

# ARV

AUTO  
RELEASE  
VENTURI



VACUUM GENERATOR  
CUP MOUNTS



*"Changing the world of vacuum..."*

*One line at a time."*

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**AUTO-RELEASE VENTURI - ARV**  
**JUNE 2009**



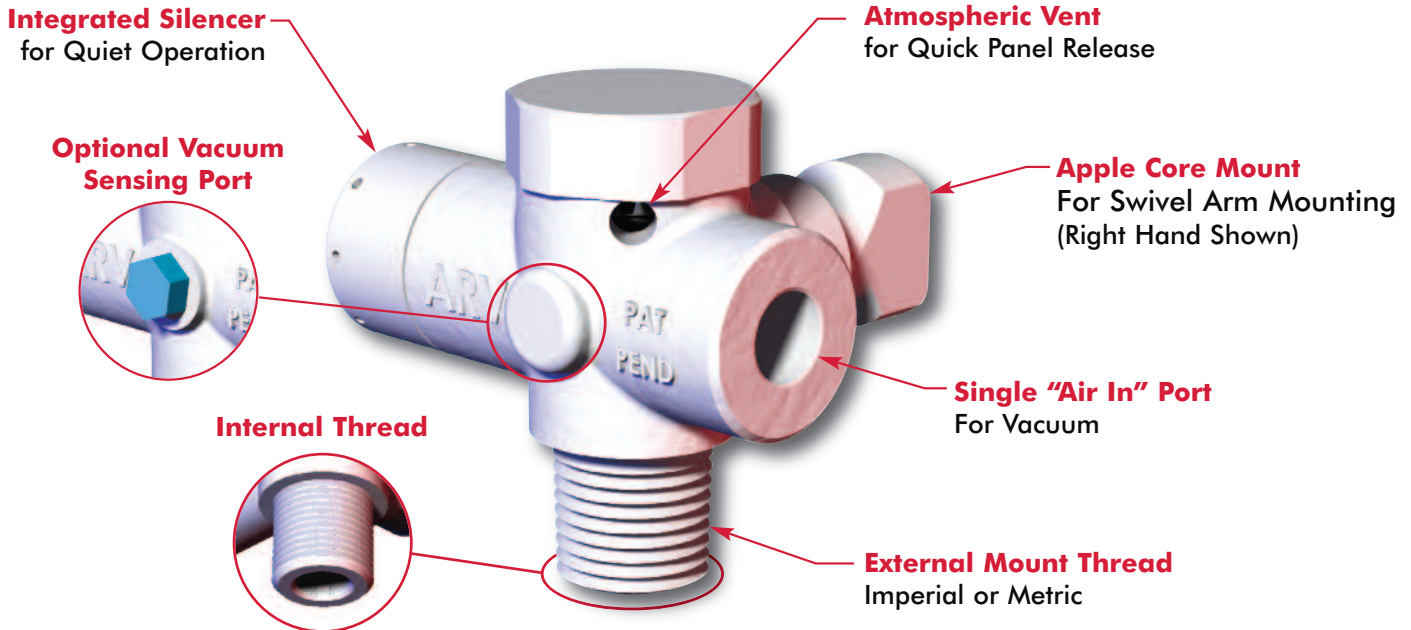
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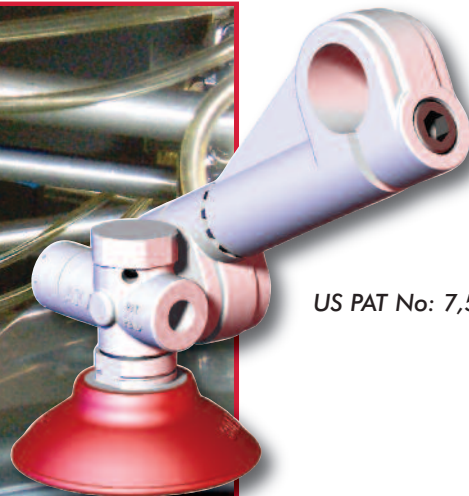
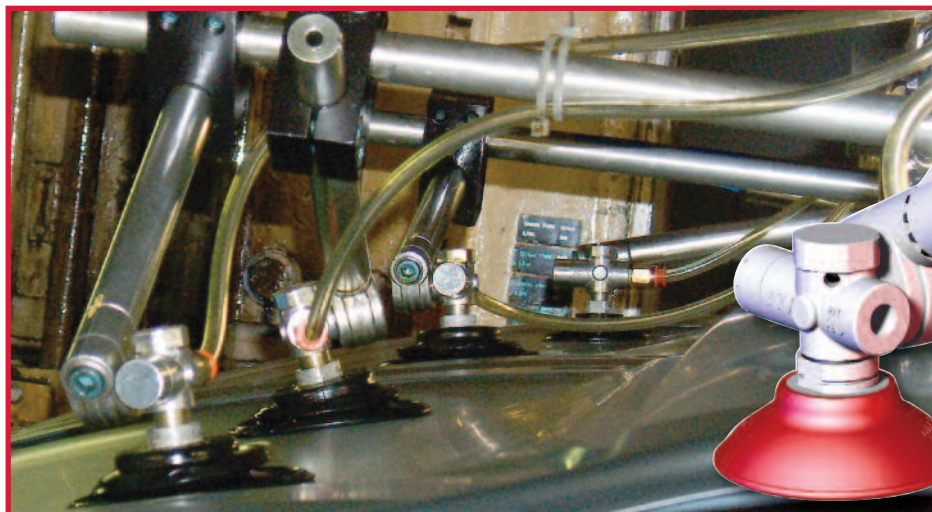
## The Auto-Release Venturi (ARV) Vacuum Generator Cup Mount

