

# VSL series Integrated Type Vacuum Ejector

## Product features

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### Feature

- Function integration: vacuum, breaking, digital display, filter and silencer
- Quick wiring: cable connector, easy to install.
- Expandable: Max. 8 manifolds
- Energy-saving: Intelligent compensation, reducing power supply.



### Single unit Specification

Item	Model	VSL-A		
Fluid		Air		
Pressure range	MPa (kPa)	0.2 ~ 0.6 (200 ~ 600)		
Proof pressure	MPa (kPa)	0.5(500)		
Vacuum value	kPa (mmHg)	-90(675)		
Nozzle diameter	mm	0.5	0.7	1.0
Max. suction flow	L/min	6	9	15
Ambient and fluid temperature	°C	0 ~ 40		
Material	Body	Copper (Nickel plating)		
	Plastic	NYLON, PBT		
Port size	mm	Ø6		
V port	mm	Ø4		
Exhaust type		Atmospheric emissions		
Valve type		SR2 - 100		
Rated voltage	V	24 ± 10%VDC		
Power consumption	W	1.2		

### Manifold type Specification

Item	Model	VSL-B
Product function/ Material/ Voltage		Unified specifications
Common supply port size	mm	Ø8
Individual exhaust port size	mm	Ø4
Unified exhaust type		Atmospheric emissions, Ø 8 tube
Manifold type		1 ~ 8 M

### Pressure switch specification

Item	Model	With Pressure switch embeded
Pressure range setting	kPa	- 101.0~0
Pressure range	kPa	-100.0~100.0
Withstanding pressure	kPa	500
Applicable fluid		Filtered air, Non-corrosive, Non-flammable gas
Power voltage		12 to 24V DC ± 10%, Ripple ≤ 10%
Response time	ms	≤ 2.5(Chattering-proof function: 25, 100, 250, 500, 1000 and 1500 selectable)
Repeatability		± 0.2% F.S. ± 1 digit
Current consumption	mA	≤ 40( With no load )
Environmental Resistance	Enclosure	IP40
	Ambient Temp. Range °C	0 ~ 50 (No condensation or freezing)
	Ambient Humidity Range RH	Operation/ Storage: 35 ~ 85 % RH ( No c ondensation )
	Withstand Voltage	1000 V AC in 1-min ( between case and lead wire )
	Insulation	≥ 50 MΩ ( at 500 V DC, between case and lead wire )
	Vibration	Total amplitude 1.5 mm , 10 Hz ~ 55 Hz sc an for 1 minute, two hours each direction of X, Y and Z
Impact	980 m/s <sup>2</sup> ( 100G ) , 3 times each in direction of X, Y and Z	
Temperature Characteristic		± 2% F.S. ( within 0~50° C temperature range )

# VSL series Integrated Type Vacuum Ejector

Code of order

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Code of order -Integrated type vacuum ejector/ Single unit

## VSL - A 10 - DC24 - P04 - S - C1

1 2 3 4 5 6


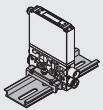

1	Mark	Model
	A	Single unit

2	Mark	Nozzle (mm)
	05	Ø0.5
	07	Ø0.7
	10	Ø1.0

3	Mark	Voltage
	DC 12	12V, 1.2W
	DC 24	24V, 1.2W

4	Mark	Output
	P04	NPN output + Analog
	P05	PNP output + Analog
	P06	Analog1~5V

5	Mark	Cable connector
	S	Straight type 2m
	H	Angle type 2m

6	Mark	Bracket	Image
	None	Without Rail	
	C1	Rail bracket	
	C2	Rail bracket (Included rail)	

● C1 : Included rail 107.1mm

Code of order - Integrated type vacuum ejector/ Manifold type

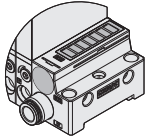
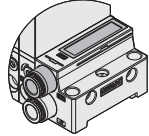
## VSL - B 10 - 02 - E1 - DC24 - P04 - S - C3

