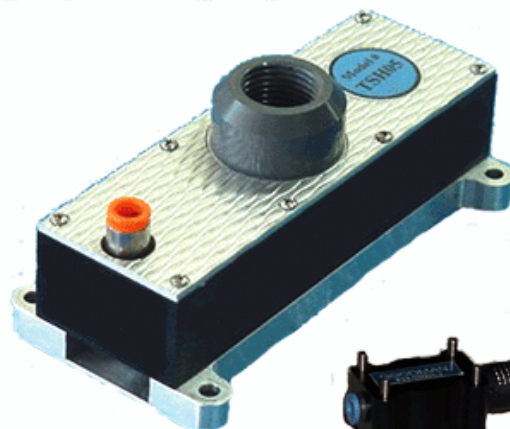




# SEAL SCIENCE, INC.

## VACUUM PRODUCTS DIVISION

**VACUUM CUPS  
VACUUM GENERATORS  
FILTERS  
AIR PREPARATION  
FITTINGS  
END OF ARM TOOLING  
ENGINEERED PRODUCTS  
CUSTOM MATERIALS / DESIGNS  
HIGH EFFECIENCIES & FLOWS  
COMPACT SIZE  
DIRECTLY INTERCHANGEABLE WITH  
ALL MAJOR BRANDS  
MADE IN USA  
ISO 9001/ AS9100**

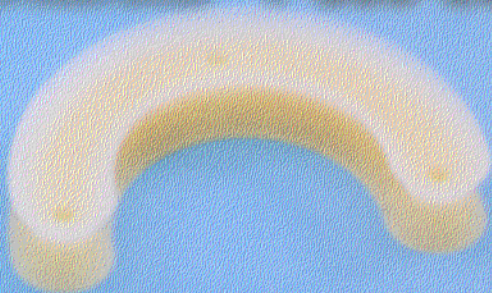


West Coast Office:

**1-800-576-SEAL** • E-mail: [info@sealscience.com](mailto:info@sealscience.com)

East Coast Office:

**1-800-261-SEAL** • E-mail: [info@sseast.com](mailto:info@sseast.com)



# SEAL SCIENCE VACUUM CUPS

## STANDARD, CUSTOM AND RETROFIT DESIGNS

The designing of vacuum system suction cups to perform specific lifting and moving functions can be deceptively complex. Considerations must include the weight and surface texture of the items to be picked up, acceleration rates, space limitations, magnitude of the vacuum, and process temperatures.

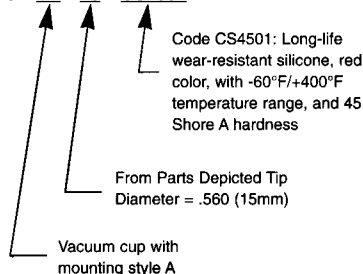
Seal Science has expertise in the design, manufacture and testing of vacuum cups for all purposes. Plus, we can do this on a quick-turnaround basis.

VACUUM CUP MATERIAL LIST*				
CODE	DESCRIPTION	HARDNESS	TEMPERATURE RANGE	COLOR
CS4501	Long-Life Wear-Resistant Silicone	45A	-60°F to +400°F	Red
CS4502	Long-Life Wear-Resistant Silicone	45A	-60°F to +400°F	Opaque
CS6014	Long-Life Wear-Resistant Silicone	60A	-60°F to +400°F	Burnt Orange
CS5014	High-Temperature Silicone	50A	-60°F to +450°F	Red
CS5500	Conductive Silicone	55A	-80°F to +400°F	Black
CS3007	Long-Life Wear Resistant Silicone	30A	-60°F to +400°F	Opaque
CS6016	Long-Life Wear Resistant Silicone	60A	-60°F to +400°F	Clear
CC5006	Tack-Free Long-Wear Chloroprene	50A	-40°F to +225°F	Black
CP4502	ESD Limiting Plastic Blend	45A	-40°F to +250°F	Gray
CS5024	Long-Life Wear-Resistant Silicone	50A	-50°F to +392°F	Clear
CPI7001	Polyurethane Blend	70A	-20°F to +180°F	Purple
CVI6001	Vinyl	60A	0°F to +150°F	Purple

## HOW TO ORDER

Choose the mounting style, configuration, and size that meet your needs from those depicted in this catalog. Then pick a material that meets your requirements; i.e., hi-temp, non-marking, ESD, etc.

Example: **VA - 15 - CS4501**



- NOTES: 1. The performance of vacuum cups depends on many subtle factors not in Seal Science's control. A logical test program is always recommended as we can assume no liability for use of these products.
2. Many materials with unique properties are available. Check with the factory regarding your specific needs.

## O-RINGS AND SEALS FOR VACUUM SERVICE

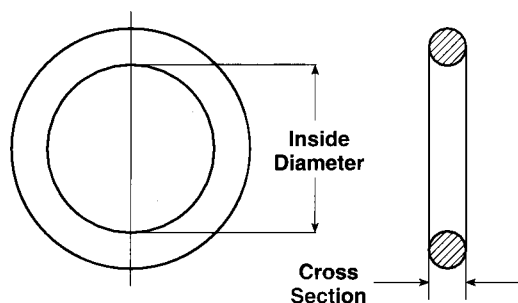
High vacuum causes elastomeric materials to lose weight and therefore volume by extracting certain absorbed gasses and other volatile components. This weight/volume loss coupled with air permeability of certain elastomer compounds suggests that fluorocarbon materials should be considered for most vacuum service.

Seal Science's fluorocarbon compounds have been compounded to assure maximum resistance to outgassing, extraction and compression set. Seal Science also offers all other o-ring and seal compounds conforming to most industrial, military and electrical specifications.

## O-RING ORDERING INFORMATION

Seal Science offers all Inch (AS568), Metric and JIS STD o-ring sizes. Please provide the standard size for the o-ring you need and remember to state the compound and hardness you want. Seal Science engineering can help you select the proper size and materials for you to test in your application. Please call us with dimensions or send us a sample of your items.

Sizes are generally stated as cross section x inside diameter.



Example:

	Cross Section	x	Inside Diameter	STD Size Number
Inch STD size	.070	x	.239	-010
Metric size (mm)	1.78	x	6.07	1.78 x 6.07
JIS size (mm)	1.90	x	2.80	P3

West Coast Office:

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Visit our website at [www.sealscience.com](http://www.sealscience.com)

East Coast Office:

**1-800-261-SEAL**

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The items illustrated in this brochure are just a few examples of the styles and types of VACUUM CUPS, RINGS, PADS, VACUUM GENERATORS, END OF ARM TOOLING, AUTOMATION and PNEUMATIC PRODUCTS we manufacture. Please consult SEAL SCIENCE with your requirements for availability.

**SEE INSIDE BACK COVER FOR OTHER SEAL SCIENCE PRODUCTS.**

West Coast Office:

**1-800-576-SEAL**

E-mail: [info@sealscience.com](mailto:info@sealscience.com)

Visit our website at [www.sealscience.com](http://www.sealscience.com)

Seal Science Vacuum Products Division  
17131 Daimler Street, Irvine Ca. 92614

East Coast Office:

**1-800-261-SEAL**

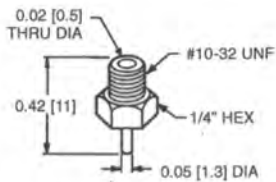
E-mail: [info@sseast.com](mailto:info@sseast.com)

# SEAL SCIENCE VACUUM CUPS

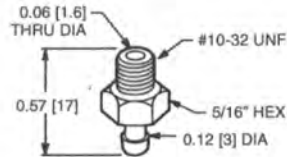
## STYLE VA – BARB TYPE

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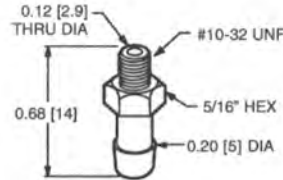
### BARB TYPES



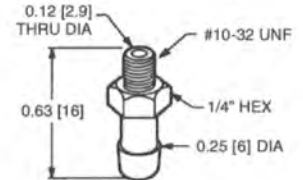
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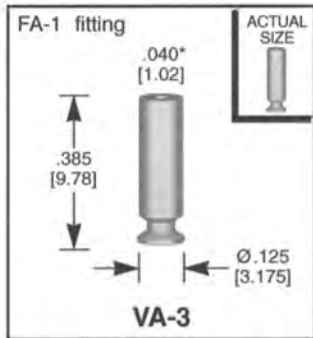
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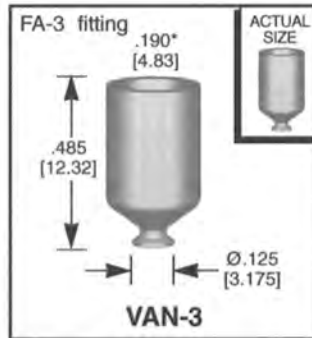
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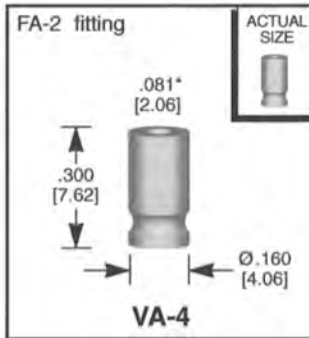
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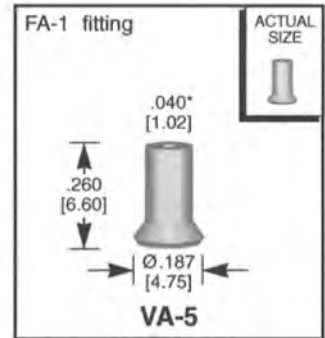
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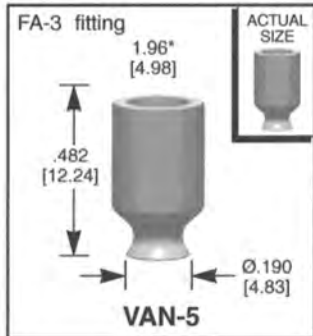
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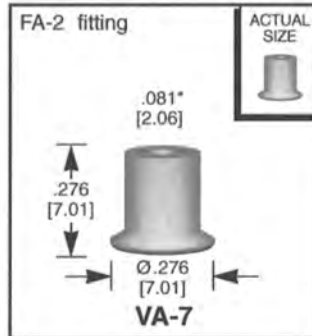
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VA-5



VAN-5



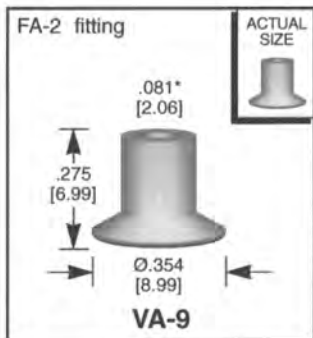
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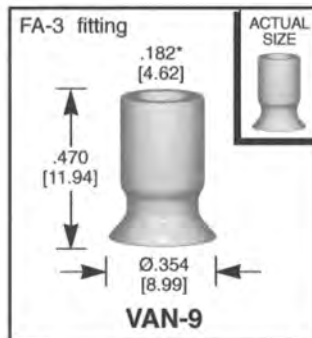
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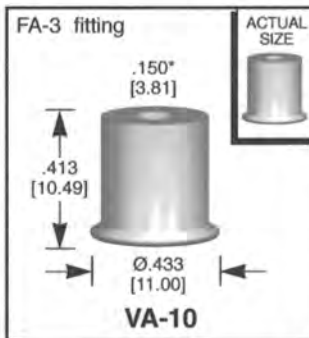
VA-7.5



VA-9



VAN-9



VA-10



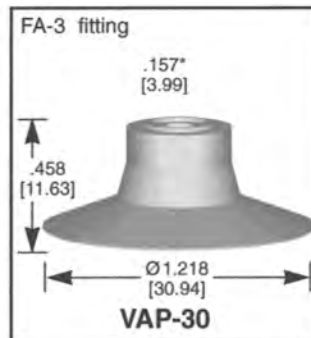
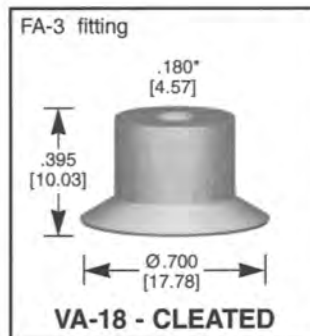
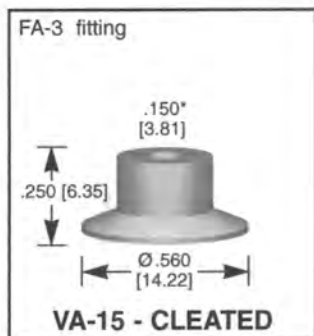
VA-12

