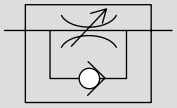
Speed controller Stainless steel corrosion-resistant

SC3P Series

● Port size: M5, R1/8 to R1/2

JIS symbol



RoHS CAD

Features

- The speed control valve uses highly anti-corrosive stainless steel equivalent to SUS303 (Cr 20% and Mo 2%). As copper alloy material is not used, this product is suitable for atmospheres where copper ions should be avoided.
- Standard ozone-resistant materials
  Ozone-proof materials for degradation prevention are used as standard for the check packing.
- Ecological products
  As a RoHS Directive compatible product, all substances which adversely affect the global environment have been eliminated from the materials.

Specifications

Model No.		SC3P															
Item		SC3P-M5		SC3P-6			SC3P-8			SC3P-10				SC3P-15			
Compatible tube O.D.	mm	ø4	ø6	ø4	ø6	ø8	ø6	ø8	ø10	ø6	ø8	ø10	ø12	ø8	ø10	ø12	
Working fluid		Compressed air															
Max. working pressure	MPa	0.9 (≈130 psi, 9 bar)															
Min. working pressure	MPa	0.1 (≈15 psi, 1 bar)															
Proof pressure	MPa	1.35 (≈200 psi, 13.5 bar)															
Ambient temperature	°C	0 (32°F) to 60 (140°F) (no freezing)															
Port size	Rc	M5		R1/8			R1/4			R3/8				R1/2			
Weight	g	7	7.6	17	17	20	33	36	39	63	63	66	69	95	98	101	
Dial value (needle position)		7 or more		12 or more			13 or more										

*1: Freezing may occur by adiabatic expansion depending on the air quality (dew point).

How to order

SC3P - 8 - 8 - I

- SC3P: Model No.
- 8: Ⓐ Port size
- 8: Ⓑ Compatible tube O.D.
- I: Ⓒ Option

Code	Description
Ⓐ Port size	
M5	M5×0.8
6	R1/8
8	R1/4
10	R3/8
15	R1/2

Ⓑ Compatible tube O.D.

		Piping size				
		M5	6	8	10	15
4	**ø4**	●	●			
6	**ø6**	●	●	●	●	
8	**ø8**		●	●	●	●
10	**ø10**			●	●	●
12	**ø12**				●	●

Ⓒ Option

Blank	Meter-out control
I	Meter-in control

Not available

Flow rate and effective cross-sectional area

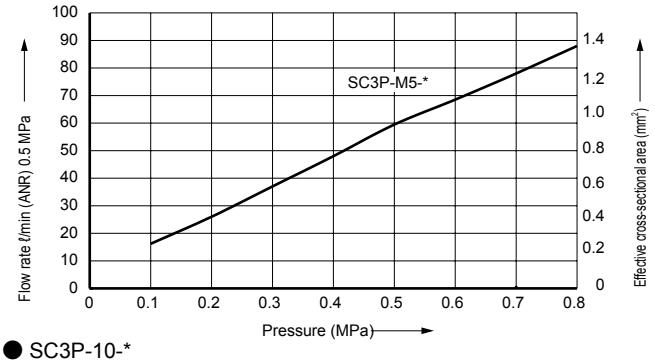
Model No.		SC3P														
Item		SC3P-M5		SC3P-6			SC3P-8			SC3P-10				SC3P-15		
Compatible tube O.D.	mm	ø4	ø6	ø4	ø6	ø8	ø6	ø8	ø10	ø6	ø8	ø10	ø12	ø8	ø10	ø12
Free flow	Flow rate ℓ/min(ANR)	55		200		230	390	400		600	800		840	1140	1380	
	Effective cross-sectional area mm²	0.9		3		3.5	5.9	6		9	12		12.5	17	21	
Controlled flow	Flow rate ℓ/min(ANR)	70		150			270			550	850	920		1100	1450	1600
	Effective cross-sectional area mm²	1.1		2.3			4			8	12.8	14		16.5	22	24

*1: Flow rate is the atmospheric pressure conversion value at pressure 0.5 MPa.
*2: The effective cross-sectional area lists the value converted from the flow rate.