1 2 3 4 5 6 7 8

1	Mark	Model
	B	Manifold type

2	Mark	Nozzle (mm)
	05	Ø0.5
	07	Ø0.7
	10	Ø1.0

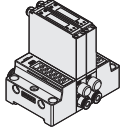
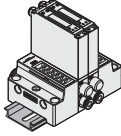
3	Mark	Manifold quantity
	01	1 M
	02	2 M
	⋮	⋮
	08	8 M

4	Mark	Exhaust
	E1	Atmospheric emissions
	E2	Ø 8 tube
Image		
		
E1: Atmospheric emissions		
		
E2: Ø 8 tube		

5	Mark	Voltage
	DC 12	12V, 1.2W
	DC 24	24V, 1.2W

6	Mark	Output
	P04	NPN output + Analog
	P05	PNP output + Analog
	P06	Analog1~5V

7	Mark	Cable connector
	S	Straight type 2m
	H	Angle type 2m

8	Mark	Bracket
	None	Without Rail
	C3	Rail bracket
Image		
		
Without Rail		
		
C3: Rail bracket		

● Without Rail: 4 x M4x20L screw

● C3: Manifold rail length (Chart 1)

Mark	Rail length (L)
1~2 M	107.1
3~4 M	142.8
5~6 M	178.5
7~8 M	214.2

EV

EVM

VA□

VM□

VM□U

VHS

VSL

VKM

VKMT

VCK

VK20□

VK30□

VQ20□

VFD

VFM

VFU

ERV

ERVL

MVS

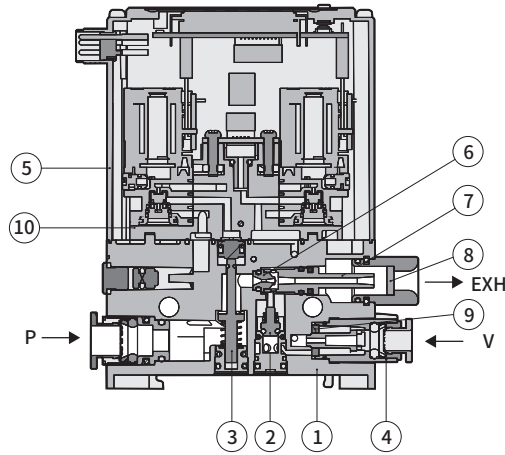
DYC

# VSL series Integrated Type Vacuum Ejector

Product features

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## Internal structure



## Components and Material list

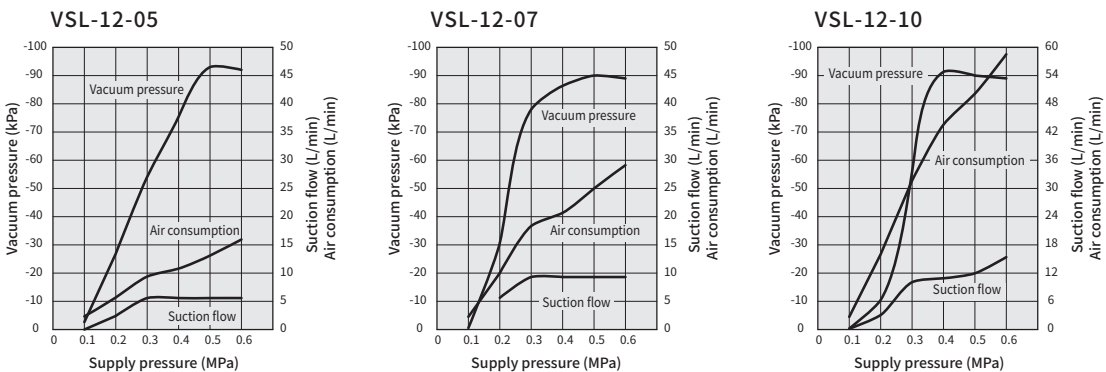
No.	Item	Material	No.	Item	Material
1	Base body	Relieving type	6	Nozzle	Copper
2	Backstop shaft	Copper	7	Vacuum copper tube	Copper
3	Down axis	Copper + NBR	8	V port filter	Foam cotton
4	Plastic suction connector	Relieving type	9	Supply filter	Foam cotton
5	Cover	Relieving type	10	Body upper seat	Relieving type