\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

# SEAL SCIENCE VACUUM CUPS

## STYLE VA - BARB TYPE

PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



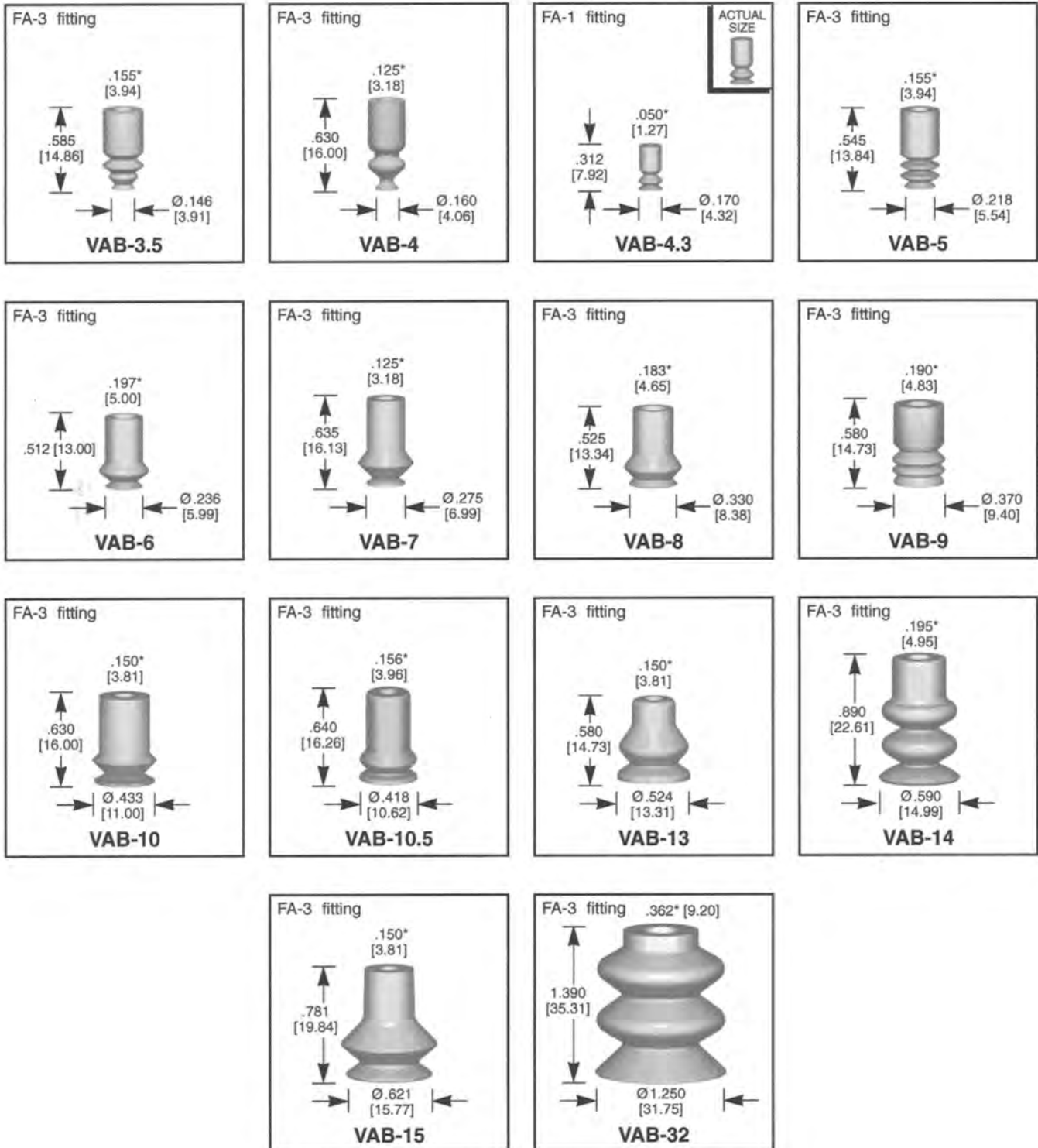
\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

### NOTES:

# SEAL SCIENCE VACUUM CUPS

## BELLOWS STYLE VAB - BARB TYPE

PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



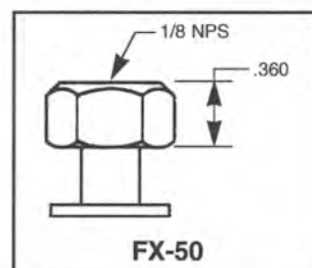
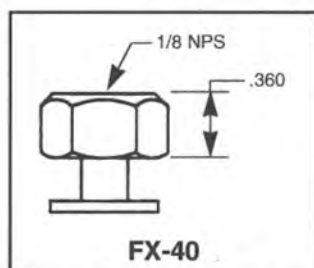
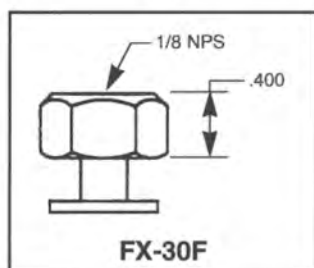
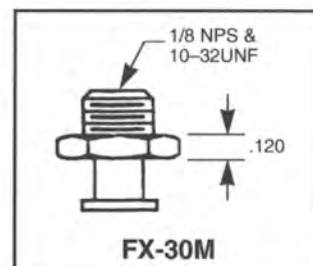
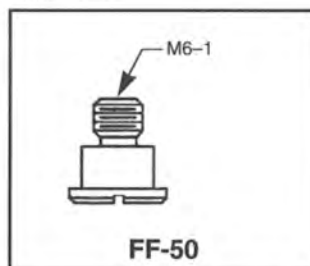
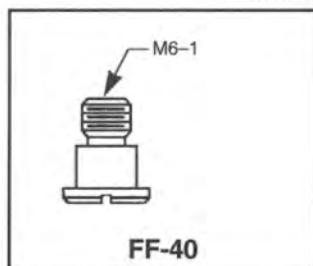
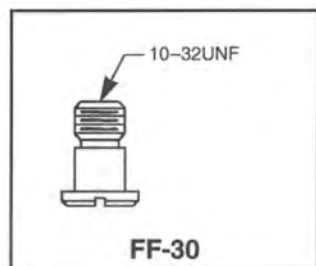
\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

# SEAL SCIENCE VACUUM CUPS

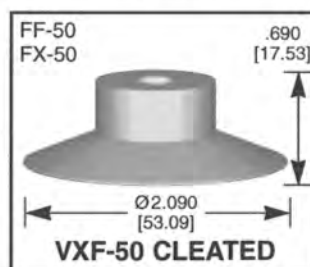
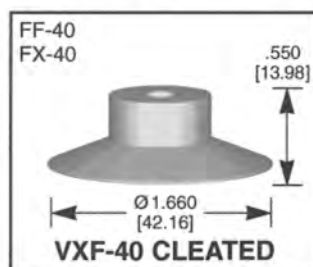
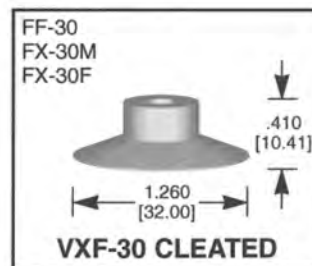
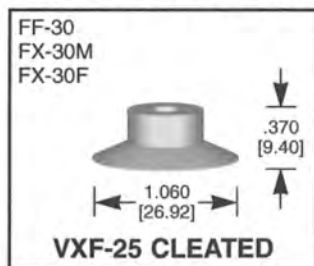
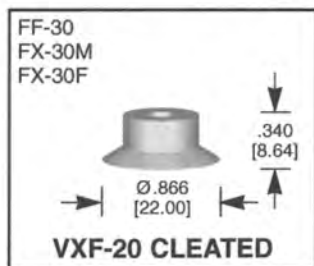
## STYLE "X" MOUNT - FLANGE TYPE

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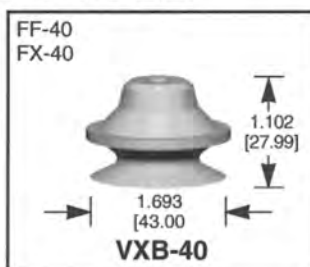
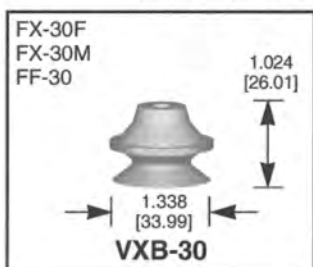
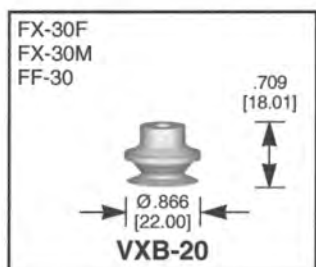
### FITTINGS



### FLAT VACUUM CUPS



### BELLOWS STYLE

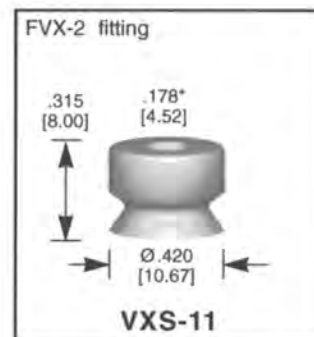
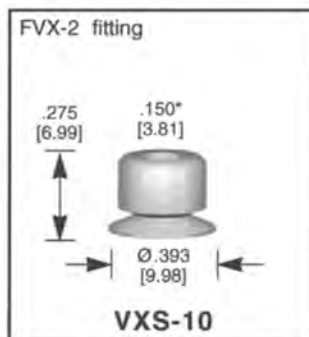
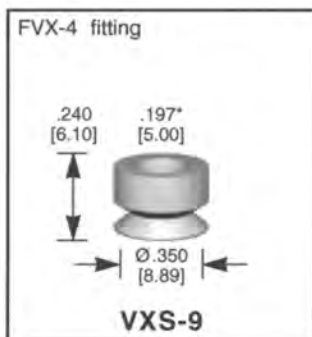
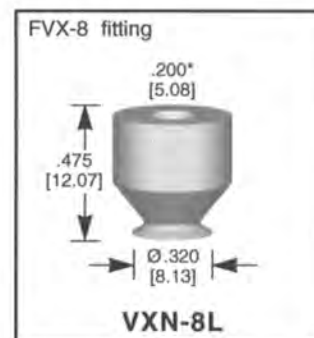
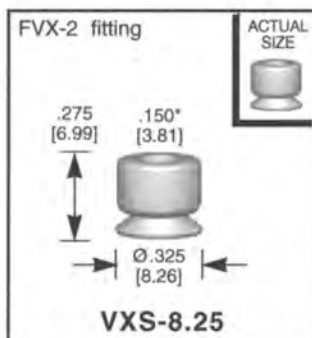
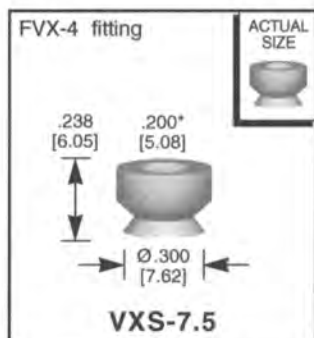
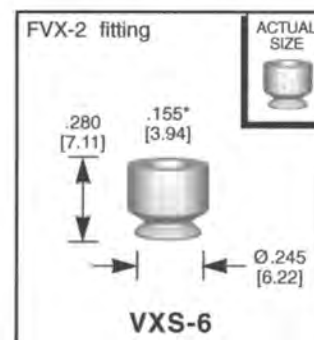
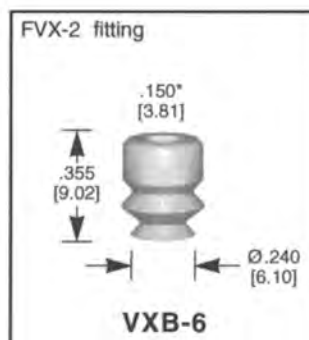
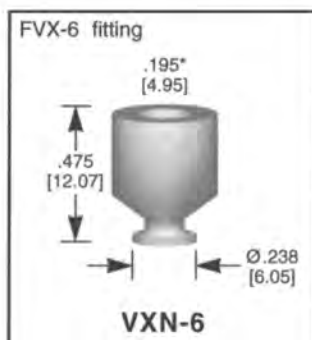
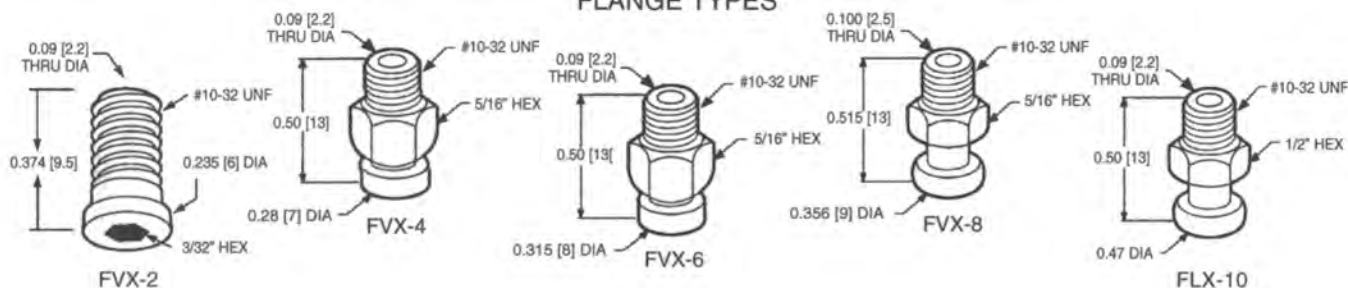


# SEAL SCIENCE VACUUM CUPS

## STYLE VX - FLANGE TYPE

PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS

### FLANGE TYPES

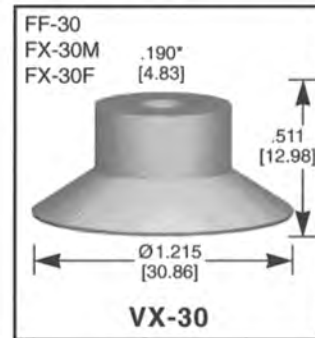
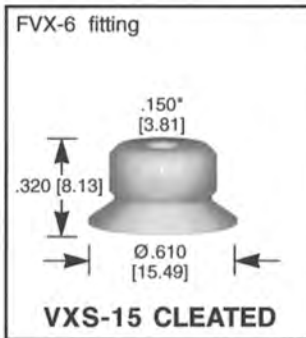


