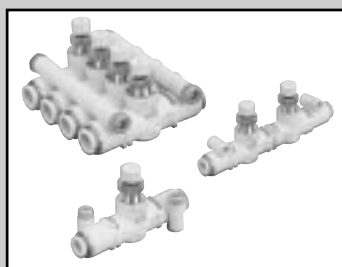


Speed control valve Line type with push-in joint



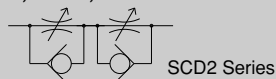
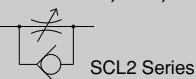
SCL2 Series

In – out speed control valve Line type with push-in joint

SCD2 Series

● Port size: $\varnothing 1.8, \varnothing 4, \varnothing 6, \varnothing 8, \varnothing 10, \varnothing 12$

JIS symbol



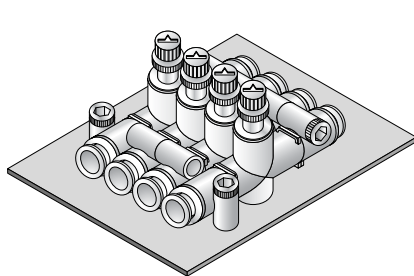
Overview

- The SCL2 Series is an inline speed control valve useful for remote or central actuator control.
- The SCD2 Series is an integrated metering in-out speed control valve that controls both air intake and exhaust flow. Depending on the circuit, the actuator can be prevented from popping out, speed can be stabilized, and reciprocating single-acting cylinder speed can be controlled.

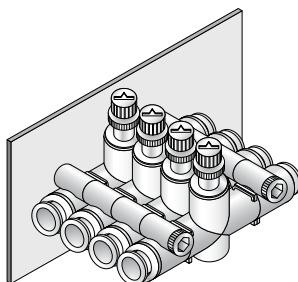
Features

Random installation attitude

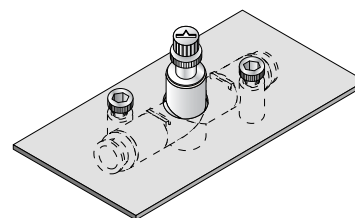
The installation area rotates by 360°, enabling installation and the installation method to be from base, side, or panel.
An installation bracket is not required.



Example of base installation



Example of wall surface installation



Example of panel mount

Wide range of choices

Fiber tubing specifications and large bore types have been added to the diverse lineup, expanding the size of applicable tubing to $\varnothing 1.8$ to $\varnothing 12$ diameter.

Large flow rate with compact type

The large flow rate achieved even with a compact body extends the selection range for cylinder size and speed control.

Fine speed type available

Low and fine speed and small bore size are easily controlled.

Quick connection

Push-in joints simplify tubing connection.

Standard ozone-resistant materials

Ozone-resistant materials are used as standard for check packing to prevent deterioration.

Standard flame-resistant resin: UL94 Standard V-O or equivalent

Refer to page 867 for SCL2/SCD2 Safety Precautions.

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)
Ending

Specifications

● Speed control valve line type SCL2

Model no.	SCL2-04			SCL2-06	SCL2-08		SCL2-10			
Applicable tube outer diameter mm	ø1.8	ø1.8/ø4	ø4	ø6	ø6	ø8	ø8	ø10	ø12	
Working fluid	Compressed air									
Max. working pressure MPa	0.7			1.0						
Min. working pressure MPa	0.1									
Withstanding pressure MPa	1.05			1.5						
Fluid temperature °C	5 to 60 (no freezing Note 3)									
Ambient temperature °C	0 to 60 (no freezing)									
Product weight g	13	12	11.5	16	32	33	53	57	59	
Number of needle turn	12 [15]									
Free flow	Flow ℓ/min. (ANR)	[13]		130	300	400	550	900	1100	1200
	Effective sectional area mm ²	[0.2]		1.9	4.5	6	8	13.5	16.5	18
Controlled flow	Flow ℓ/min. (ANR)	[10]		130 [13]	300 [13]	400	550	900	1100	1200
	Effective sectional area mm ²	[0.15]		1.9 [0.2]	4.5 [0.2]	6	8	13.5	16.5	18

● In out speed control valve line type SCD2

Model no.	SCD2-04			SCD2-06	SCD2-08		SCD2-10		
Applicable tube outer diameter mm	ø1.8	ø1.8/ø4	ø4	ø6	ø6	ø8	ø8	ø10	ø12
Working fluid	Compressed air								
Max. working pressure MPa	0.7			1.0					
Min. working pressure MPa	0.1								
Withstanding pressure MPa	1.05			1.5					
Fluid temperature °C	5 to 60 (no freezing Note 3)								
Ambient temperature °C	0 to 60 (no freezing)								
Product weight g	23	22	21.5	29	63	64	108	112	114
Number of needle turn	12 [15]								
Flow ℓ/min. (ANR)	[10]	[10]	100 [13]	250 [13]	330	400	750	850	900
Effective sectional area mm ²	[0.15]	[0.15]	1.5 [0.2]	3.7 [0.2]	5	6	11	12.5	13

Note 1: Flow rate is the atmospheric pressure conversion value at pressure 0.5MPa.