## Product weight

Item	Model	Weight(g)							
Integrated type vacuum ejector - Single unit	VSL-A	65							
Integrated type vacuum ejector - Manifold type	VSL-B-01...08	1 M	2 M	3 M	4 M	5 M	6 M	7 M	8 M
		155	220	285	350	415	480	545	610

## Flow Rate Characteristics

The flow characteristic is that when the generator sucks in the air to reach the vacuum, the relationship between the inhaled air flow and the consumed air volume.



# VSL series Integrated Type Vacuum Ejector

## Component Replacement

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EV

EVM

VA □

VM □

VM □ U

VHS

VSL

VKM

VKMT

VCK

VK20 □

VK30 □

VQ20 □

VFD

VFM

VFU

ERV

ERVL

MVS

DYC

### Single Unit Components

#### A. Fitting replacement

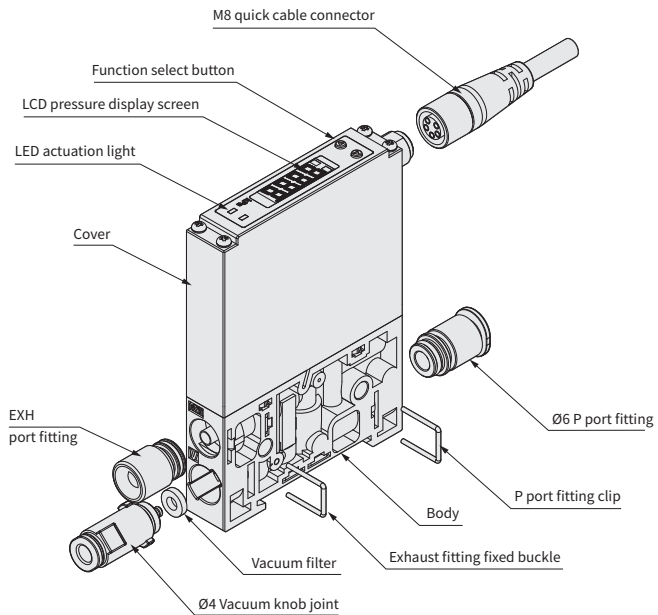
##### ● P port/ EXH port:

- (1) Dismantling fitting clips.
- (2) Take out the fittings, then put into new fittings.
- (3) Place new fittings onto ejectors and put back the fitting clips.

#### B. Filter element replacement

##### ● Vacuum port:

- (1) Pull out the vacuum port fitting.
- (2) Take out the element and replace.
- (3) Position the element into the ejector, then rotate vacuum fitting back to the port.



