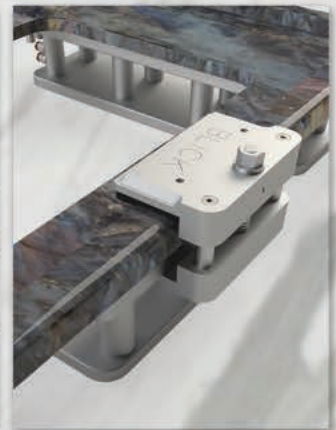


# BLICK INDUSTRIES



## WORKHOLDING SOLUTIONS



The AUTHORITY in  
Vacuum Workholding



NATURAL  
STONE  
INSTITUTE



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Order Tracking  
Recommended Maintenance  
Repair Procedures  
Informative Videos  
New Product Releases  
Quoting

## Suction Cups

Square, Rectangular, Round, Shaped, Skinny, Low-Profile, & Specialty Vacuum Suction Cups

» 4

Suction Cups

## Supports

Core Drill Supports & Sink Rail Support

» 21

Supports

## Clamps

Mechanical Clamps, Pneumatic Clamps, Edge Clamps, Strip Clamp, & Vise Clamp

» 24

Clamps

## Location Devices

Locating Pins, Vac-Stops, Pneumatic Reference Pin & Locating Tools

» 32

Location Devices

## Fences

Vacuum Fences, Polishing Fences, & V-Grooving Fences

» 39

Fences

## Manifolds

Manifolds, Portable Manifolds, Manifold Suction Cup, & Venturi Vacuum Generators

» 43

Manifolds

## Fittings

Air Fittings, Pipe Fittings, Valves, & Vacuum Breakers

» 49

Fittings

## Tools & Accessories

Leatherheads, Dressing Tool, Isolator Kit, Collet Holders, Tool Forks, Tubing, & Replacement Seals

» 52

Tools & Accessories

## Services & Information

Repair & Warranty Information, Custom Fixturing, Table Retrofits, Order Form, & Repair Form

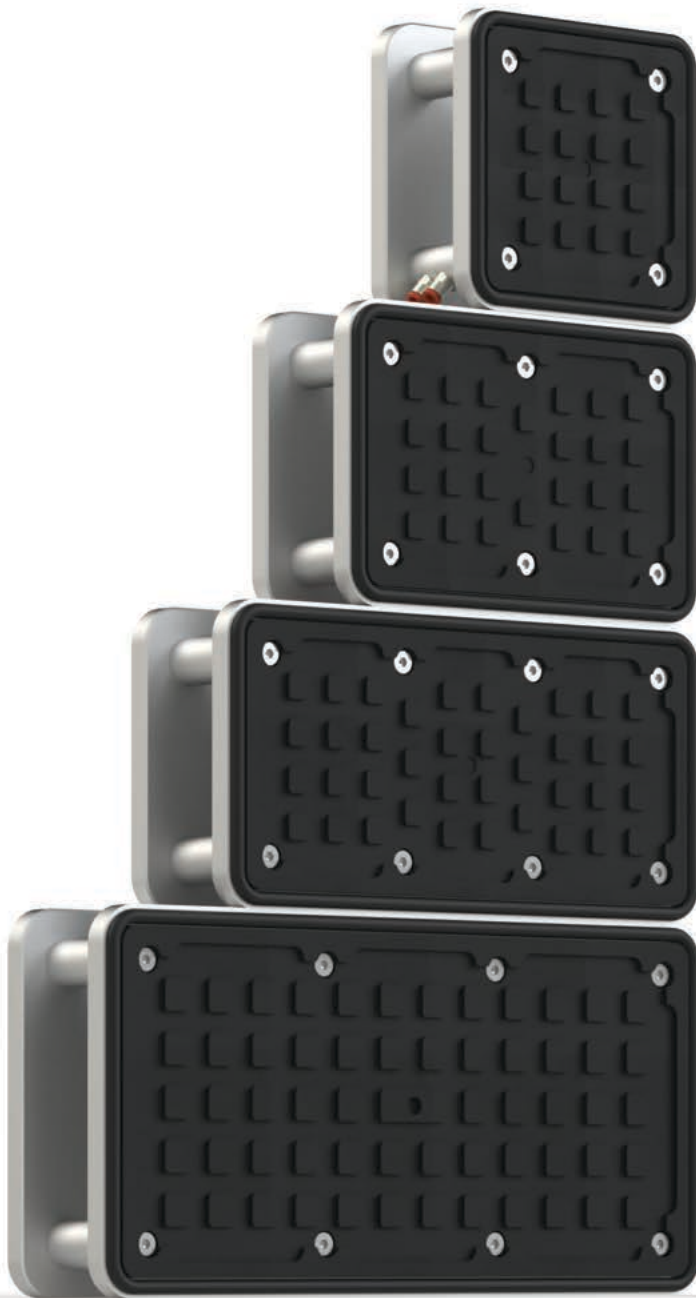
» 62

Services & Information



# Suction Cups

BLICK INDUSTRIES Suction Cups provide the ultimate workholding solution for stone, glass, and solid surface fabricators.



Our large selection of suction cup shapes allows you to achieve ideal surface coverage required for Maximum Holding Power.

Modular construction allows for easy replacement of friction pads and seals as well as worn out or damaged parts.

Precision Construction. BLICK cups are manufactured within tolerance of +0.05/-0.00 mm (+.002/-.000").

*Available with most popular air fitting sizes, and operating heights for ALL popular CNC machines.*

## NEW ENHANCED TOP PADS!

Perfect for *HIGH-SPEED* Fabrication



## Square Cups

### 100 x 100 mm (3.94" x 3.94")

Part #	12-100-10
Top Surface Area	10.7 in. <sup>2</sup>
Base Surface Area	11.8 in. <sup>2</sup>
Top Seal #	12-100-10-04
Bottom Seal #	12-100-10-11



### 120 x 120 mm (4.72" x 4.72")

Part #	12-120-10
Top Surface Area	16.5 in. <sup>2</sup>
Base Surface Area	17.9 in. <sup>2</sup>
Top Seal #	12-120-10-04
Bottom Seal #	12-120-10-11
Bottom Seal Black #	12-120-10-11-B



### 150 x 150 mm (5.91" x 5.91")

Part #	12-150-10
Top Surface Area	27.6 in. <sup>2</sup>
Base Surface Area	29.5 in. <sup>2</sup>
Top Seal #	12-150-10-04
Bottom Seal #	12-150-10-11
Bottom Seal Black #	12-150-10-11-B



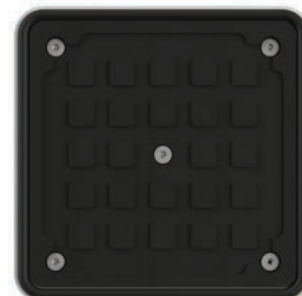
### 200 x 200 mm (7.87" x 7.87")

Part #	12-200-10
Top Surface Area	52.4 in. <sup>2</sup>
Base Surface Area	54.9 in. <sup>2</sup>
Top Seal #	12-200-10-04
Bottom Seal #	12-200-10-11



### 250 x 250 mm (9.83" x 9.83")

Part #	12-250-10
Top Surface Area	84.8 in. <sup>2</sup>
Base Surface Area	88.1 in. <sup>2</sup>
Top Seal #	12-250-10-04
Bottom Seal #	12-250-10-11



## Rectangular Cups

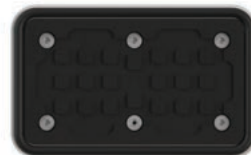
120 x 150 mm (4.72" x 5.91")

Part #	12-120-14
Top Surface Area	21.4 in. <sup>2</sup>
Base Surface Area	23.0 in. <sup>2</sup>
Top Seal #	12-120-14-04
Bottom Seal #	12-120-14-11
Bottom Seal Black #	12-120-14-11-B



150 x 240 mm (5.91" x 9.45")

Part #	12-150-14
Top Surface Area	46.4 in. <sup>2</sup>
Base Surface Area	48.9 in. <sup>2</sup>
Top Seal #	12-150-14-04
Bottom Seal #	12-150-14-11
Bottom Seal Black #	12-150-14-11-B



150 x 300 mm (5.91" x 11.81")

