

# ROBO PUMP

## New Release

### Environmentally Friendly Factory Airless Vacuum Pump

Compact design which can be installed near the robot tip

Available in two types



Standard  
(Atmospheric Release)  
RP-VPM



Air Blow Type  
(Vacuum Release)  
RP-VPMV

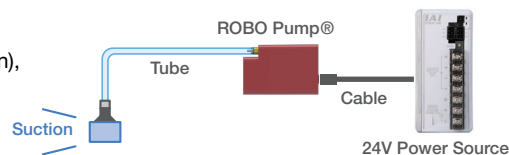
Equipment can be *entirely electric* with ROBO Pump®.



Click here for movie

### No piping necessary

Unlike an ejector, no air piping, compressor, or solenoid valve is required. Simply connect the ROBO Pump to the cable and power supply, and it can be activated immediately. Additionally, by equipping the wireless feature (option), wireless communication with a teaching tool can be performed.



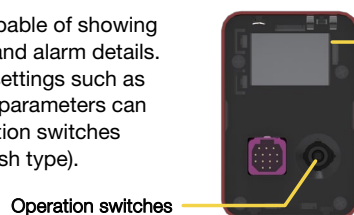
### Compact and Easy

This palm-size unit requires very little installation space. The unit contains a built-in solenoid valve and pressure sensor, making it ideal for suctioning lightweight objects.



### Main Unit Features

The display unit is capable of showing the current pressure and alarm details. Additionally, various settings such as threshold values and parameters can be set with the operation switches (four-way + center push type).



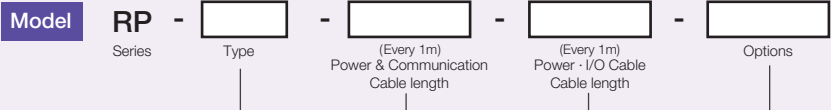
Display panel

Pressure  
- 54 kPa  
Current Pressure Display

Alarm  
Code EC1  
Detail 0001  
Address 0000  
Alarm Display

Threshold  
Suction -45kPa  
Release -4kPa  
Threshold Setting

Parameter1  
PIOpattern 1  
Energy sav. 0  
ReleaseT. 1.0s  
Parameter Change



|      |                                |
|------|--------------------------------|
| VPM  | Standard (Atmospheric release) |
| VPMV | Air blow type (Vacuum release) |

|    |     |
|----|-----|
| 1  | 1m  |
| to | to  |
| 10 | 10m |

(Note) When using the interface box, 9m is the maximum available.

**Product**

| Specification                                       |
|-----------------------------------------------------|
| RCON-EC connection specification <sup>(Note1)</sup> |
| NPN/PNP specification <sup>(Note2)</sup>            |

(Note 1) Make sure to select "ACR" in the options.  
(Note 2) Interface box 2 is included.

**Power & Communication Cable**

| Cable code | Cable length |
|------------|--------------|
| 1 to 3     | 1 to 3m      |
| 4 to 5     | 4 to 5m      |
| 6 to 10    | 6 to 10m     |

(Note) Robot cable is standard.

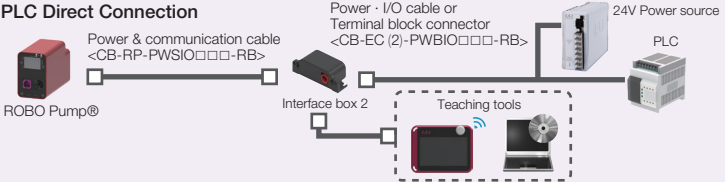
**Specification**

| Item                          | Standard                                                                                           | Air Blow Type                                                                                                                                            |
|-------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Release method                | Vent to atmosphere                                                                                 | Vacuum release                                                                                                                                           |
| Pump type                     | Diaphragm pump system                                                                              |                                                                                                                                                          |
| Power supply voltage          | 24VDC±10%                                                                                          |                                                                                                                                                          |
| Vacuum pressure               | -50kPa or less                                                                                     | (Negative pressure) -50kPa or less<br>(Positive pressure) +30kPa or more                                                                                 |
| Generated flow volume         | 1.8L/min or more                                                                                   | (Negative / Positive pressure)<br>1.1L/min or more                                                                                                       |
| Air suction fitting size      | For Ø4x2.5mm tube                                                                                  |                                                                                                                                                          |
| Installation orientation      | Horizontal                                                                                         |                                                                                                                                                          |
| Ambient operating temperature | 0 to 40°C                                                                                          | 5 to 40°C                                                                                                                                                |
| Ambient operating humidity    | 85% RH or less (no condensation)                                                                   |                                                                                                                                                          |
| Allowable duty cycle          | 100% Duty cycle operation available<br>Duty ratio (%)<br>= Vacuum time / (Vacuum time + Stop time) | 100% Duty cycle operation available<br>Duty ratio (%)<br>= (Vacuum time + Release time) / (Vacuum time + Release time + Stop time)<br>*Release: Air blow |
| Ingress protection            | IP20                                                                                               |                                                                                                                                                          |
| Mass                          | 320g                                                                                               | 400g                                                                                                                                                     |

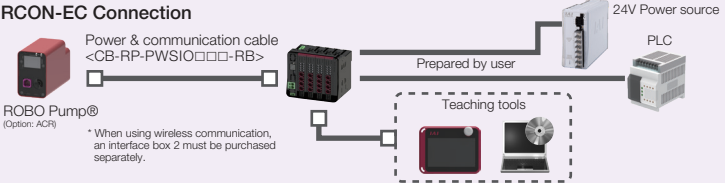
**Connected**

\*For individual model numbers and connection limitations, refer to the instruction manual.

