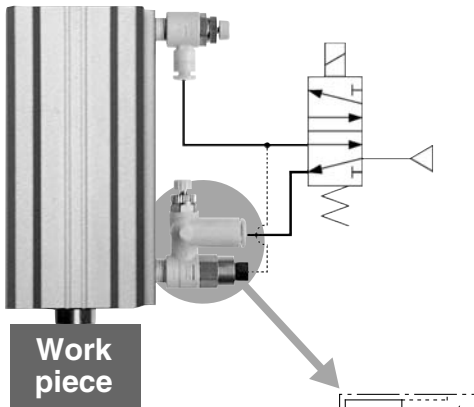


Speed Controller with Pilot Check Valve with One-touch Fitting Series ASP

Pilot check valve and speed controller are combined.

Realizes momentary intermediate stoppage of a cylinder and able to adjust speed control of it.

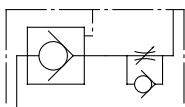


Example of drop prevention circuit

Tubing mount direction is 360° free.
Electroless nickel plated is provided as standard.



JIS Symbol



Model

Model	Port size	Pilot port	Applicable tubing O.D.										
			Metric size				Inch size						
			ø6	ø8	ø10	ø12	ø1/4"	ø5/16"	ø3/8"	ø1/2"			
ASP330F-01	R 1/8	M5 x 0.8	●	●									
ASP430F-02	R 1/4	Rc 1/8	●	●									
ASP530F-03	R 3/8	Rc 1/8		●	●								
ASP630F-04	R 1/2	Rc 1/4			●	●							
ASP430F-F02	R 1/4	G 1/8	●	●									
ASP530F-F03	R 3/8	G 1/8		●	●								
ASP630F-F04	R 1/2	G 1/4			●	●							
ASP330F-N01	NPT 1/8	10-32 UNF						●	●				
ASP430F-N02	NPT 1/4	NPT 1/8						●	●				
ASP530F-N03	NPT 3/8	NPT 1/8							●	●			
ASP630F-N04	NPT 1/2	NPT 1/4								●	●		

Note) Brass parts are all electroless nickel plated.

Specifications

Fluid	Air
Proof pressure	1.5 MPa
Max. operating pressure	1 MPa
Min. operating pressure	0.1 MPa
Pilot check valve operating pressure	More than 50% the operating pressure (Over 0.1 MPa)
Ambient and fluid temperature	-5 to 60°C (No freezing)
Number of needle rotations	10 turns
Applicable tubing material	Nylon, Soft nylon, Polyurethane

Note) Use caution regarding the max. operating pressure when soft nylon or polyurethane tubing is used.
(Refer to pages 371 and 372 for details.)

Flow Rate and Effective Area

Model	Metric size	ASP330F		ASP430F		ASP530F		ASP630F	
		ø6, ø8	ø6	ø8	ø8	ø10	ø10	ø12	
Tubing O.D.	Inch size	ø1/4" ø5/16"	—	ø1/4" ø5/16"	ø5/16"	ø3/8"	—	ø3/8" ø1/2"	
	Flow rate (ℓ/min(ANR))	180	330	350	600	750	1100	1190	
Controlled flow (Free flow)	Effective area (mm ²)	2.9	5.2	5.4	9.3	11.6	17	18.4	

Note) Flow rate values are measured at 0.5 MPa and 20°C.

Made to Order



Lubricant: Vaseline

X12

AS

ASP

ASN

AQ

ASV

AK

VCHC

ASS

ASR
ASQ

KE

TMH

How to Order

ASP 3 30F-01-06 S-

- **Made to Order**
X12 | Lubricant: Vaseline
 Ex.) ASP330F-01-06S-X12
- **With seal**
- **Applicable tubing O.D.**

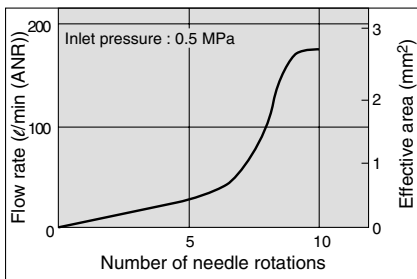
Metric size		Inch size	
06	ø6	07	ø1/4"
08	ø8	09	ø5/16"
10	ø10	11	ø3/8"
12	ø12	13	ø1/2"
- **Port size**