Part #	12-150-30
Top Surface Area	58.9 in. <sup>2</sup>
Base Surface Area	61.8 in. <sup>2</sup>
Top Seal #	12-150-30-04
Bottom Seal #	12-150-30-11



200 x 300 mm (7.87" x 11.81")

Part #	12-200-12
Top Surface Area	80.9 in. <sup>2</sup>
Base Surface Area	84.2 in. <sup>2</sup>
Top Seal #	12-200-12-04
Bottom Seal #	12-200-12-11



200 x 400 mm (7.87" x 15.75")

Part #	12-200-14
Top Surface Area	109.5 in. <sup>2</sup>
Base Surface Area	113.5 in. <sup>2</sup>
Top Seal #	12-200-14-04
Bottom Seal #	12-200-14-11



## Rectangular Cups (cont.)

50 x 300 mm (1.97" x 11.81")

Part #	12-050-12
Top Surface Area	15.0 in. <sup>2</sup>
Base Surface Area	61.8 in. <sup>2</sup>
Top Seal #	12-050-12-04
Bottom Seal #	12-050-12-11



70 x 150 mm (2.76" x 5.91")

Part #	12-070-10
Top Surface Area	11.0 in. <sup>2</sup>
Base Surface Area	29.5 in. <sup>2</sup>
Top Seal #	12-070-10-04
Bottom Seal #	12-070-10-11
Bottom Seal Black #	12-070-10-11-B



70 x 240 mm (2.76" x 9.45")

Part #	12-070-12
Top Surface Area	18.6 in. <sup>2</sup>
Base Surface Area	48.9 in. <sup>2</sup>
Top Seal #	12-070-12-04
Bottom Seal #	12-070-12-11
Bottom Seal Black #	12-070-12-11-B



75 x 200 mm (2.95" x 7.87")

Part #	12-075-03
Top Surface Area	16.6 in. <sup>2</sup>
Base Surface Area	18.3 in. <sup>2</sup>
Top Seal #	12-075-03-04
Bottom Seal #	12-075-03-11



75 x 300 mm (2.95" x 11.81")

Part #	12-075-01
Top Surface Area	25.8 in. <sup>2</sup>
Base Surface Area	28.2 in. <sup>2</sup>
Top Seal #	12-075-01-04
Bottom Seal #	12-075-01-11
Bottom Seal Black #	12-075-01-11-B





## 500 Series Cups

### 50 x 500 mm (1.97" x 19.68")

Part #	12-050-50
Top Surface Area	25.7 in. <sup>2</sup>
Base Surface Area	104.9 in. <sup>2</sup>
Top Seal #	12-050-50-04
Bottom Seal #	12-050-50-11



### 75 x 500 mm (2.95" x 19.68")

Part #	12-075-50
Top Surface Area	44.3 in. <sup>2</sup>
Base Surface Area	48.1 in. <sup>2</sup>
Top Seal #	12-075-50-04
Bottom Seal #	12-075-50-11



### 100 x 500 mm (3.94" x 19.68")

Part #	12-100-50
Top Surface Area	63.0 in. <sup>2</sup>
Base Surface Area	67.0 in. <sup>2</sup>
Top Seal #	12-100-50-04
Bottom Seal #	12-100-50-11



### 150 x 500 mm (5.91" x 19.68")

Part #	12-150-50
Top Surface Area	100.6 in. <sup>2</sup>
Base Surface Area	104.9 in. <sup>2</sup>
Top Seal #	12-150-50-04
Bottom Seal #	12-150-50-11



### 250 x 500 mm (9.84" x 19.68")

Part #	12-250-12
Top Surface Area	175.7 in. <sup>2</sup>
Base Surface Area	180.7 in. <sup>2</sup>
Top Seal #	12-250-50-04
Bottom Seal #	12-250-50-11



## Shaped Cups

### 120 mm Radius Corner (4.72")

Part #	12-120-12
Top Surface Area	13.7 in. <sup>2</sup>
Base Surface Area	15.0 in. <sup>2</sup>
Top Seal #	12-120-12-04
Bottom Seal #	12-120-12-11
Bottom Seal Black #	12-120-12-11-B



### 150 mm Radius Corner (5.91")

Part #	12-150-12
Top Surface Area	22.5 in. <sup>2</sup>
Base Surface Area	24.2 in. <sup>2</sup>
Top Seal #	12-150-12-04
Bottom Seal #	12-150-12-11
Bottom Seal Black #	12-150-12-11-B



### 200 mm Radius Corner (7.87")

Part #	12-200-16
Top Surface Area	42.1 in. <sup>2</sup>
Base Surface Area	44.5 in. <sup>2</sup>
Top Seal #	12-200-16-04
Bottom Seal #	12-200-16-11



### 150 mm Concave Corner (5.91")

Part #	12-150-16
Top Surface Area	18.0 in. <sup>2</sup>
Base Surface Area	29.5 in. <sup>2</sup>
Top Seal #	12-150-16-04
Bottom Seal #	12-150-16-11
Bottom Seal Black #	12-150-16-11-B



## Shaped Cups (cont.)

### 150 x 240 mm Concave Corner - Left (5.91" x 9.45")

Part #	12-150-18
Top Surface Area	25.6 in. <sup>2</sup>
Base Surface Area	48.9 in. <sup>2</sup>
Top Seal #	12-150-18-04
Bottom Seal #	12-150-18-11
Bottom Seal Black #	12-150-18-11-B



### 150 x 240 mm Concave Corner - Right (5.91" x 9.45")

Part #	12-150-19
Top Surface Area	25.6 in. <sup>2</sup>
Base Surface Area	48.9 in. <sup>2</sup>
Top Seal #	12-150-19-04
Bottom Seal #	12-150-19-11
Bottom Seal Black #	12-150-19-11-B



## Vanity Sink Suction Cup

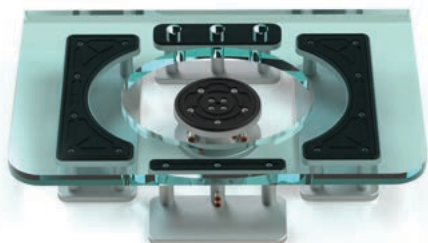
Single Cup Part #	12-701-10
Set Part #	30-BIVanSet
Standard Kit Part #	30-BIVanKit
Sink Dropper Kit (105 mm height) Part #	30-BIVanDC-105
Sink Dropper Kit (150 mm height) Part #	30-BIVanDC-150
Sink Dropper Kit (200 mm height) Part #	30-BIVanDC-200
Top Surface Area	67.3 in. <sup>2</sup>
Base Surface Area	115.0 in. <sup>2</sup>
Top Seal #	12-701-10-04
Bottom Seal #	12-701-10-11



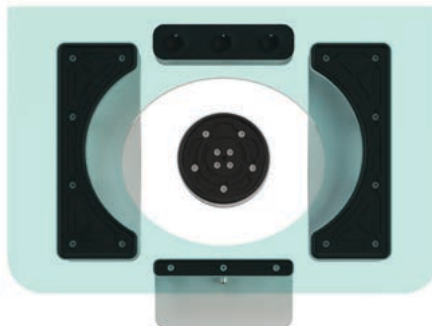
Vanity Sink  
Suction Cup Set

### Having problems holding vanity tops? Want something that is easy to setup?

*Vanity Sink Suction Cups are designed around the industries most popular sinks (Kohler 2209, 2210, 2211).*



Vanity Sink Suction Cup Kit  
with Sink Dropper





# SUPERIOR HOLDING UNPARALLELED PRECISION

**BLICK  
INDUSTRIES**

— EST. 1994 —



**+0.05/-0.00 mm  
TOLERANCE**

## BLICK INDUSTRIES SUCTION CUPS

### ► TOP PADS DESIGNED FOR HIGH-SPEED FABRICATION

Enhanced holding power for the demands of high-speed tooling.

### ► UNMATCHED PRECISION

Saves time & eliminates the need for touch-ups.

### ► THE LARGEST SELECTION OF SUCTION CUPS

Over 40 shapes to suit any project.

### ► HEIGHTS AVAILABLE FOR ALL MACHINES.

### ► RUGGED CONSTRUCTION

Suction cups that last.