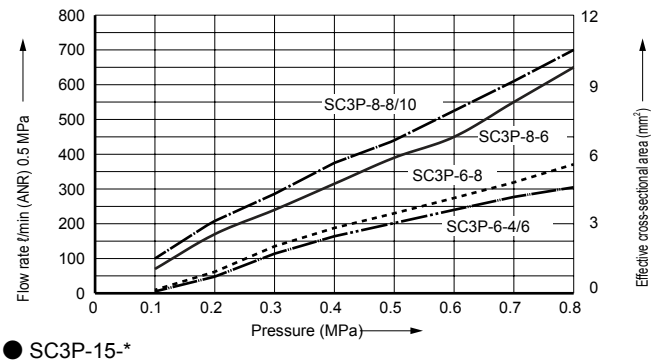
Flow characteristics

[Free flow]

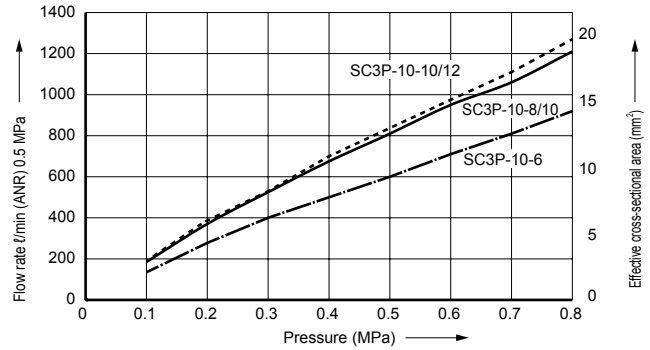
● SC3P-M5-*



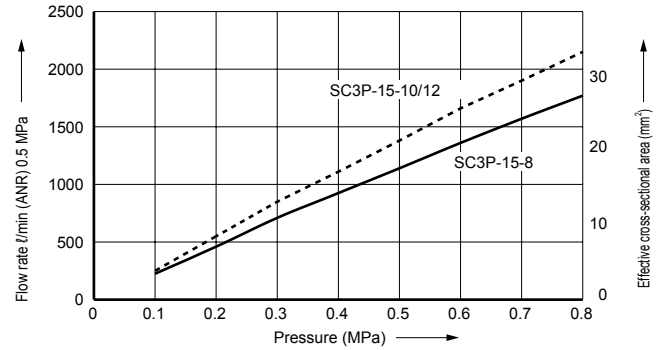
● SC3P-6-*,SC3P-8-*



● SC3P-10-*

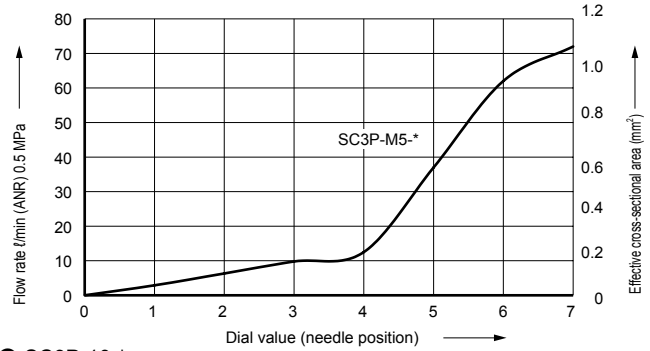


● SC3P-15-*

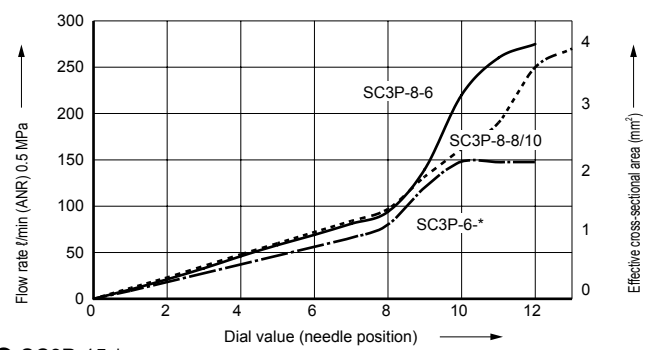


[Controlled flow]