*Changing the world of vacuum...One line at a time.*

**Fastest vacuum and blow-off in the Industry:**  
 One Air Line • Integrated Blow-off • Standard Silencer
















The ARV offers the most comprehensive mount offering to fit any application



US PAT No: 7,540,309

**Auto-Release Venturi Vacuum Generator**  
*Features and Benefits*

| Features  |  | Benefits   |
|---|--|--|
| <b>Single Air Line Operation</b>  | <br>     | <ul style="list-style-type: none"> <li>• 60% less air consumption</li> <li>• lower cost pneumatic valve</li> <li>• Only need 1/2 the air lines and fittings</li> <li>• No air needed for blow-off</li> </ul>   |
| <b>Atmospheric Vent</b>   | <br>     | <ul style="list-style-type: none"> <li>• 75% faster than the standard venturi blow-off</li> <li>• Increased line speeds and parts per hour.</li> <li>• 150 cycles a minute</li> <li>• All cups release simultaneously</li> <li>• Panels don't tip/shift or mislocate<br/><i>(Eliminates costly damage and downtime)</i></li> </ul> |
| <b>Comprehensive Mount Offering</b>   |   | <ul style="list-style-type: none"> <li>• Match existing plumbing without added cost</li> <li>• Configurations accommodate any cup location</li> <li>• No costly extra clamps and arms</li> <li>• Imperial or Metric external mount threads</li> </ul>  |
| <b>Integrated Silencer</b>  |   | <ul style="list-style-type: none"> <li>• Quiet operation, Less than 70dB</li> <li>• Reduced operator fatigue</li> </ul>  |
| <b>Maintenance Free Operation</b>   |    | <ul style="list-style-type: none"> <li>• Long lasting components</li> <li>• Fewer costly replacements</li> <li>• 25 Million cycles = Approx. 5 years service</li> </ul>  |
| <b>Only one moving part</b>   | <br> | <ul style="list-style-type: none"> <li>• Field repairable on tool</li> <li>• Simple and quick to repair</li> <li>• Minimizes costly downtime</li> <li>• Mean Time To Repair = 1 Minute</li> </ul>  |
| <b>Lightweight aluminum construction</b><br>(Up to 55% lighter than the competition.) |   | <ul style="list-style-type: none"> <li>• Lighter tools can be moved faster</li> <li>• Increasing line speed</li> </ul>   |
| <b>Optional vacuum sensing port</b>   |   | <ul style="list-style-type: none"> <li>• Part present sensing without the weight (2lb)</li> <li>• Reduced cost of additional brackets/sensors</li> </ul>   |
| <b>Ease of Use</b>  |   | <ul style="list-style-type: none"> <li>• No need to buy new valves</li> <li>• Can be used with existing plumbing and valves</li> </ul>   |
| <b>No screens or filters.</b>   |   | <ul style="list-style-type: none"> <li>• Silencer does not clog</li> <li>• High Reliability</li> <li>• No maintenance for long lasting continuous operation</li> </ul>   |