### ► EXCEPTIONAL CUSTOMER SERVICE

Assisting with workholding issues, repairs, and custom fixturing.

### ► THE LEADER IN WORKHOLDING SOLUTIONS

BLICK also supplies clamps, supports, fences, fittings, manifolds, location devices, and much more!



## Ask Us About Retrofitting Your Cups!



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

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MADE IN THE  
U.S.A.

## Round Cups

### 65 mm Round - Glass (2.55")

Part #	12-065-01
Top Surface Area	3.5 in. <sup>2</sup>
Base Surface Area	3.9 in. <sup>2</sup>
Top Seal #	12-065-01-04
Bottom Seal #	12-065-01-11



### 90 mm Round - Glass (3.54")

Part #	12-090-01
Top Surface Area	7.8 in. <sup>2</sup>
Base Surface Area	7.7 in. <sup>2</sup>
Top Seal #	12-090-01-04
Bottom Seal #	12-090-01-11



### 120 mm Round - Stone (4.72")

Part #	12-120-03
Top Surface Area	13.3 in. <sup>2</sup>
Base Surface Area	14.5 in. <sup>2</sup>
Top Seal #	12-120-03-04
Bottom Seal #	12-120-03-11



### 120 mm Round - Glass (4.72")

Part #	12-120-01
Top Surface Area	14.3 in. <sup>2</sup>
Base Surface Area	11.7 in. <sup>2</sup>
Top Seal #	12-120-01-04
Bottom Seal #	12-120-01-11



### 150 mm Round (5.91")

Part #	12-150-01
Top Surface Area	22.0 in. <sup>2</sup>
Base Surface Area	23.5 in. <sup>2</sup>
Top Seal #	12-150-01-04
Bottom Seal #	12-150-01-11
Bottom Seal Black #	12-150-01-11-B



## Round Cups (cont.)

### 160 mm Round - Glass (6.29")

Part #	12-160-01
Top Surface Area	28.0 in. <sup>2</sup>
Base Surface Area	24.6 in. <sup>2</sup>
Top Seal #	12-160-01-04
Bottom Seal #	12-160-01-11



### 200 mm Round (7.87")

Part #	12-200-01
Top Surface Area	41.5 in. <sup>2</sup>
Base Surface Area	43.7 in. <sup>2</sup>
Top Seal #	12-200-01-04
Bottom Seal #	12-200-01-11



### 250 mm Round (9.84")

Part #	12-250-01
Top Surface Area	67.0 in. <sup>2</sup>
Base Surface Area	69.6 in. <sup>2</sup>
Top Seal #	12-250-01-04
Bottom Seal #	12-250-01-11



### 350 mm Round (13.78")

Part #	12-350-01
Top Surface Area	136.2 in. <sup>2</sup>
Base Surface Area	140.0 in. <sup>2</sup>
Top Seal #	12-350-01-04
Bottom Seal #	12-350-01-11





## Skinny Suction Cup Series

40 x 150 x 300 mm  
(1.57" x 5.91" x 11.81")

Part #	12-040-12
Top Surface Area	12.5 in. <sup>2</sup>
Base Surface Area	58 in. <sup>2</sup>
Top Seal #	12-040-12-04
Bottom Seal #	12-150-25-11



40 x 100 x 300 mm  
(1.57" x 3.94" x 11.81")

Part #	12-040-10
Top Surface Area	12.5 in. <sup>2</sup>
Base Surface Area	36 in. <sup>2</sup>
Top Seal #	12-040-12-04
Bottom Seal #	12-100-02-11



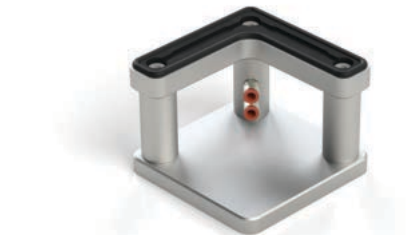
40 x 150 x 150 mm Straight  
(1.57" x 5.91" x 5.91")

Part #	12-150-24
Top Surface Area	6 in. <sup>2</sup>
Base Surface Area	28 in. <sup>2</sup>
Top Seal #	12-150-24-04
Bottom Seal	12-150-24-11



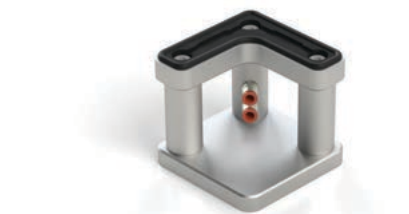
40 x 150 x 150 mm Corner  
(1.57" x 3.94" x 11.81")

Part #	12-150-23
Top Surface Area	16.1 in. <sup>2</sup>
Base Surface Area	34.9 in. <sup>2</sup>
Top Seal #	12-150-23-04
Bottom Seal	12-150-23-11



40 x 120 x 120 mm Corner  
(1.57" x 4.72" x 4.72")

Part #	12-120-16
Top Surface Area	12.4 in. <sup>2</sup>
Base Surface Area	22.3 in. <sup>2</sup>
Top Seal #	12-120-16-04
Bottom Seal	12-120-16-11



## Low-Profile Suction Cups

### Features:

- Standard height is 55 mm
- Use these cups when working on thick blocks that require extra Z clearance
- 55 mm (2.17") Height has 17 mm (.67") milled slots for mechanical hold downs
- Securely hold workpieces while hand grinding and polishing
- Additional shapes, and sizes available



50 x 300 mm  
(1.97" x 11.81")

Part # 29-050-12



70 x 150 mm  
(2.76" x 5.91")

Part # 29-070-10



70 x 240 mm  
(2.76" x 9.45")

Part # 29-070-12



75 x 300 mm  
(2.95" x 11.81")

Part # 29-075-01



100 x 100 mm  
(3.94" x 3.94")

Part # 29-100-10



150 x 150 mm  
(5.91" x 5.91")

Part # 29-150-10



200 x 200 mm  
(7.87" x 7.87")

Part # 29-200-10



150 x 240 mm  
(5.91" x 9.45")

Part # 29-150-14



250 x 500 mm  
(9.84" x 19.68")

Part # 29-250-12



90 mm Round  
(3.54")

Part # 29-090-01



120 mm Round  
(4.72")

Part # 29-120-01



150 mm Round  
(5.91")

Part # 29-150-01



160 mm Round  
(6.29")

Part # 29-160-01

90 mm Height  
Suction Cup



150 x 150 Low Profile  
Suction Cup

## Retractable Cup

BLICK Retractable Suction Cups allow sink cutouts to be automatically lowered after routing to provide clearance for profiling and polishing.

Will work on any CNC machine operating at height of 105 mm, 150 mm, or 200 mm.  
Direct replacement for CMS Brembana machines.

### 105 mm (4.13") Height Retractable Cup

Part #	27-200-01-105
Top Surface Area	41 in. <sup>2</sup>
Suction Cup Diameter	200 mm
Base Surface Area	41 in. <sup>2</sup>
Raised Height	105 mm
Retracted Height	57 mm
Top Seal #	27-200-01-04
Bottom Seal #	27-200-01-11



### 150 mm (5.91") Height Retractable Cup

Part #	27-200-01-150
Top Surface Area	41 in. <sup>2</sup>
Suction Cup Diameter	200 mm
Base Surface Area	41 in. <sup>2</sup>
Raised Height	150 mm
Retracted Height	72 mm
Top Seal #	27-200-01-04
Bottom Seal #	27-200-01-11