\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

# SEAL SCIENCE VACUUM CUPS

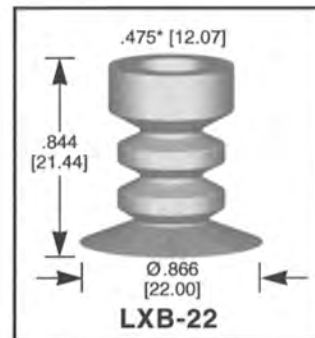
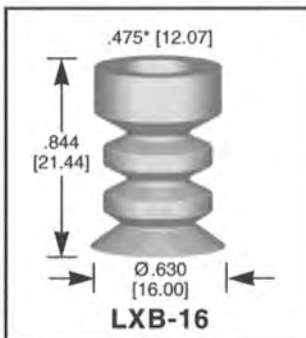
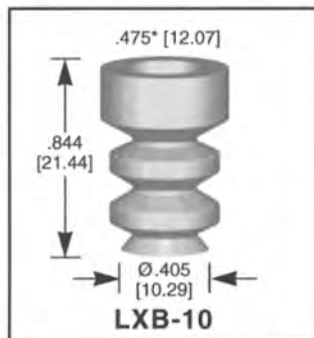
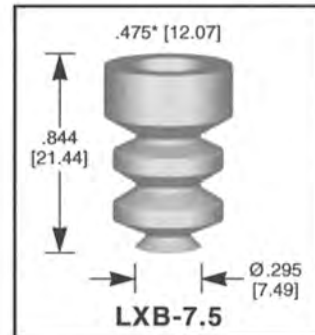
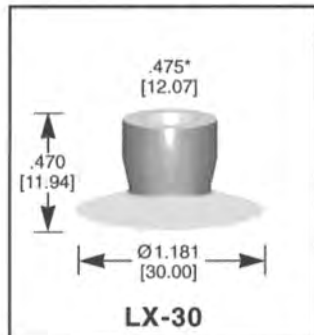
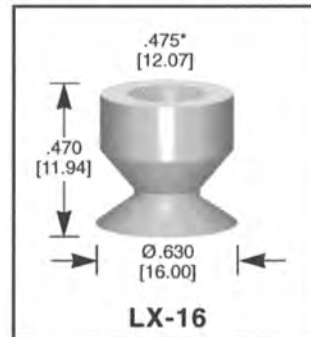
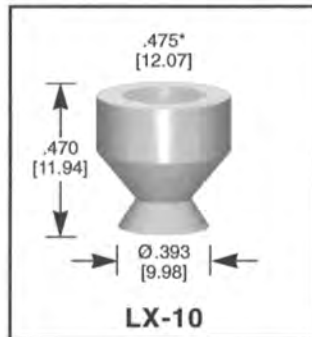
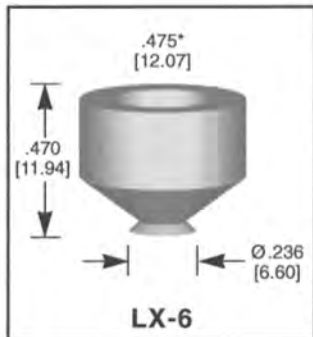
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PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



## STYLE LX/LXB – FLANGE TYPE

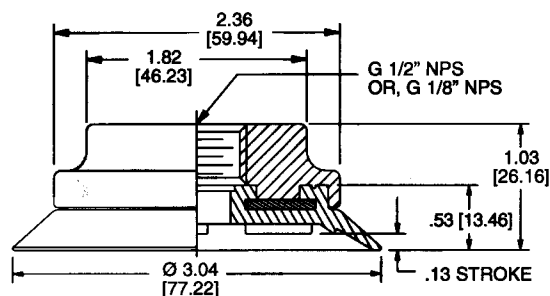
ALL LX & LXB STYLES USE THE FLX-10 FITTINGS



\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

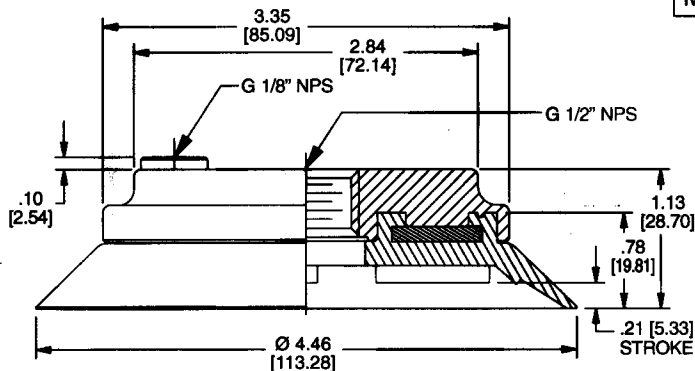
# SEAL SCIENCE VACUUM CUPS

## STYLE "X" MOUNT - LARGE FLAT FLANGE TYPES

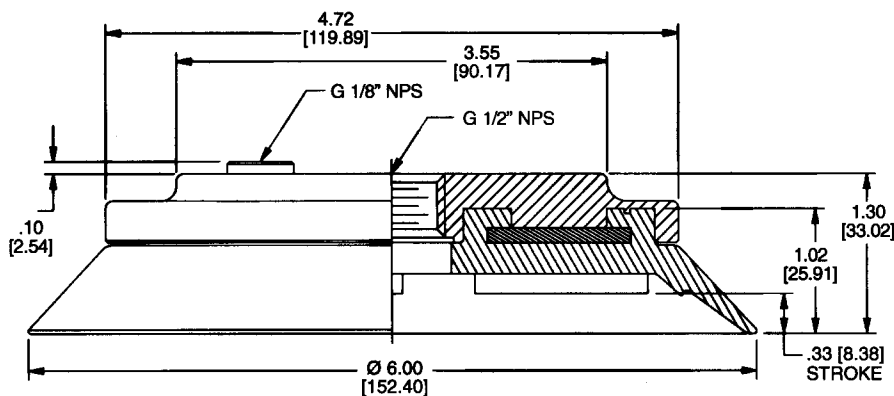


75MM

CUP DIAMETER	75MM	110MM	150MM
NITRILE CUP	VXF 75N	VXF 110N	VXF 150N
CUP + 1/8" FITTING	FF-7518	N/A	N/A
CUP + 1/2" FITTING	FF-7512	FF-110	FF-150
CUP WEIGHT	1.2 oz	3.4 oz	8.3 oz
CUP + FITTING WT	3.8 oz	8.2 oz	16.5 oz
INTERNAL VOLUME	1.2 cu in	4.3 cu in	9.8 cu in
FORCE @ 6" Hg	18 lb	32 lb	67 lb
FORCE @ 18" Hg	45 lb	94 lb	191 lb
MINIMUM RADIUS	5.9"	9.8"	19.7"



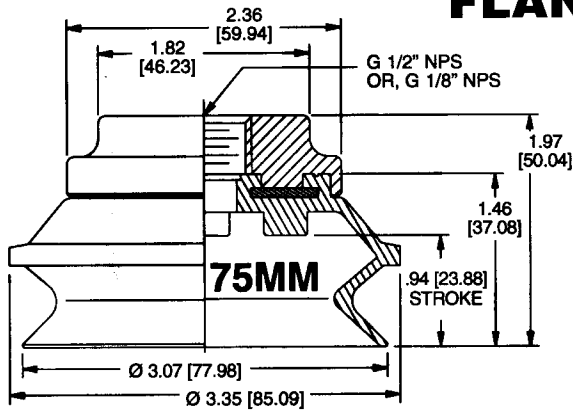
110MM



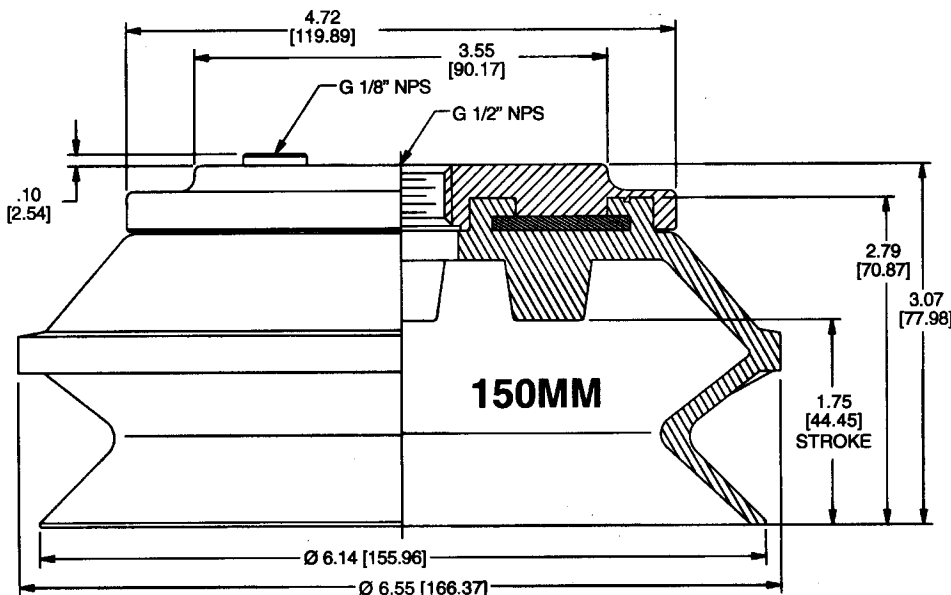
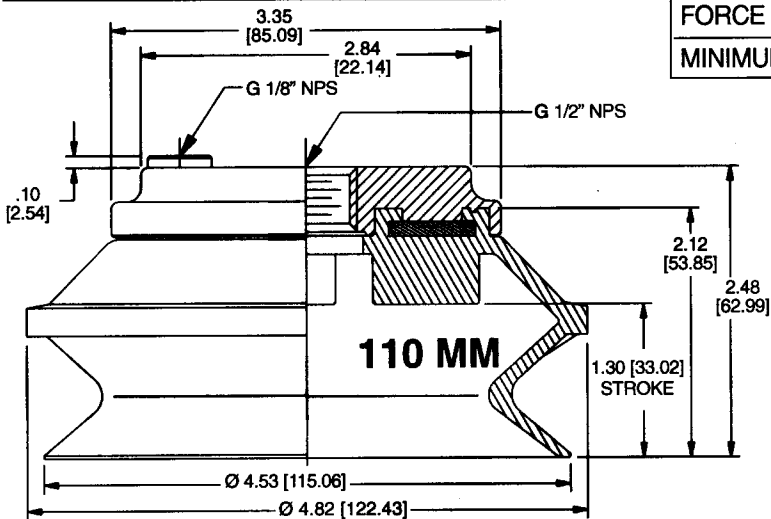
150MM

# SEAL SCIENCE VACUUM CUPS

## STYLE "X" MOUNT - LARGE BELLOWS FLANGE TYPES



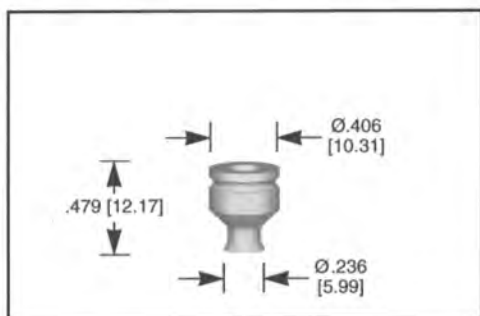
CUP DIAMETER	75MM	110MM	150MM
NITRILE CUP	VXB 75N	VXB 110N	VXB 150N
CUP + 1/8" FITTING	FF-7518	N/A	N/A
CUP + 1/2" FITTING	FF-7512	FF-110	FF-150
CUP WEIGHT	1.9 oz	4.8 oz	12 oz
CUP + FITTING WT	4.6 oz	11.0 oz	19.7 oz
INTERNAL VOLUME	6.7 cu in	19 cu in	40 cu in
FORCE @ 6" Hg	16 lb	30 lb	66 lb
FORCE @ 18" Hg	37 lb	77 lb	154 lb
MINIMUM RADIUS	1.6"	2.4"	3.0"



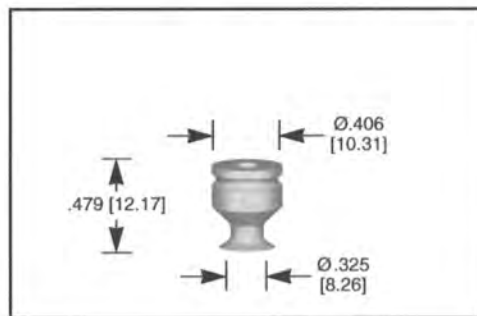
# SEAL SCIENCE VACUUM CUPS

## STAR ROBOT TYPE

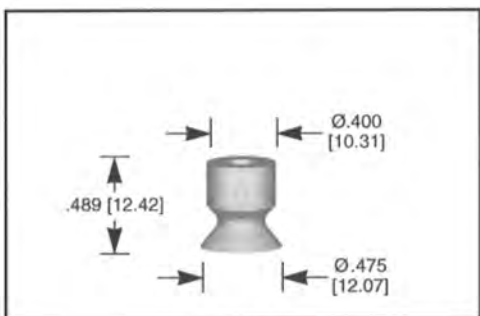
PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



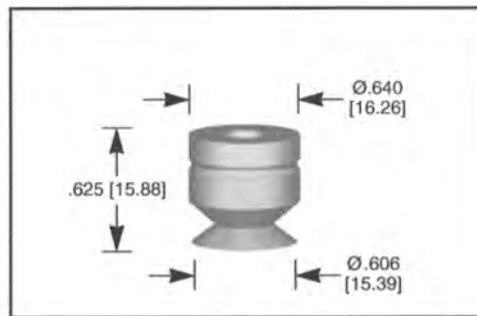
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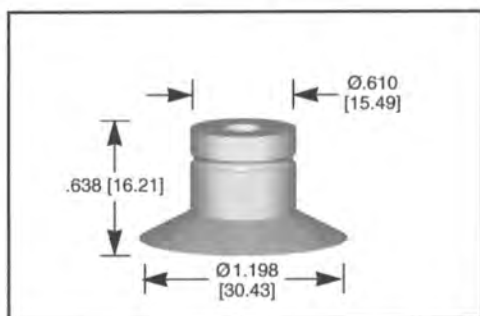
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**VS-12**