Note 2: Value in () is for fine speed type.

Note 3: Freezing could occur by adiabatic expansion depending on air quality (dew point).

Clean room specifications (catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

SCL2—.....— P7*

Refrigerating type dryer
Desiccant type dryer
High polymer membrane type dryer
Air filter
Auto. drain / others
F.R.L. (Module unit)
F.R.L. (Separate)
Compact F.R.
Precise regulator
F.R.L. (Related products)
Clean F.R.
Electro pneumatic regulator
Air booster
Speed control valve
Silencer
Check valve / others
Joint / tube
Vacuum filter
Vacuum regulator
Suction plate
Magnetic spring buffer
Mechanical pressure SW
Electronic pressure SW
Contact / close contact cont. SW
Air sensor
Pressure SW for coolant
Small flow sensor
Small flow controller
Flow sensor for air
Flow sensor for water
Total air system
Total air system (Gamma)

Ending

Line type with push-in joint
Speed control valve

How to order

- Speed control valve line type

SCL2 - 04 - H44 - ○

- In out speed control valve line type

SCD2 - 04 - H44 - ○

Model no.

A Body size

B Applicable tube outer diameter

C Flow characteristics

See the table at right for body size, applicable tube outer diameter, and flow characteristic combinations.

Note on model no. selection

- Note 1: H24 cannot be used with SCD2. Use H42.
- Note 2: There is no push-in joint compatible with Item B Applicable tube outer diameter 1.8. Refer to page 994 for line types with 1.8 diameter push-in joints.

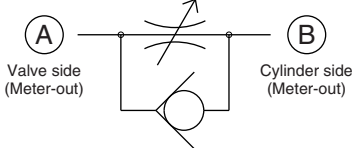
Symbol	Descriptions
A Body size	
04	M5 screw or equivalent
06	1/8 screw or equivalent
08	1/4 screw or equivalent
10	3/8 screw or equivalent
B Applicable tube outer diameter	
H22	ø1.8
H42	A side: ø4 B side: ø1.8
H24 (Note1)	A side: ø1.8 B side: ø4
H44	ø4
H66	ø6
H88	ø8
H1010	ø10
H1212	ø12
C Flow characteristics	
Blank	Standard type
F	Fine speed type

Combination of body size, applicable tube outer diameter and flow characteristics

		A Body size			
		04	06	08	10
B Applicable tube outer diameter	H22	ø1.8	○		
	H42	ø4/ø1.8	○		
	H24 (Note1)	ø1.8/ø4	○		
	H44	ø4	●○		
	H66	ø6		●○	●
	H88	ø8			●
	H1010	ø10			●
	H1212	ø12			●

- Flow characteristics "Standard type"
- Flow characteristics "Fine speed type"
- not available

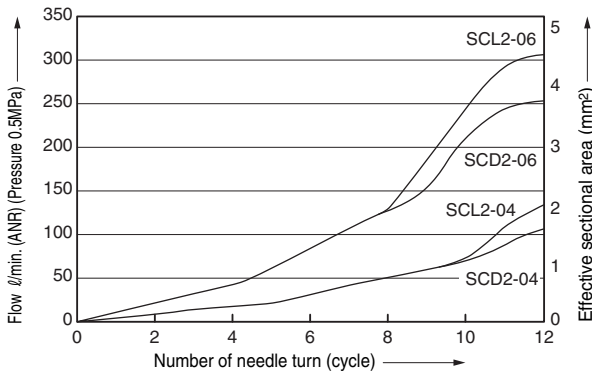
● Explanatory drawing of applicable tube outer diameter combinations (Only H24/H42)



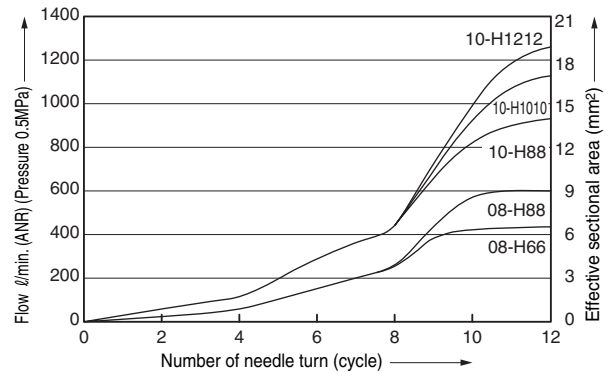
Free flow direction →
Controlled flow direction ←