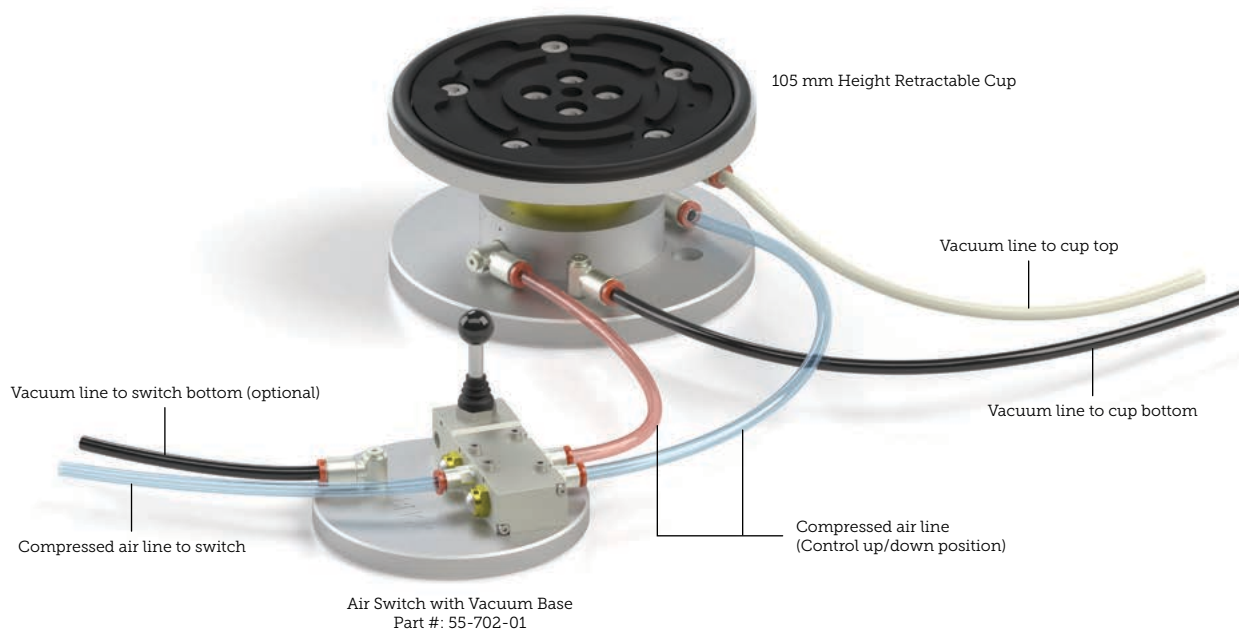


### 200 mm (7.87") Height Retractable Cup

Part #	12-200-02
Top Surface Area	41 in. <sup>2</sup>
Suction Cup Diameter	200 mm
Base Surface Area	41 in. <sup>2</sup>
Raised Height	200 mm
Retracted Height	125 mm
Top Seal #	12-200-01-04
Bottom Seal #	12-200-01-11



## Retractable Cup Diagram





## Swivel Cup



US Patent 8,181,948

Part #	12-500-20
Diameter	151 mm (5.94")
Vertical Height Range	155-210 mm (6.1"-8.25")
Maximum Swivel Angle	≈ 15°
Top Surface Area	24.6 in. <sup>2</sup>
Base Surface Area	22.0 in. <sup>2</sup>
Top Seal #	12-500-20-04
Bottom Seal #	12-500-20-11

The BLICK Drainboard System allows you to create and polish angled surfaces on 3 axis machines.

Using the machine's spindle and the special locator tool, the individual suction cups can be placed at exact X, Y, and Z locations.

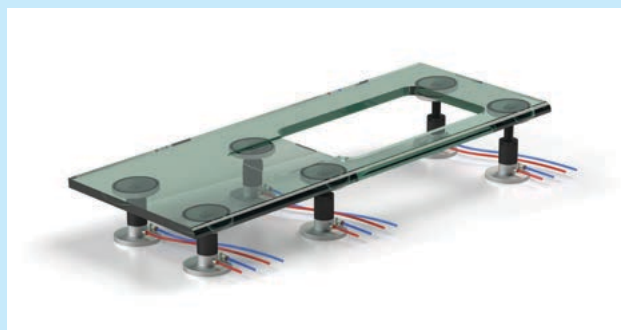
This allows surfaces of variable size and inclination to be created with very little setup time and no special, dedicated fixturing.

*Typically sold in sets of 6 with Locator Tool  
(Available with either 6 mm or 8 mm fittings)*

### Swivel Cup Locator Tool



Part # 19-103-01



## Miter Cups

Do you have an all-in-one CNC machining center? Want to make miter tops and complete cutouts in one setup?

The Miter Cup allows you to cut a mitered edge on your CNC machine. The cups use a sacrificial material to provide support while making a miter cut. It eliminates blowout from your saw cut which reduces touch up work and gives you a nice clean edge to laminate your apron. See sample setup below.



### Miter Cup - Straight



Part #	12-600-10
Vacuum Top Surface Area	30.0 in. <sup>2</sup>
Base Surface Area	61.8 in. <sup>2</sup>
Top Seal Set #	12-600-10-04
Bottom Seal #	12-600-10-11
45 x 300 mm Saw Top	12-600-10-02

Available in ANY height and most popular fitting sizes.

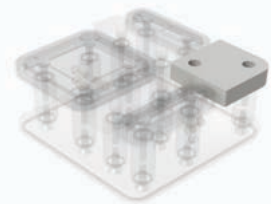
### Miter Cup - Corner



Part #	12-600-12
Vacuum Top Surface Area	44.0 in. <sup>2</sup>
Base Surface Area	88.1 in. <sup>2</sup>
Top Seal Set #	12-600-12-04
Bottom Seal #	12-600-12-11
98 x 98 mm Saw Top	12-600-12-05
45 x 150 mm Saw Top	12-600-12-14

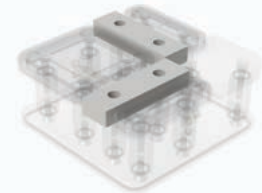
Available in ANY height and most popular fitting sizes.

### Replacement Saw Tops



98 x 98 mm Saw Top

Part # 12-600-12-05



45 x 150 mm Saw Top

Part # 12-600-12-14



45 x 300 mm Saw Top

Part # 12-600-10-02

### Miter Cup - Sample Setup



Show with mitered strips removed

## Vertical Holding Suction Cup



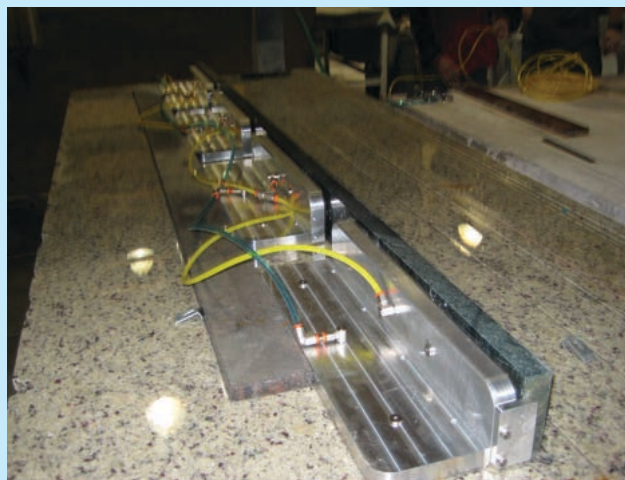
The Vertical Holding Cup turns your saw into a splash splitting machine!

Using the Vertical Suction Cup with the Venturi Manifold (see page 48), you can instantly create vacuum on any bridge saw.

Part #	12-400-10
Fence Height*	90 mm (3.54")
Fence Surface Area	40 in. <sup>2</sup>
Base Surface Area	66 in. <sup>2</sup>
Top Seal #	12-400-10-04
Bottom Seal #	12-400-10-11

\* Other heights available upon request

### Attachment Option 1



The air fitting on the base plate allows the user to vacuum Vertical Suction Cups in place for quick mounting and dismounting.

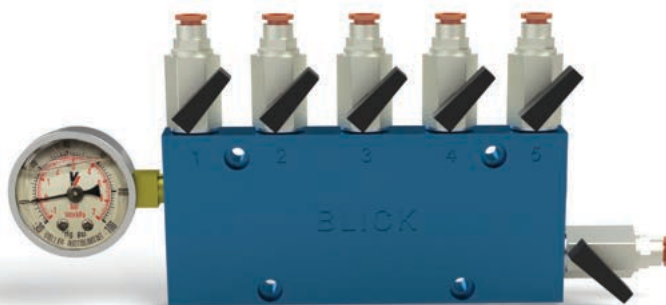
### Attachment Option 2



The base plate also has 4 holes for permanently mounting the fixture to the edge of your table.

## 5 Port Venturi Manifold

Part #	21-501-01
Required Air Pressure	1.5 CFM @ 85 psi



## Robocup by Breton

BLICK's redesign of the Breton Robocup improves upon Breton's revolutionary design of a hose-less suction cup.