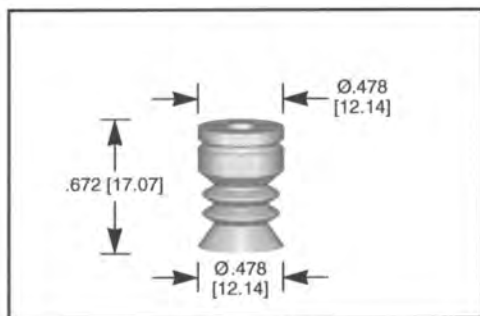
**VS-15**



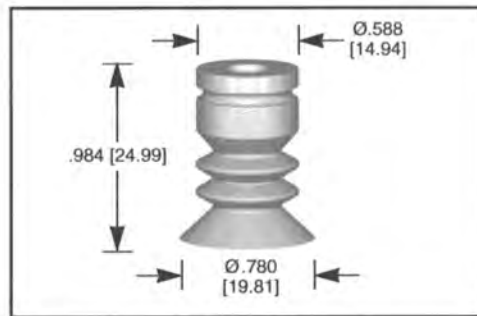
**VS-30**



**VS-40**



**VSB-12**

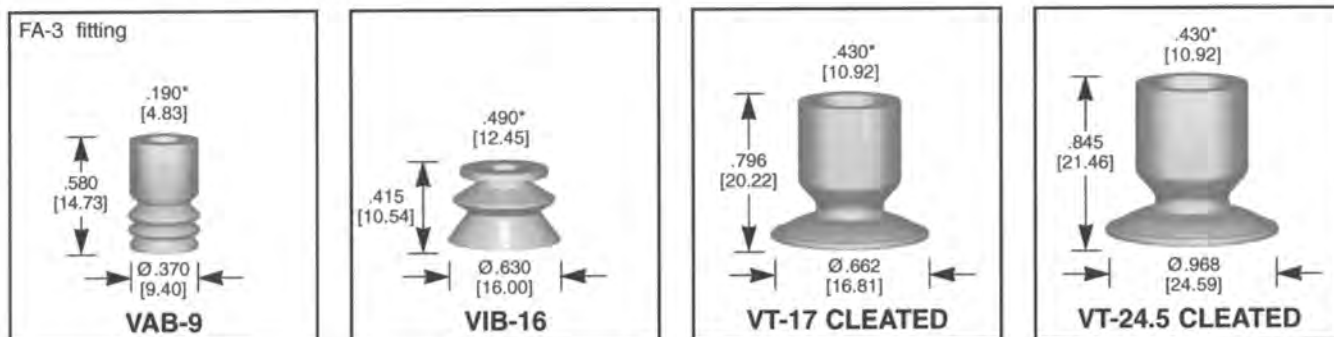


**VSB-20**

# SEAL SCIENCE VACUUM CUPS

## ILSEMANN TYPE

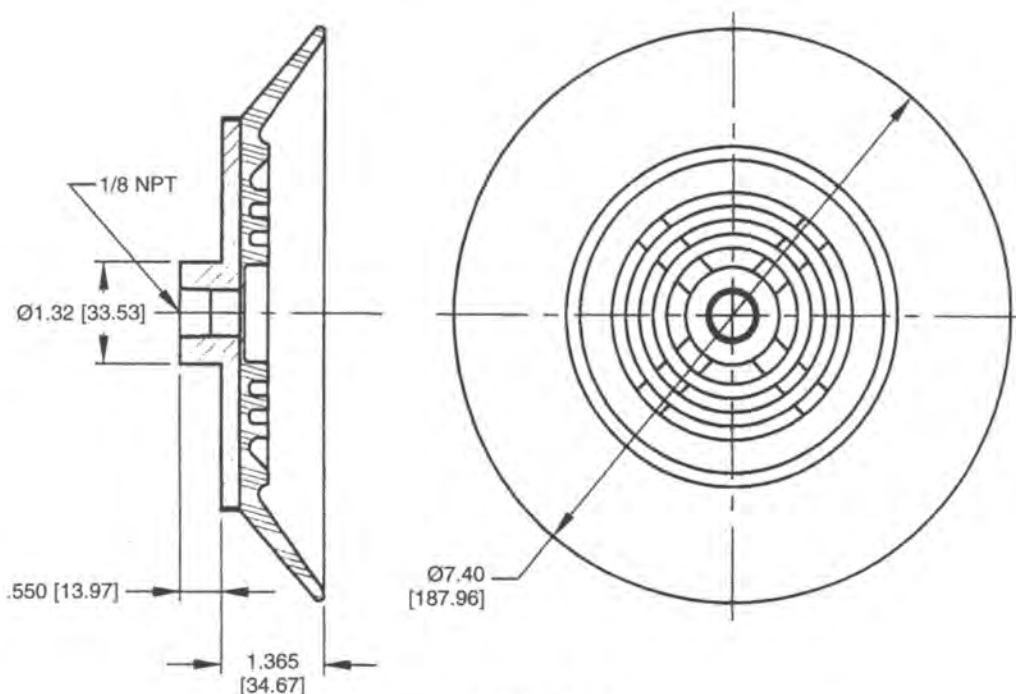
PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

## METAL REINFORCED HEAVY DUTY VACUUM CUP

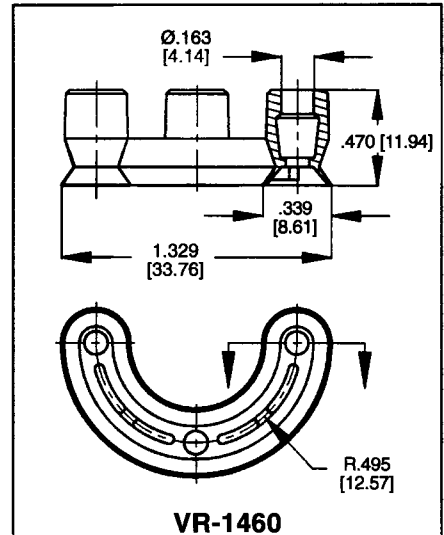
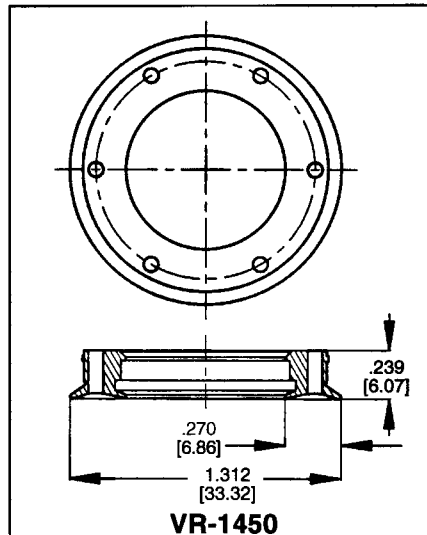
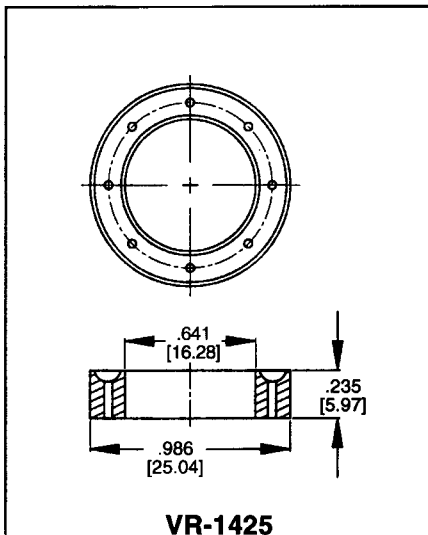
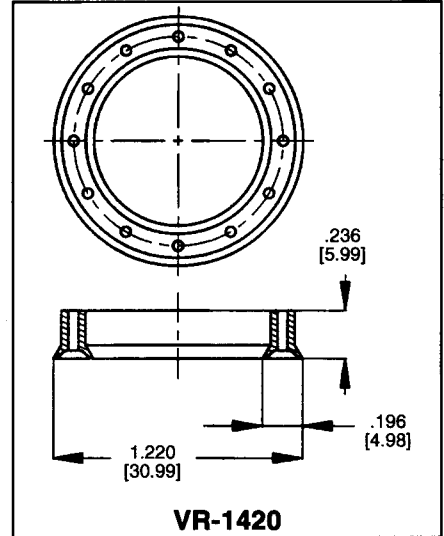
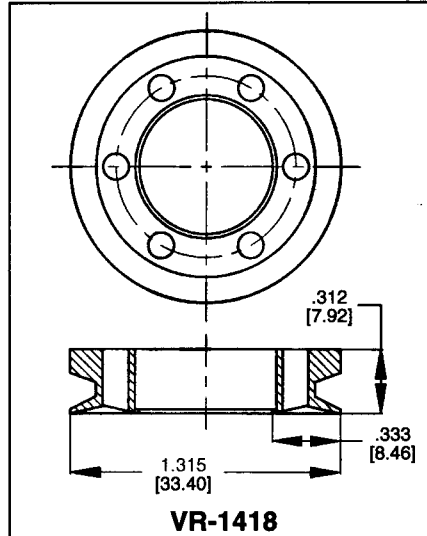
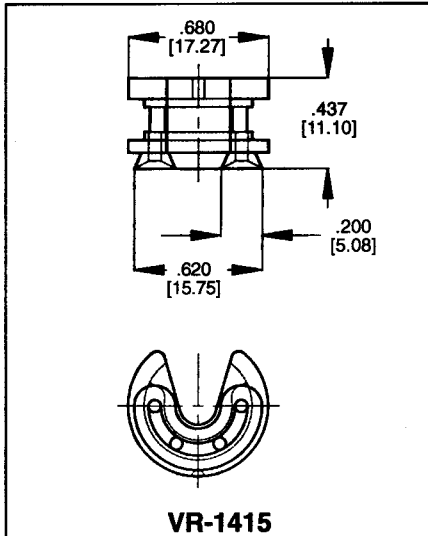
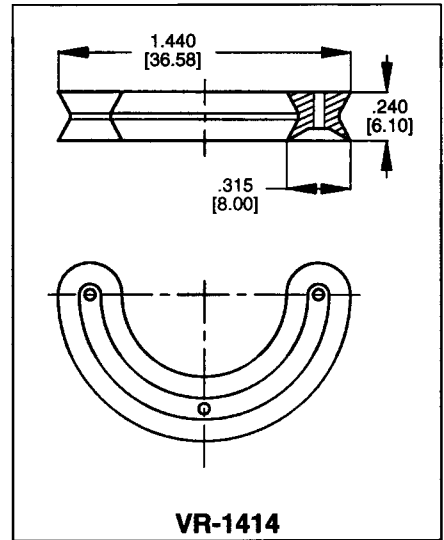
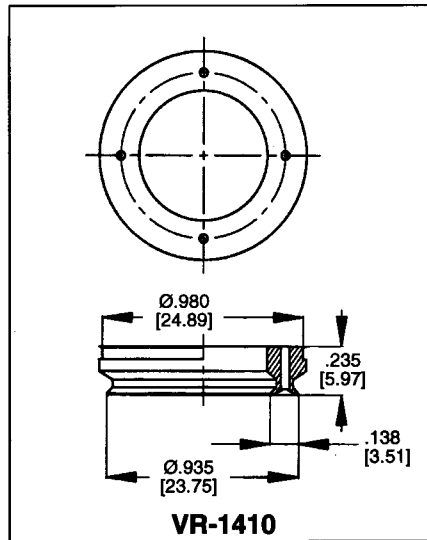
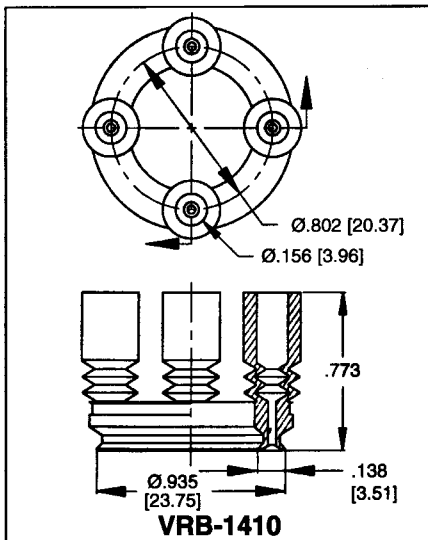
PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



**MHD-740**

# SEAL SCIENCE VACUUM RINGS

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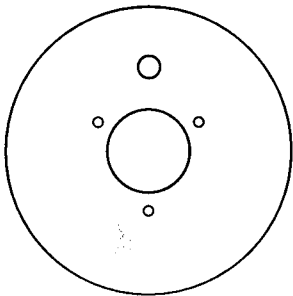
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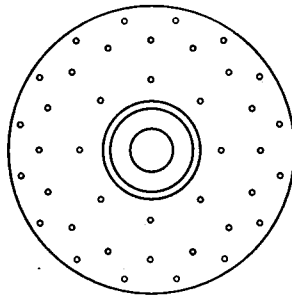
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# SEAL SCIENCE PRINTER PADS

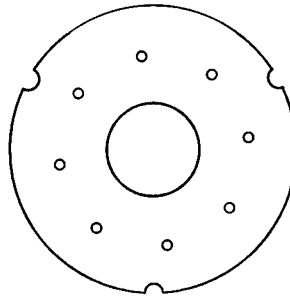
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FOR THE BEST PERFORMANCE**



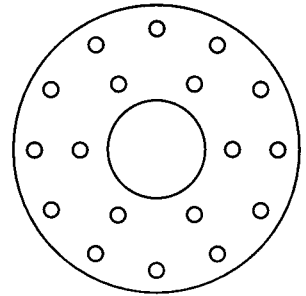
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DUBUIT STYLE



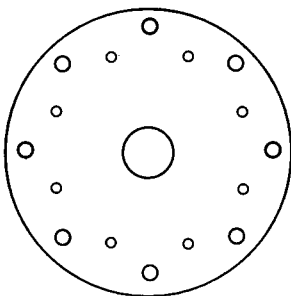
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JCPL STYLE



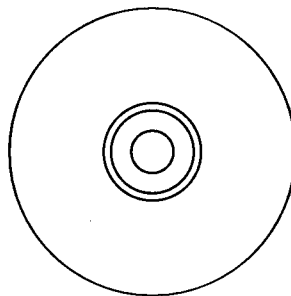
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MONOLINER STYLE



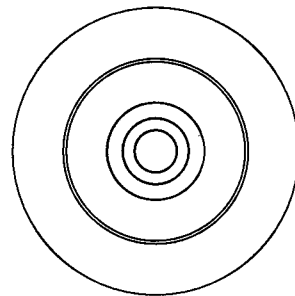
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AUTOROLL STYLE



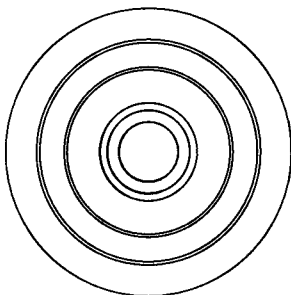
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MONOLINER STYLE



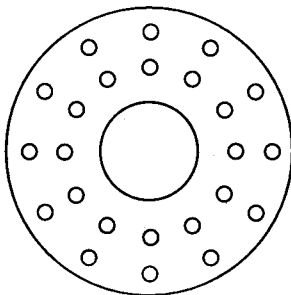
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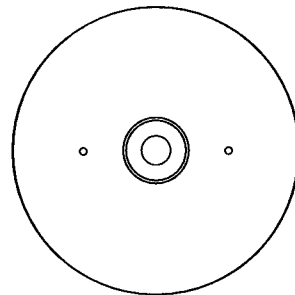
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KAMMANN STYLE



