

Speed controller inline with push-in fitting

SCL2 Series

In-out speed controller inline with push-in fitting

SCD2 Series

● Port size: $\phi 1.8/\phi 4/\phi 6/\phi 8/\phi 10/\phi 12$

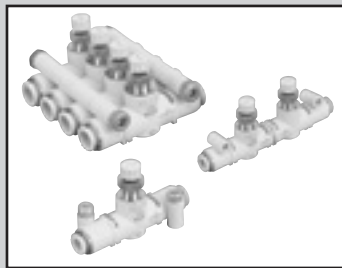
JIS symbol



SCL2 Series



SCD2 Series



Structure and material restriction

	Structure/treatment	Material restriction			Model No.
P7 Series	Dust generation preventing				— P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	— P74

Specifications

● Speed controller inline SCL2

Model No.		SCL2-04			SCL2-06	SCL2-08		SCL2-10			
Applicable tube O.D.	mm	$\phi 1.8$	$\phi 1.8/\phi 4$	$\phi 4$	$\phi 6$	$\phi 6$	$\phi 8$	$\phi 8$	$\phi 10$	$\phi 12$	
Working fluid		Compressed air									
Max. working pressure	MPa	0.7			1.0						
Min. working pressure	MPa							0.1			
Proof pressure	MPa	1.05			1.5						
Fluid temperature	°C	5 to 60 (no freezing *3)									
Ambient temperature	°C	0 to 60 (no freezing)									
Weight	g	13	12	11.5	16	32	33	53	57	59	
Dial indicator value		12 (15)									
Free flow	Flow rate ℓ/min (ANR)	(13)			130	300	400	550	900	1100	1200
	Effective cross-sectional area mm^2	(0.2)			1.9	4.5	6	8	13.5	16.5	18
Controlled flow	Flow rate ℓ/min (ANR)	(10)			130 (13)	300 (13)	400	550	900	1100	1200
	Effective cross-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 inline SCD2

Model No.		SCD2-04			SCD2-06	SCD2-08		SCD2-10		
Applicable tube O.D.	mm	$\phi 1.8$	$\phi 1.8/\phi 4$	$\phi 4$	$\phi 6$	$\phi 6$	$\phi 8$	$\phi 8$	$\phi 10$	$\phi 12$
Working fluid		Compressed air								
Max. working pressure	MPa	0.7			1.0					
Min. working pressure	MPa							0.1		
Proof pressure	MPa	1.05			1.5					
Fluid temperature	°C	5 to 60 (no freezing *3)								
Ambient temperature	°C	0 to 60 (no freezing)								
Weight	g	23	22	21.5	29	63	64	108	112	114
Dial indicator value		12 (15)								
Flow rate	ℓ/min (ANR)	(10)	(10)	100 (13)	250 (13)	330	400	750	850	900
Effective cross-sectional area	mm^2	(0.15)	(0.15)	1.5 (0.2)	3.7 (0.2)	5	6	11	12.5	13

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

*2: Values in () are for the fine speed type.

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

How to order

- Speed controller inline

SCL2 - **04** - **H44** - ○ - **P70**

- In-out speed control valve inline

SCD2 - **04** - **H44** - ○ - **P70**

Model No.

A Body size

B Applicable tube O.D.

Refer to the following tables for combinations of **A**, **B**, **C**.

C Flow characteristics

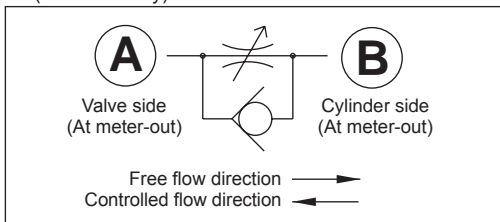
D Clean room specifications

Code	Content	
A Body Size		
04	M5 thread equivalent	
06	1/8 thread equivalent	
08	1/4 thread equivalent	
10	3/8 thread equivalent	
B Applicable tube O.D.		
H22	ø1.8	
H42	Side A: ø4, Side B: ø1.8	
H24 *1	Side A: ø1.8, Side B: ø4	
H44	ø4	
H66	ø6	
H88	ø8	
H1010	ø10	
H1212	ø12	
C Flow characteristics		
Blank	Standard	
F	Fine speed	
D Clean room specifications		
	Structure	Material restriction
P70	Dust generation preventing	-
P74	Dust generation preventing	Copper-based/silicon-based/halogen-based materials (fluorine, chlorine, bromine) are prohibited