Symbol	Cylinder side	Pilot port
01	R 1/8	M5 x 0.8
02	R 1/4	Rc 1/8
03	R 3/8	Rc 1/8
04	R 1/2	Rc 1/4
F02	R 1/4	G 1/8
F03	R 3/8	G 1/8
F04	R 1/2	G 1/4
N01	NPT 1/8	10-32 UNF
N02	NPT 1/4	NPT 1/8
N03	NPT 3/8	NPT 1/8
N04	NPT 1/2	NPT 1/4
- **Body size**

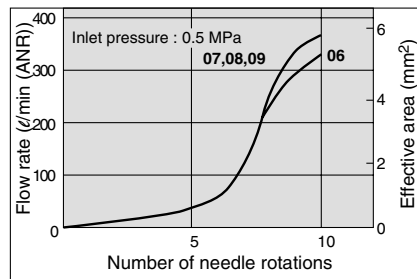
3	1/8 standard
4	1/4 standard
5	3/8 standard
6	1/2 standard
- **Universal**
- **With One-touch fitting**
- **Pilot check valve**

Needle Valve/Flow Characteristics

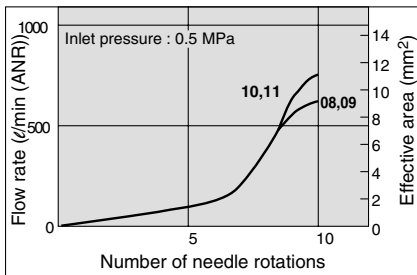
ASP330F



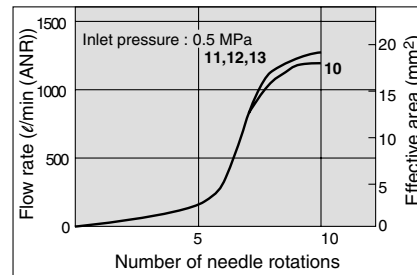
ASP430F



ASP530F

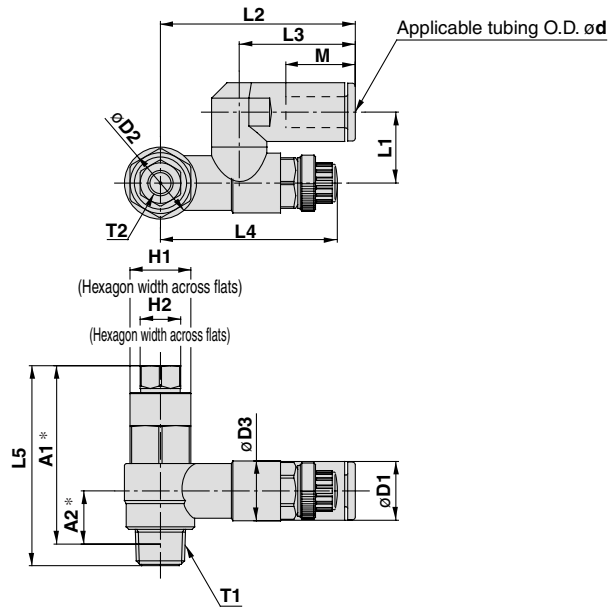


ASP630F



Speed Controller with Pilot Check Valve with One-touch Fitting *Series ASP*

Dimensions

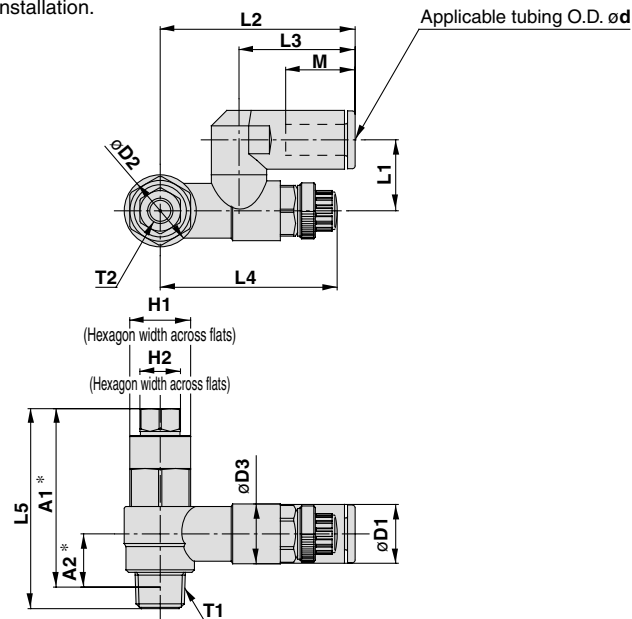


Metric Size

Model	d	T1	T2	H1	H2	D1	D2	D3	L1	L2	L3	L4 (1)		L5	A1 (2)	A2 (2)	M	Mass (g)
												Max.	Min.					
ASP330F-01-06S	6	R 1/8	M5 x 0.8	12	8	11.6	14.2	11.8	14	38.4	22.9	39.6	34.6	38.6	35.2	10.5	13.7	32
ASP330F-01-08S	8					15.2						38.9	33.9					
ASP430F-02-06S	6	R 1/4	1/8	17	12	12.8	18.5	15	18	43.4	25.2	41.7	36.7	48.2	42.4	10.9	16.8	65
ASP430F-02-08S	8					15.2						19.7	46.4					
ASP530F-03-08S	8	R 3/8	1/8	19	12	15.2	23	19.8	20.3	51.3	28.2	46.9	41.9	55.1	50	14.4	18.7	107