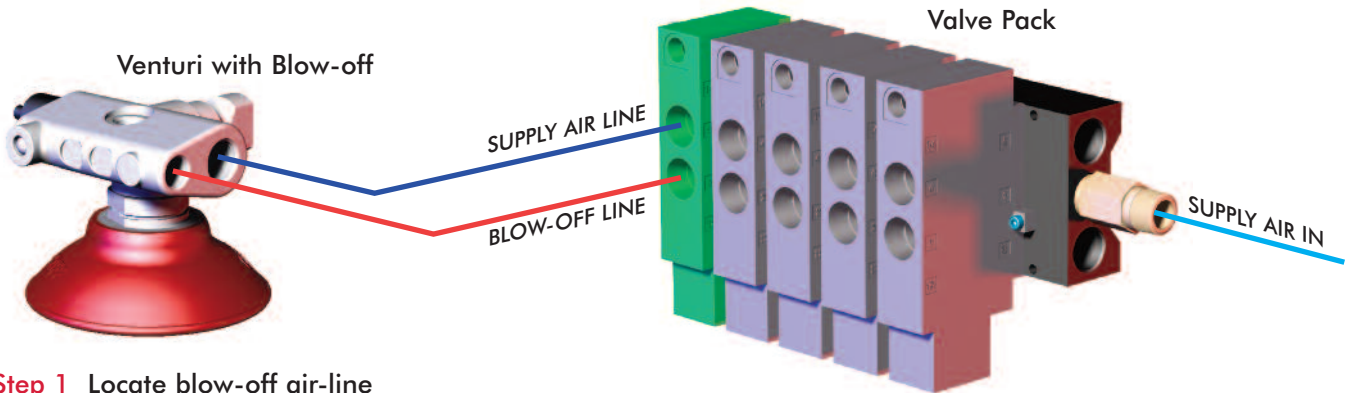




## Auto-Release Venturi Vacuum Generator

### 5 Easy Steps to Convert from Existing Vacuum Systems

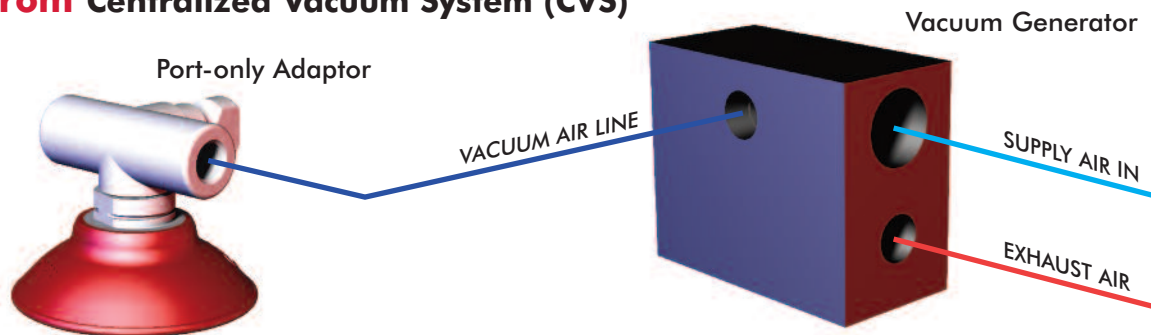
#### From (2) line System using venturi with blow-off



- Step 1 Locate blow-off air-line
- Step 2 Disconnect/remove air line and plug blow-off port
- Step 3 Disconnect/remove existing venturi and replace with ARV.
- Step 4 Reconnect air line to ARV
- Step 5 Verify operation.