⚠ Precautions for model No. selection

*1: H24 is not available for SCD2.
Select H42 instead.

B Illustration of combination of applicable tube O.D. (H24/H42 only)



Combinations of **A**, **B**, **C**

		A Body size			
		04	06	08	10
B Applicable tube O.D.	H22	○			
	H42	○			
	H24 *1	○			
	H44	○●			
	H66		●○	●	
	H88			●	●
	H1010				●
H1212				●	

- **C** Flow characteristics "standard"
- **C** Flow characteristics "fine speed"

Not available.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E
MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge
Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

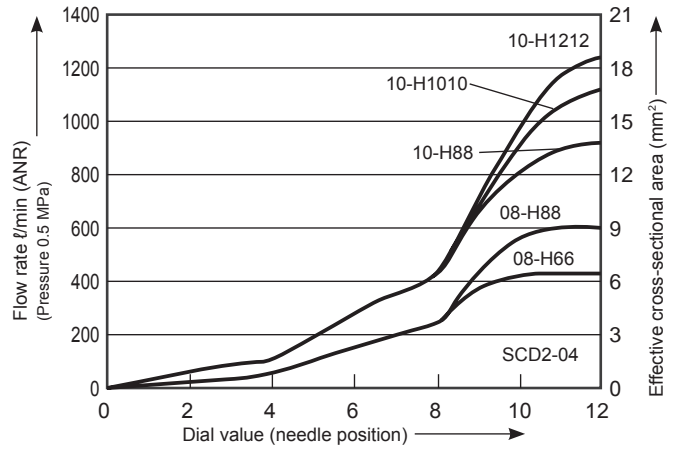
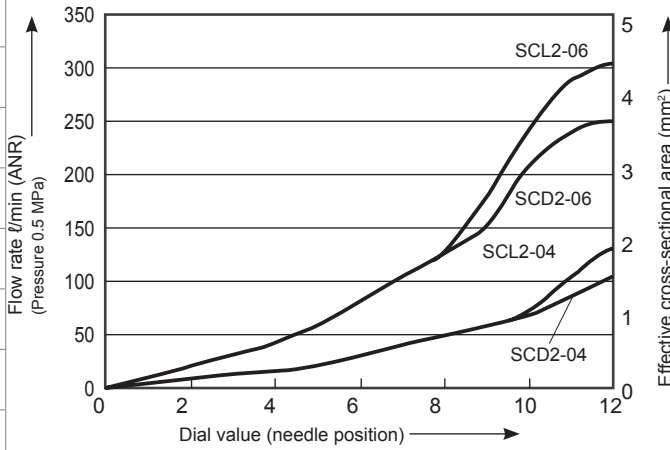
SCL2/SCD2 Series