Flow characteristics

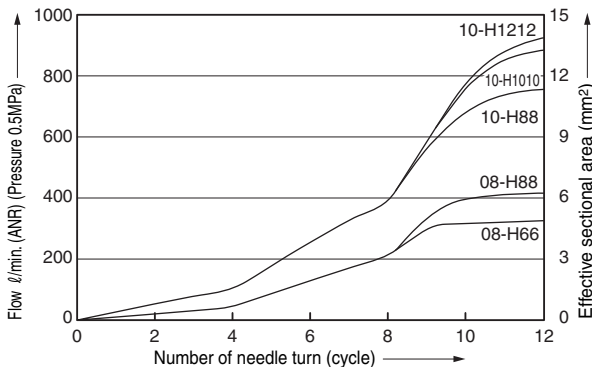
- Standard type
SCL2-04, SCL2-06, SCD2-04, SCD2-06



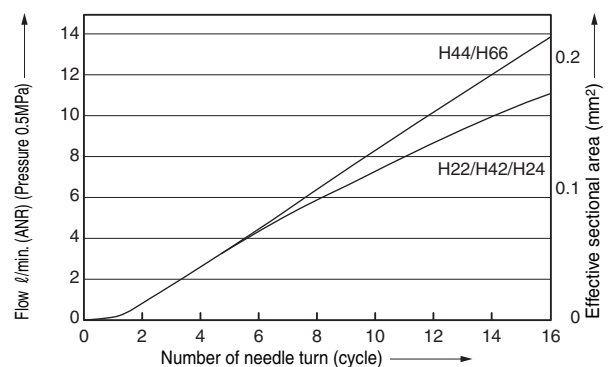
- Standard type
SCL2-08, SCL2-10



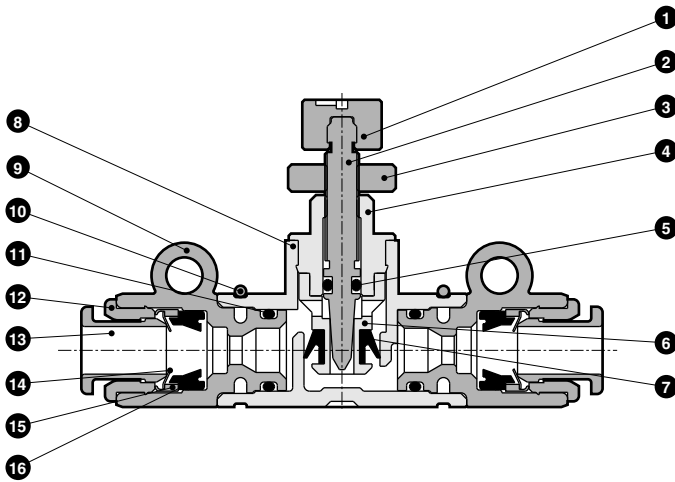
- Standard type
SCD2-08, SCD2-10



- Fine speed type



Internal structure and parts list



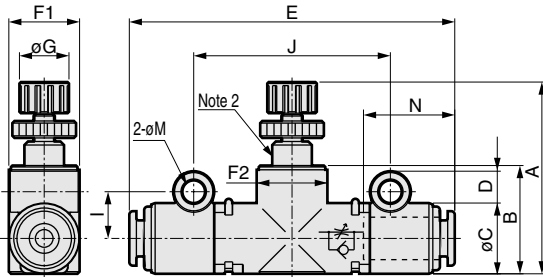
No.	Parts name	Material
1	Knob	PBT
2	Needle	Brass
3	Lock nut	Brass
4	Guide ring	Brass
5	O ring	Nitrile rubber
6	Check bracket	Brass
7	Check packing seal	Hydrogen nitrile rubber
8	Body	PBT
9	Joint case	PBT
10	Stopper ring	Stainless steel
11	O ring	Nitrile rubber
12	Outer ring	Brass
13	Push ring	PBT
14	Chuck	Stainless steel
15	Holder	Brass
16	Packing seal	Nitrile rubber

*1 All the brass parts are plated with electroless nickeling
 *2 All resin parts are flame resistance. (equivalent to UL94 standards V-0)
 Excluding applicable tube outer diameter ø1.8.

