

Multistage Ejector
Series ZL



New Models! ZL212 large flow rate type and ZL112 with valve.

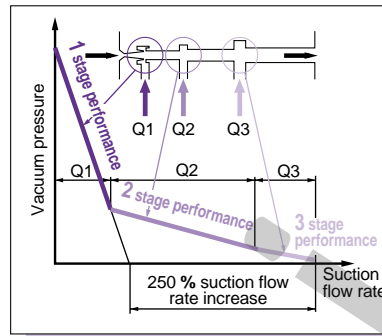
Multistage Ejector



Series ZL 112/212

Energy saving, large flow rate, 3 stage diffuser construction

Suction flow rate increased 250% and air consumption reduced 20% with 3 stage diffuser construction
(Versus $\varnothing 1.3$, one stage model)

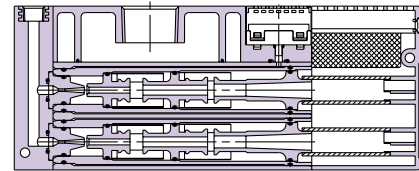


	Maximum suction flow rate /min (ANR)	Air consumption /min (ANR)
ZL112	100	63
ZL212	200	126

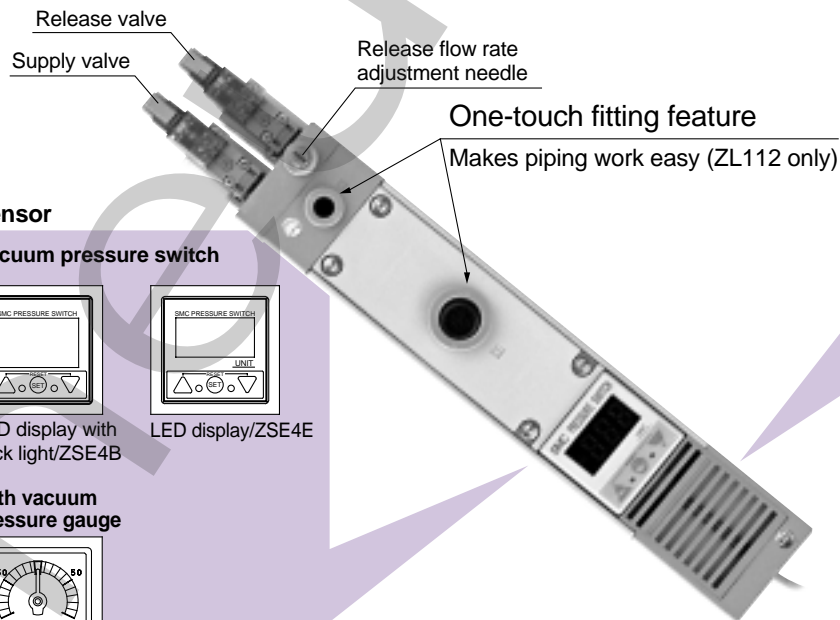
NEW

Series ZL212

Diffusers stacked and integrated
Compact size and large flow rate
(twice the flow rate of the ZL112)

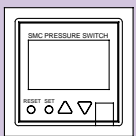


Series ZL 112 valve option now available (ZL112 only)

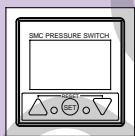


Vacuum pressure sensor

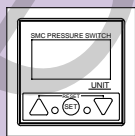
With digital vacuum pressure switch



LCD display/ZSE4

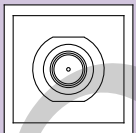


LCD display with back light/ZSE4B

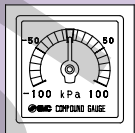


LED display/ZSE4E

With vacuum adapter

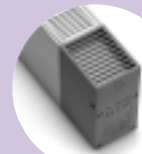


With vacuum pressure gauge



Exhaust port options

Built-in silencer



Port exhaust



Series variations

Series	Maximum suction flow rate /min (ANR)	Air consumption /min (ANR)	Vacuum pressure sensor options								
			Exhaust port		With valve		Digital vacuum pressure switch			Vacuum pressure gauge	Vacuum adapter
			Built-in silencer	Port exhaust	With supply valve/release valve	With supply valve	ZSE4E	ZSE4B	ZSE4		
ZL112	100	63	●	●	●	●	●	●	●	●	●
ZL212	200	126	●	●			●	●	●	●	●