Flow characteristics

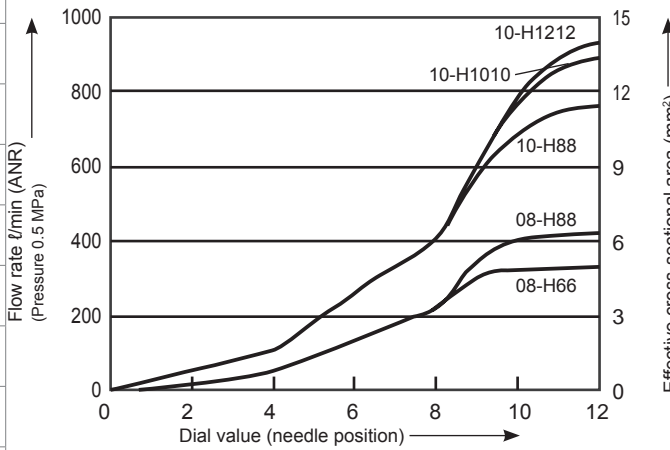
● Standard

• SCL2-04, SCD2-04

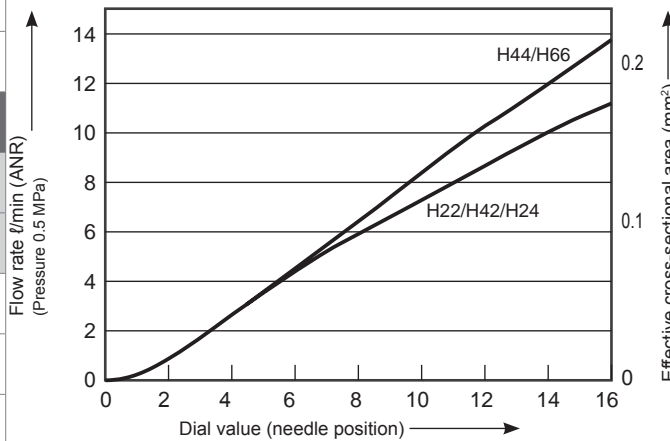
• SCL2-08, SCD2-10



• SCD2-08, SCD2-10



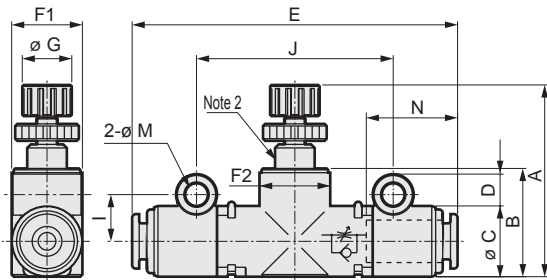
● Fine speed



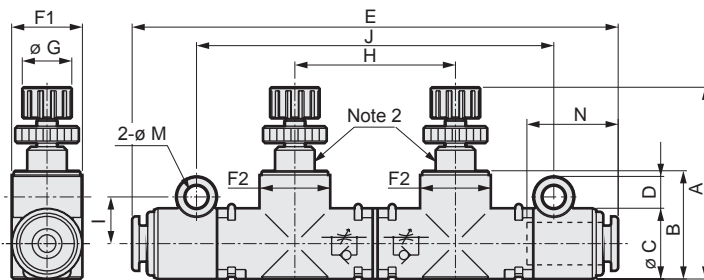
Dimensions



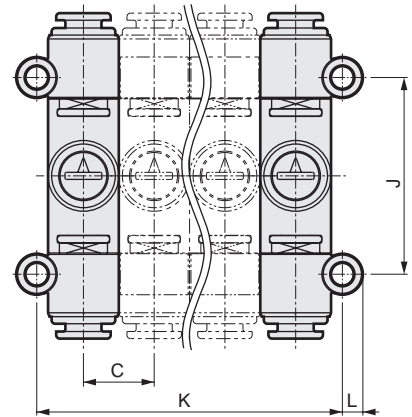
● SCL2 Series



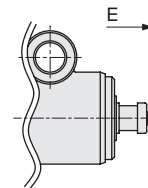
● SCD2 Series



● Installation spacing dimensions for manifolds



● Outline drawing of outer tubing connection diameter $\phi 1.8$ fitting



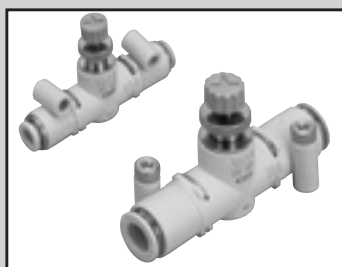
Model No.	Piping size O.D.	A		B	C	D	E	F1	F2	G	H	I	J	K	L	M (Mounting hole)	N (tube insert length)
		MIN	MAX														
SCL2-04-H22-P7* Note 1	$\phi 1.8$						50.8										-
SCL2-04-H42-P7* Note 1	$\phi 4/\phi 1.8$	27.1	31.6	15.3	10	4.5	48.4	10	10.6	7	-	6.6	27.8	$10 \times n + 3.2$	2.9	3.3	12.9/-
SCL2-04-H24-P7* Note 1	$\phi 1.8/\phi 4$						48.4										-12.9
SCL2-04-H44-P7*	$\phi 4$						46										12.9
SCL2-06-H66-P7*	$\phi 6$	28.8	33.3	17.7	12	5.6	49.4	12	12.2	7	-	8.1	30.8	$12 \times n + 4.2$	3.5	4.3	13.7
SCL2-08-H66-P7*	$\phi 6$	38	44.5	22.9	15	5.6	64	15	15.5	11	-	9.5	41	$15 \times n + 4$	3.6		18
SCL2-08-H88-P7*	$\phi 8$						66.5										19
SCL2-10-H88-P7*	$\phi 8$	44	50.5	29.7	20	5.1	71	20	20.5	11	-	11.5	47	$20 \times n + 3$	3.6		19
SCL2-10-H1010-P7*	$\phi 10$						75										21
SCL2-10-H1212-P7*	$\phi 12$				20.4	4.9	79										
SCD2-04-H22-P7* Note 1	$\phi 1.8$						73.5										-
SCD2-04-H42-P7* Note 1	$\phi 4/\phi 1.8$	27.1	31.6	15.3	10	4.5	71.1	10	10.6	7	22.7	6.6	50.5	$10 \times n + 3.2$	2.9	3.3	12.9/-