ASP530F-03-10S	10					18.5						23.1	54.1					
ASP630F-04-10S	10	R 1/2	1/4	24	17	18.5	28.6	26.5	25.9	64.2	32.6	64.8	57.3	69.4	61.8	18.3	20.8	212
ASP630F-04-12S	12					20.9						66	34.4					

Note 1) Reference dimensions

Note 2) Reference dimensions of R thread after installation.



Inch Size

Model	d	T1	T2	H1	H2	D1	D2	D3	L1	L2	L3	L4 (1)		L5	A1 (2)	A2 (2)	M	Mass (g)
												Max.	Min.					
ASP330F-N01-07S	1/4"	NPT 1/8	10-32 UNF	1/2"	8	13.2	14.2	11.8	15.8	42.2	25.6	38.9	33.9	38.6	35.1	10.5	17	35
ASP330F-N01-09S	5/16"				15.2	44.7						28.2	18.7					
ASP430F-N02-07S	1/4"	NPT 1/4	NPT 1/8	11/16"	1/2"	13.2	18.5	15	18	43.9	25.6	41.7	36.7	48.2	42.6	10.9	17	68
ASP430F-N02-09S	5/16"					15.2						46.4	28.2					
ASP530F-N03-09S	5/16"	NPT 3/8	NPT 1/8	19	1/2"	15.2	23	19.8	20.3	51.3	28.2	46.9	41.9	55.1	50.3	14.4	18.7	107
ASP530F-N03-11S	3/8"					18.5						23.1	54.1					
ASP630F-N04-11S	3/8"	NPT 1/2	NPT 1/4	15/16"	11/16"	18.5	28.6	26.5	25.9	64.2	32.6	64.8	57.3	69.4	61.8	18.3	20.8	220
ASP630F-N04-13S	1/2"					21.7						26.5	66.3					

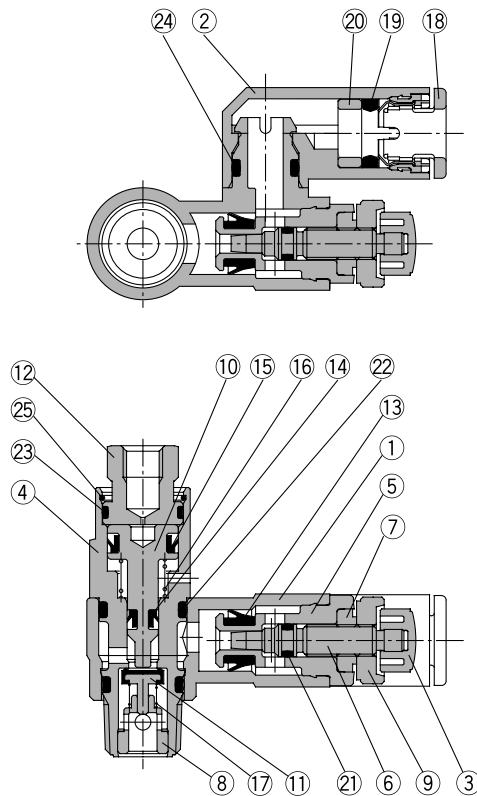
Note 1) Reference dimensions

Note 2) Reference dimensions of NPT thread after installation.