### Component Replacement

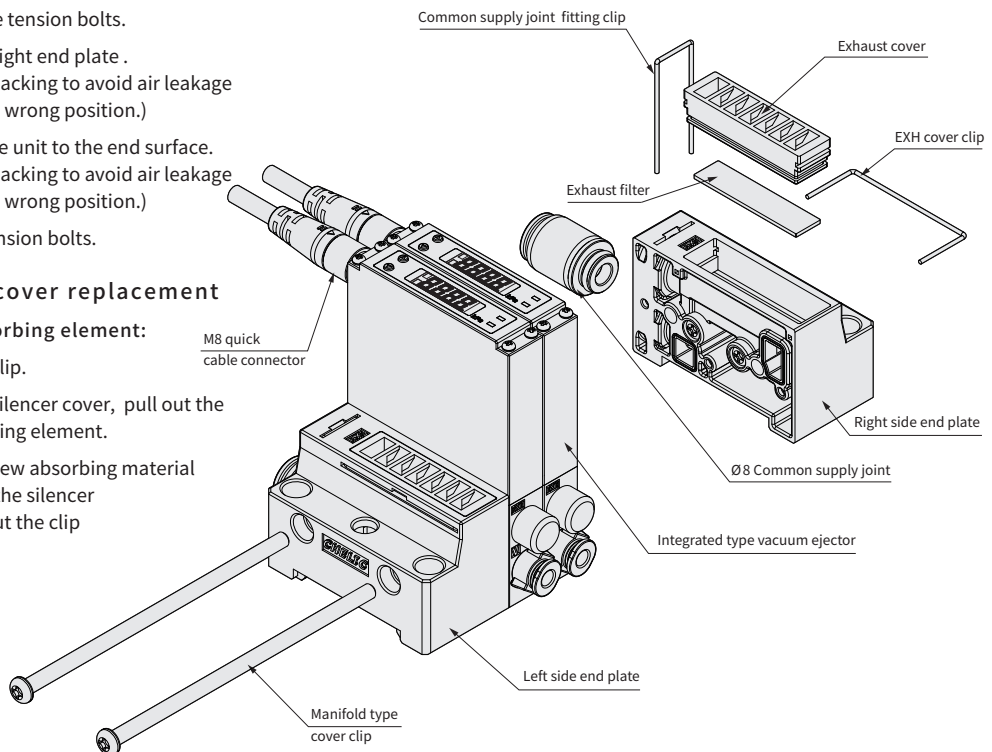
#### A. How to increase manifold stations

- (1) Remove three tension bolts.
- (2) Dismantling right end plate.  
(Beware the packing to avoid air leakage caused by the wrong position.)
- (3) Mount a single unit to the end surface.  
(Beware the packing to avoid air leakage caused by the wrong position.)
- (4) Lock three tension bolts.

#### B. Silencer cover replacement

##### ● Sound absorbing element:

- (1) Remove the clip.
- (2) Remove the silencer cover, pull out the sound absorbing element.
- (3) Replace the new absorbing material and position the silencer cover, then put the clip back to unit.



# VSL series Integrated Type Vacuum Ejector

Wiring/ Caution expression

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## Vacuum ejector/ Single unit

White: IN(Vacuum generation)

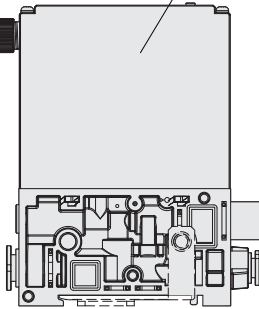
Black:IN(Vacuum release)

Brown: +V(24V)

Blue: 0V

Orange: OUT  
(NPN or PNP or Analog1-5)

Input



VSL-A-10-DC24-P04-C1\*1PCS

## Manifold vacuum ejector with individual wiring

White: IN(Vacuum generation)

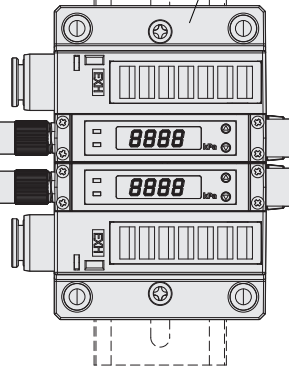
Black:IN(Vacuum release)

Brown: +V(24V)

Blue: 0V

Orange: OUT  
(NPN or PNP or Analog1~5)

Input



VSL-B-10-02-E1-DC24-P04 -C3

## Caution For design, selection and maintenance



### WARNING

- Avoid chemical, corrosive and inflammable gas; avoid sea water, steam high temperature place in surrounding.
- Avoid oil contain gas , don't oil mist in the pipeline , oil in pipeline will cause blockage resulting in poor effect.
- Please don't use fluid other than compressed air , never suck in fluid other than clean air.
- When using gas, the gas should be kept dry, and there should be no large amount of water vapor, which will cause the possibility of abnormal pressure detector.