Made from components, every part on this suction cup is replaceable and repairable. We also sell interchangeable cartridges that can be stored at your shop, so downtime from a damaged cartridge is minimal. The cartridges have a removable node that can be easily removed by hand.

Best of all, it can also be used in conjunction with existing Breton Robocup suction cups.



150 x 300 mm

Part #	26-150-35
Top Surface Area	58.9 in. <sup>2</sup>
Base Surface Area	61.8 in. <sup>2</sup>
Top Seal #	12-150-30-04
Bottom Seal #	12-150-30-11

150 x 150 mm

Part #	26-150-15
Top Surface Area	27.6 in. <sup>2</sup>
Base Surface Area	61.8 in. <sup>2</sup>
Top Seal #	12-150-10-04
Bottom Seal #	12-150-30-11



75 x 300 mm

Part #	26-075-05
Top Surface Area	25.8 in. <sup>2</sup>
Base Surface Area	61.8 in. <sup>2</sup>
Top Seal #	12-075-01-04
Bottom Seal #	12-150-30-11



### Replacement Cylinder

Part #	26-001-01
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### Replacement Float Disc

Part #	26-001-01-06
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# Supports

Give your Suction Cups the Support they deserve.

BLICK INDUSTRIES Supports are used to support narrow areas of workpieces such as the front edge of bowl cutouts.

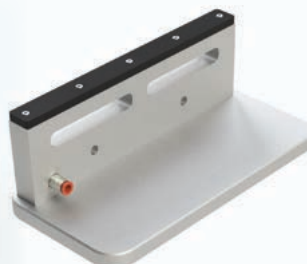


Sink Rail Support Kit

Available with most popular air fitting sizes for ALL popular CNC machines.



Core Drill Supports



Sink Rail Support

**NOTE:** Due to the small surface area of narrow supports, they do not provide large holding forces. For this reason, supports should always be used in conjunction with large suction cups. They are meant to provide vertical support and vibration resistance when there is no room for a suction cup.

## Core Drill Supports

Let your CNC machine core drill all the way through and support fragile areas with BLICK Core Drill Supports.



75 x 300 mm  
Core Drill Support

### Quick Overview:



Core Drill Supports are placed underneath the areas to be drilled. The pads are rectified to your specific height and designed to be drilled into many times and then replaced.



75 x 300 mm Core Drill Support

Part # 28-075-30



75 mm Round Core Drill Support

Part # 28-075-01



40 x 300 mm Core Drill Support

Part # 28-040-30



75 x 300 mm Replacement Pad

Part # 28-075-30-03



75 mm Round Replacement Pad

Part # 28-075-01-03

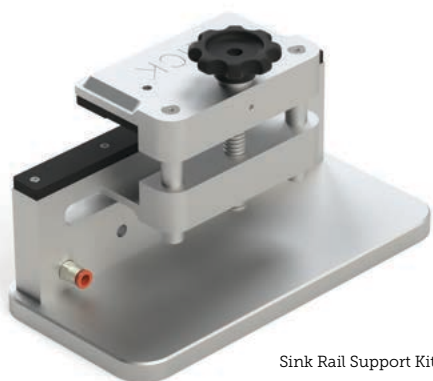


40 x 300 mm Replacement Pad

Part # 28-040-30-03

## Sink Rail Support Kit

Prevent sink rail breakage with the BLICK Sink Rail Support.

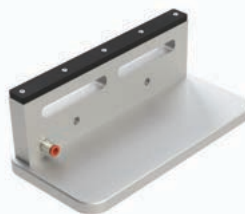


Sink Rail Support Kit

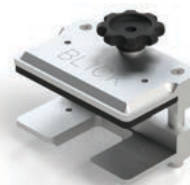
### Features:

- Extra narrow 1" wide support allows for positioning under narrow sink rails
- Kit includes: Sink Rail Support and Large Edge Clamp
- Clamp is compatible with other BLICK suction cups and supports
- Removable hand knob for convenient tightening

Sink Rail Support Kit Part #	13-300-10
Sink Rail Support Part #	12-025-28
Large Edge Clamp Part #	13-300-01
Clamping Range	Up to 4 cm material
Top Surface Area	10.62 in. <sup>2</sup>
Base Surface Area	62.5 in. <sup>2</sup>
Bottom Seal #	12-050-12-11
Edge Clamp Handle	13-300-09



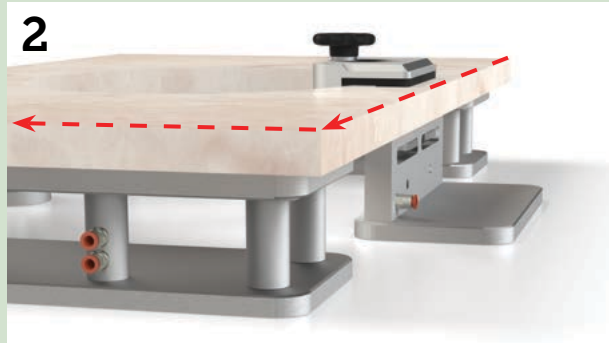
Sink Rail Support



Large Edge Clamp



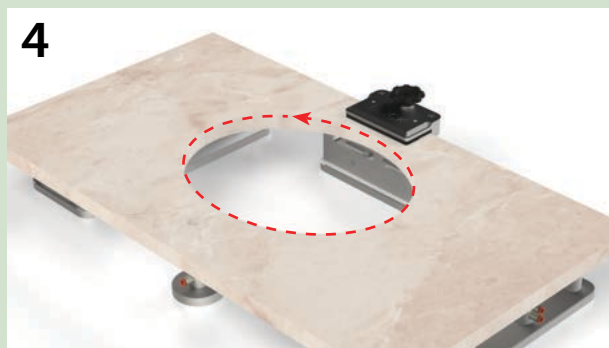
Position the support w/ clamp on sink side



Run the perimeter profile



Pause the machine & attach clamp onto outer edge



Cut out the bowl edge

# Clamps



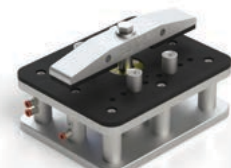
Pneumatic Swing Clamp



Pneumatic Clamps



Mechanical Clamps



Backslash Clamps



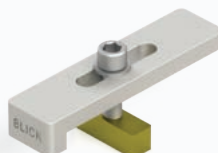
Edge Clamps



Strip Clamps



Vise Cup



Slot Clamp



# Pneumatic Clamps

## Pneumatic Swing Clamp

Part #	13-101-01
Clamping Method	Pneumatic Cylinder
Clamping Area	2" x 3"
Material Thickness	2~4 cm (.78"~1.57")
Base Surface Area	52.5 in. <sup>2</sup>
Bottom Seal #	13-101-01-11

Available in ANY height and most popular fitting sizes.



Opened



Closed



The Pneumatic Swing Clamp is excellent for automated high-production work.

Pneumatic activation allows clamps to be opened and closed with the flip of a switch. The clamp arm swings out of the way to allow overhead loading of parts.

## Pneumatic Mushroom Clamp

Part #	13-103-01
Clamping Method	Pneumatic Cylinder
Clamping Area	Circular Ring 6" OD x 2.75" ID
Material Thickness	.8~4.4 cm (.47"~1.57")
Base Surface Area	53 in. <sup>2</sup>
Bottom Seal #	13-103-01-11



The Pneumatic Mushroom Clamp offers the same automatic opening and closing as the swing clamp.

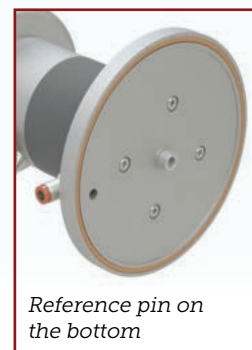
The round clamping area allows parts to be held from any side and allows the option of holding two parts of the same thickness at the same time.

## 200 mm Height Mushroom Clamp

Brembana Part #	13-103-02
Loffler Part #	13-103-03
Clamping Method	Pneumatic Cylinder
Clamping Area	Circular Ring 6" OD x 2.75" ID
Reference Pin	Brembana (12 mm Diameter), Loffler (15 mm Diameter)
Material Thickness	1.2~4 cm (.47"~1.57")
Base Surface Area	42 in. <sup>2</sup>
Bottom Seal #	13-102-02-11



Similar to the Pneumatic Mushroom Clamp but for Brembana and Loffler machines with an operating height of 200 mm.



