# External Vacuum Controller VIP Series

Characteristics PDF Compressor Free Version • Built-in vacuum flow sensor model makes confirmation of suctioning a small work-piece possible. Best suitable for pick & place small work-pieces. Built-in pressure

sensor type and without pressure sensor type are also available.

• Ultra small body (compared with other series in Pisco) realizes vacuum switchover with large flow. (8.54/min(ANR) or more at vacuum supply pressure : -80kPa)



• 2 selections for blow-off air rate adjusting method; adjustable type with a needle, and fixed type.



# Piping Example

Fluid medium		Air (JIS B 8392-1 : Compliant with [Class 1.2.1~2.4.3]), Vacuum Air				
Operating p	ressure range	<b>43.5 ~ 102</b> psi ( <b>0.3 ~ 0.7</b> MPa)				
Operating vacuum range		<b>0 ~ -26.6</b> in Hg ( <b>0 ~ -90</b> kPa)				
Operating temp. range		41 ~ 122°F (5 ~ 50°C) (No freezing)				
Operating humidity range		35 ~ 85%RH (No dew condensation)				
Vibration resistance / shock resistance		Less than 50m/s <sup>2</sup> / Less than 150m/s <sup>2</sup>				
Protective structure		IEC standard IP40 equiv.				
Lubrication		No required				
Proof pressure	Air supply circuit	1 <b>52</b> psi (1.05MPa)				
	Vacuum circuit	<b>29</b> psi ( <b>0.2</b> MPa)				
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\* Proof pressure shows the level of pressure at which the product would not be damaged. It is different from the operating pressure range, in which the product operates properly.

### Solenoid Valve Specifications

Rated voltage	24VDC ± 10%
Power consumption	1.2W (with LED)
Surge protection	Varistor
Operation indicator	Current application: RED LED ON
Manual operation	Push-lock button

### Vacuum Supply Valve Specifications

Operation type		Pilot valve			
Valve type		Normally closed			
Vacuum supply air rate (*1, *2, *3, *4)		0.35SCFM (104/min(ANR)) (at vacuum supply pressure : -23.6in Hg. (-80kPa))			
Response	OFF → ON	<b>7</b> msec			
time (*5)	ON → OFF	8.5 msec			

\*1 The value above applies when vacuum port size is ø4mm. The air flow rate decreases by 15% with ø3mm, and by 50% with ø1.8mm.

\*2 The air flow rate decreases by 30% in case of the sensor code "-A 
005" and "-A 
010" with vacuum port size of ø4mm or ø3mm.

\*3 Vacuum supply air flow rate varies according to the vacuum port dia. and tube length on vacuum side

\*4 The air flow rate in SCFM is a reference value converted by multiplying l/min(ANR) by 0.035. \*5 The value at supply air: 0.5MPa with rated voltage (100%)

## Blow-off Valve Specifications

Operation type		Direct operation					
Valve type		Normally closed					
Response	OFF → ON	3.5 msec					
time (*1, *2, *3)	ON → OFF	2.5 msec					

\*1 The value above applies when vacuum port size is ø4mm. The air flow rate decreases by 15% with ø3mm, and by 50% with ø1.8mm.

\*2 The air flow rate decreases by 30% in case of the sensor code \*-A □ 005\* and \*-A □ 010\* with vacuum port size of e4mm or e3mm.

 $^{\star}3$  The value at supply air: 0.5MPa with rated voltage (100%)

## Blow-off function

	Without blow-off air rate adjustment needle
Dlow off air rate	0.33SCFM (9.54/min(ANR)) or more (at supply pressure 72.5psi (0.5MPa)
DIOW-OII all Tale	With blow-off air rate adjustment needle
	0 ~ 0.33SCFM (9.5t/min(ANR)) or more (at supply pressure 72.5psi (0.5MPa)

\* Blow-off air flow rate varies according to the vacuum port dia. and tube length on vacuum side. \* The air flow rate in SCFM is a reference value converted by multiplying l/min(ANR) by 0.035.

#### Pressure sensor without LED display Specifications

		-V1
		(1 analog output)
Rated voltage		10.8 ~ 30VDC (Ripple voltage included)
Current consumption		<b>20</b> mA
Pressure detection		Diffused semiconduction pressure sensor
Pressure proof		1 <b>45</b> psi ( <b>1.0</b> MPa)
	Pressure detection range	<b>0 ~ -29.5</b> in. Hg ( <b>-100 ~ 0</b> kPa)
Analog output	Output voltage	1~5V
	Zero-point voltage	1±0.04∨
	Span voltage	4±0.04∨
	Output current	1mA max.
	Temperature characteristic	<b>±2</b> %F.S. max. (at Ta= <b>77</b> °F/ <b>25</b> °C)
	Linearity	<b>±0.5</b> %F.S. max.
	Output impedance	lkΩ
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\* Allowable range of the variation of "Zero point voltage" and "Pressure setting value" caused by repeated voltage application is ±3%F.S.

