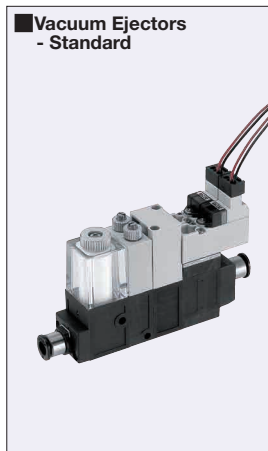
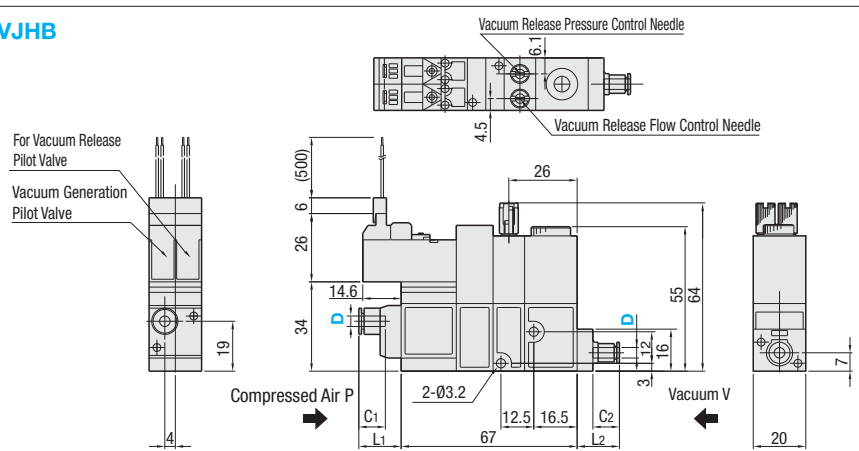


# Vacuum Ejectors

## Standard Type



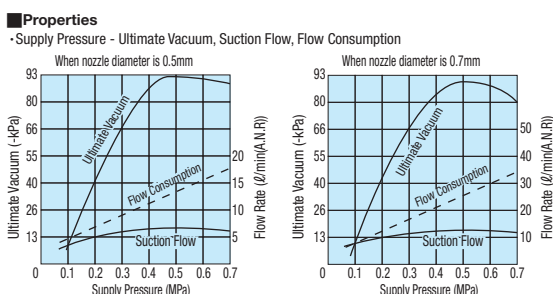
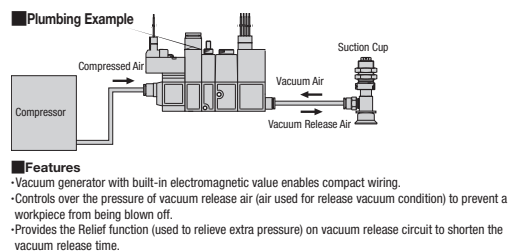
VJHB



Part Number	Nozzle Dia. Nominal	Nozzle Dia. (mm)	L1	L2	C1	C2	Ultimate Vacuum (kPa)	Suction Flow (l/min (ANR))	Flow Consumption (l/min (ANR))	Mass (g)	Unit Price	Volume Discount Rate
VJHB	4	5	14.6	14.3	10.9	10.9	90.4	7	11.5	164.5	1 ~ 9 pc (s).	10~20
		7					93.1	13	23			
	6	5	17.1	17.2	11.7	11.7	90.4	7	11.5			
		7					93.1	13	23			

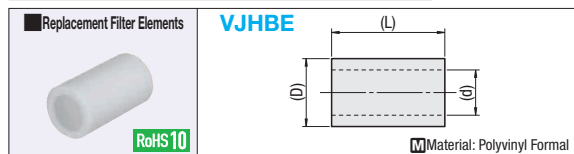
Name	Material
Body Resin	Glass Fiber Filled PBT (Polybutylene Terephthalate)
Seal Rubber	Nitrile Rubber
Main Valve	Aluminum Alloy
Joint Portion Metal	Brass + Electroless Nickel Plating
Vacuum Filter Cover	PCT (Polycarbonate)
Filter Cover Holder	Aluminum Alloy
Vacuum Generation Nozzle	Brass + Electroless Nickel Plating
Vacuum Generation Diffuser	Brass + Electroless Nickel Plating
Release Air Flow Rate Control Needle	Brass + Electroless Nickel Plating