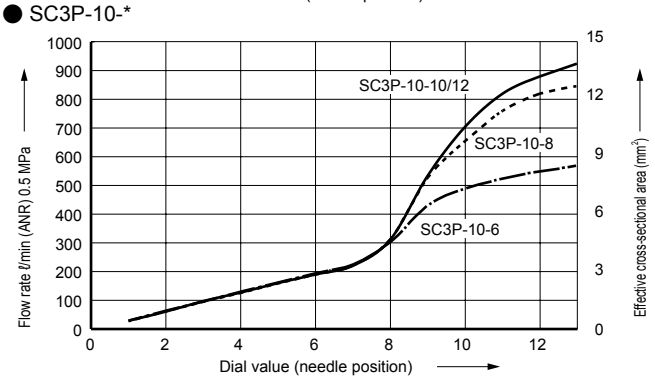
● SC3P-M5-*



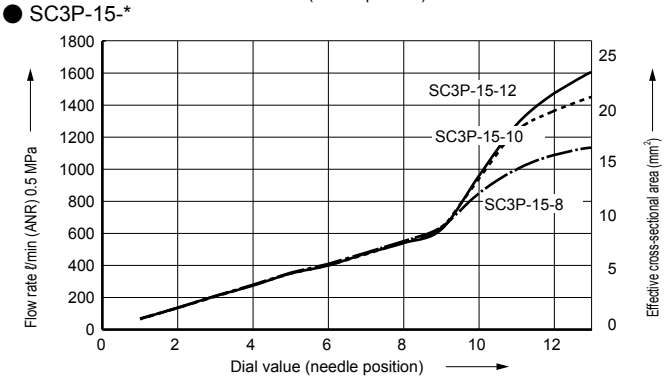
● SC3P-6-*,SC3P-8-*



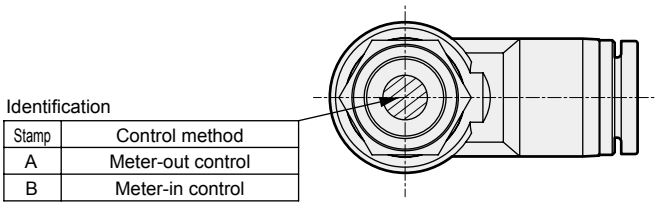
● SC3P-10-*