Features

Multistage Ejector Series ZL 112

How to Order

Without valve **ZL1 12** □ □

With valve **ZL1 12** □ □ **K1 5 M Z** □ **E 25** □

• **Nozzle diameter**
12 $\varnothing 1.2\text{mm}$

• **Exhaust specifications**

Nil	Built-in silencer
P	Port exhaust

• **Exhaust port thread specification (port exhaust only)**

Nil	Rc1/2
F	G1/2
N	1/2-14NPT
T	1/2-14NPTF

• **Supply valve/Release valve combination**

K1	With supply and release valves
K2	With supply valve

• **Rated voltage**

DC specifications	
5	24VDC
6	12VDC
V	6VDC
S	5VDC
R	3VDC
AC specifications (50/60Hz)	
1	100VAC
2	200VAC
3	110VAC [115V]
4	220VAC [230V]

• **Electrical entry**

G	Grommet	Lead wire length 0.3m
H		Lead wire length 0.6m
L		Lead wire length 0.3m
LN	L type plug connector	Without lead wires
LO		Without connector
M		Lead wire length 0.3m
MN	M type plug connector	Without lead wires
MO		Without connector

• **Lead wire length**

Nil	0.5m
L	2.9m

• **Digital vacuum pressure switch specifications**

For E (ZSE4) EB (ZSE4B)		
25	NPN output	Lead wire length 0.5 (2.9)m
26	Analog output	Lead wire length 0.5 (2.9)m
65	PNP output	Lead wire length 0.5 (2.9)m
For EE (ZSE4E)		
27	NPN output	Lead wire length 0.5 (2.9)m
26	Analog output	Lead wire length 0.5 (2.9)m
67	PNP output	Lead wire length 0.5 (2.9)m

* Not required for nil, vacuum adapter (GN) and vacuum pressure gauge (G).

• **Vacuum pressure sensor**

Nil	None
GN	Vacuum adapter Rc1/8
G	With vacuum pressure gauge
E	With digital vacuum pressure switch ZSE4
EB	With digital vacuum pressure switch ZSE4B
EE	With digital vacuum pressure switch ZSE4E

• **Manual override**

Nil	Non-locking push type
D	Slotted locking type

• **Light/Surge voltage suppressor**

Nil	Without light/surge voltage suppressor
S	With surge voltage suppressor
Z	With light/surge voltage suppressor
U	With light/surge voltage suppressor (non-polar type)

Note 1) Type U is 24 or 12VDC only.

Note 2) Since surge voltage is prevented by a rectifier in the case of AC, there is no "S" type.

Series ZL

Standard



With valve



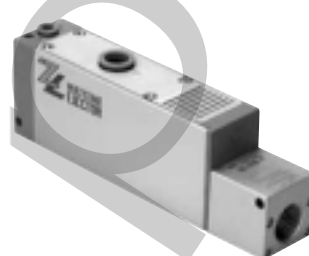
With vacuum pressure gauge



Adapter



Port exhaust



Ejector Specifications

Model	ZL112
Nozzle diameter	ø1.2mm
Maximum suction flow rate	100 /min (ANR)
Air consumption	63 /min (ANR)
Maximum vacuum pressure	-84kPa
Maximum operating pressure	0.7MPa
Supply pressure range	0.2 to 0.5MPa
Standard supply pressure	0.4MPa
Operating temperature range	5 to 50°C

Supply/Release Valve Specifications

Part Number	SYJ514-□□□
Type of valve actuation	N.C.
Fluid	Air
Operating pressure range	0.2 to 0.5MPa
Internal pilot type	
Ambient and fluid temperature	5 to 50°C
Response time (for 0.5MPa) ^{Note 1)}	25ms or less
Maximum operating frequency	5Hz
Manual operation	Non-locking push type, Slotted locking type
Pilot exhaust type	Pilot valve individual exhaust type, Main valve/Pilot valve common exhaust
Lubrication	Not required
Mounting position	Unrestricted
Impact/Vibration resistance ^{Note 2)}	150/30m/s ²
Enclosure	Dust proof