Applicable Fluid	Air
Operating Temperature Range	5 ~ 50°C
Operating Pressure Range	0.3~0.7MPa
Rated Supply Pressure	0.5MPa
Release Air Flow Rate	0~50l/min(ANR) (When supply pressure is 0.5MPa)
Structure of Release Air Relief Valve	Elastic Seal, Poppet Valve
Relief Pressure Selecting Range	0.005~0.05MPa



- The characteristic supply pressure above is for vacuum generation.
- Valve can cause abnormal sounds at the supply pressure of 0.4 ~ 0.45MPa, i.e. the supply pressure value just prior to the peak value of Ultimate Vacuum. This abnormal sound indicates unstable properties, and the noise will be large. It may affect the sensor and other objects and cause troubles. Please reset supply pressure.  
[Ex.1] The original pressure is 0.5MPa. However, when the vacuum generator is operated, pressure supply declines down to 0.43MPa due to pressure drop and abnormal noise occurs.  
→Reset the supply pressure to 0.5MPa when vacuum generator is operating.
- When selecting plumbing and equipment, use the triple value of the Nozzle Dia. Sectional Area as guide of Effective Sectional Area. If adequate supply air flow rate is not retained, sufficient vacuum properties cannot be achieved. (Abnormal sound may be generated even within the Set Pressure range. Suction Flow, Ultimate Vacuum, etc. may be left insufficient.)  
[Ex. 2] Though the pressure is 0.5MPa when vacuum generator is operating, abnormal sound occurs.  
→Insufficient supply air flow rate (Air flow is squeezed by pipe resistance in the vacuum generator, not obtaining supply air flow rate that meets the characteristics).  
→Select plumbing and equipment to ensure the necessary effective sectional area.  
[Ex. 3] When nozzle diameter is 0.5mm, the sectional area is 0.25x0.25xπx3=0.59mm<sup>2</sup>  
→Select plumbing and equipment to retain the effective sectional area to 0.6mm<sup>2</sup> or more.

Item	Electromagnetic Valve for Vacuum Generation	Electromagnetic Valve for Vacuum Release
Operation Method	Direct Operation	
Valve Structure	Elastic Seal, Poppet Valve	
Rated Voltage	DC24V	
Allowable Voltage Range	DC24V±10%	
Surge Protection Circuit	Diode	
Power Consumption	1.2W (with LED)	
Manual Operation	Push Type - Non-Locking	
Operation Indicator	Coil Excitation Operation: Red LED On	
Connection Method	Red: DC24V Black: COM	
Operation Method	Air Pressure Operation with Pilot Valve	
Valve Structure	Elastic Seal, Poppet Valve	
Pressure Resistance	1.05MPa	
Valve Type	NC (Normally Closed)	
Lubrication	Not Required	
Effective Sectional Area	Air Supply Port Size: Ø4:3.5mm <sup>2</sup> Ø6:5mm <sup>2</sup>	1mm <sup>2</sup>



Part Number	(D)	(d)	(L)	Filtration Level	Filter Surface Area	Unit Price	Volume Discount Rate
VJHBE	12	8	30	10µm	1130mm <sup>2</sup>	1 ~ 9 pc (s).	10~20

VJHBE is replacement element specific for vacuum ejector.

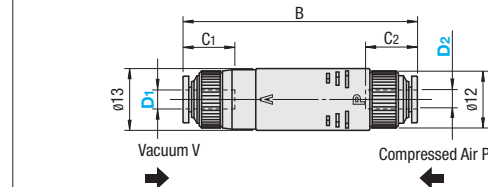


# Vacuum Generators / Vacuum Pressure Sensors

Vacuum Generators - Union Straight



VUHK



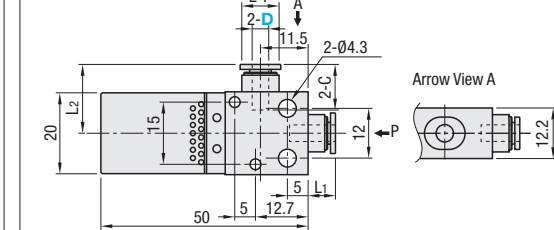
For nozzle diameter, see the schematic drawing.