### CAUTION

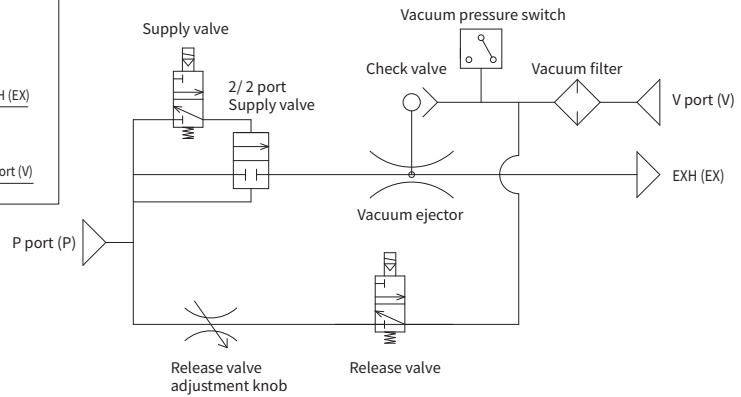
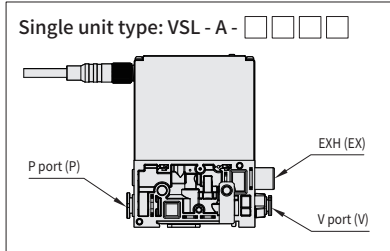
- Please don't disassemble the vacuum generator in discretion, error disassembling will lead to hazard and cause problem on operation of the product.
- Please be sure to use the supply pressure within the product specification range.If the maximum operating pressure is exceeded, the product may be damaged.
- During operation, please do not drop, hit, or apply excessive impact (100m/s) even if the body is not damaged, the internal part may be damaged and may cause malfunction.

# VSL series Integrated Type Vacuum Ejector

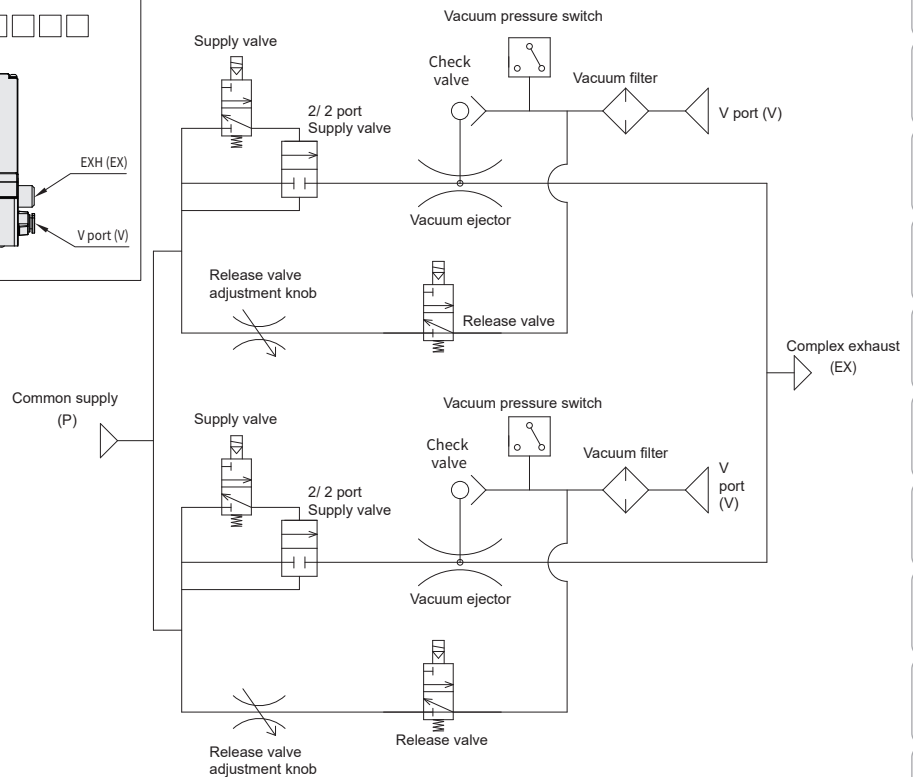
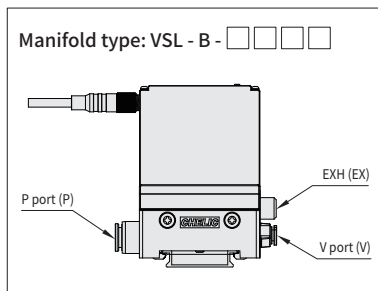
Circuit Expression