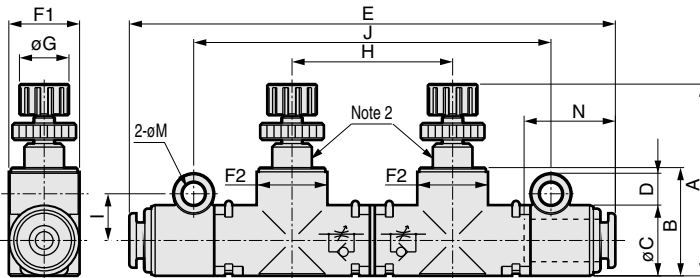
Dimensions



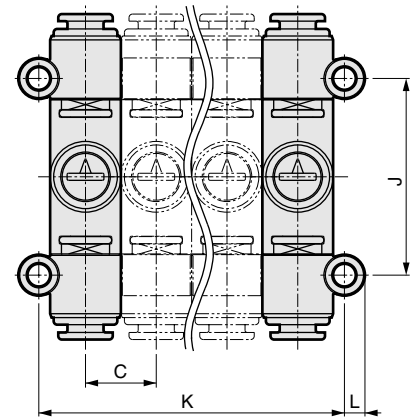
● SCL2 Series



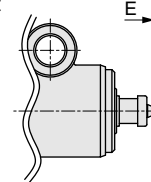
● SCD2 Series



● Installation spacing dimensions for manifolds



● Outline drawing of outer tubing connection diameter 1.8 joint



Model no.	Piping tube outer diameter	A		B	C	D	E	F1	F2	G	H	I	J	K	L	M (Installation hole diameter)	N (Tube insertion length)														
		MIN	MAX																												
SCL2-04-H22 Note1	ø1.8	27.1	31.6	15.3	10	4.5	50.8	10	10.6	7	-	6.6	27.8	10 × n + 3.2	2.9	3.3	-														
SCL2-04-H42 Note1	ø4/ø1.8						48.4										12.9/-														
SCL2-04-H24 Note1	ø1.8/ø4						48.4										-/12.9														
SCL2-04-H44	ø4						46										12.9														
SCL2-06-H66	ø6	28.8	33.3	17.7	12	5.6	49.4	12	12.2	7	-	8.1	30.8	12 × n + 4.2	3.5	4.3	13.7														
SCL2-08-H66	ø6						64										18														
SCL2-08-H88	ø8						38										44.5	22.9	15	5.6	66.5	15	15.5	11	-	9.5	41	15 × n + 4	19		
SCL2-10-H88	ø8						71										19														
SCL2-10-H1010	ø10	44	50.5	29.7	20	5.1	75	20	20.5	11	-	11.5	47	20 × n + 3	3.6	4.3	21														
SCL2-10-H1212	ø12						20.4										4.9	79	20.4 × n + 3	22											
SCD2-04-H22 Note1	ø1.8						27.1										31.6	15.3	10	4.5	73.5	10	10.6	7	22.7	6.6	50.5	10 × n + 3.2	2.9	3.3	-
SCD2-04-H42 Note1	ø4/ø1.8																				71.1										12.9/-
SCD2-04-H44	ø4	68.7	12.9																												
SCD2-06-H66	ø6	28.8	33.3	17.7	12	5.6		73.9	12	12.2	7	24.5	8.1	55.3	12 × n + 4.2	3.5					4.3										13.7
SCD2-08-H66	ø6	38	44.5	22.9	15	5.6	97.5	15	15.5	11	34	9.5	75	15 × n + 4	3.6	4.3	18														
SCD2-08-H88	ø8						100										19														
SCD2-10-H88	ø8						111										19														
SCD2-10-H1010	ø10						44										50.5	29.7	20	5.1	115	20	20.5	11	40.5	11.5	87.5	20 × n + 3	3.6	4.3	21
SCD2-10-H1212	ø12	44	50.5	29.7	20.4	4.9	119	20	20.5	11	-	-	-	20.4 × n + 3	3.6	4.3	22														

Note 1: Connection tubing is a joint dedicated to fiber tubing.
 Note 2: There is a slit at this location on the fine speed type.
 Note 3: F1 and F2 dimensions are oval.

Refrigerating type dryer
 Desiccant type dryer
 High polymer membrane type dryer
 Air filter
 Auto. drain / others
 F.R.L. (Module unit)
 F.R.L. (Separate)
 Compact F.R.
 Precise regulator
 F.R.L. (Related products)
 Clean F.R.
 Electro pneumatic regulator
 Air booster
 Speed control valve
 Silencer
 Check valve / others
 Joint / tube
 Vacuum filter
 Vacuum regulator
 Suction plate
 Magnetic spring buffer
 Mechanical pressure SW
 Electronic pressure SW
 Contact / close contact cont. SW
 Air sensor
 Pressure SW for coolant
 Small flow sensor
 Small flow controller
 Flow sensor for air
 Flow sensor for water
 Total air system
 Total air system (Gamma)
 Ending
 Line type with push-in joint
 Speed control valve