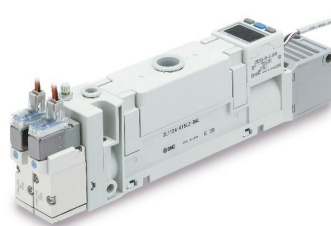




Expertise – Passion – Automation



## A light efficient push to your suction

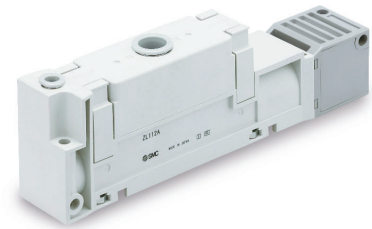
Multistage ejector  
ZL112A Series

# Multistage ejector

## ZL112A Series



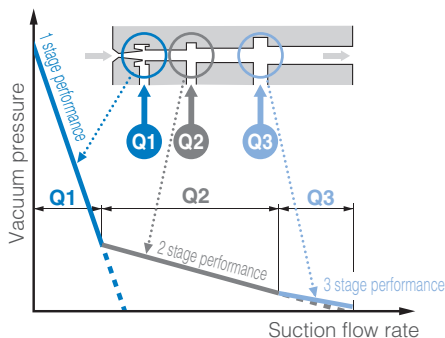
- **Introduce efficiency in your vacuum applications** – High suction flow with 3 stage diffuser construction
- **Perform the suction with a very light solution** – ZL112A weights as little as 180 g. The ideal solution for robots' moving parts
- **Ease your maintenance** – Silencer & Filter can be replaced without tools
- **Minimise your air consumption** – Air consumption as low as 57 l/min



### Main features

#### ► High efficiency 3 stage diffuser construction

Suction flow rate up to 100 l/min.



#### ► Lightweight body

Weight 180 g (Reduced by 60 % compared to current model).

Vacuum (V) port (Ø 12)

Supply (P) port (Ø 6)

#### Exhaust type:

- Silencer exhaust

- Port exhaust

Vacuum break flow adjusting needle

#### Combinations:

Supply valve	Release valve
N.C.	N.C.
N.C.	—
N.O.	N.C.
N.O.	—

#### 3 types of vacuum pressure sensors:

Digital vacuum pressure switch



Vacuum pressure gauge



Vacuum port adapter (Rc 1/8)



#### ► Mounting is interchangeable with current model

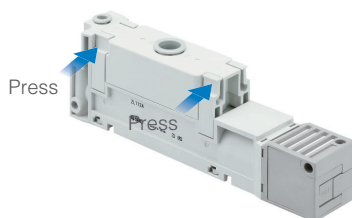
Adapter assembly is required for bottom mounting (ZL112A-AD1-A).

► **Tools are not required for replacing the silencer and filter**

Maintenance labour can be reduced.

**Filter element**

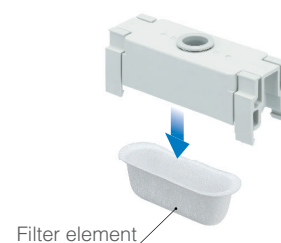
**STEP 1** Press the levers.



**STEP 2** Remove the suction cover.

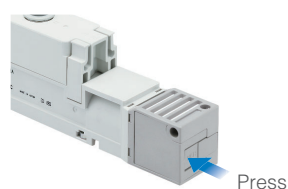


**STEP 3** Replace the filter element.

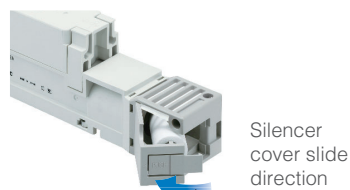


**Sound absorbing material**

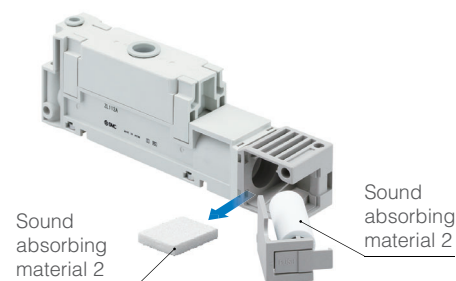
**STEP 1** Press the PUSH button.