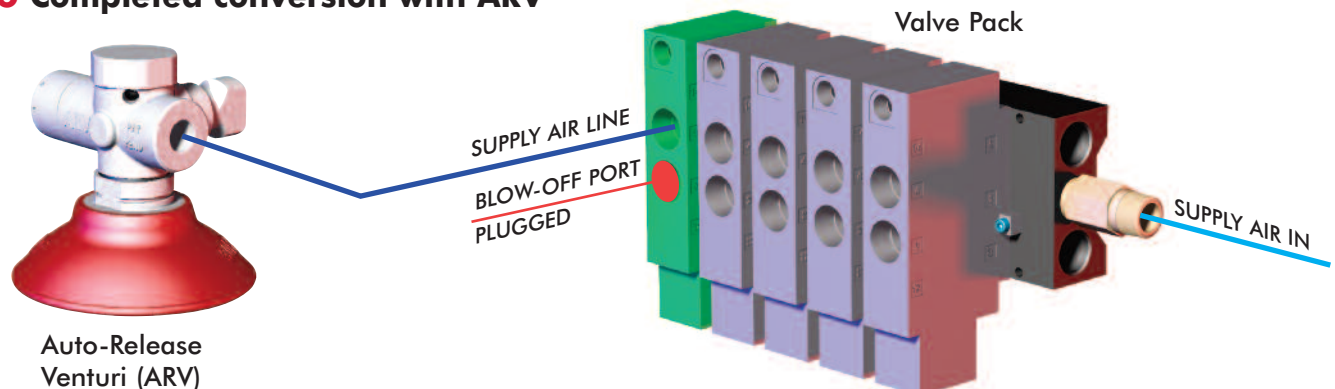
OR

#### From Centralized Vacuum System (CVS)

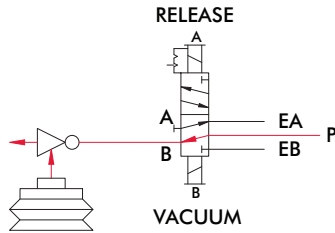


- Step 1 Locate CVS/vacuum generator and remove from system
- Step 2 Install (2) Position Valve, connect to air supply and plug blow-off port.
- Step 3 Disconnect/remove existing port-only adaptor and replace with ARV.
- Step 4 Reconnect air line to ARV
- Step 5 Verify operation.

#### To Completed conversion with ARV

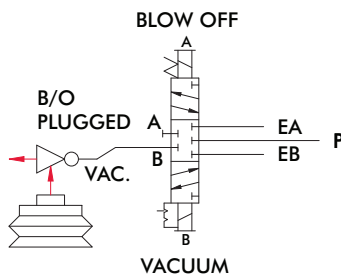


## Auto-Release Venturi Vacuum Generator Operation for New Installations



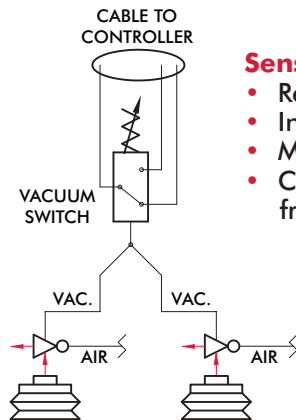
- Valves:** (2) Position, Double Solenoid, Detented.  
(Cv rating of at least 1 recommended)
- Airline:** (1) Line for Vacuum and Release
- Operations:** **Energize Sol B:** Air in vacuum port. Generates vacuum  
(Holds position in case of power loss)  
**Energize Sol A:** Air off. Release panel instantly

### For use with Existing Valves

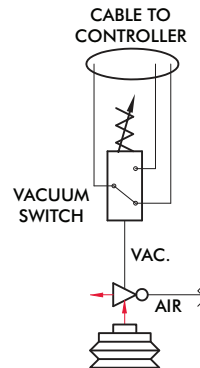


- Valves:** (3) Position, Closed Center, Double Solenoid,  
**Side B:** Detented, **Side A:** Spring Return
- Airline:** (1) Line for Vacuum (ARV: Vacuum and Release)  
(1) Line for Blow-Off (Plug with ARV)
- Connection:** **Port A:** Plugged\*  
**Port B:** Air in (to Venturi)
- Operations:** **Energize Sol B:** Air in (Venturi port), Generates vacuum  
(Holds position in case of power loss)  
**Energize Sol A:** Air stopped, Release panel instantly  
**De-Energize Sol A:** All air off, Valve Centers
- (\* )For ARV: plug port A line on tool side of Quick Disconnect.