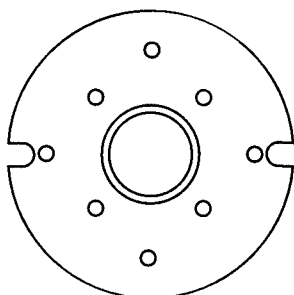
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KAMMANN STYLE



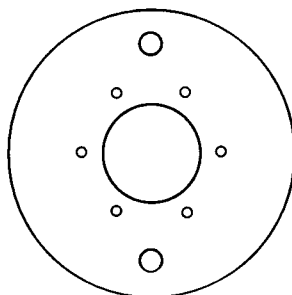
**VP-951**  
OMSO STYLE



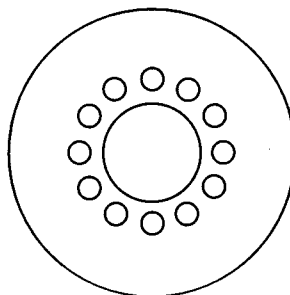
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BONDER



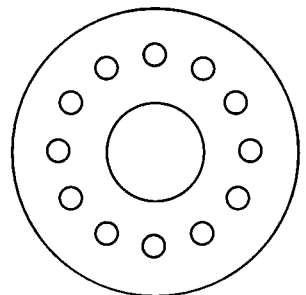
**VP-967**  
GUANN YINN STYLE



**VP-968**  
AUTOTEC STYLE



**VP-974**  
KAMMANN STYLE



**VP-975**  
KAMMANN STYLE

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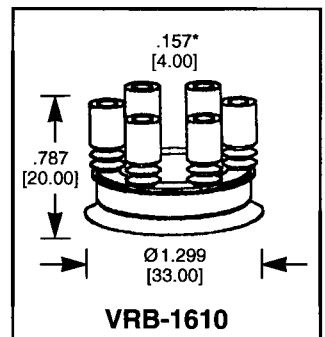
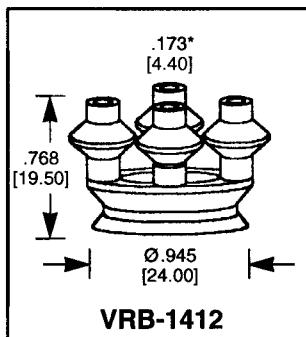
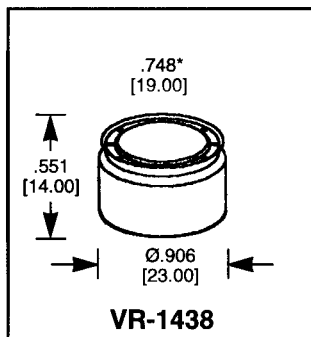
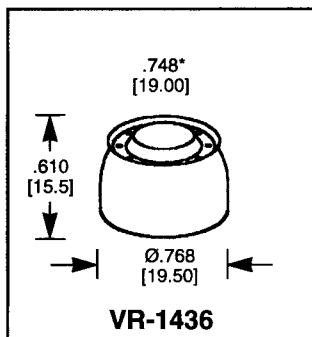
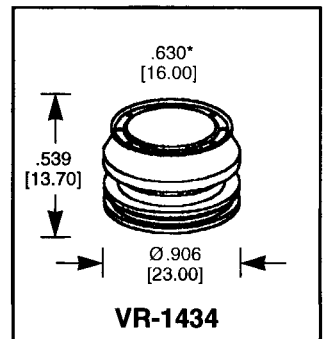
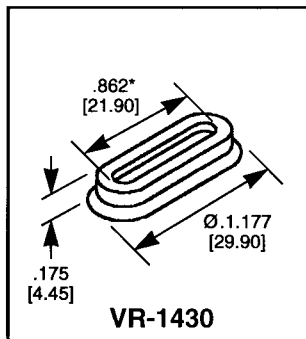
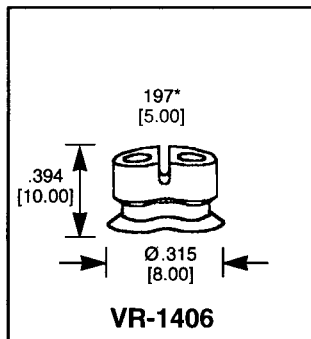
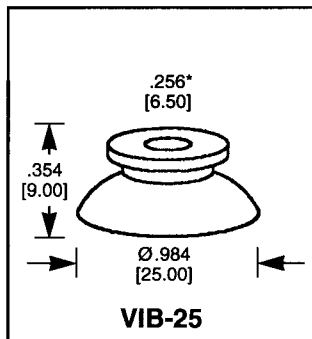
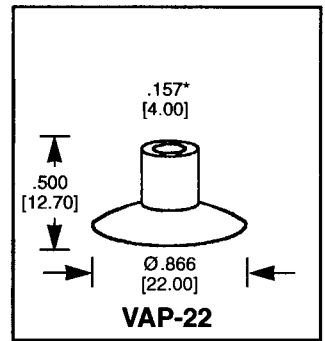
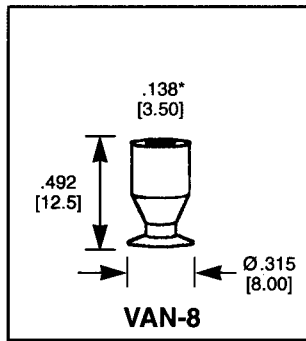
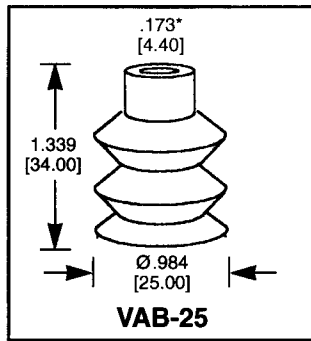
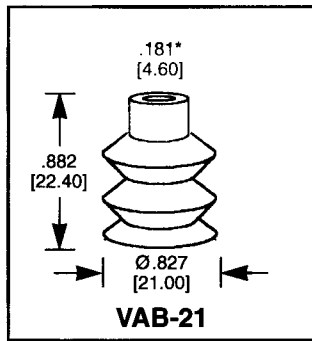
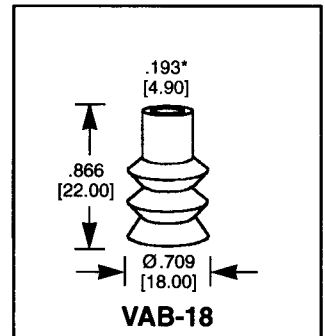
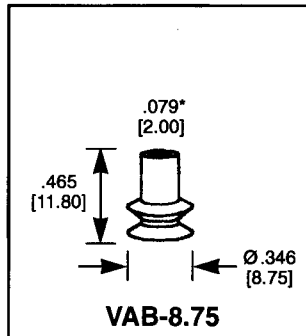
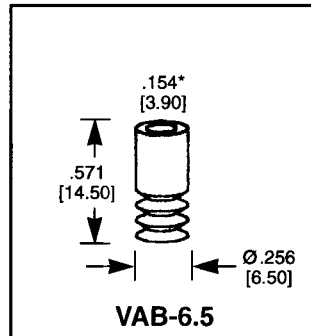
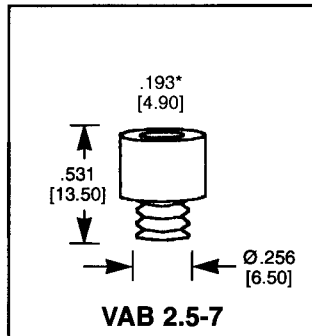
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# SEAL SCIENCE VACUUM CUPS

## NEW DISC HANDLING STYLES

PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS

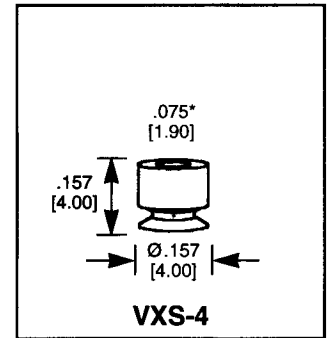
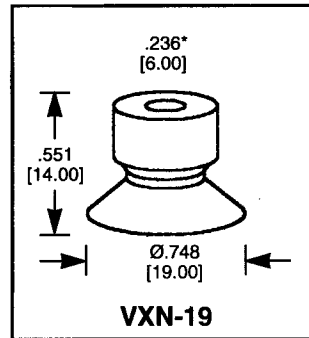
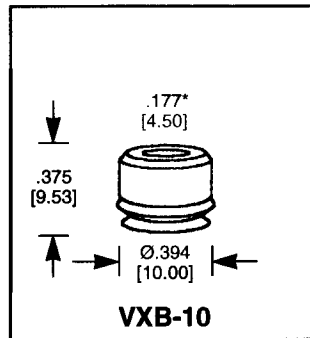
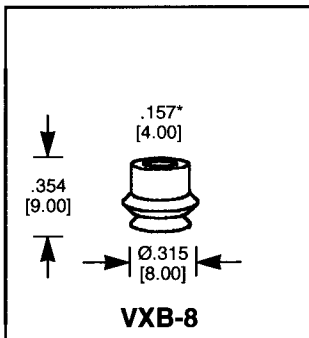
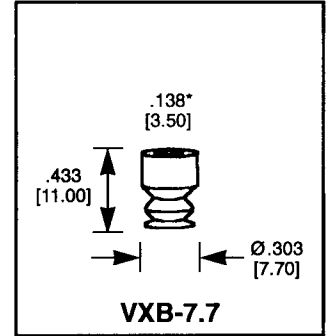
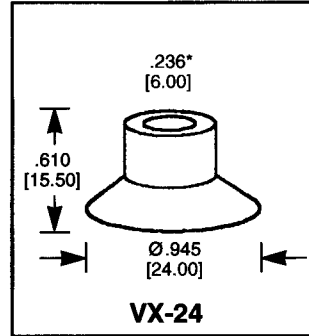
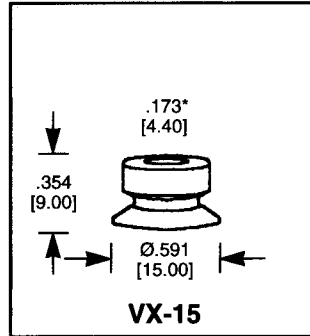
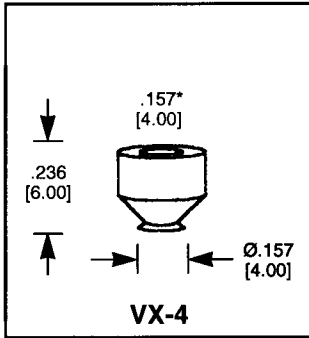


\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

# SEAL SCIENCE VACUUM CUPS

## NEW DISC HANDLING STYLES

PART NUMBER / DASH NUMBER INDICATES APPROXIMATE LIP DIAMETER IN MILLIMETERS



### NOTES:

\* INDICATES HOLE SIZE AT TOP OF VACUUM CUP

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# PRINTING PRESS & COLLATOR SUCTION CUPS