SCD2-04-H44-P7*	$\phi 4$						68.7										12.9
SCD2-06-H66-P7*	$\phi 6$						28.8										33.3
SCD2-08-H66-P7*	$\phi 6$	38	44.5	22.9	15	5.6	97.5	15	15.5	11	34	9.5	75	$15 \times n + 4$	3.6	18	
SCD2-08-H88-P7*	$\phi 8$						100									19	
SCD2-10-H88-P7*	$\phi 8$	44	50.5	29.7	20	5.1	111	20	20.5	11	40.5	11.5	87.5	$20 \times n + 3$	3.6	19	
SCD2-10-H1010-P7*	$\phi 10$						115									21	
SCD2-10-H1212-P7*	$\phi 12$				20.4	4.9	119										

Note 1: Connection tubing is a fitting dedicated to fiber tube.

Note 2: There is a slit at this location on the fine speed type.

Note 3: F1 and F2 dimensions are oval.

SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder Switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R.(module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending



Needle valve, inline with push-in fitting

SCL2-N Series

JIS symbol



Structure and material restriction

	Structure/treatment	Material restriction			Model No.
P7 Series	Dust generation preventing				— P70
	Dust generation preventing	Copper-based materials prohibited	Silicon-based materials prohibited	Halogen-based materials prohibited (fluorine, chlorine, bromine)	— P74
P8 Series	Oil prohibited				— P80

Specifications

Model No.	SCL2-N-04		SCL2-08		SCL2-10	
Applicable tube O.D.	mm	ø4	ø6	ø6	ø8	
Working fluid		Compressed air/N ₂ gas				
Max. working pressure	MPa	1.0				
Negative pressure	kPa	-100 kPa				
Proof pressure	MPa	1.5				
Fluid temperature	°C	5 to 60 (no freezing *)				
Ambient temperature	°C	0 to 60 (no freezing)				
Weight	g	11.5	16	32	33	
Dial rotations		12 (15 rotation for the flow rate type 010)				