### For use with Vacuum Switch



- Sensor Mounted Remotely**
- Remove M5 Plug
  - Install air fitting in M5 port
  - Mount sensor to automation
  - Connect vacuum line from M5 fitting to sensor



- Sensor Mounted to ARV**
- Remove M5 Plug
  - Install sensor in M5 port
  - Connect Electric cable to controller



**Notes**

- When sensing from (2) ARV to a single sensor, both vacuum lines should be equal in length.
- Smaller Diameter/Shorter Length vacuum lines give faster response.
- Choose the cup location(s) that could best determine part present/not present
- Maximum (2) cups per vacuum sensor

### Venturi Cup Mount Specifications

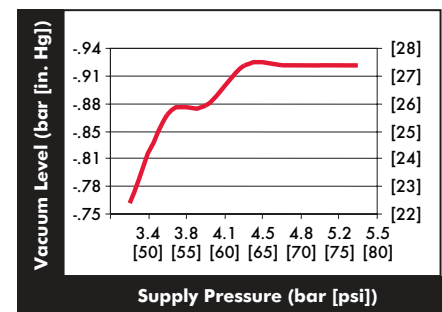
**ARV Series Vacuum Generators:**

- Specifications @ 4 bar [60psi]:**  
**Speed to Vacuum:** 0.2-0.3 seconds  
**Speed to Release:** 0.02 seconds  
**Air Consumption:**  
**Vacuum:** 40 l/m [1.4 scfm]  
**Blow-off:** 0  
**Noise Level (At one meter):** 68dBA  
**Material:** Aluminum

**VSA Series Vacuum Generators:**

- Specifications @ 4 bar [60psi]:**  
**Speed to Vacuum:** .36 seconds  
**Speed to Release:** 0.08 seconds  
**Air Consumption:**  
**Vacuum:** 40 l/m [1.4 scfm]  
**Blow-off:** 2.6 liters [0.09 ft³]  
 (156 l/m [5.5scfm] @ 1 sec. duration)  
**Noise Level (At one meter):**  
**Inline to exhaust:** 76dBA  
**Inline to exhaust with Silencer:** 68dBA  
**Material:** Aluminum

**ARV and VSA Performance:**

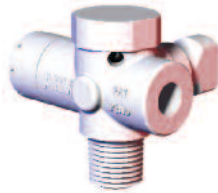


## Auto-Release Venturi Vacuum Generator

### ARV Body Styles and Overall Dimensions



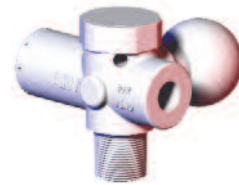
Left Hand Apple Core  
CPI-VSA-ARVL-750-(X)



Right Hand Apple Core  
CPI-VSA-ARVR-750-(X)



Without Apple Core  
CPI-VSA-ARVR-000-(X)

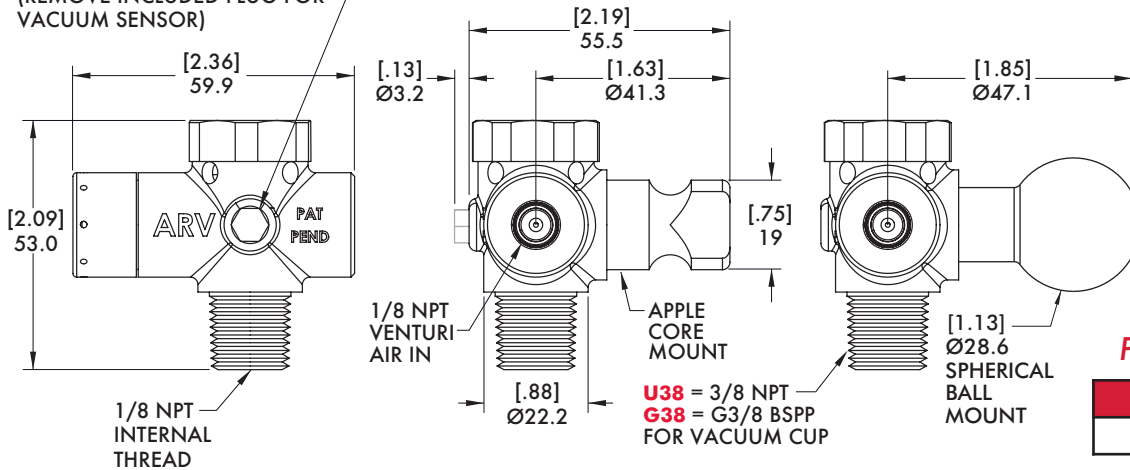


RH/LH Spherical Ball  
CPI-VSA-ARV(R/L)-B112-(X)