- |   |  |   |  |   |   |
|---|--|---|--|---|---|
|    | <b>1 KLUGE</b> , Paper suckers. Red or gum rubber.   |    | <b>55 MF MIEHLE FEEDERS</b> . MF 3968 and ATF Superchief pickup suckers.   |    | <b>90 TOKO DVY-9-R1</b><br>MULTI 1218-CJ-11<br>IMPERIAL CJ-11<br>Bourg Modulen Collator   |
|   | <b>1P - PLASTIC SUCKER</b><br>Longer life.   |    | <b>56 MF MIEHLE FEEDERS</b> . MF 3336 and packaging machines. Fits 1/2" tube. For light stock. Gum rubber or Neo.  |    | <b>91 HAMADA H05-49-01-3</b><br>Black plastic tube.   |
|    | <b>1a KLUGE</b> , Narrow Margin Sucker, very handy in tight places   |    | <b>57 HARRIS 1108</b> , fits 5/8" tube, for heavy stock.   |    | <b>92 HEIDELBERG 22.016.008</b><br>For T-Press TOK-TOM  |
|    | <b>2 KLUGE</b> , card suckers Red or gum rubber.   |    | <b>58 MIEHLE STREAM FEEDER</b> , CS 11398, packaging machines. Occasionally replaces 3122, 3123, 3124, Fits 1/2" tube - 1/3/8" across. Gum rubber or poly. |    | <b>92Q HEIDELBERG QUICKMASTER</b>   |
|    | <b>3 KLUGE</b> , card suckers Red or gum rubber.   |    | <b>59 HARRIS 956-ELB</b> , fits 5/16" tube 1-3/8" across. For light stock.   |    | <b>93 MULLER 020.1913</b><br>Collating and gathering machines.  |
|    | <b>4 UNIVERSAL TIPS</b> , light duty C&P, Giant, Web and Chief.  |    | <b>60 MF MIEHLE FEEDERS</b> , MF 3558 package machines, Superchief tissue suckers, Fits 1/2" tube - 1" across. For light stock. Gum rubber or Neo.         |    | <b>94 PHILLIPSBURG</b><br>Inserters, bellows type. Black. McCain, bellows type.   |
|    | <b>5 UNIVERSAL TIPS</b> , heavy duty C&P, Giant, Web and Chief.  |    | <b>61 HARRIS 391-ELB</b> , fits 5/16" tube - 1-3/8" across. For heavy stock.   |    | <b>95 McCain</b><br>bellows type.   |
|    | <b>6a MACEY COLLATOR</b> , HARRIS pickup sucker for cardboard.   |    | <b>62 CS MIEHLE FEEDERS</b> , CS-357. 1-1/4" across.   |    | <b>96 HARRIS/AURELIA</b><br>bellows type. 1-1/4" across, 1" high.   |
|    | <b>7 HARRIS</b> old style, Giant, Web, Chief, Harris, for cardboard. Gum rubber, think, regular or heavy, or black poly.                                       |    | <b>63 SHERIDAN &amp; other collators</b> with 1/8" tube.   |    | <b>97 RYOBI</b> , 5640-35-531.<br>Clear or White.   |
|    | <b>8 HARRIS</b> old style, Giant, Web, Chief, Harris, for paper  |    | <b>64 MIEHLE FEEDERS</b> , K-1196.   |    | <b>99 HEIDELBERG 42.016.073</b><br>FOR GTO.   |
|   | <b>9 MILLER</b> Simplex, Major, South worth envelope press suction feed. Fits 1/4" tube. For paper.  |  | <b>66 A.B. DICK</b> , BIG FOOT molded sucker. For all presses with 1/4" bottom tube. Regular & Heavy.  |  | <b>100 NORFIN COLLATOR</b> .  |
|  | <b>10 MILLER</b> Simplex, Major, for cardboard. Gum rubber or black.   |  | <b>67 HARRIS</b> polyurethane, 3361-LTY. Occasionally replaces 59 & 61. Fits 5/16" tube. 1-3/4" across. For heavy stock.                                   |  | <b>101 UHLMANN PACKAGING MACHINES</b> .   |
|  | <b>11 HARRIS 90 ELB</b> fits most presses. Mann, Macey Collator & Stitcher, 6E7 - paper. 6E8 - cardboard. HTB Miehle feeders                                   |  | <b>68 HEIDELBERG</b> Cylinders. Cup shape prevents snap-back. 1-1/8" across.   |  | <b>102 HORIZON COLLATOR, 3013</b> . Small dark grey sucker.   |
|  | <b>12 HARRIS 1361 LTN</b> fits most presses, for paper Gum rubber or silicone.   |  | <b>76 MULLER</b> collating and gathering machines. Red or Black.   |  | <b>103 HORIZON COLLATOR 3015</b> , Large blue sucker.   |
|  | <b>13 a - MIEHLE CS 3122 FEEDER</b> , Superchief light for warden, Miller, Diddle Glaser Collator, for paper.  |  | <b>77 MULLER</b> collating & gathering machines. Green.  |  | <b>104 DUPLO COLLATOR</b> .<br>Bellows type sucker.   |
|  | <b>b - MIEHLE CS3124 FEEDER</b> , Superchief heavy forwarder, Dexter, Giant, for cardboard. Both fit Ebco presses.   |  | <b>78 HAMADASTAR</b> printing press.   |  | <b>105 HAMADA</b> bellows cup, 6901-05057.  |
|  | <b>14 MIEHLE CS427 FEEDER</b> , Farrington Collator, Giant, Web, Chief, for paper  |  | <b>79 ASTRO AND SANDMAR</b> envelope & sheet feeders. Specify medium or heavy.   |  | <b>106 BOURG MODULEN COLLATOR</b> .<br>Vinyl.   |
|  | <b>15 MIEHLE CS1026 FEEDER</b> Giant, Web, Chief, for cardboard.   |  | <b>80 ATF - Commander 29</b> Speiss feeders. Heidelberg. For thin stock.   |  | <b>107 A.B. DICK CENTURY 3000</b> .<br>Bellows type sucker.   |
|  | <b>15a MACEY COLLATOR</b> Harris pickup sucker, for paper.   |  | <b>81 KLOCKNER 18092-1</b> packaging machines. 1-1/8" across. 1/2" high. Black, Red, Blue or Tan.  |  | <b>125 CUMMINGTON collator</b> . Miehle Vertical for cardboard.   |
|  | <b>16 C&amp;P, RICE</b> , Kluge "D" delivery for paper and light cardboard.  |  | <b>82 RYOBI</b> . Ryobi-tek.   |  | <b>124L CHIEF 24 Light</b> .<br>For Light stock   |
|  | <b>19 FLAT RUBBER SUCTION DISCS</b> . Over 50 different sizes available up to 2". Submit sample. More information on back page.                                |  | <b>83 HEIDELBERG GTO</b> Offset presses. Gum rubber or poly.   |  | <b>124H CHIEF 24 Heavy</b> .<br>For Heavy Stock.  |
|  | <b>22 HEIDELBERG SUCKER, KLUGE</b> , new style, 7/8" across. Delivery gripper will not tear this.  |  | <b>86 KLOCKNER 18092</b> packaging machines. 1-1/2" across. 3/4" high. Black, Red, Blue or Tan.  |  | <b>MIEHLE CS and other feeders</b> . For heavy stock or sheet metal. 1-7/8" high. 1-1/4" across. Fits 1/2" OD tube or 1/2" pipe.                  |
|  | <b>23 RUBBER SUCTION TIP</b> , 5/8" across - fits inserting and gathering machines. Sheridan McCain. Phillipsburg. Various compounds available. Submit sample. |  | <b>88 HAMADA CK 02-77</b> printing presses   |  | <b>MIEHLE TF and other feeders</b> . For cardboard or sheet metal. 2-1/8" high. 1-9/16" across. Fits 3/4" OD tube or 1/2" pipe.                   |
|  | <b>23a DEXTER RGA 717</b> , raised inside pattern for light stock. Submit sample.  |  | <b>89 HARRIS 398-0026</b> 7/8" across bottom.  |  | <b>MIEHLE TF and other feeders</b> . For cardboard or sheet metal. 2-1/8" high. 2-1/2" across. Fits 3/4" OD tube or 1/2" pipe. Gum rubber or Neo. |

## **D200 MULTI-STAGE VACUUM GENERATORS**

This new series brings together the high performance expected from a multiple stage generator and great pricing to provide unprecedented value.



### **Features:**

- Multiple Venturi High Efficiency
  - Lightweight (180 grams)
  - Low Profile (30mm high)
- Integral Muffler and Filter Screen
- Push-to-Connect Input Connection
  - Manifold Mountable

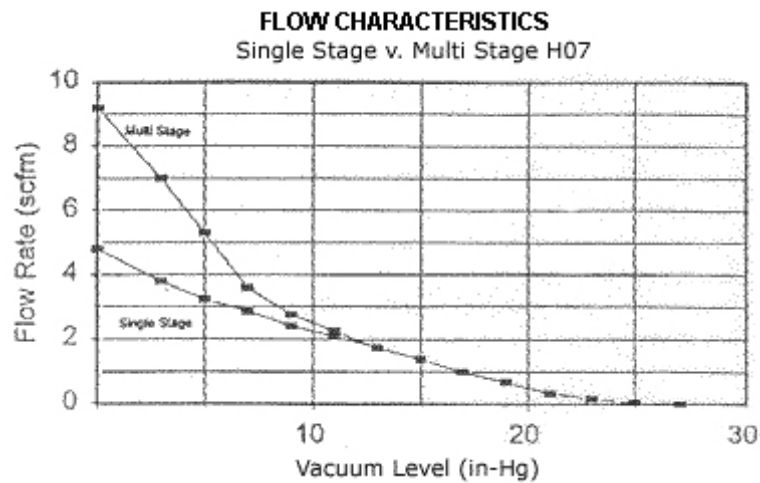
Multiple-Stage generators harness the energy of the discharge exhaust to provide additional vacuum flow in the mid to low vacuum ranges. This enhanced performance requires no additional air consumption, and the advantage is clearly illustrated in the graph below.

Smart design makes this generator low in profile, high in efficiency and lightweight. The light but rugged glass-reinforced compound construction makes it the best choice for remote or point-of-application use due to their low mass and low profile characteristics. The multi-stage design provides impressive flow rates for rapid evacuation.

The fitting-ready inlet port, integral muffler and filter screen provide great value by leaving nothing else to buy and eliminates clumsy looking assemblies. These advantages do not compromise performance. Seal Sciences' multi-stage generators, with the full circle generation feature, deliver impressive performance. All models have identical envelope dimensions and are easily interchanged.



## SEAL SCIENCE VACUUM PRODUCTS DIVISION



### Multi-Stage Vacuum Generator Models:

Part#	Air Consumption	Vacuum Level @ 60psi
D200-H05	3.1 scfm	27 in-Hg
D200-M05	3.1 scfm	20 in-Hg
D200-H06	3.7 scfm	27 in-Hg
D200-M06	3.7 scfm	20 in-Hg
D200-H07	4.9 scfm	27 in-Hg
D200-M07	4.9 scfm	20 in-Hg
D200-H08	6.4 scfm	27 in-Hg
D200-M08	6.4 scfm	20 in-Hg



## D400 GENERATOR MANIFOLD WITH THE SATURN ENERGY SAVING SYSTEM



The **D400** manifold allows you to integrate a pair of Saturn Series Vacuum generators with a pneumatic air logic circuit to produce an extremely powerful and energy efficient generator. There are typically two generators mounted to the manifold, a primary generator and a secondary generator. The primary generator produces all of the high end vacuum while the second generator is modulated to keep the vacuum level from dropping below a pre-set threshold.

While your vacuum system remains in a limited leak condition, the secondary generator will stay off. But if a significant leak is sensed, the secondary generator will be activated and will work in tandem to assist in maintaining the appropriate vacuum level. Simply select a generator pair from the Saturn Series that are most appropriate for your needs. You can make your selection from the Saturn D200 Multiple Stage Series or you can mix' n match with the D400 manifold system. You get the performance of a large generator with the economy of a small capacity generator.

Flow capacity, air savings, safety margin, and rapid evacuation come to you for essentially no additional energy costs. You can later change your operating characteristics, if ever needed, by obtaining different generator pairs. You will never be stuck with a generator assembly that produces insufficient vacuum or consumes more air than necessary.

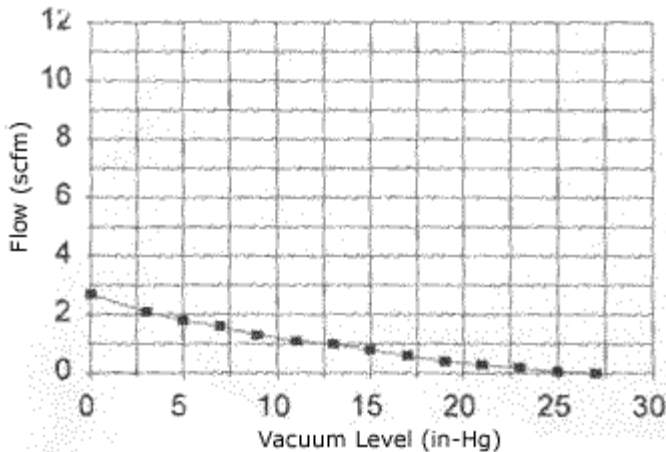


## SEAL SCIENCE VACUUM PRODUCTS DIVISION

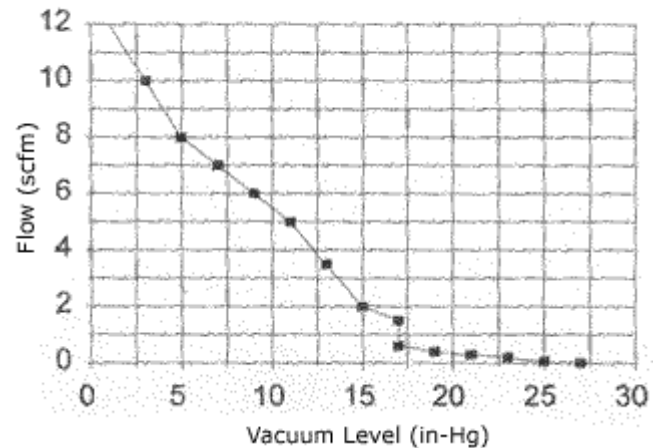
### An impressive device which delivers...

- Customized performance for your needs
  - Very High Flow Capacity
- Energy Efficiency (pays for itself)
- One Smartly Designed Platform
  - Built In Gauges
- Multiple Configurations

H05 alone



H05 with M09



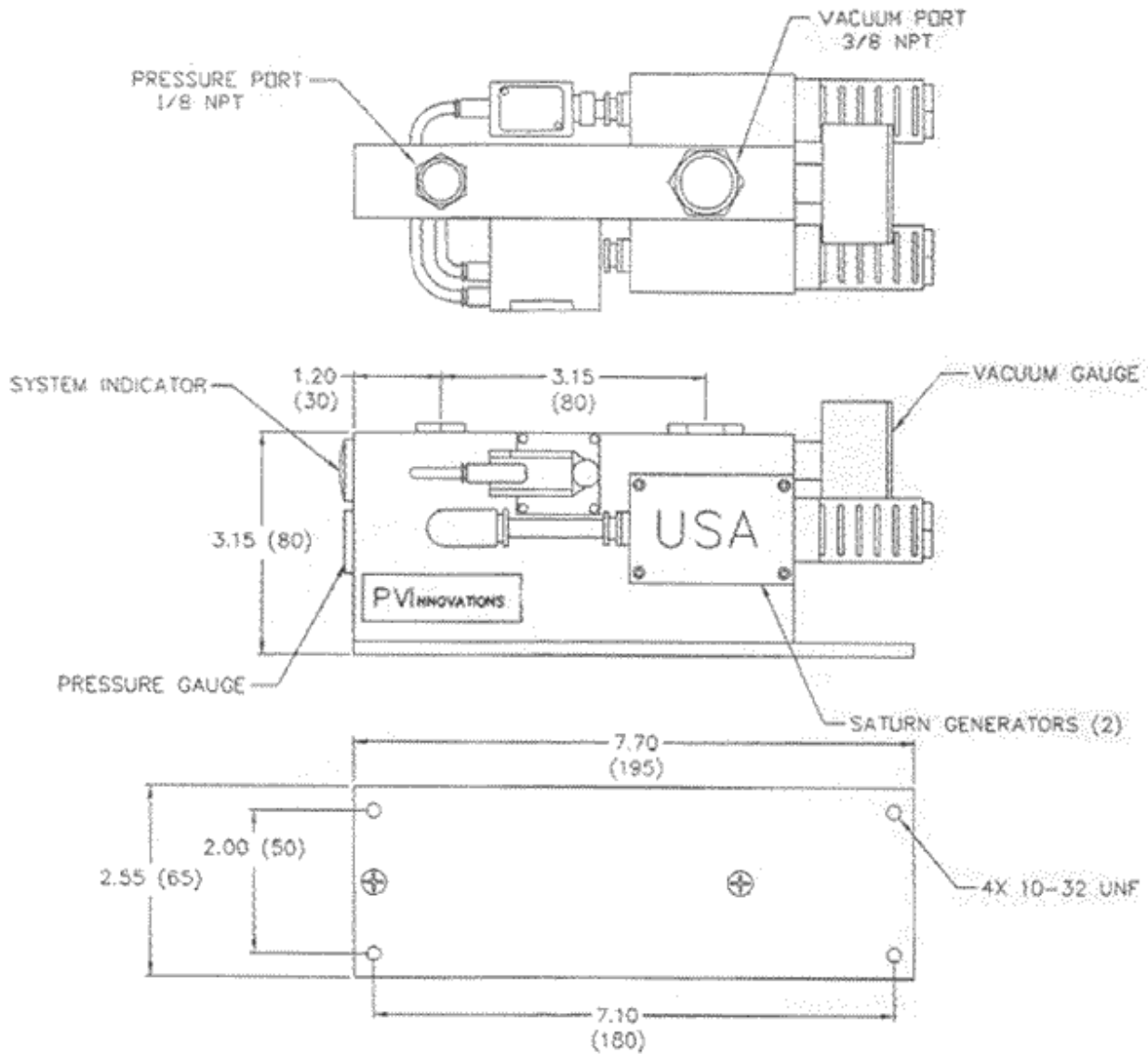
The **D400** system is easy to use. Simply apply a 60-65 psi air source to the "air-in" port and connect your vacuum line to the "vacuum" port. That is all. Let the energy saving system do the rest.