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

Series ASP

Construction



Component Parts

No.	Description	Material	Note
1	Body A	PBT	
2	Elbow body	PBT	
3	Handle	PBT	
4	Pilot body	Brass	Electroless nickel plated
5	Body B	Brass	Electroless nickel plated
6	Needle	Brass	Electroless nickel plated
7	Needle guide	Brass	Electroless nickel plated
8	Guide	Brass	Electroless nickel plated
9	Lock nut	Brass	Electroless nickel plated
10	Piston	Brass	Electroless nickel plated
11	Valve	Stainless steel, NBR	
12	Cover	Brass	Black zinc chromated
13	U seal	HNBR	

Component Parts

No.	Description	Material	Note
14	DY seal	NBR	
15	DY seal	NBR	
16	Spring	Stainless steel	
17	Spring	Stainless steel	
18	Cassette	—	
19	Seal	NBR	
20	Spacer	—	
21	O-ring	NBR	
22	O-ring	NBR	
23	O-ring	NBR	
24	O-ring	NBR	
25	Ring	Stainless steel	



Series ASP 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.

Design/Selection

Warning

1. This product cannot be used for accurate and precise intermediate stops of the actuator.

Due to the compressibility of air as a fluid, the actuator will continue to move until it reaches a position of pressure balance, even though the pilot check valve closes with an intermediate stop signal.

2. This product cannot be used to hold a stop position for an extended period of time.

Pilot check valves and actuators are not guaranteed for zero air leakage. Therefore, it is sometimes not possible to hold a stop position for an extended period of time. In the event that holding for an extended time is necessary, a mechanical means for holding should be devised.

3. Consider the release of residual pressure.

Actuators may move suddenly due to residual pressure, which can be dangerous during maintenance procedures.

4. When used in a balance control circuit, there are instances in which the check valve cannot release, even though the pilot pressure is 50% of the operating pressure. In these cases, the pilot pressure should be the same as the operating pressure.

5. For reference, SMC has conducted endurance tests in which ON, OFF operation of the check valve was performed at the maximum operating pressure, with a confirmed endurance of 10 million operations.

Since the tests were performed under limited conditions, use caution in evaluating the results.

Installation

Warning

1. When mounting, please firmly align the tool with the hexagon width across flats of the pilot body. If the hexagon width across flats is damaged as a result of failure to properly align the tool, the pilot body will be deformed, and poor pilot operation may result.

Air source

Warning

1. If moisture enters the inside of the connecting piping, the cover may corrode, and it may lead to a pilot operation malfunction.

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



ASP-X352 Speed Control Valve with Manual Override Pilot Operated Check Valve

- One-touch fitting for simple connection of supply air
- Universal type for piping convenience
- Meter-out flow control for cylinder speed regulation
- Manual residual pressure release valve for quick release of cylinder pressure
- Integral pilot operated check valve to hold position until pilot signal is provided
- G thread
- Can rotate 360° to desired piping position
- Not for constant rotational use
- Uni-fit for compatibility with NPT, BSPT, BSPP and G thread forms (alternate thread forms can be offered as non-standard options)

APPLICATIONS

Drop prevention for press fitting jig

Extension lock

Drop prevention for lifter

Retraction lock

Door locking

Open ← Close Lock

Pressing and lifting

Press

Lifter

Picking and placing

Specifications

Fluid	Air
Proof pressure	217.5 psi (1.5MPa)
Operating pressure range	14.5 to 145psi (0.1 to 1 MPa)
Pilot check valve operating pressure	More than 50% of operating pressure
Number of needle rotations	10 turns
Applicable tubing material	Nylon, Soft nylon, Polyurethane