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## Vacuum ejector/ Single unit



## Vacuum ejector/ Manifold type



EV

EVM

VA

VM

VM  U

VHS

VSL

VKM

VKMT

VCK

VK20

VK30

VQ20

VFD

VFM

VFU

ERV

ERVL

MVS

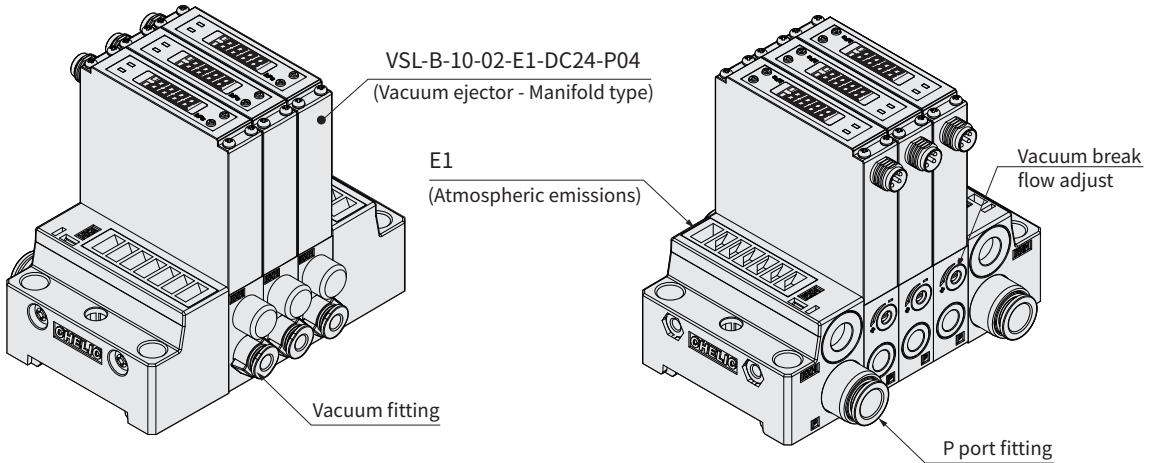
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# VSL series Integrated Type Vacuum Ejector

## Installation

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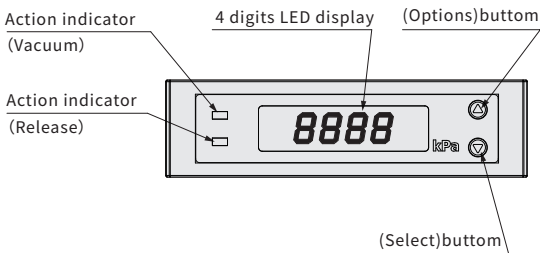
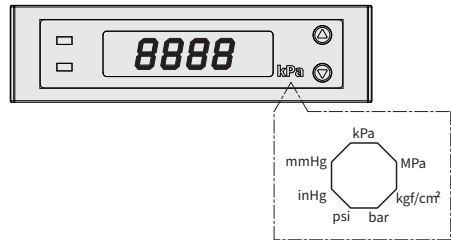
### Manifold Components description



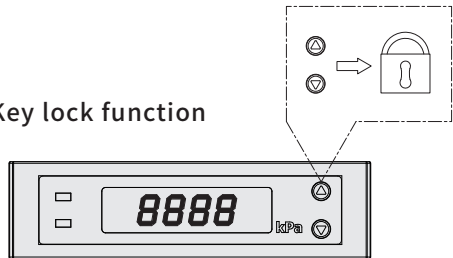
### VSL Numeric Display Pressure Switch Setting Instructions (Numeric type)

- 1 sets of output & linear analogy output (1~5V)
- Compact size: 13mm(W)
- Key lock function
- Various pressure units available  
kPa, MPa, kgf/cm<sup>2</sup>, bar, psi, inHg, mmHg

### Various pressure units available



### Key lock function



Key lock mode can prevent improper operation to pressure switch.