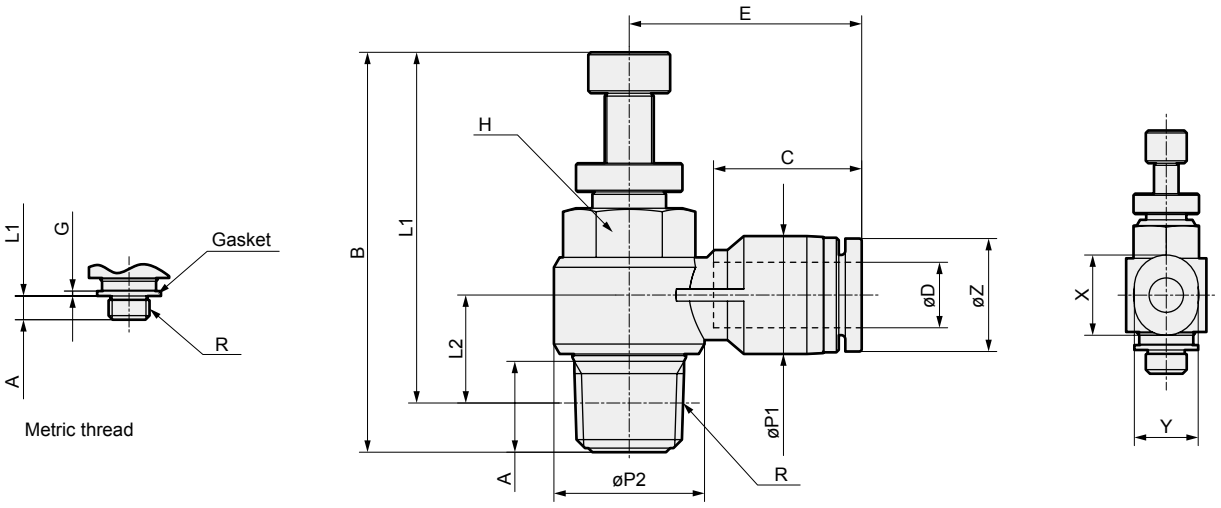
● SC3P-15-*



Dimensions CAD



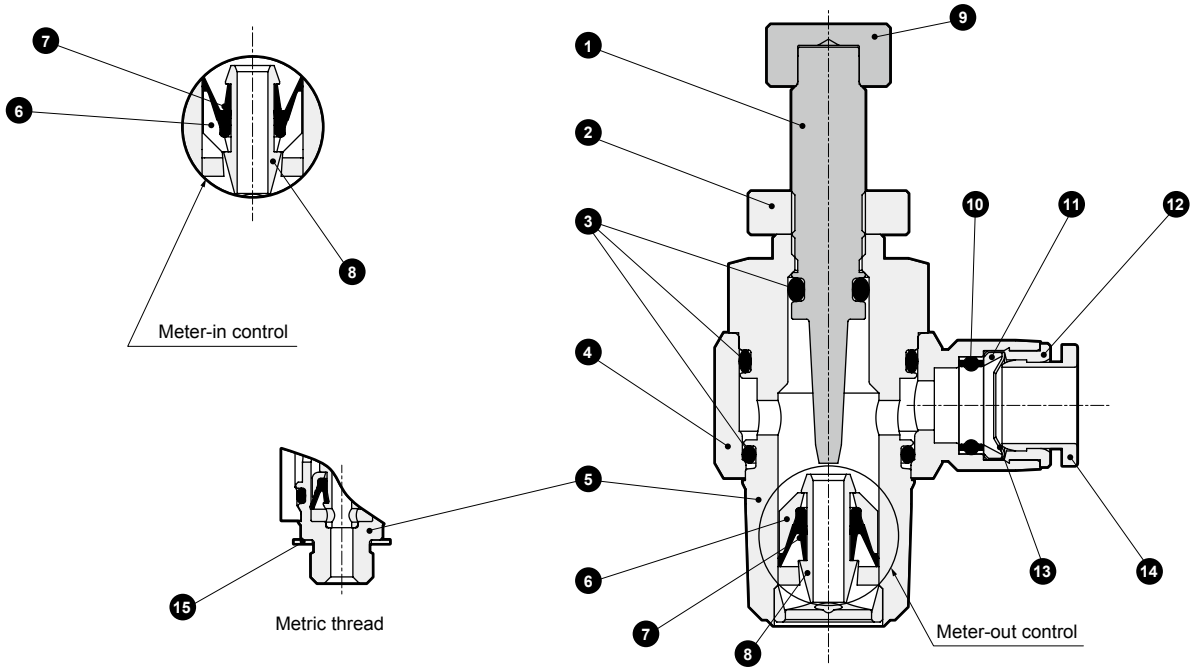
Stamp	Control method
A	Meter-out control
B	Meter-in control