Note 1) Based on JIS B8374-1981 dynamic performance test. (coil temperature 20°C, at rated voltage, without surge voltage suppressor)

Note 2) Impact resistance: No malfunction when tested with a drop tester in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (initial value)

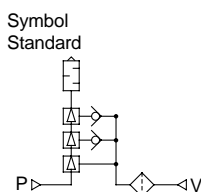
Vibration resistance: No malfunction when tested with one sweep of 8.3 to 2000Hz in the axial direction and at a right angle to the main valve and armature, one time each in both energized and deenergized states. (initial value)

Note 3) Refer to CAT.E143-B "SYJ300/500/700" for details on valves.

Option Specifications

Vacuum pressure gauge specifications

Part number	GZ30S
Fluid	Air
Pressure range	-100 to 100kPa
Scale range (angular)	230°
Accuracy	± 3% F.S. (full span)
Class	Class 3
Operating temperature range	0 to 50°C
Material	Housing: Polycarbonate/ABS resin



Option Specifications

With digital vacuum pressure switch (ZSE4)



Digital vacuum pressure switch specifications

Part number	ZSE4-00-□□-X105	ZSE4B-00-□□-X105	ZSE4E-00-□□-X105
Display	LCD	LCD with back light	LED
Pressure setting range	-101 to 10KPa (-760 to 75mmHg)		
Maximum operating pressure	200KPa		
Operation indicator light (lights up when ON)	Green		OUT1: Green OUT2: Red
Response frequency	200Hz (5ms)		
Hysteresis	Hysteresis mode	Variable (3 digits or more)	Variable (can be set from 0)
	Window comparator mode	Fixed (3 digits)	
Fluid	Air, Non-corrosive gas		
Temperature characteristics	±3% F.S. or less		
Repeatability	±1% F.S. or less		
Operating voltage	12 to 24VDC (ripple ±10% or less)		
Current consumption	25mA or less	45mA or less	-26, -27: 50mA or less -67: 60mA or less
Pressure indication	3 1/2 digits (character height 8mm)		
Self diagnostic function	(Over current ^{Note 1)} , Over pressure, Data error, Presence of pressure at 0 clear		
Operating temperature range	0 to 50°C (with no condensation)		
Noise resistance	500Vp-p, Pulse width: 1μS, Start up: 1nS		
Withstand voltage	Between external terminal batch and case: 1000VAC 50/60Hz for 1 min.		
Insulation resistance	Between external terminal batch and case: 2MΩ (at 500VDC)		
Vibration resistance	2hrs. each in X, Y, Z directions at smaller of 10 to 500Hz with amplitude 1.5mm, or acceleration 10G		
Impact resistance	100G in X, Y, Z directions, 3 times each		

Note 1) Not available on analog output type.

* Refer to CAT.E824-A "Pressure Switch" for details on switches.

Output specifications

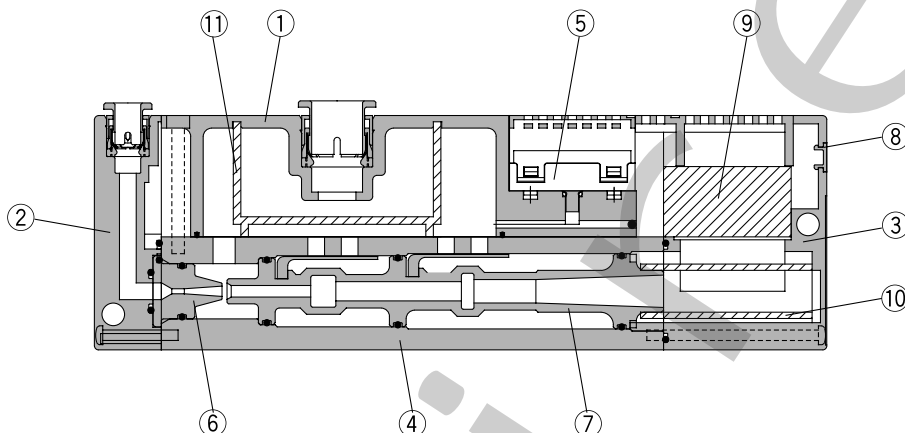
ZSE4 ZSE4B	-25 (L)	1 output NPN open collector 30V, 80mA or less
	-26 (L)	Analog output (1 to 5V)
	-67 (L)	1 output PNP open collector 80mA or less
ZSE4E	-26 (L)	Analog output (1 to 5V)
	-27 (L)	2 outputs NPN open collector 30V, 80mA or less
	-67 (L)	2 outputs PNP open collector 80mA or less