(X)  
**Mounting Thread**  
**U38**  
3/8" NPT  
**G38**  
3/8" G

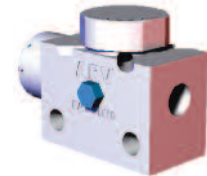
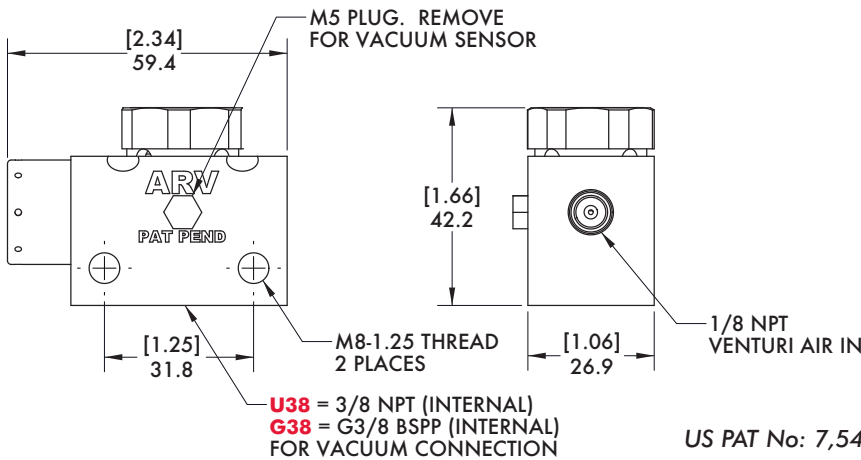
"vs" OPTION (M5 PORT/PLUG)  
(REMOVE INCLUDED PLUG FOR VACUUM SENSOR)



**Vacuum Sensor Option**  
Add "-VS" to end of "ARV" order code

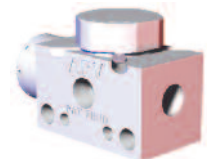
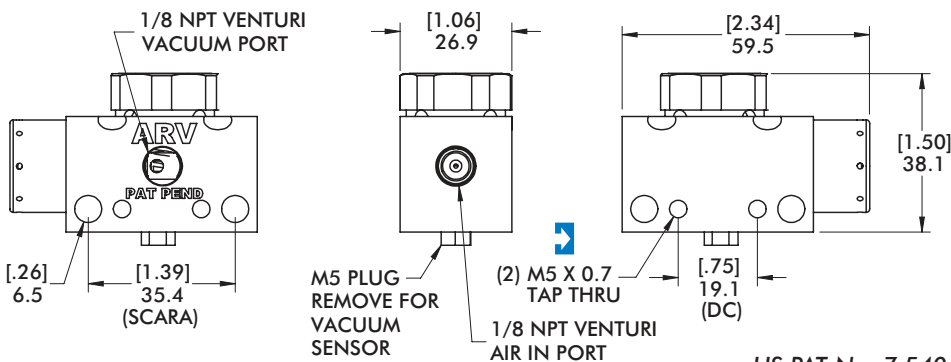
Patent Pending