Key lock mode can pbe activated by pressing + and - for 3 seconds.

# VSL series Integrated Type Vacuum Ejector

## Dimensions

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### Vacuum Ejector/ Single Unit

EV

EVM

VA□

VM□

VM□U

VHS

VSL

VKM

VKMT

VCK

VK20□

VK30□

VQ20□

VFD

VFM

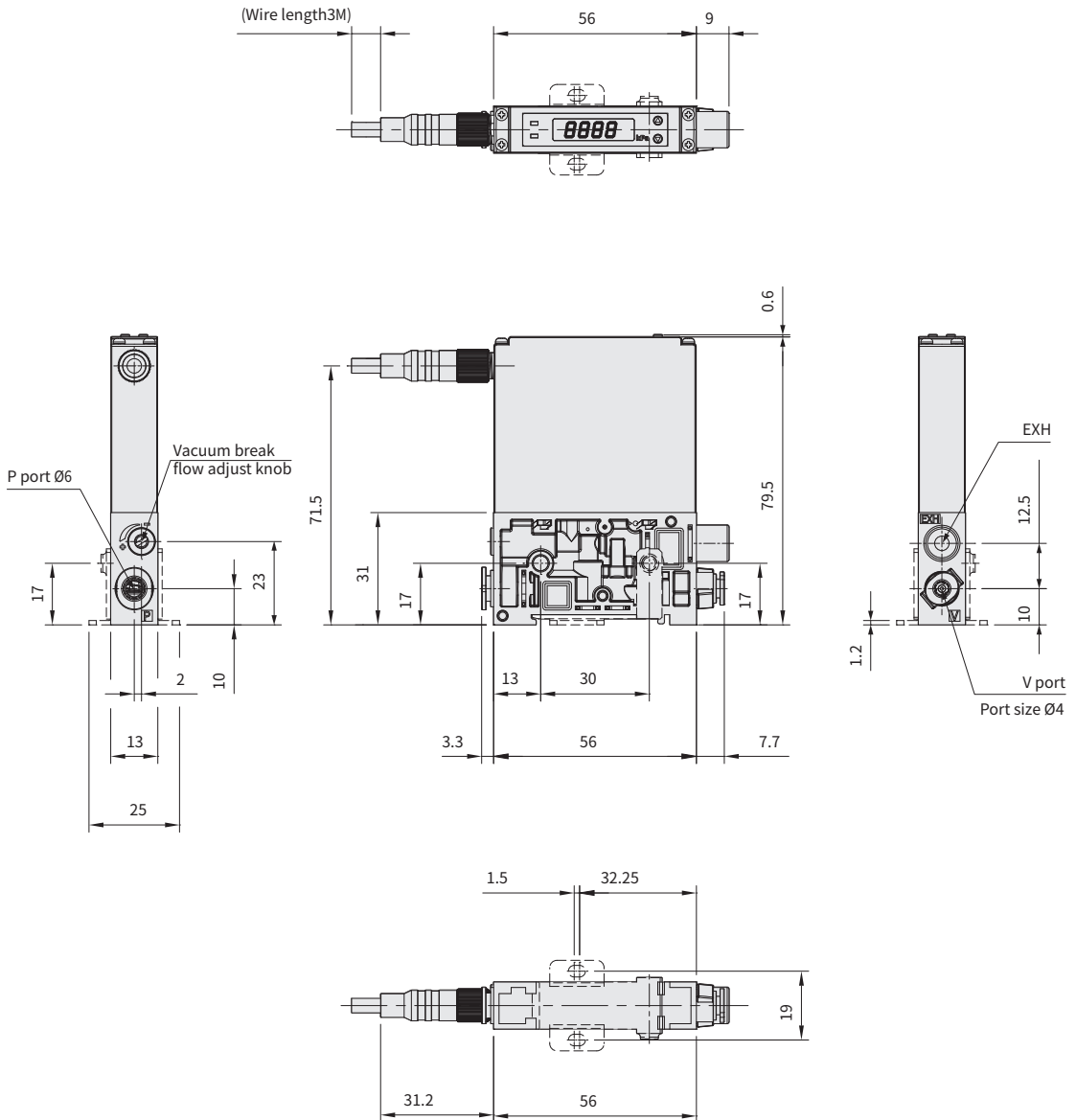
VFU

ERV

ERVL

MVS

DYC



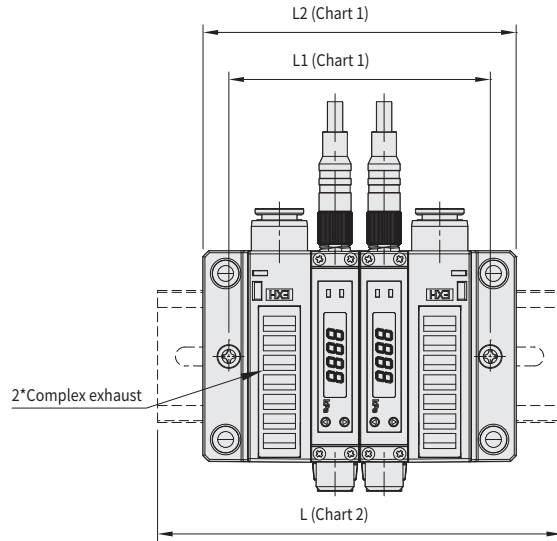
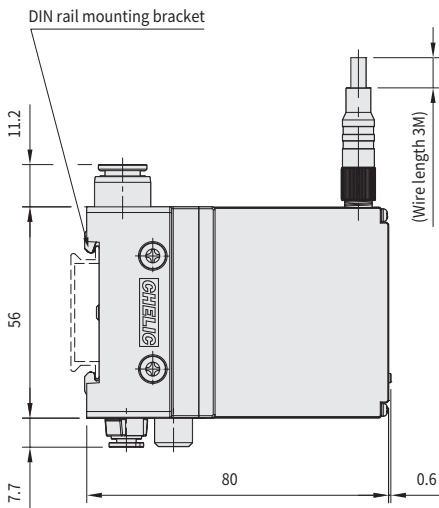