**STEP 2** Remove the silencer cover.

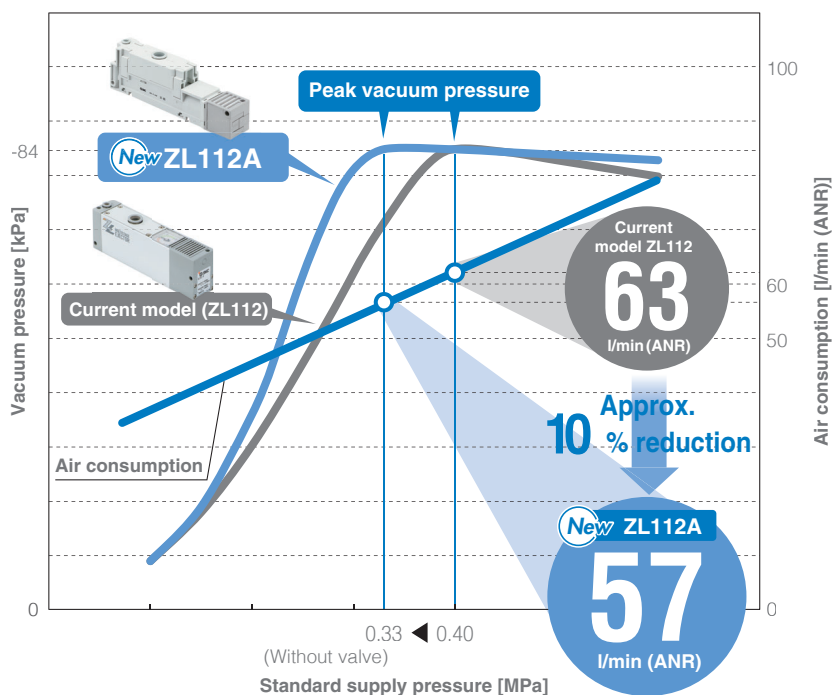


**STEP 3** Replace the sound absorbing material.



► **Air consumption as low as 57 l/min (ANR)**

Standard supply pressure of just 0.33 MPa (Without valve)



# How to order

Without valve ZL112A

With valve ZL112A

①

②

Ejector

③

④

⑤

⑥

⑦

With valve

⑧

⑨

⑩

⑪

⑫

Vacuum pressure sensor

## ① Supply (P), vacuum (V) port/one-touch fitting connection size

Symbol	Supply (P) port	Vacuum (V) port	Vacuum pressure gauge unit specifications 1)
—	Ø 6	Ø 12	kPa
N	Ø 1/4"	Ø 1/2"	inHg·psi

1) When the vacuum pressure gauge (Symbol: G) is selected for ⑧, these are the unit specification options.

## ③ Supply valve/release valve combination

K1	Supply valve (N.C.), Release valve (N.C.)
K2	Supply valve (N.C.)
B1	Supply valve (N.O.), Release valve (N.C.)
B2	Supply valve (N.O.)

## ④ Rated voltage DC

5	24 VDC
6	12 VDC
V	6 VDC
S	5 VDC
R	3 VDC

## ⑤ Electrical entry

24, 12, 6, 5, 3 VDC/100, 110			
Grommet	L plug connector	M plug connector	
G: Lead wire length 300 mm	L: With lead wire (300 mm)	M: With lead wire (300 mm)	MN: Without lead wire
H: Lead wire length 600 mm	LN: Without lead wire	LO: Without connector	MO: Without connector

- 1) LN, MN type: With 2 sockets per valve.  
2) Refer to next page for the lead wire length of L and M plug connectors.

## ② Exhaust type

—	Silencer exhaust
P	Rc1/2 port exhaust
PF	G1/2 port exhaust 1)
PN	1/2-14NPT port exhaust

1) The thread ridge shape is conforming to G thread standard (JIS B 0202), but other shapes are not conforming to ISO 1603 and ISO 1179.

## ⑥ Light/surge voltage suppressor

—	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)

1) Type U is 24 or 12 VDC only.

## ⑦ Manual override

—	Non-locking push type
D	Push-turn locking slotted type

## ⑧ Vacuum pressure sensor

—	None
GN	GVacuum port adapter Rc1/8
G	Vacuum pressure gauge 1)
D	Digital vacuum pressure switch

1) In ①, the units for mm spec fittings are in kPa. The units for inch spec fittings are in inHg·psi.