Reference pin on the bottom

## Air Switch

With Vacuum Base	55-702-01
With Magnetic Base	55-702-02

The Air Switch Kit can be used to control the opening and closing of our pneumatic clamps. Base options allows it to be secured in a convenient location.



# Mechanical Vacuum Clamps

## Large Mechanical Clamp

Part #	13-102-04
Clamping Method	Mechanical Screw (12 mm)
Clamping Area	2.5" x 3"
Material Thickness	1.2~4 cm (.47"~1.57")
Base Surface Area	75 in. <sup>2</sup>
Base Dimensions	200 x 300 mm (7.87" x 11.81")
Bottom Seal #	13-102-04-11
Arm Assembly	13-102-04-20



Large Mechanical Clamps are designed specifically for the stone fabrication industry.

It has a large clamping area and wide clamping range and is extra-tough to withstand the harsh environment it is intended to be used in.

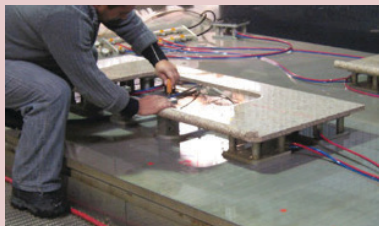
Available in ANY height and most popular fitting sizes.

### Denver Large Mechanical Clamp

Part # 13-102-05



Denver Style has  
20 mm Diameter  
Locator Flange



## Standard Mechanical Clamp

Part #	13-102-01
Clamping Method	Mechanical Screw (8 mm)
Clamping Area	1.25" x 1.5"
Material Thickness	1.2~4 cm (.47"~1.57")
Base Surface Area	59 in. <sup>2</sup>
Base Dimensions	150 x 300 mm (5.91" x 11.81")
Bottom Seal #	13-102-01-11
Arm Assembly	13-102-01-20



Standard Mechanical Clamps provide an economical solution for securing hard-to-hold stone and glass parts.

Available in ANY height and most popular fitting sizes.

## Dual Mechanical Clamp

Part #	13-102-02
Clamping Method	Dual Mechanical Screws (8 mm)
Clamping Area	1.25" x 1.5" per clamp
Material Thickness	1.2~4 cm (.47"~1.57")
Base Surface Area	59 in. <sup>2</sup>
Base Dimensions	150 x 300 mm (5.91" x 11.81")
Bottom Seal #	13-102-02-11
Arm Assembly	13-102-01-20



Dual Mechanical Clamps provide increased clamping area.

These clamps are very effective when seaming through the middle of sink cut-outs.

Available in ANY height and most popular fitting sizes.

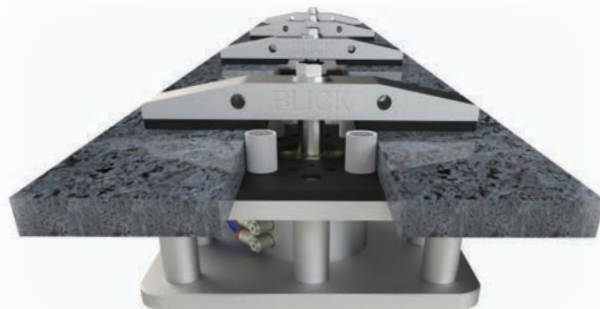
## Backsplash Clamp System

The Backsplash Clamp System was developed to allow long narrow pieces such as backsplashes, stair treads, and wall caps to be easily worked on any standard CNC machine.

Standard System	30-BIBS43
Mini System	30-BIBS32

### Features:

- **Standard System includes:** 4 Clamps, 3 suction cups, Air Switch, tubing & fittings
- **Mini System includes:** 3 Clamps, 2 suction cups, Air Switch, tubing & fittings
- Solid rubber vulcanized friction pads promote superior holding
- Each pneumatic clamp provides up to 700 lbs. of clamping force
- Easily adjustable for different widths
- Width of each cup and each clamp is roughly 9.5"



Standard System with long narrow pieces

### Backsplash Clamp

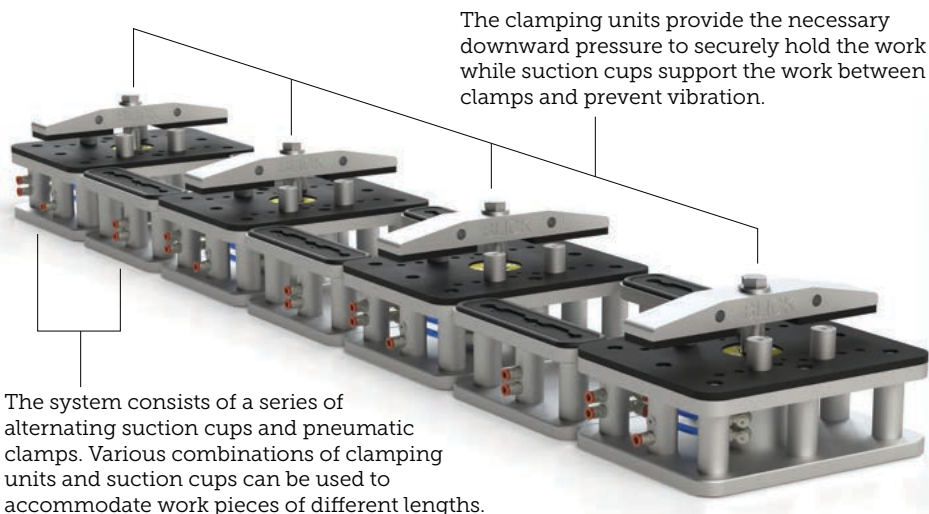


Part #	13-104-01
Clamping Range	0~56 mm (0~2.2")
Clamping Force @ 100psi	630 lbs.
Base Surface Area	102.1 in. <sup>2</sup>
Base Dimensions	240 x 300 mm (9.45" x 11.81")
Bottom Seal #	13-104-01-11

### Backsplash Clamp Suction Cup



Part #	12-240-10
Top Surface Area	37.1 in. <sup>2</sup>
Base Surface Area	102.1 in. <sup>2</sup>
Base Dimensions	240 x 300 mm (9.45" x 11.81")
Top Seal #	12-070-12-04
Bottom Seal #	12-240-10-11



The system consists of a series of alternating suction cups and pneumatic clamps. Various combinations of clamping units and suction cups can be used to accommodate work pieces of different lengths.



Air Switch with Vacuum Base

The pneumatic clamping units can be actuated automatically by the CNC machine's air system, or manually with an air switch.



## Edge Clamp

Edge Clamps provide extra support for fragile regions such as sink rails to prevent corner blowouts or small pieces from moving.

### Features:

- Designed to mount on most BLICK Suction Cups and Supports
- Low-profile unlike a C-Clamp
- Handle included
- Non-marking rubber pads

Large Edge Clamp

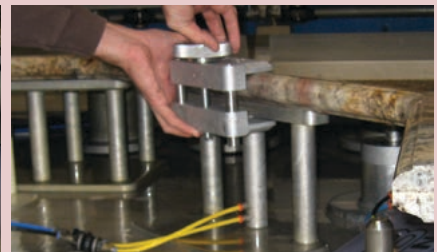
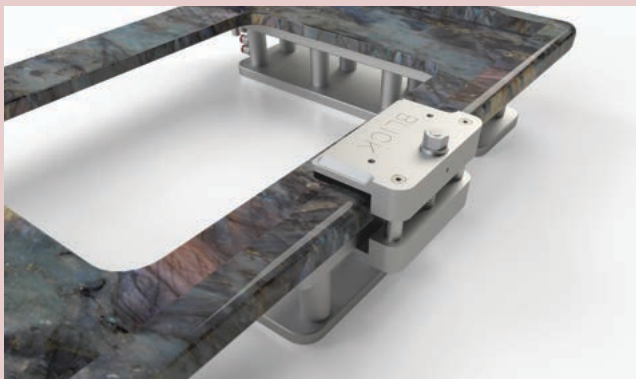