The graphs above illustrate the advantage of the D400 manifold integrated with H05 and M09 Saturn Series Generators. They compare a single H05 generator to coupled H05 and M09 generators. Notice the rapid performance transition that occurs with this innovative system.



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## HIGH FLOW SERIES VACUUM GENERATOR

In the spirit of continuing innovation, Seal Science introduces the new HIGH FLOW vacuum generator. The new HIGH FLOW is a straight-through design where the induced air proceeds to the exhaust port in a straight and unimpeded fashion. Through the use of an innovative radial venturi, the compressed air port connection is located on the side of the unit. The induced airflow is free to travel through a large diameter passage. This design produces a large induced air amplification factor. This means you get impressive flows for very little air consumed. The large diameter through-passage design is very clog resistant and can even handle small object transfer.

The HF series is currently available in two models. Both models have identical envelope dimensions and are easily interchanged.



### Uses:

- Air Amplification for Cooling, Purging or Blow-off
  - Porous Material Pickup
  - Contaminated Material Pickup
  - Small Material Transfer

**Clog Resistant Design allows direct cup attachment**



## **NEW SATURN II SERIES VACUUM GENERATORS**



- above with top port option 1/8 NPT

In the spirit of innovation, Seal Science introduces the new Saturn II vacuum generator. The new Saturn II is a direct descendent of the popular Saturn Series and still offers all of the same great traditional characteristics within a smaller and more versatile platform. All of the features of the traditional Saturn generator are still found. You still get direct mounting capability, a built in push-to-connect inlet port and the high efficiencies. The new Saturn II offers an aesthetically appealing body that weighs a mere 80 grams\*. The low mass characteristics combine with the above features to make the Saturn II the ultimate choice for point-of-application use.

### **Options:**

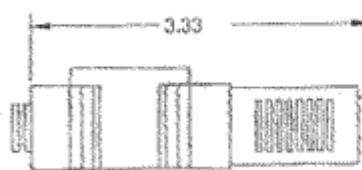
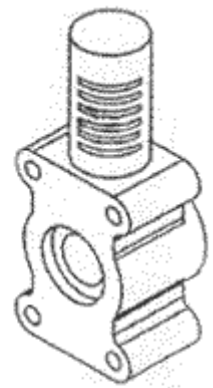
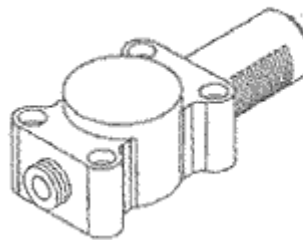
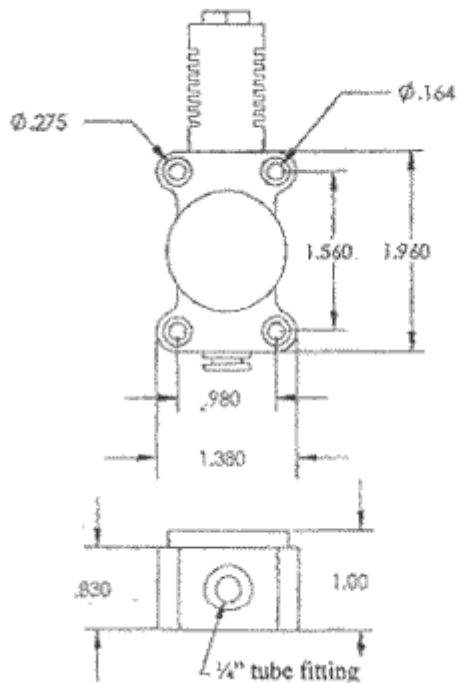
- Choice of materials (Delrin, Glass filled Acetal, Aluminum)
- Upper Gauge Port
- Lower Gauge Port
- 80 psi operation\* aluminum version weighs 110 grams



## SEAL SCIENCE VACUUM PRODUCTS DIVISION

### Saturn II Series Vacuum Generator Models:

Part#	Air Consumption	Vacuum Level @ 65psi
S2H04	2.0 scfm	27 in-Hg
S2M04	2.0 scfm	20 in-Hg
S2H05	3.1 scfm	27 in-Hg
S2M05	3.1 scfm	20 in-Hg
S2H06	3.7 scfm	27 in-Hg
S2M06	3.7 scfm	20 in-Hg
S2H07	4.9 scfm	27 in-Hg
S2M07	4.9 scfm	20 in-Hg



## NEW SATURN SERIES VACUUM GENERATORS



This new series brings together high performance, smart design, and great pricing to provide unprecedented value.

**Features:**

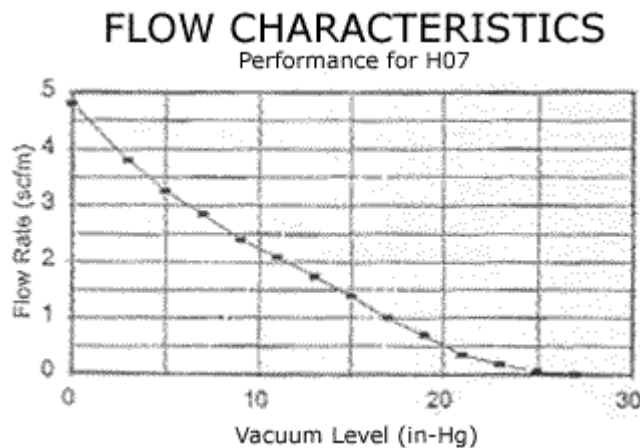
- Lightweight (120 grams)\*
- Low Profile (25mm high)\*
- Push to Connect Air Inlet Port
- Manifold Mountable

\* excludes base

The SATURN SERIES of generators are small and lightweight. The light but rugged glass reinforced compound construction makes them the smart choice for reciprocating and point-of-application uses due to their low mass and low profile characteristics. The manifold mounting feature, integral muffler, and removable filter screen provide great value by leaving nothing else to buy and eliminates clumsy looking assemblies. These advantages do not compromise performance. Seal Sciences' **SATURN SERIES** generators, with the full circle generation feature, deliver impressive performance. All models have identical envelope dimensions and are easily interchangeable.



## SEAL SCIENCE VACUUM PRODUCTS DIVISION



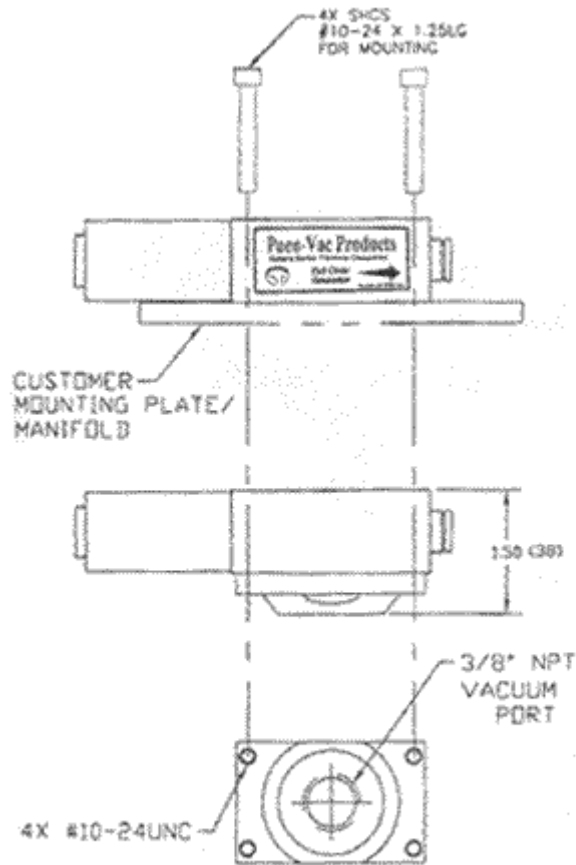
### Value Series Vacuum Generator Models:

Part#	Air Consumption	Vacuum Level @ 60psi
H05	3.1 scfm	27 in-Hg
M05	3.1 scfm	20 in-Hg
H07	4.9 scfm	27 in-Hg
M07	4.9 scfm	20 in-Hg
H08	6.9 scfm	27 in-Hg
M08	6.9 scfm	20 in-Hg
H09	8.7 scfm	27 in-Hg
M09	8.7 scfm	20 in-Hg

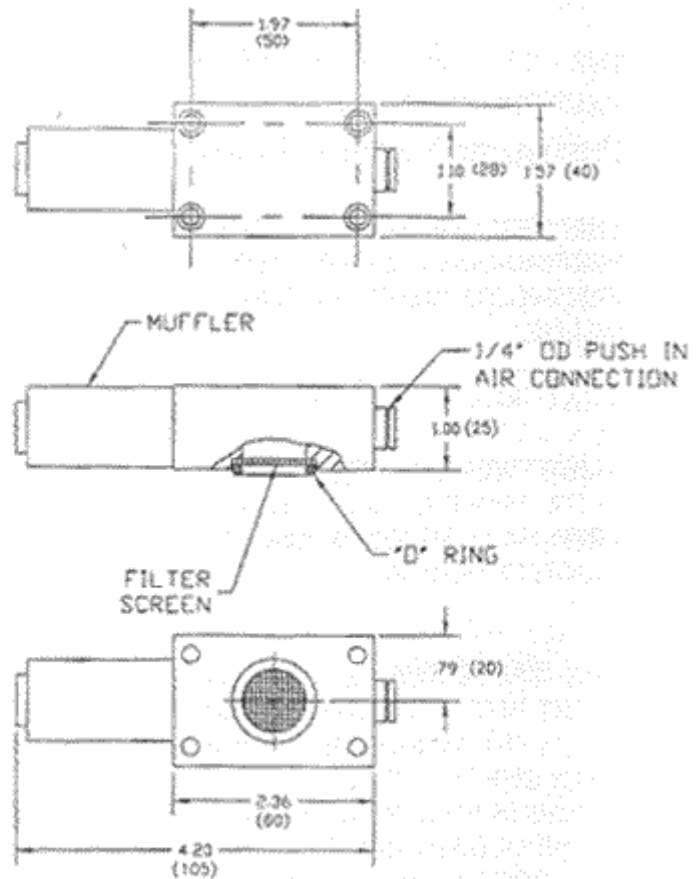


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## SEAL SCIENCE VACUUM PRODUCTS DIVISION



Mounting  
Options



## SLIM-LINE VACUUM GENERATOR

In the spirit of continuing innovation, Seal Science introduces the new SLIM-LINE vacuum generator. The new SLIM-LINE is a miniature vacuum generator designed for direct mounted pneumatic circuit board applications. Other applications are only limited by your imagination.

The SLIM-LINE series features a 4mm(5/32") push-to-connect inlet port, an 8mm "O" ring connected vacuum port, and an internal muffler. The vacuum port is manifold mountable with the use of an "O" ring and two 4mm (or #6) screws. The unit is composed of an acetal compound and weighs only 30 grams.



### SLIM-LINE Series Vacuum Generator Models:

Part#	Air Consumption	Vacuum Level @ 68psi
SLH075	1.0 scfm	25 in-Hg
SLM075	1.0 scfm	20 in-Hg
SLH100	1.6 scfm	25 in-Hg
SLM100	1.6 scfm	20 in-Hg



## SK II SERIES

### All In One!

- Vacuum Generator
- Silencer
- Screen Filter
- Push-In Connections
- Solenoid-Actuated Poppet Valve
- Popular Coil Voltages Available
- Stackable Feature!
- "O" Ring Interfacing Connections for Common Source
- Stack Up to Eight Units in a Row
  - \* May be used in either stand alone or stacked configurations.



### SK II Series Vacuum Generator Models:

Part#	Air Consumption	Vacuum Level @ 68psi
SK-H04	1.8 scfm	25 in-Hg
SK-M04	1.8 scfm	20 in-Hg
SK-H05	2.3 scfm	25 in-Hg
SK-M05	2.3 scfm	20 in-Hg
SK-H06	3.7 scfm	25 in-Hg
SK-M06	3.7 scfm	20 in-Hg



## TS SERIES VACUUM GENERATORS

The **TS** is a three stage vacuum generator that comes in a small classically styled package. PVI was able to significantly reduce the size required for triple stage generation through an innovative method of harnessing the vena contracta phenomenon.

This new small package packs a lot of punch. It is 130 mm long and weighs only 340 grams but still provides all the impressive flow characteristics expected from a triple stage generator.

The exhaust is routed through internal sound damping chambers thus eliminating the need for a protrusive muffler. Since the exhaust does not pass through any filter media, it is clog resistant. You can get all this without the traditional bulky body styles and the associated weight..