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

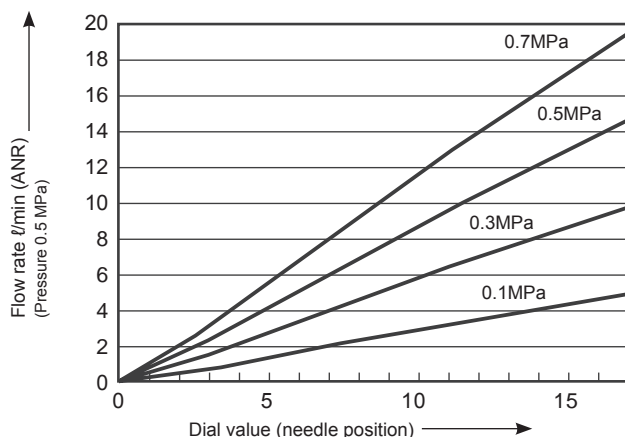
Flow characteristics

Flow rate code	010	050	150	300
Max. flow rate (at 0.5 MPa) ℓ/min (ANR)	13	50	150	300
Effective cross-sectional area mm^2	0.2	0.7	2.2	4.5

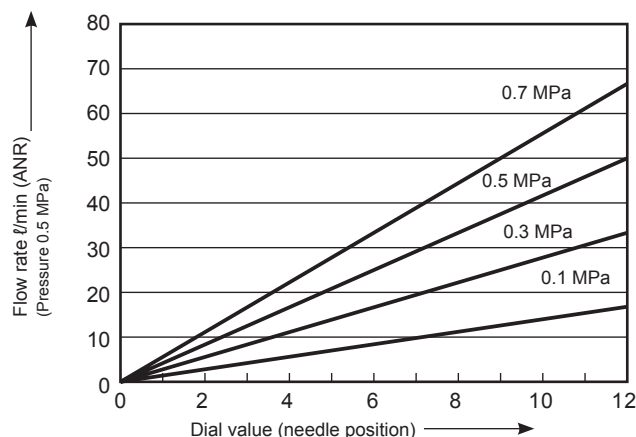
Note: The flow is atmospheric pressure conversion at pressure 0.5 MPa.

Flow characteristics

• Flow rate "010"



• Flow rate "050"



How to order



Model No.

A Body size

B Applicable tube O.D.

Refer to the table below for the body size and applicable tube O.D. combination.

C Flow rate

Combination of body size, applicable tube O.D., and flow rate

Flow rate C		A Body size		B Applicable tube O.D.	
		04-H44	06-H66	08-H66	08-H88
010		●	●		
050		●	●		
150			●		
300				●	●

Not available.

D Clean room specifications *1

Code	Content	
A Body Size		
04	M5 thread equivalent	
06	1/8 thread equivalent	
08	1/4 thread equivalent	
B Applicable tube O.D.		
H44	ø4	
H66	ø6	
H88	ø8	
C Flow characteristics		
	Max. flow rate (at 0.5 MPa) l/min (ANR)	Effective cross-sectional area mm ²
010	13	0.2
050	50	0.7
150	150	2.2
300	300	4.5
D Clean room specifications		
	Structure/treatment	Material restriction
P70	Dust generation preventing	-
P74	Dust generation preventing	Copper-based/silicon-based/halogen-based materials (fluorine, chlorine, bromine) are prohibited
P80	Oil prohibited	-

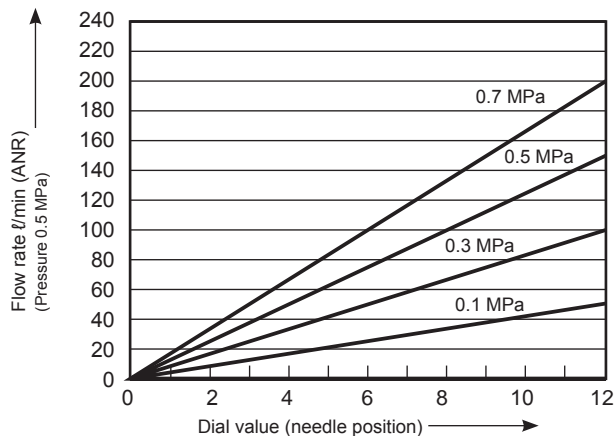
*1: P80 Series

- Metal material..... Brass + electroless nickeling
- Sealant material Nitrile rubber (NBR)
 - Without grease..... Grease is not used as this is oil-prohibited specifications.