* Refer to CAT.E824-A "Pressure Switch" for details on switches.

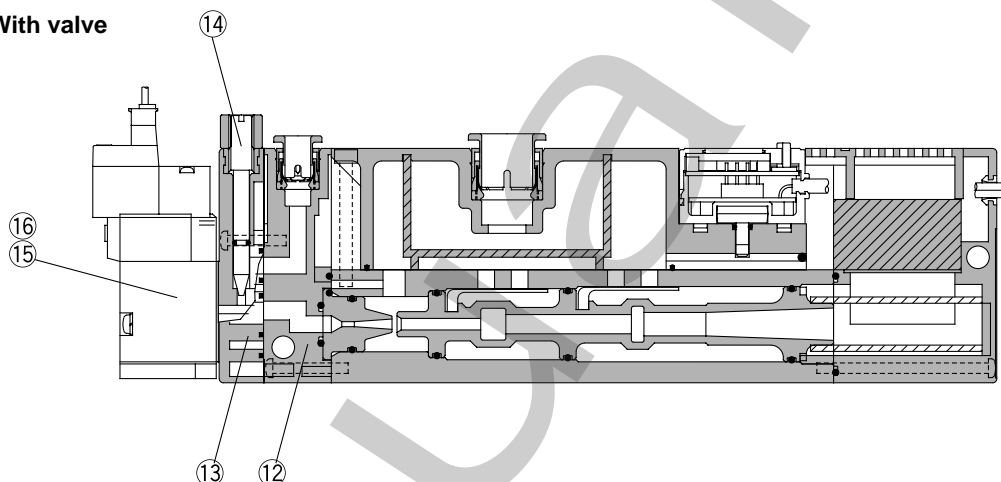
Series ZL

Construction

Without valve



With valve



Parts list

No.	Description	Part No.	Note
1	Suction cover		
2	Front cover		Without valve
3	End cover		
4	Body		
5	Vacuum sensor unit		
6	Nozzle		
7	Diffuser		
8	Detent plug	P397110	Other than vacuum switch
	Lead wire cover	P397176	Vacuum switch specifications
12	Front cover B		With valve
13	Valve plate		With valve
14	Needle		With valve
15	Supply valve (N.C.)	SYJ514	With valve
16	Release valve (N.C.)	SYJ514	With valve

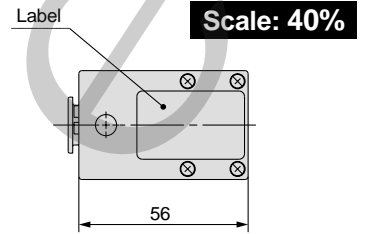
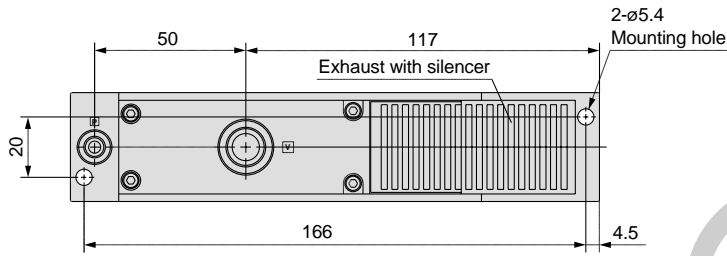
Replacement parts

No.	Description	Material	Part No.
9	Sound absorbing material B	PVF	ZL112-SP01 (set no. for 9, 10 & 11)
10	Sound absorbing material A	PVF	
11	Suction filter	PE	

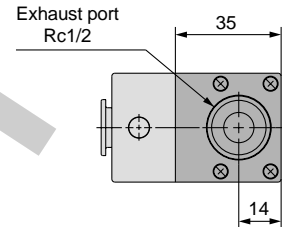
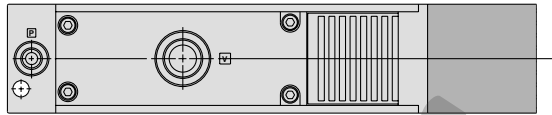
* When ordering a vacuum pressure gauge or a digital vacuum pressure switch separately, use the part numbers shown in the option specifications on page 3.