Code / Model No.	øD tube O.D.	R	A	B MAX	B MIN	L1 MAX	L1 MIN	L2	øP1	øP2	C Tube end	E	H opposite side	øZ	X	Y
SC3P-M5-4	ø4	M5× 0.8	3.2	29.7	27.0	26.5	23.8	6.4	8	9.8	11.3	15.7	8	-	9.8	7.8
SC3P-M5-6	ø6							7.2	10.5		11.8	17.7		-	11.8	9.8
SC3P-6-4	ø4	R1/8	8	41.5	34.9	37.5	30.9	10.7	8	14.4	11.3	18	10	-	9.8	7.8
SC3P-6-6	ø6							10.7	10.5		11.8	18.5		-	11.8	9.8
SC3P-6-8	ø8							11.9	14.4		18.1	26.9		13.8	-	-
SC3P-8-6	ø6	R1/4	11.1	48.9	42.2	42.8	36.1	11.9	10.5	18.4	11.8	20.4	14	-	11.8	9.8
SC3P-8-8	ø8							13.2	14.4		18.1	28.4		13.8	-	-
SC3P-8-10	ø10							14.8	17.6		20.2	30.9		16.8	-	-
SC3P-10-6	ø6	R3/8	13.2	54.4	46.9	48	40.5	15.4	14.4	22	17	29	19	11.8	-	-
SC3P-10-8	ø8							15.4	14.4		18.1	28.9		13.8	-	-
SC3P-10-10	ø10							16.7	17.6		20.2	31.2		16.8	-	-
SC3P-10-12	ø12							18.4	21		23.4	36.9		19.8	-	-
SC3P-15-8	ø8	R1/2	16	59.7	52.4	51.5	44.2	18	14.4	28	18.1	31	24	13.8	-	-
SC3P-15-10	ø10							18	17.6		20.2	33.6		16.8	-	-
SC3P-15-12	ø12							19.7	21		23.4	36.4		19.8	-	-

* The taper female thread L1 and L2 dimensions are the reference dimensions after tightening.

Internal structure and parts list



No.	Part name	Material	No.	Part name	Material
1	Needle	Stainless steel (SUS303 or equivalent)	9	Knob	Stainless steel (SUS303 or equivalent)
2	Lock nut	Stainless steel (SUS303 or equivalent)	10	Elastic sleeve	Hydrogenated nitrile rubber
3	O-ring	Hydrogenated nitrile rubber	11	Lock ring	Stainless steel (SUS303 or equivalent)
4	Resin body	Polybutylene terephthalate	12	Guide ring	Stainless steel (SUS303 or equivalent)
5	Metal body	Stainless steel (SUS303 or equivalent)	13	Lock claw	Stainless steel (SUS301)
6	Basket	Polybutylene terephthalate	14	Release ring	Polyacetal
7	Check packing	Hydrogenated nitrile rubber	15	Gasket	Polyphenylene sulfide
8	Core guide	Stainless steel (SUS303 or equivalent)			

Safety precautions

- Always use within the product specifications.
- This product is used for compressed air. Do not use this unit for other fluids.
- Securely insert the tube to the tube end and make sure that the tube cannot be pulled off.
- Cut the tube with a dedicated cutter and always at a right angle.
- Remove all cutting chips and foreign matter generated during piping and tube insertion before starting use.
- Provide sufficient allowance in the tube so that it does not bend sharply.
- Avoid using this product in a hot humid place, outdoors or where it is subject to direct sunlight.
- Avoid using this product in places with high levels of vibration or impact.
- The needle tolerates a slight leak even when fully closed, so do not use it as a stop valve.
- Stop air flow and confirm that there is no residual pressure before replacing the tube.
- The chemical resistance level is equivalent to SUS440. This product cannot be used when a higher chemical resistance is required.
- Be sure to contact CKD when using in a corrosive atmosphere. The fitting body could be damaged under some conditions.

[Recommended tightening torque]

Port thread	Tightening torque N·m
M5	1.0 to 1.5
R1/8	7 to 9
R1/4	12 to 14
R3/8	22 to 24
R1/2	28 to 30

■ Precautions for piping

- Always use within the recommended tightening torque range.
- Do not tighten while pressure is applied.
- Stop air flow and confirm that there is no residual pressure before replacing the tube.
- Mounting is possible by rotating in an arbitrary direction, but do not use this product in applications involving constant rotation or oscillation.