Part #	13-300-01
Clamping Method	Mechanical Screw
Clamping Area	2 <sup>5</sup> / <sub>8</sub> " x 6" (66 x 152 mm)
Material Thickness	Up to 4 cm (.157")
Closed Clamp Distance	3 cm (1.81")
Edge Clamp Handle	13-300-09

Small Edge Clamp



Part #	13-300-02
Clamping Method	Mechanical Screw
Clamping Area	2 <sup>5</sup> / <sub>8</sub> " x 3" (66 x 76 mm)
Material Thickness	Up to 4 cm (.157")
Closed Clamp Distance	3 cm (1.81")
Edge Clamp Handle	13-300-09





## Strip Clamp Kit



### Features:

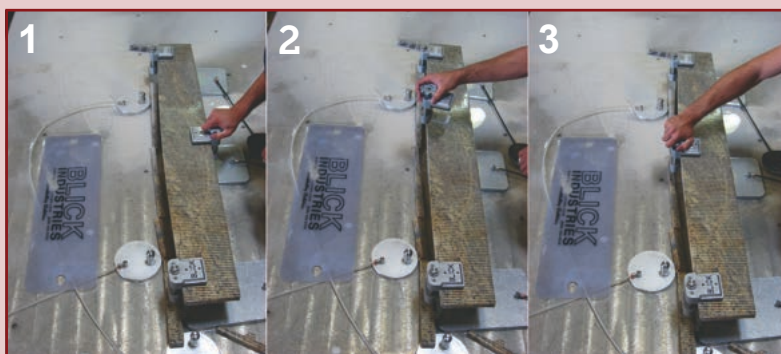
- Edge and polish thin strips from all sides
- Kit includes one **Strip Clamp Support Base** and one **Small Edge Clamp**
- 6 Support body positions allow clamps to be used with varying material widths
- The clamps can be moved from one side to another without moving the part
- Non-marking ABS pad on the support, non-marking rubber pad on the clamp
- Can be made at ANY height and is available in most popular fitting sizes



### Strip Clamp Support Base



Kit Part #	13-300-12
Support Base Part #	13-300-03
Base Dimensions	200 x 300 mm (7.87" x 11.81")
Clamping Method	Mechanical Screw
Clamping Area	2 <sup>5</sup> / <sub>8</sub> " x 3" (66x76 mm)
Material Thickness	Up to 4 cm (1.57")
Bottom Seal #	13-300-03-11



*After the first half of the workpiece is edged, move the edge clamps to the opposite side. Move one clamp at a time so that the workpiece will not move and the position will not be lost.*

## Vise Cup

### Features:

- Allows material such as backslashes to be stacked on edge for polishing or to hold material in place during carving operations
- Allows material to be stacked on your table side by side and then calibrated and polished at one time (polishing requires a floating head or spring loaded tool holders)
- Clearance over top of jaw is 85 mm (3 <sup>3</sup>/<sub>8</sub>" )



Vise Cup - Adjustable Jaw

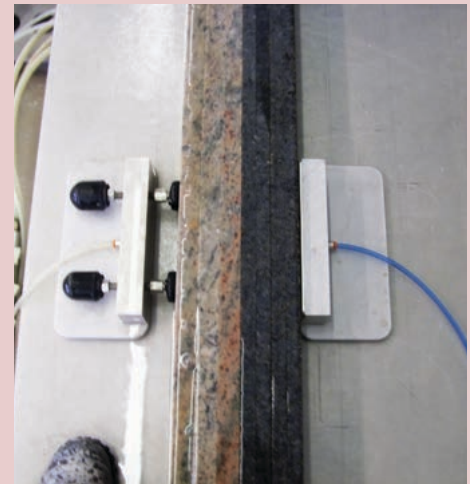


Part #	13-106-01
Clamping Method	Mechanical Screw
Base Surface Area	58 in. <sup>2</sup>
Base Dimensions	150 x 300 mm (5.91" x 11.81")
Bottom Seal #	12-150-25-11

Vise Cup - Stationary Jaw

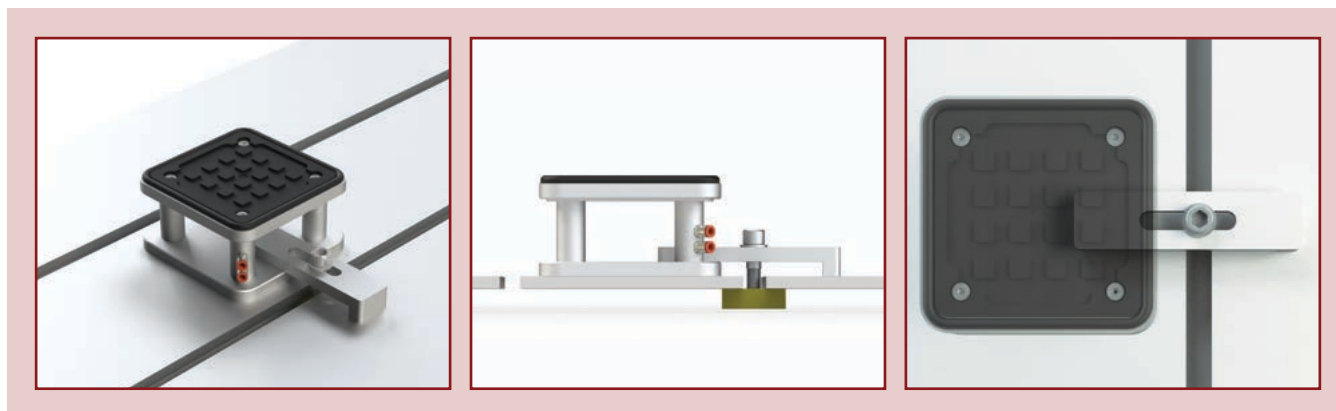


Part #	13-106-02
Base Surface Area	58 in. <sup>2</sup>
Base Dimensions	150 x 300 mm (5.91" x 11.81")
Bottom Seal #	12-150-25-11



## Slot Clamps

Slot Clamps are designed for Breton and Denver machines with slotted tables to hold down Suction Cups and Clamps.



Breton 200 mm Slot Clamp



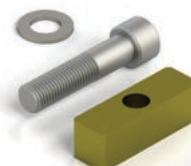
Part #	13-105-01
Dimensions	50 x 200 mm (1.97" x 7.87")
Height	15 mm (.59")
Bolt Size	M16 Socket Head
Brass Tee Nut	16 mm

Breton 120 mm Slot Clamp



Part #	13-105-02
Dimensions	50 x 120 mm (1.97" x 4.72")
Height	15 mm (.59")
Bolt Size	M16 Socket Head
Brass Tee Nut	16 mm

Breton  
T-Nut & Bolt Assembly



Part #	13-105-05
Includes M16 x 70 bolt, washer & T-Nut* *T-Nut available separately	

Denver 200 mm Slot Clamp



Part #	13-105-07
Dimensions	50 x 200 mm (1.97" x 7.87")
Height	15 mm (.59")
Bolt Size	M10 x 55 Hex Head
Brass Tee Nut	10 mm