Dimensions/Series ZL112 (without Valve)

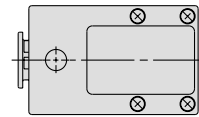
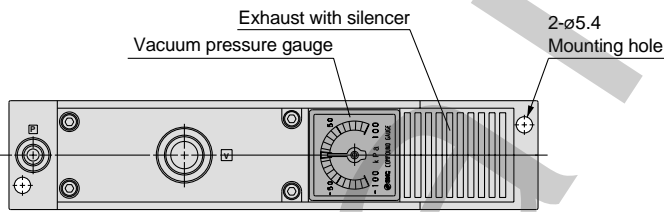
**Standard
ZL112**



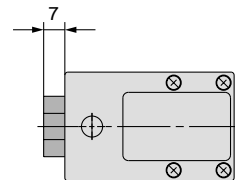
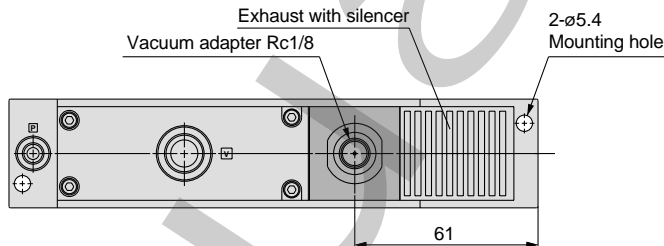
**Port exhaust
ZL112P**



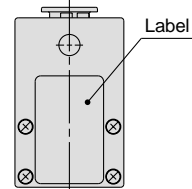
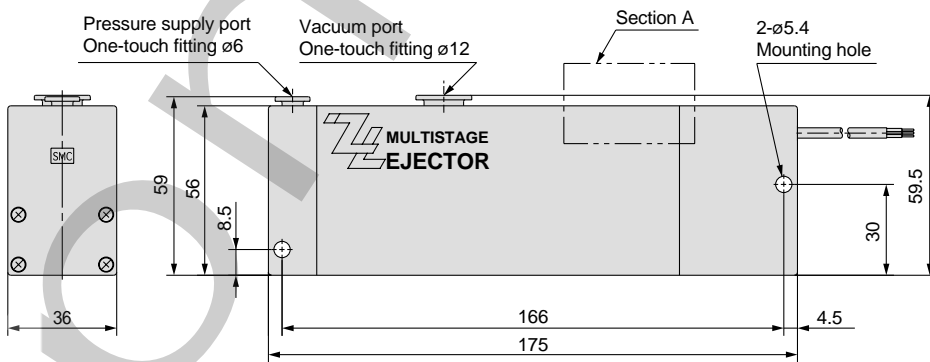
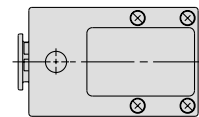
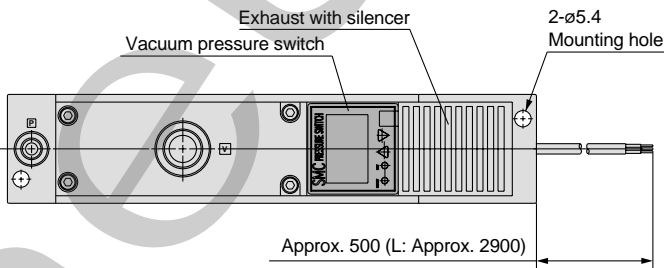
**With vacuum
pressure gauge
ZL112-G**