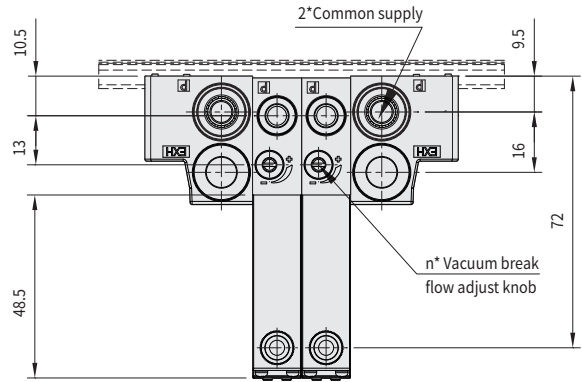


# VSL series Integrated Type Vacuum Ejector

## Dimensions

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### Compact Electronic/ Manifold type/Individual Wiring



Unit: mm

Manifold no. Mark	1	2	3	4	5	6	7	8
L1	45	69.3	82.3	95.3	108.3	121.3	134.3	147.3
L2	58	83	96	109	122	135	148	161

(Chart 1)

Unit: mm

Manifold no.	Rail length (L)
1~2 M	107.1
3~4 M	142.8
5~6 M	178.5
7~8 M	214.2

(Chart 2)