Part Number	Nozzle Dia. Nominal	Nozzle Dia. (mm)	B	C1	C2	Ultimate Vacuum (kPa)	Suction Flow (l/min (ANR))	Flow Consumption (l/min (ANR))	Mass (g)	Unit Price	Volume Discount Rate
VUHK	4	5	0.5	49.3	11	11	90	7	11.5	18.5	
		7	0.7	56.1	11	11	92	12.5	23	20	
	6	5	0.5	51.2	11.7	11.7	90	7	11.5	17.5	
		7	0.7	57.7	11.7	11.7	92	12.5	23	18.5	

Vacuum Generators - Square Union

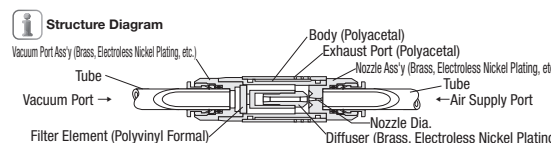


VUB



Part Number	Nozzle Dia. Nominal	Nozzle Dia. (mm)	P	C	L1	L2	Operating Pressure (MPa)	Ultimate Vacuum (kPa)	Suction Flow (l/min (ANR))	Flow Consumption (l/min (ANR))	Mass (g)	Unit Price	Volume Discount Rate
VUB	4	0.5	9	11	6.6	16.6	0.5	90	7	11.5	18		
	6	0.7	10.5	11.6	7	17	0.5	93	13	23	18.5		

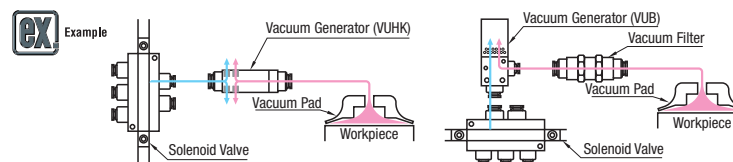
Larger nozzle diameter provides more suction flow and shortens time required to vacuum inner volume from the generator to workpiece. In this case, however, air consumption is larger.



Specifications

Applicable Fluid	Air
Operating Temperature Range	0~60°C
Operating Pressure Range	0.15MPa~0.7MPa
Rated Supply Pressure	0.5MPa

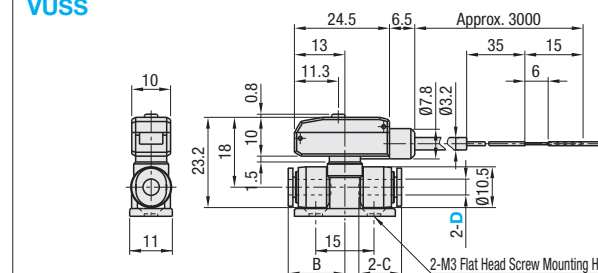
Cautions  
Dusts on workpiece material may cause damage to the vacuum generator. Use in combination with the vacuum filter on P.1439.



Vacuum Pressure Sensors - Union



VUSS



Part Number	D	C	A	B	Mass (g)	Unit Price	Volume Discount Rate
VUSS	4	11	29.2	14.6	48	1 ~ 9 pc (s).	10~20
	6	11.6	30	15	48		



Specification of Sensor Head

Applicable Fluid	Compressed Air
Pressure Detection Method	Diffusion Semiconductor Pressure Switch
Power Supply	DC10.8 ~ 30V (Ripple included)
Power Consumption	20mA or Less (at DC24V, no load)
Operating Pressure Range	-100~0kPa
Pressure Resistance	200kPa
Storage Temp. Range	-20 ~ 70°C (Atmospheric Pressure, Humidity 60% or Less)
Operating Temperature Range	0 ~ 60°C (No Freezing)
Operating Humidity Range	35 ~ 85% (No Freezing)
Protection Structure	IEC Standards (IP40 Equivalent)
Switch Output	NPN Open Connector Output: 30V 80mA or Less Residual Voltage: 0.8V or Less
Switch Output	Operation Indicator: N.O. (Red LED On at or above set pressure) Operating Difference: Fixed (2% F.S. or Less) Operation Accuracy: ±3% F.S. max. (at Ta=25°C) Response: Approx. 1m/sec Set Pressure Range: -100~0kPa

Electrical Circuit