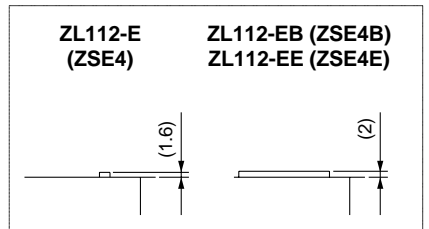
**With vacuum adapter
ZL112-GN**



**With digital vacuum
pressure switch
ZL112-E**



**Section A
with digital vacuum pressure switch**

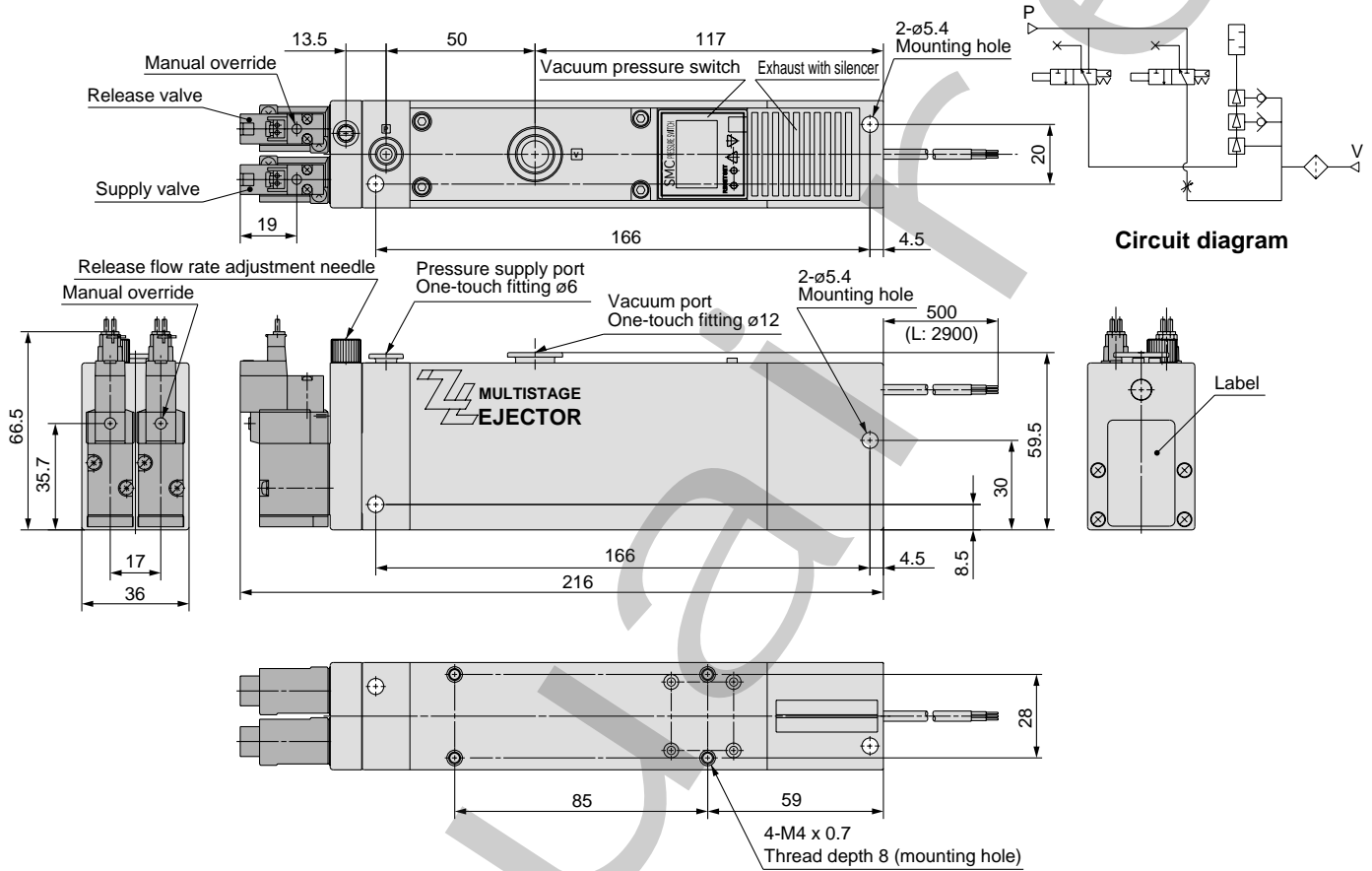


Series ZL

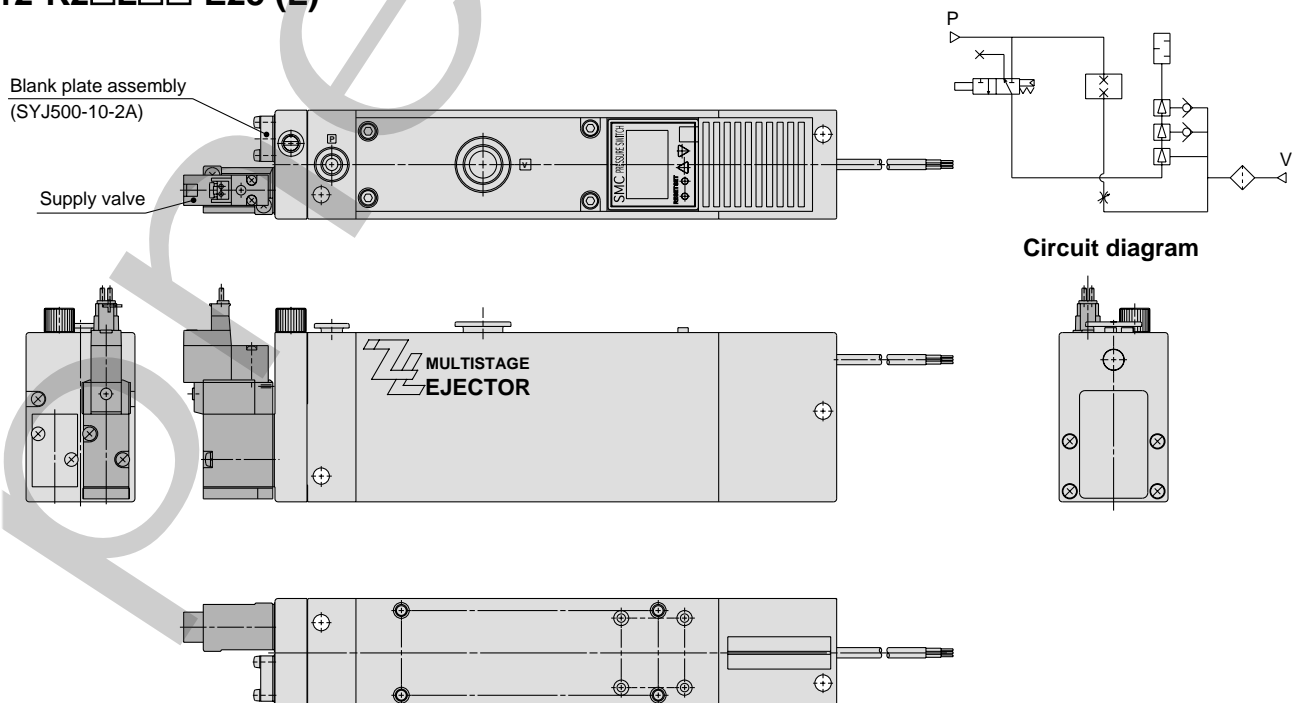
Dimensions/Series ZL112 (with Valve)

With supply valve and release valve ZL112-K1□L□□-E25 (L)

Scale: 40%



With supply valve ZL112-K2□L□□-E25 (L)



Multistage Ejector Series ZL212

Standard



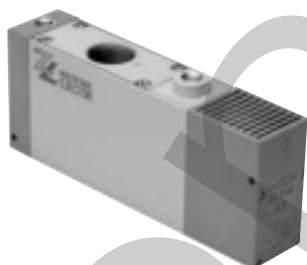
With vacuum pressure gauge



With digital vacuum pressure switch



With adaptor



Port exhaust



How to Order

ZL2 12

Nozzle diameter
12 ø1.2mm

Exhaust specifications
Nil Built-in silencer
P Port exhaust

Vacuum pressure sensor

Nil	None
GN	Adaptor Rc1/8
G	With vacuum pressure gauge
E	With digital vacuum pressure switch ZSE4
EB	With digital vacuum pressure switch ZSE4B
EE	With digital vacuum pressure switch ZSE4E