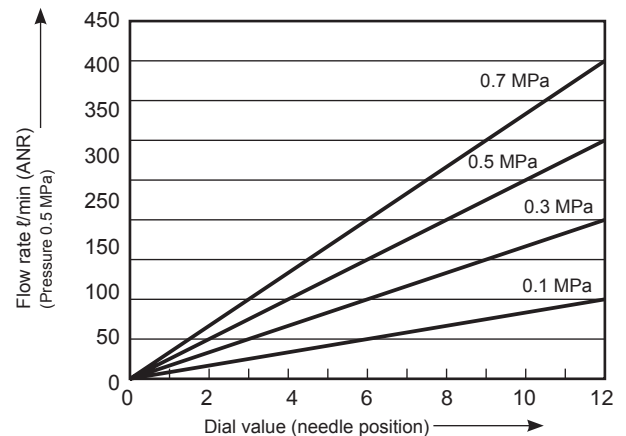
For this reason, it is same product as P84 Series. Specify in P80 Series when placing an order.

Flow characteristics

• Flow rate "150"



• Flow rate "300"



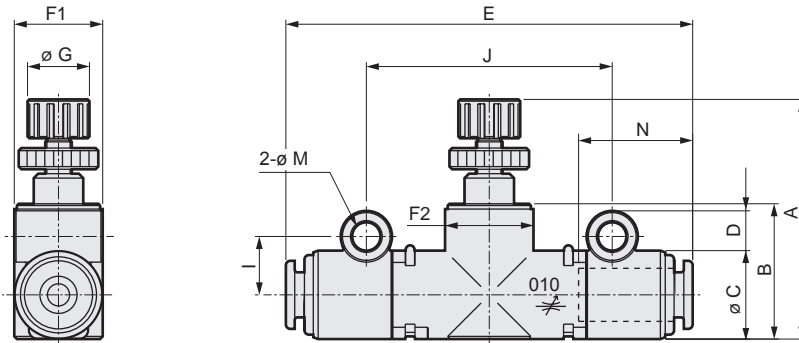
- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder Switch
- MN3E
- MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R.(module unit)
- Clean F.R
- Precision R
- Press gauge
- Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending

SCL2-N Series

Dimensions



● SCL2-N Series



Model No.	Piping size O.D.	A		B	C	D	E	F1	F2	G	I	J	K	L	M (Mounting hole)	N (tube insert length)
		MIN	MAX													
SCL2-N-04-H44-***-P**	ø4	27.1	31.6	15.3	10	4.5	46	10	10.6	7	6.6	27.8	10 × n + 3.2	2.9	3.3	12.9
SCL2-N-06-H66-***-P**	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-N-08-H66-***-P**	ø6	38	44.5	22.9	15	5.6	64	15	15.5	11	9.5	41	15 × n + 4	3.8		18
SCL2-N-08-H88-***-P**	ø8															66.5

* F1 and F2 dimensions are oval.

* Can be distinguished from a speed controller with the color of the knob.
 Speed controller ... White knob
 Needle valve Gray knob

* The fitting push ring is blue for option P80 (oil-prohibited specifications).

- SCPD3
- SCM
- SSD2
- MDC2
- SMG
- LCM
- LCR
- LCG
- LCX
- STM
- STG
- STR2
- MRL2
- GRC
- Cylinder switch
- MN3E
MN4E
- 4GA/B
- M4GA/B
- MN4GA/B
- F.R (module unit)
- Clean F.R
- Precision R
- Press gauge
Diff. press gauge
- Electro-pneumatic R
- Speed controller
- Auxiliary valve
- Fitting/tube
- Clean air unit
- Pressure sensor
- Flow rate sensor
- Valve for air blow
- Ending