## ⑩ Unit specifications

(Applicable only when the vacuum pressure sensor specification is "D" for digital vacuum pressure switch)

—	With unit switching function
M	SI unit only (kPa)
P	With unit switching function (Initial value psi)

## ⑪ Lead wire specifications

(Applicable only when the vacuum pressure sensor specification is "D" for digital vacuum pressure switch)

—	Without lead wire
L	Lead wire with connector (2 m)

1) Output type N and P: 3 core lead wire is included. For other output options, 4 core lead wire is included.

## ⑨ Output specifications

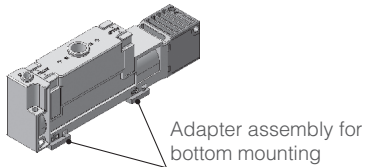
(Applicable only when the vacuum pressure sensor specification is "D" for digital vacuum pressure switch)

N	NPN open collector 1 output
P	PNP open collector 1 output
A	NPN open collector 2 outputs
B	PNP open collector 2 outputs
C	NPN open collector 1 output + Analogue voltage output
D	NPN open collector 1 output + Analogue current output
E	PNP open collector 1 output + Analogue voltage output
F	PNP open collector 1 output + Analogue current output

## ⑫ Option (Included)

—	None
B	Adapter assembly for bottom mounting (ZL112A-AD1-A)

- 1) Bottom mounting screw pitch = 28 mm (Interchangeable with the current model ZL112)  
2) 2 pcs./set, with 4 bolts  
3) Mounting holes at the top and on the side are compatible without optional parts.







## Digital vacuum pressure switch specifications

Rated pressure range			0.0 to -101.0 kPa
Set pressure range			10.0 to -105.0 kPa
Withstand pressure			500 kPa
Smallest settable increment			0.1 kPa
Applicable fluid			Air, Non-corrosive gas, Non-flammable gas
Power supply voltage			12 to 24 VDC ±10 % (with power supply polarity protection)
Current consumption			40 mA (at no load)
Switch output			NPN or PNP open collector 1 output NPN or PNP open collector 2 outputs (selectable)
	Maximum load current		80 mA
	Maximum applied voltage		28 V (at NPN output)
	Residual voltage		1 V or less (with load current of 80 mA)
	Response time		2.5 ms or less (with anti-chattering function: 20, 100, 500, 1000, 2000 ms)
	Short-circuit protection		Yes
Repeatability			±0.2 % F.S. ±1 digit
Hysteresis		Hysteresis mode	Variable (0 to variable)
		Window comparator mode	
Analogue output	Voltage output <sup>1)</sup>	Output voltage (Rated pressure range)	1 to 5 V ±2.5 % F.S.
		Linearity	±1 % F.S. or less
		Output impedance	Approx. 1 kW
	Current output <sup>2)</sup>	Output current (Rated pressure range)	4 to 20 mA ±2.5 % F.S.
		Linearity	±1 % F.S. or less
		Load impedance	Maximum load impedance: Power supply voltage 12 V: 300 W, Power supply voltage 24 V: 600 W Minimum load impedance: 50 W
Display			4-digit, 7-segment, 2-colour LCD (Red/Green) Sampling cycle: 5 times/s
Display accuracy			±2 % F.S. ±1 digit (Ambient temperature of 25 °C)
Indicator light			Lights up when switch output is turned ON. (OUT1: Green, OUT2: Red)
Environmental resistance	Enclosure		IP40
	Operating temperature range		Operating: 0 to 50 °C, Stored: -10 to 60 °C (No freezing or condensation)
	Operating humidity range		Operating/Stored: 35 to 85 % RH (No condensation)
	Withstand voltage		1000 VAC for 1 minute between terminals and housing
	Insulation resistance		50 MW or more (500 VDC measured via megohmmeter) between terminals and housing
Temperature characteristics			±2 % F.S. (25 °C standard)
Lead wire			Oilproof heavy-duty vinyl cable, 3 cores Ø 3.5, 2 m 4 cores Conductor area: 0.15 mm2 (AWG26) Insulator O.D.: 1.0 mm
Standards			CE, RoHS compliant

1) When analogue voltage output is selected, analogue current output cannot be used together.

2) When analogue current output is selected, analogue voltage output cannot be used together.