Lead wire length
Nil 0.5m
L 2.9m

Digital vacuum pressure switch specifications

For E (ZSE4) EB (ZSE4B)		
25	NPN output	Lead wire length 0.6 (3.0)m
26	Analog output	Lead wire length 0.6 (3.0)m
65	PNP output	Lead wire length 0.6 (3.0)m
For EE (ZSE4E)		
27	NPN output	Lead wire length 0.6 (3.0)m
26	Analog output	Lead wire length 0.6 (3.0)m
67	PNP output	Lead wire length 0.6 (3.0)m

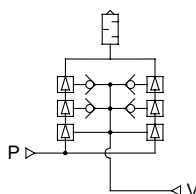
* Not required for nil, vacuum adaptor (GN) and vacuum pressure gauge (G).

Ejector Specifications

Model	ZL212
Nozzle diameter	ø1.2mm x 2
Maximum suction flow rate	200 /min (ANR)
Air consumption	126 /min (ANR)
Maximum vacuum pressure	-84kPa
Maximum operating pressure	0.7MPa
Supply pressure range	0.2 to 0.5MPa
Standard supply pressure	0.4MPa
Operating temperature range	5 to 50°C

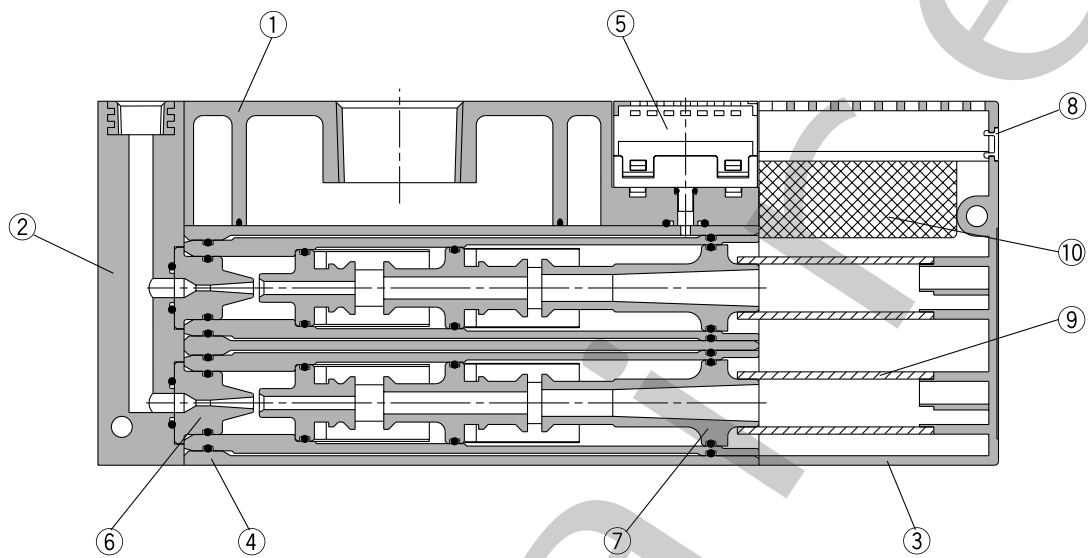
* Refer to pages 2 and 3 for vacuum pressure gauge and digital vacuum pressure switch specifications.

Symbol
Standard



Series ZL

Construction



Parts list

No.	Description	Part No.	Note
1	Suction cover		
2	Front cover A		
3	End plate		
4	Body		
5	Vacuum sensor unit		
6	Nozzle		
7	Diffuser		
8	Detent plug	P397110	Other than vacuum switch
	Lead wire cover	P397176	Vacuum switch specifications

Replacement parts

No.	Description	Material	Part No.
9	Sound absorbing material A	PVF	P397114
10	Sound absorbing material	PVF	P397230

* When ordering a vacuum pressure gauge or a digital vacuum pressure switch separately, use the part numbers shown in the option specifications on page 3.