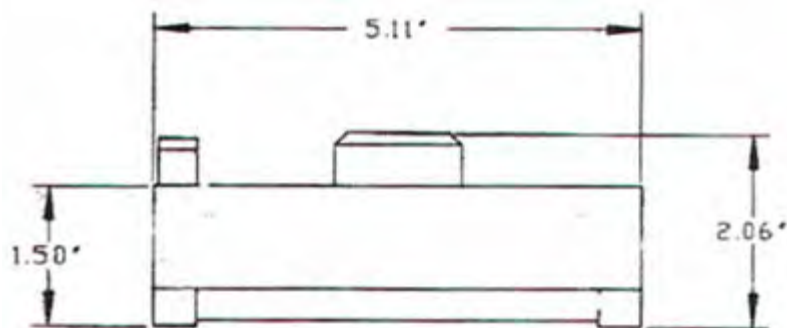
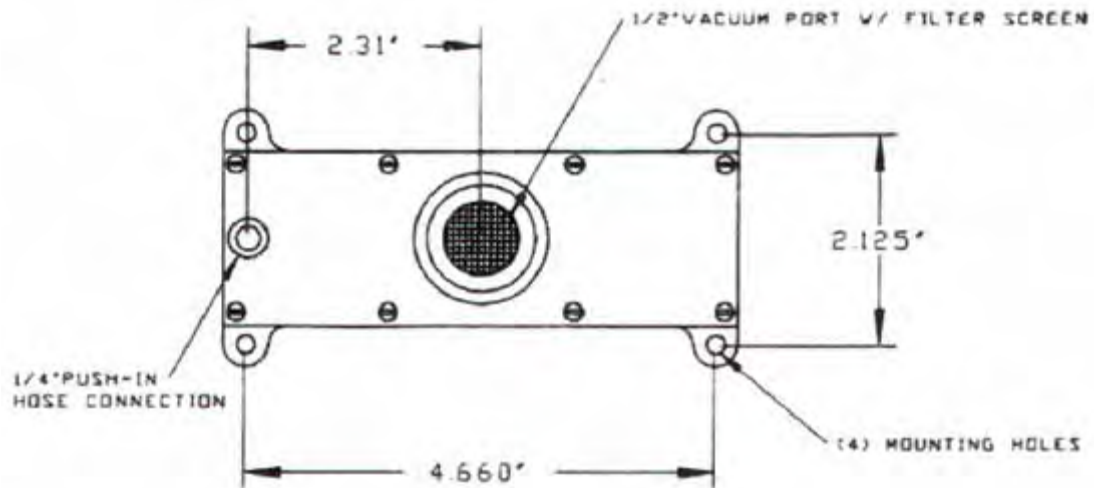


## TS Series Vacuum Generator Models:

Part#	Air Consumption	Vacuum Level @ 72psi(5 BAR)
TSM04	1.8 scfm	20 in-Hg
TSH05	3.0 scfm	27 in-Hg
TSM05	3.0 scfm	20 in-Hg
TSH06	4.0 scfm	27 in-Hg
TSM06	4.0 scfm	20 in-Hg
TSH07	5.1 scfm	27 in-Hg
TSM07	5.1 scfm	20 in-Hg
TSH08	6.0 scfm	27 in-Hg
TSM08	6.0 scfm	20 in-Hg
TSH09	8.0 scfm	27 in-Hg
TSM09	8.0 scfm	20 in-Hg



## SEAL SCIENCE VACUUM PRODUCTS DIVISION



**Particle Transfer Device**  
**Data Sheet**



**Model: HF1100**  
**Specifications @5 bar (72psi):**

**Air consumption 67 scfm**

**Vacuum level 5.5 in-hg**

***Induced Air flow 288 scfm***

**Hose type 1.25" I.D.**

**Material:**

**Externals aluminum**

**Internals aluminum/steel**

**Compressed air port 3/8 npt**



## **LEVEL COMPENSATORS**



**31050T 12 MM STROKE**



**31050 12MM STROKE**



**31010 20 MM STROKE**



**31010T 20 MM STROKE**



**31020 20MM STROKE**



**31020T 20 MM STROKE**

Aluminum body stem 10, 12 and 20 mm stroke. Most popular barb styles and sizes for handling and leveling applications. Compensators shown are examples, other styles available, please ask for details for your specific applications.

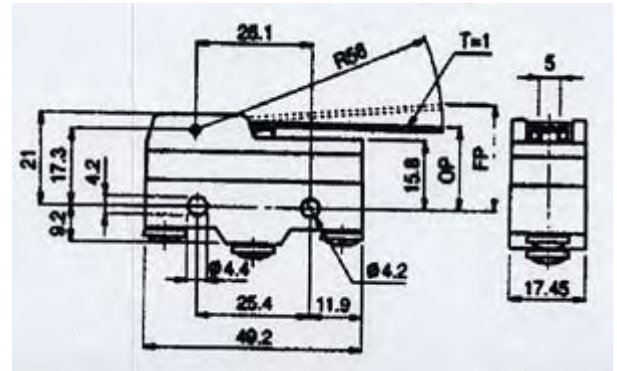


## STRAIGHT LEVER MECHANICAL SWITCH



# JIG411110

Straight lever switches are precision snap-action mechanisms enclosed in accurately molded plastic cases. Available with brackets and mounting hardware.



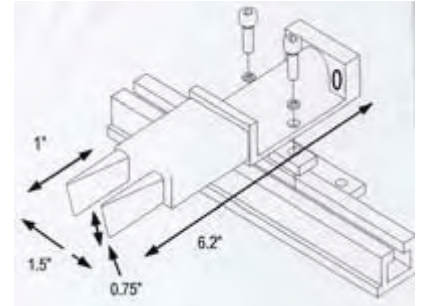
Operating force as low as 4 oz., sensitive differential travel as low as .0002 to .0003 inches, power load switching capability to 15 amp, high temperature constructions for up to + 400 F. AC 110 to AC 600, DC 8 to DC 250. More than 1 million life cycles.



## SPRUE PICKING GRIPPERS



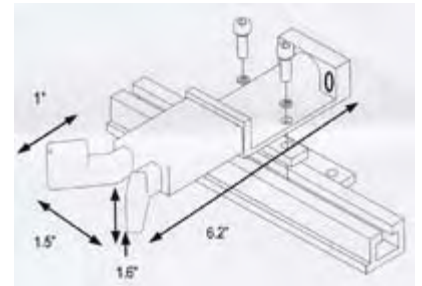
# TOP10022 NARROW GRIPPER FOR SHORT SPRUE



READY TO USE WITH MAGNETIC SWITCH SENSORS FOR CONFIRMATION OF SPRUE



# TOP10035 WIDE GRIPPER FOR LONG SPRUE



READY TO USE WITH MAGNETIC SWITCH SENSORS FOR CONFIRMATION OF SPRUE





### Vacuum Check Valve

Vacuum check valve has built-in push to connect fittings. The unit is only 1.75 inches long. Body diameter is 1.2 inch. The effective orifice diameter is .24 inch. Tube connection options are 3/8" and 1/2" diameter. Metric sizes are available also. Cracking pressure is below 1 in-Hg. Vacuum range is 1 – 29 in-Hg. Pressure model is also available.





**Custom Bulk Head Fitting**

**Custom 7 Station Bulkhead fitting with push to connect fittings and seal, machined to order. Other sizes and stations available.**

**Seal Science Vacuum Products Division will continually develop and add products and services, if you have any special, custom or engineered needs please contact our Sales Engineers for help.**



## **Applications**

### ***SHEET METAL TRANSFER***



### ***VACUUM BAG SEALING***



- \* Light-weight materials
- \* Integral Push-In Fittings
- \* Multiple Stage Units
- \* High Efficiencies
- \* Manifold Mounting Capabilities
- \* Integral Filter Screens
- \* Unbeatable Pricing



### ***BOX FORMING***



### ***CASE ERECTOR***



## PRODUCTS OVERVIEW



Our more than 200 sizes and 30 standard molding compounds make our vacuum cup product line one of the most comprehensive and used worldwide. Check our vacuum cup section for sizes from 1.5mm to over 200mm. Seal Science engineers are versed in vacuum cup technology. We can design a vacuum cup that will securely move your parts, in whatever environment, at the rate you require. Our range of elastomeric compounds allows us to choose one, when necessary, that will meet your conductive and dissipative specifications, ESD needs, or low tack and non marking requirements. Usually a part from our large inventory will insure that your downtime is minimized. Also, you will find our prices very competitive.



### Vacuum Generators and Accessories

- Light-Weight Materials
- Small Size/ Low Profiles
- Integral push-in fittings & filter screens
- Manifold Mounting Capabilities
- Multiple Stage Units
- High Efficiencies/ Flows
- Custom vacuum/pressure manifolds and fixtures
- Computer aided product design using SolidWorks
- Small or Large lots / R&D
- Numerous Performance Variations Available
- Private Labeling available for OEM applications
- Choice of Materials ( Delrin, Glass filled Acetal, etc.)
- Modular Models/ Built in Generator/Silencer/Valve
- Made in USA
- We are ISO 9001-2000



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## PRODUCTS OVERVIEW



### Air Preparation Products

- High flow, compact robust designs, and a good range of mounting and electrical connection options.
- Cv ranges: .03 to 5.6
- High flow with minimum pressure loss
- We offer a wide variety of fittings, tubing, and quick disconnects to complete your system.
- Manifold Valve Systems, Solenoid Valves, Proportional Control Valves, Actuators, Fittings, Air Preparation Products, Linear Slides/Grippers, vacuum material handling, and accessories such as tubing, couplers, gauges and ball valves



### End Of Arm Tooling

- Point to point design
- Modular steel assembly
- Ease of assembly
- 5 axis swivel brackets arm
- compatible with existing components



### Manufacturing and Fabrication

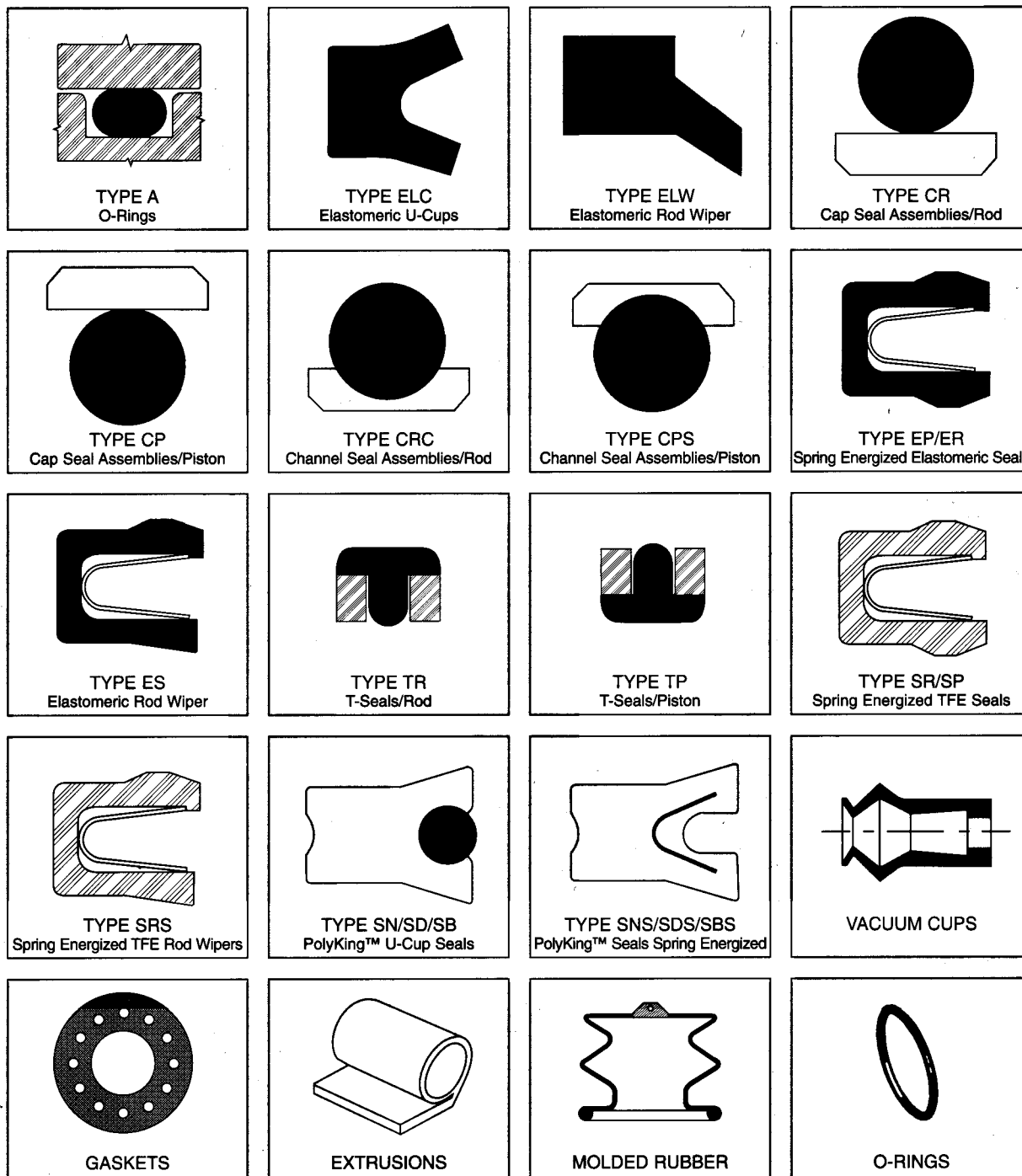
- Computer aided product design using SolidWorks
- CNC milling w/ 4th axis
- Design Engineers on staff
- Pneumatic & Vacuum systems solutions
- Experienced support personnel both on or off site
- Unique products and materials our forte



# ABOUT SEAL SCIENCE

Seal Science's success is based on our design and manufacturing expertise in rubber and plastics, with special emphasis on materials, seals and seal systems. Seal Science's engineering, molding, stamping, machining, and specialty fabrication operations can provide you with quality products on a timely basis. We've got your solutions. Call Seal Science at 1-800-576-SEAL. **YOUR VACUUM CUP AND SEAL SPECIALISTS.**

## SEAL SCIENCE PRODUCTS VIEW



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Here at Seal Science we proudly manufacture a wide range of products from a large variety of materials. Including but not limited to:

- Vacuum cups
- Molded and machined engineered plastics
- Tight tolerance rubber grinding
- Custom compounding of PTFE and rubber
- Conductive elastomers
- O-rings and Back-up rings (inch, metric and JIS)
- Custom seals of rubber, PTFE, plastic and metal
- Rubber bonding to metal and plastic
- Custom Diaphragms
- Gaskets
- Engineered plastic bearings



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