## Lead wire assembly with connector

### How to Order

ZS - 38 - ☐ L  
①

#### ① Number of cores

3	3 cores, 1 output
4	4 cores, 2 outputs

The vacuum pressure switch mounted on this product is equivalent to our SMC product, the ZSE30A series digital pressure switch.

For details on vacuum pressure switch functions, refer to the operation manual of the ZSE 30 A series on the SMC website [www.smc.eu](http://www.smc.eu).

Digital pressure switch ZSE30A series  
(ZL-) ZSE30A - 00 - ☐ - ☐ - ☐

Multistage ejector ZL series

ZL112A ☐ ☐ - ☐ ☐ ☐ ☐ - D ☐ - ☐ - ☐

① ② ③

#### ① Unit specifications

#### ② Output specifications

#### ③ Lead wire specifications

ZL - ZSE30A - 00 ☐ ☐ - ☐ ☐ ☐ ☐ L  
① ② ③

#### ① Output specifications

N	NPN open collector 1 output
P	PNP open collector 1 output
A	NPN open collector 2 outputs
B	PNP open collector 2 outputs
C	NPN open collector 1 output + Analogue voltage output
D	NPN open collector 1 output + Analogue current output
E	PNP open collector 1 output + Analogue voltage output
F	PNP open collector 1 output + Analogue current output

#### ② Unit specifications

—	With unit switching function
M	SI unit only (kPa)
P	With unit switching function (Initial value psi)

1) Fixed unit: kPa

#### ③ Connector/Lead wire specifications

—	Without lead wire
L	Lead wire with connector (2 m)

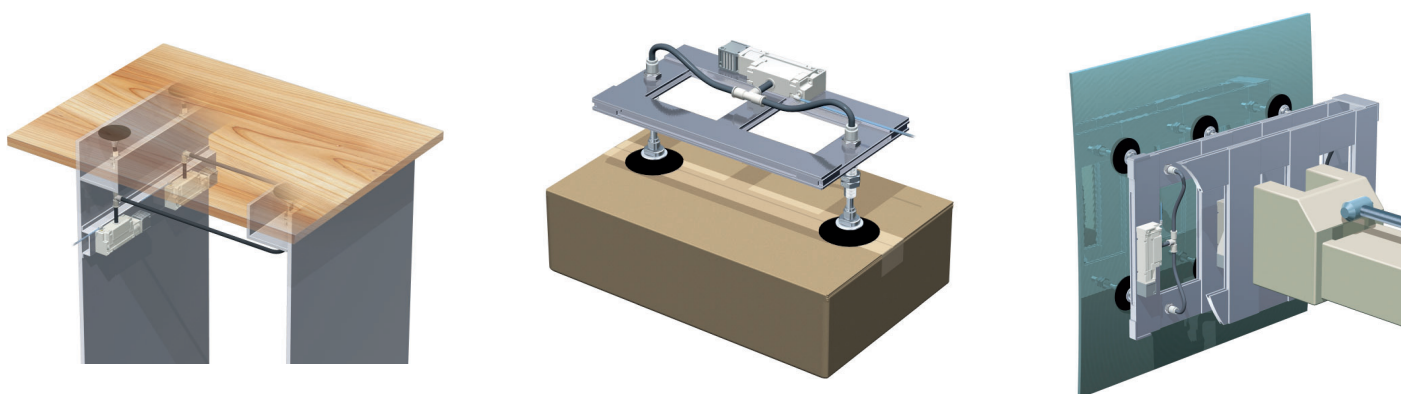
1) Output type N and P: 3 core lead wire is included. For other output options, 4 core lead wire is included.

## Vacuum pressure gauge specifications

Part no.	GZ30S	NGZ30S
Fluid	Air	
Pressure range	-100 kPa to 100 kPa	-30 inHg to 14 psi
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	

## Applications

Suitable for workpieces with uneven surfaces such as cardboard, wooden or high porosity materials.



## Related products



**Vacuum pad**  
ZP2 Series



**Vacuum pad with groove**  
ZP3E Series



**FDA compliant vacuum pad**  
ZP3P Series



**Compact vacuum pad**  
ZP3 Series



**Large size vacuum pad**  
ZPT/ZPX Series



**Vacuum saving valve**  
ZP2V Series



Expertise – Passion – Automation

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