**PLC Direct Connection**



**RCON-EC Connection**



**IAI America, Inc.**

USA Headquarters & Western Region (Los Angeles): 2690 W. 237th Street, Torrance, CA 90505 (310) 891-6015  
Midwest Branch Office (Chicago): 110 East State Parkway, Schaumburg, IL 60173 (847) 908-1400  
Southeast Branch Office (Atlanta): 1220 Kennestone Circle, Suite 108, Marietta, GA 30066 (678) 354-9470

[www.intelligentactuator.com](http://www.intelligentactuator.com)

**JAPAN Headquarters**

1210 Iharacho, Shimizu-ku, Shizuoka City, Shizuoka Prefecture, 424-0114, JAPAN

The information contained in this product brochure may change without prior notice due to product improvements.

\*Please choose "ENG" option for the English Language Version.

|       |                                                                               |
|-------|-------------------------------------------------------------------------------|
| Blank | NPN specification (Connected via I/F box)<br>No option                        |
| ACR   | RCON-EC connection specification <sup>*1</sup>                                |
| ENG   | Please add "ENG" option for English version                                   |
| PN    | PNP specification (Connected via I/F box) <sup>*1</sup>                       |
| TMD2  | Split motor and controller power supply specification <sup>*1</sup>           |
| WL    | Wireless communication specification<br>(Connected via I/F box) <sup>*2</sup> |

<sup>\*1</sup> If "ACR" is selected, "PN" and "TMD2" options cannot be selected. (I/O for the "ACR" option is NPN only; compatible with split motor and controller power supply as standard).

<sup>\*2</sup> "WL" cannot be selected when "ACR" is selected.  
(When using wireless communication, an interface box 2 must be purchased separately.)

**Options**

| Name                                                  | Option code |
|-------------------------------------------------------|-------------|
| RCON-EC connection specification                      | ACR         |
| PNP specification                                     | PN          |
| Split motor and controller power supply specification | TMD2        |
| Wireless communication specification                  | WL          |

**Brackets (sold separately)**

| Name                    | Type                     | Model       |
|-------------------------|--------------------------|-------------|
| Side attachment bracket | Standard                 | RP-BKT-VPM  |
|                         | Air blow type            | RP-BKT-VPMV |
| Cable support bracket   | Standard / Air blow type | RP-FST-VPM  |

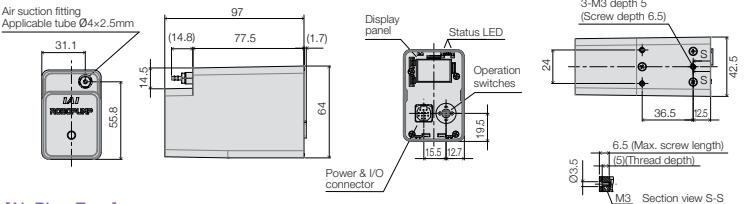
\* For the external dimensions and mounting methods, refer to the instruction manuals.

**Appearance**

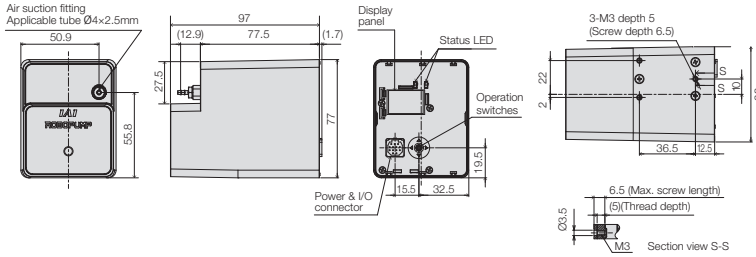
CAD drawings can be downloaded from our website. [www.intelligentactuator.com](http://www.intelligentactuator.com)

2D/3D  
CAD

**[Standard]**



**[Air Blow Type]**



**Reference for Loadable Workpiece Mass**



| Suction Cup Diameter (mm) | Top suction payload (kgf)<br>[Safety Margin 4] | Side suction payload (kgf)<br>[Safety Margin 8] |
|---------------------------|------------------------------------------------|-------------------------------------------------|
| 1                         | 0.001                                          | 0.0005                                          |
| 3                         | 0.009                                          | 0.0045                                          |
| 6                         | 0.036                                          | 0.018                                           |
| 10                        | 0.1                                            | 0.05                                            |
| 15                        | 0.225                                          | 0.113                                           |
| 20                        | 0.401                                          | 0.2                                             |

(Pressure: -50kPa, Nitrile Rubber Pad)

**IAI Industrieroboter GmbH**

Ober der Röth 4,  
D-65824 Schwalbach am Taunus, Germany

**IAI (Shanghai) Co., Ltd.**

Shanghai Jiahua Business Center A8-303, 808,  
Hongqiao Rd., Shanghai 200030, China

**IAI Robot (Thailand) Co., Ltd.**

825 Phairojklia Tower 7th Floor, Debaratana Rd.,  
Bangna Nuea, Bangna, Bangkok 10260, Thailand