# Flow sensor Specifications

Rated voltage	24VDC ± 10%				
Current consumption	<b>30</b> mA max. (no-load)				
Operating pressure range	-26.6 ~ 59.1in. Hg (-90kPa ~ 0.2MPa)				
Proof pressure	<b>43.5</b> psi ( <b>0.3</b> MPa)				
Analog output	<b>1 ~ 5</b> V (non-linear characteristic, connected load impedance $50$ k $\Omega$ or more)				
Pressure characteristic	<b>±10</b> %F.S. max. (at Ta= <b>77</b> °F/ <b>25</b> °C)				
Temperature characteristic	<b>±0.6</b> %F.S./°C max. (at Ta= <b>77</b> °F/ <b>25</b> °C)				
Accuracy of response	<b>±2</b> %F.S.max.				
Response time	5m·sec max. (Sensor alone)				
Output impedance	lkΩ				

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(1) Vacuu	ım (V) port size (Tube dia	a.)						
[	mm size (mm)							
Code	180	3	4					
Tube dia. (mm)	ø1.8mm push-in fitting	ø3mm push-in fitting	ø4mm push-in fitting					
(2) Vacuum supply (PV) port size (Tube dia.)								
	mm size (mm)							
Code	4	6	8					
Tube dia. (mm)	ø4mm push-in fitting	ø6mm push-in fitting	ø8mm push-in fitting					
(3) Air supply (PS) port size (Tube dia.)								
	mm size (mm)							
Code	4	6	8					
TI P ( )	a Annual a contra la fittica a	aCross quick in fitting	a9mm puch in fitting					



# (4) Valve voltage

	-
ode	D24
tage	24VDC

(5) Blow-off air rate adjustment needle

No code: Without needle

N: With needle

#### (6) Sensor

Code	Sensor specifications				
No code	Without sensor				
AF005	One direction flow sensor (Flow range: 0 ~ 0.02SCFM (0 ~ 0.54/min(ANR))				
AF010	One direction flow sensor (Flow range: 0 ~ 0.04SCFM (0 ~ 1t/min(ANR))				
AF050	One direction flow sensor (Flow range: 0 ~ 0.18SCFM (0 ~ 5t/min(ANR))				
AF100	One direction flow sensor (Flow range: 0 ~ 0.35SCFM (0 ~ 104/min(ANR))				
AR005	Bi-directional flow sensor (Flow range: ±0.02SCFM (±0.54/min(ANR))				
AR010	Bi-directional flow sensor (Flow range: ±0.04SCFM (±14/min(ANR))				
AR050	Bi-directional flow sensor (Flow range: ±0.18SCFM (±54/min(ANR))				
AR100	Bi-directional flow sensor (Flow range: ±0.35SCFM (±104/min(ANR))				
V1	Analog output pressure sensor				

\* The flow rate in SCFM is a reference value converted by multiplying t/min [ANR] by 0.035.

#### (7) No. of stations

Code	M02	MO3	M04	M05	M06	M07	M08	M09	M10
No. of stations	2	3	4	5	6	7	8	9	10

# Detailed Safety PDF Compressor Free Version

Before using the PISCO products, be sure to read the "Safety Instructions", "Common Safety Instructions for Products in This Catalog on page 13 to 16, "Common Safety Instructions for Vacuum Series on page 18, "Common Safety Instructions for Vacuum Generator Complex Types on page 31, and "Common Safety Instructions for External Vacuum Controllers on page 80.

AWarning : 1. Tighten threads with proper tightening torque. Improper tightening may cause an air leakage, a drop of the product or damage to components.

△Caution : 1. In selecting the piping to the supply (PS, PV) port or the vacuum (V) port, secure piping bore and length for enough effective sectional area. Insufficient effective sectional area may cause performance drop in characteristics such as suction flow and blow-off airflow.

2. This product is not equipped with a vacuum filter. Make sure to select and use PISCO vacuum filter. If the filter is not used, dust or other particles are accumulated inside the product and cause vacuum performance drop and solenoid valve malfunction such as air leakage. (Recommended filter: VFU series and VFJ series)

ROHS The products listed in this page are ECO-friendly products. • Please refer to page 4 for the details of ECO-friendly products.

#### Without blow-off air rate adjustment needle

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VIP Without sense	or	1 🗖
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- 200 A	VIP-1123-D24-AR010-7	- 1
-P00061 18	VIP-1123-D24-AR050-7	
Contraction of the second	VIP-1123-D24-AR100-17	
VIP With pressure	sensor	
	Model code	
	VIP123-D24-V1-7	
T. Maple		
33344 FFT		
38		
- 000		
S		•
Caution		Package spe
* 2: Replaced with vacu	ium supply port size code.	i pe. in a bag
* 3: Replaced with air su	upply port size code	

#### With blow-off air rate adjustment needle

VIP Without sensor		
	Model code	
	VIP-123-D24-N-7	
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VIP with flow sense	UI Model code	
	VIP-123-D24-N-AE005-7	
	VIP-123-D24-N-AF010-7	
-5000	VIP-123-D24-N-AF100-7	
Constant of the second	VIP-123-D24-NLAB005-7	
11111315	VIP-123-D24-N-AB010-7	
-BARAR .	VIP-123-D24-N-AB050-7	
	VIP-123-D24-N-AB100-7	
VIP With pressure sensor		
	Model code	
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96614		
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Replacement Filter Element

The placed with all supply port
 The placed with no. of stations.
 Make-to-order production