Related Products

AS-FE

Flow control w/residual pressure relief

KE

Residual pressure relief Valve

How to Order

AS P 3 3 0 F — U 01 — 07 — X352

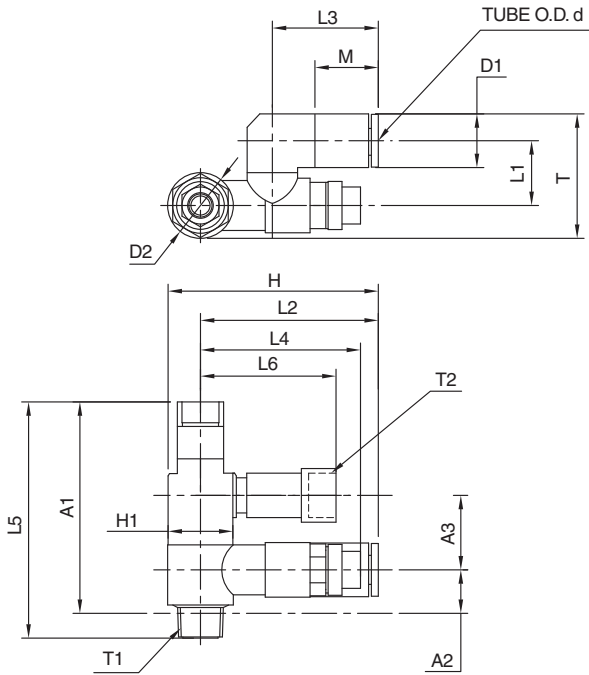
- AS**: Flow control
- P**: With pilot check valve
- 3**: Body size

Body size	Tube O.D.
3	1/8"
4	1/4"
5	3/8"
6	1/2"
- 3 0**: Universal type
- F**: With One-touch fitting
- U**: Uni-fit thread form
- 01**: Thread size

Thread size	Tube O.D.
01	1/8"
02	1/4"
03	3/8"
04	1/2"
- 07**: Applicable tubing O.D.

Metric size	Inch size
06	ø6mm
08	ø8mm
10	ø10mm
12	ø12mm
07	ø1/4"
09	ø5/16"
11	ø3/8"
13	ø1/2"
- X352**: With residual pressure relief valve (manual), G thread pilot port

Dimensions



Models

Model number	Piping thread	Pilot port	Applicable tubing O.D.						
			Metric size			Inch size			
			ø6	ø8 (5/16")	ø10	ø12	ø1/4"	ø3/8"	ø1/2"
ASP330F-U01-□-X352	1/8" Uni-fit	G 1/8"	●				●		
ASP430F-U02-□-X352	1/4" Uni-fit	G 1/4"		●			●		
ASP530F-U03-□-X352	3/8" Uni-fit	G 3/8"			●			●	
ASP630F-U04-□-X352	1/2" Uni-fit	G 1/2"				●			●

Note) Additional models are possible (i.e. thread form/tubing size combinations), please contact your SMC representative for availability.



Model number	Applicable tubing diameter ød	A1	A2	A3	D1	D2	H	H1	L1	L2	L3	L4	L5	L6	M	T	T1	T2	
ASP330F-U01-06-X352	6mm	45.7	9.4	16.1	ø11.6	ø14.2	45.5	14	14	38.4	22.9	34.6 to 39.6	51.1	29.3	13.7	26.9	1/8" Uni	G 1/8"	
ASP330F-U01-07-X352	1/4"																		
ASP430F-U02-07-X352	1/4"	63.6	10.4	23	ø15.2	ø18.5	58	21	17.9	46.4	28.2	36.7 to 41.7	70.4	41.7	18.7	34.7	1/4" Uni	G 1/4"	
ASP430F-U02-08-X352	8mm (5/16")																		
ASP530F-U03-10-X352	10mm	70.5	13.2	25	ø18.5	ø23	66.1	24	23.1	54.1	32.6	41.9 to 46.9	77.9	44	20.8	43.9	3/8" Uni	G 3/8"	
ASP530F-U03-11-X352	3/8"																		
ASP630F-U04-12-X352	12mm	79.4	18.7	29.8	ø20.9	ø28.6	80.3	24	25.9	66	34.3	57.3 to 64.8	87.5	52.2	21.8	50.7	1/2" Uni	G 1/2"	
ASP630F-U04-13-X352	1/2"																		



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