| WEIGHT        |
|---------------|
| 114 g [4 oz.] |



**Block Style**  
CPI-VSA-ARVR-312-(X)  
(X)=Vacuum Port Thread  
**U38** = 3/8" NPT  
**G38** = 3/8" G

| WEIGHT        |
|---------------|
| 107 g [4 oz.] |

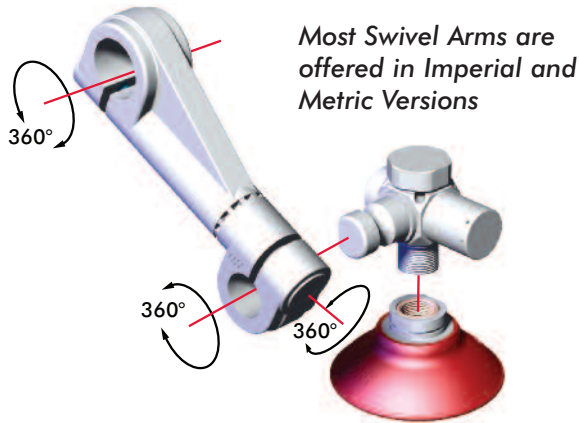


**SCARA Block Style**  
CPI-VSA-ARVS-5-U18  
Also compatible with  
**Robohand**  
**DIRECTCONNECT**

| WEIGHT         |
|----------------|
| 97.9 g [3 oz.] |

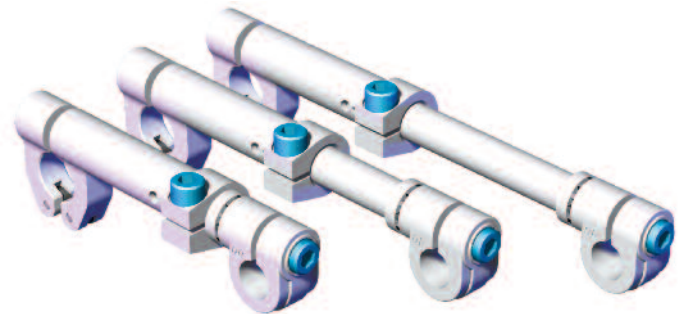
**Auto-Release Venturi Vacuum Generator**  
 DE-STA-CO Products Mounting to the **ARV**

**Standard Swivel Arms** offers a versatile attachment point for vacuum generators and adaptors, proximity switches and nest mounts brackets.

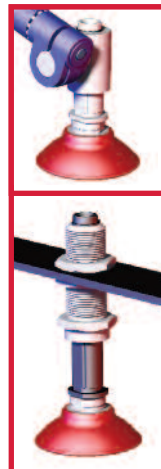
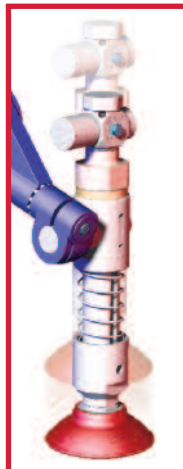
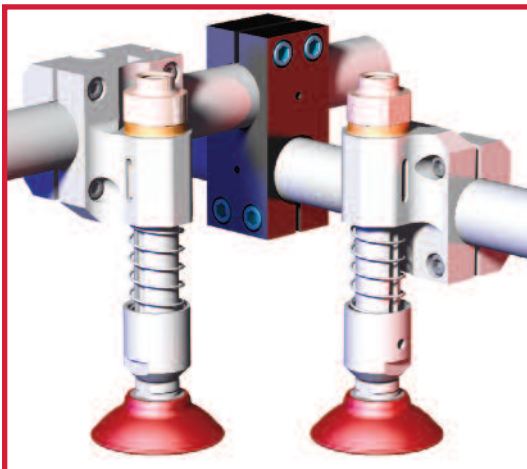


- Single-Bolt adjustment for (3) axis
- 360° of adjustment in (3) different axes

**“Extend Arm” Swivel Arms** are available in (3) standard lengths to offer (3) ranges of linear adjustability.



- Three-bolt adjustment system
- 2.00” Linear Extension
- Double-Hinge Design
- Even clamping force



**Spring-Loaded Cup Mounts** Available both as a standard version and extended travel version. Both versions offer several mounting options and three different travel lengths.

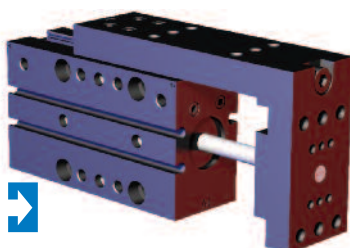
DE-STA-CO spring-loaded cup mounts are designed to be used with ARV vacuum generator cup mount and complete line of vacuum cups to offer a total vacuum system solution.

*Patent Pending*



US Patent# 7,309,089

**DE-STA-CO Vacuum Cups** are offered in different families, and may be offered in different durometers. Vacuum cups are also offered in Imperial and Metric mounting options which may vary according to the size and type of the vacuum cup.



**Robohand**  
**DIRECTCONNECT**

**DLM - Mini Ball Rail Slide**

- DIRECTCONNECT™ Tapped and doweled mounting on tool place and body
- Retract and extend adjustments for precise positioning with infinite stroke adjustability  
 Longer strokes available.





A DOVER COMPANY

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## Workholding

- Widest variety of workholding products
- High durability and reliability
- Flexible solutions for all applications
- Custom products for unique requirements

## Automation

- Broad range of engineered automation products
- Complementary products for modular integration
- Unmatched accuracy, reliability and performance
- Unparalleled global sales, service and engineering support

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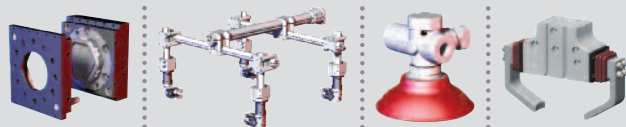
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