Denver 120 mm Slot Clamp



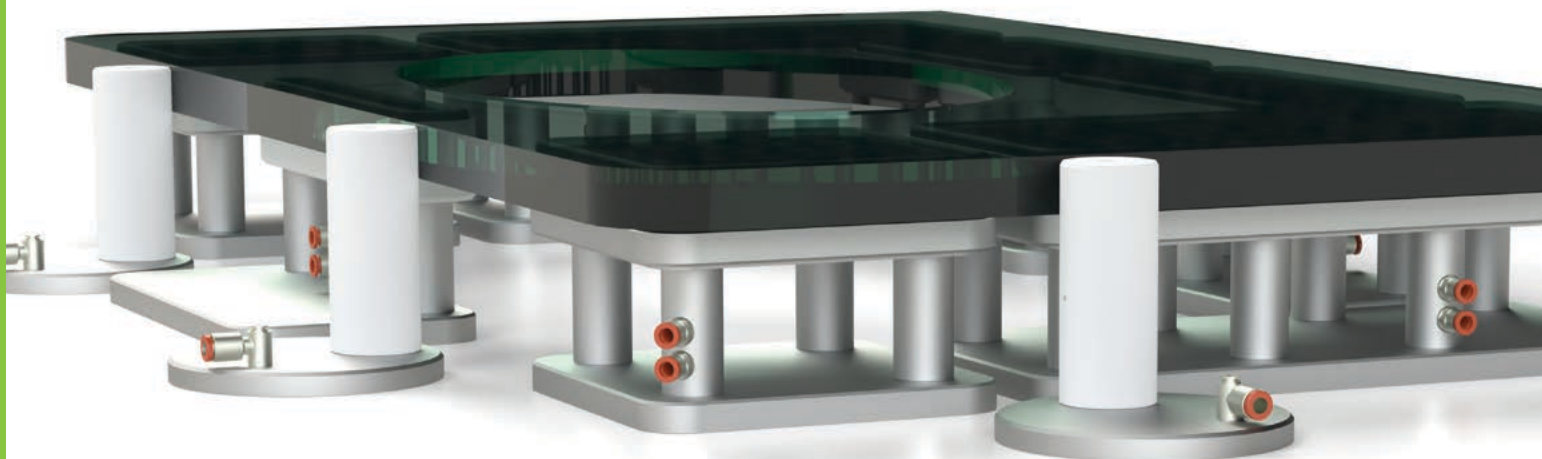
Part #	13-105-06
Dimensions	50 x 120 mm (1.97" x 4.72")
Height	15 mm (.59")
Bolt Size	M10 x 55 Hex Head
Brass Tee Nut	10 mm

Denver  
T-Nut & Bolt Assembly



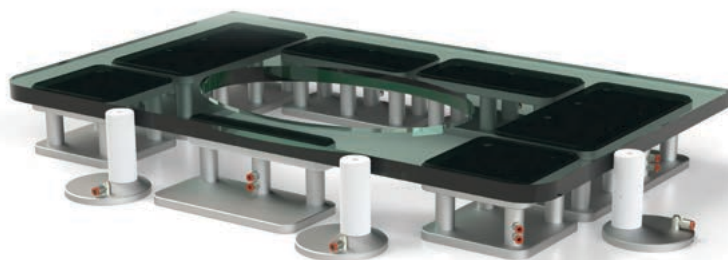
Part #	13-105-08
Includes M10 x 55 Hex Bolt, washer & T-Nut* *T-Nut available separately	

# Locating Devices



50 mm Locating Pin

Locating devices provide a rigid, repeatable reference point for quick and easy locating.



Locating Pins



Table Edge Locating Pin



Vac-Stops



Brembana Locating Devices

*NOTE: Heights of Locating Devices are referencing the operating height of the corresponding Suction Cups.*



## Locating Pins

Using a locator tool, accurately locate a workpiece on CNC Machines using the spindle. Locating Pins are more accurate than using lasers for setting reference points.

### 50 mm Locating Pin

Part #s	See chart on page 35
Locating Method	50 mm (1.97") Removable Pin
Base Surface Area	25.2 in. <sup>2</sup>
Base Dimensions	150 mm (5.91") Diameter
Bottom Seal #	11-301-01-11



### 26 mm Locating Pin (Intermac)

Part #s	See chart on page 35
Locating Method	26 mm (1.02") Removable Pin
Base Surface Area	25.2 in. <sup>2</sup>
Base Dimensions	150 mm (5.91") Diameter
Bottom Seal #	11-301-01-11



*Alternative to Vac-Stops.*

### 31 mm Locating Pin

Part #s	See chart on page 35
Locating Method	31 mm (1.22") Removable Pin
Base Surface Area	25.2 in. <sup>2</sup>
Base Dimensions	150 mm (5.91") Diameter
Bottom Seal #	11-301-01-11



### 35 mm Locating Pin

Part #s	See chart on page 35
Locating Method	35 mm (1.37") Removable Pin
Base Surface Area	25.2 in. <sup>2</sup>
Base Dimensions	150 mm (5.91") Diameter
Bottom Seal #	11-301-01-11



**NOTE:** Locating Pins are for locating only and are not intended for stabilizing material. See Vacuum Fences (pg.38).

### Replacement Pins



50 mm  
Replacement Pin

Part # 11-301-01-03



26 mm  
Replacement Pin

Part # 11-301-02-03



31 mm  
Replacement Pin

Part # 11-301-03-03

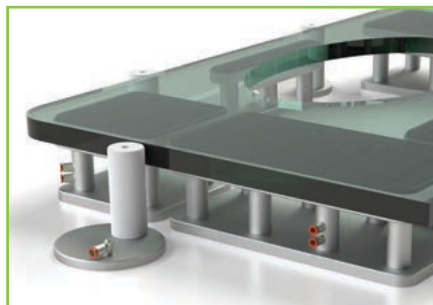


35 mm  
Replacement Pin

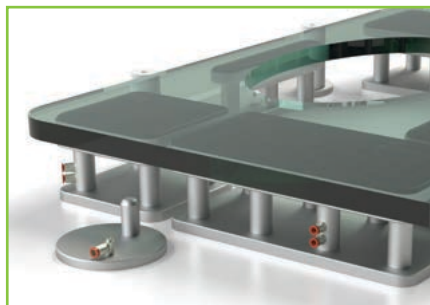
Part # 11-301-07-03



Three stops are needed to locate a part



Locating Pins during workpiece positioning

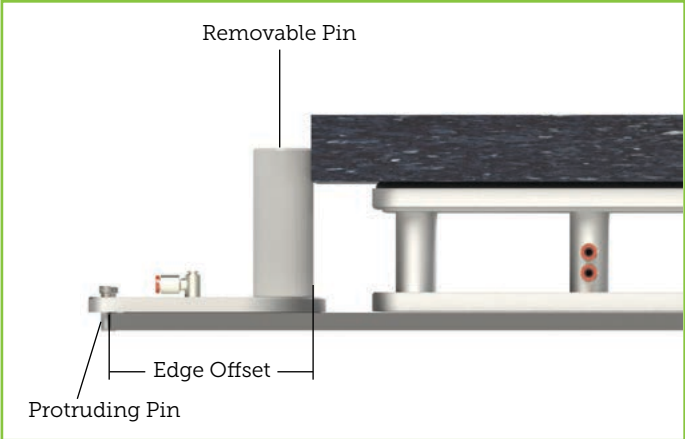


Locating Pins during edging  
with pins removed

# **Table Edge Locating Pins**

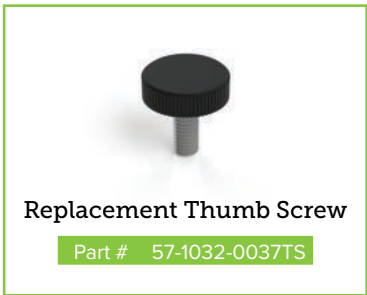
There is no faster way to setup rectangular pieces.

Use the edges of your machines table to create four fixed origins. The Table Edge Locating Pins uses the same removable pin as the Locating Pins. Two pins protruding from the base of the unit reference against the front edge of the table allowing for a quick, repeatable setup.



## **Table Edge Locating Pins**

Part #s	See chart on page 35
Locating Method	50 mm (1.97") Removable Pin
Base Surface Area	26.4 in. <sup>2</sup>
Edge Offset	165 mm (6.5")
Base Dimensions	140 x 195 mm (5.51" x 7.68")
Bottom Seal #	11-401-01-11



## **Table Edge Locating Pins EL**

Part #s	See chart on page 35
Locating Method	50 mm (1.97") Removable Pin
Base Surface Area	61.8 in. <sup>2</sup>
Edge Offset	355 mm (13.98")
Base Dimensions	140 x 385 mm (5.51" x 15.16")
Bottom Seal #	11-401-03-11



**NOTE:** Table Edge Locating Pins are for locating only and are not intended for stabilizing material. See Vacuum Fences (pg.38).

## **Replacement Delrin Pins for BLICK Locator Pins**



# Height Chart for Locating Pins & Table Edge Locating Pins

## Locating Pins

### 26 mm Locating Pin

Height	Part #
105 mm	11-301-02-105
150 mm	11-301-02-150
180 mm	11-301-02-180
213 mm	11-301-02-213

### 50 mm Locating Pin

Height	Part #
105 mm	11-301-01-105
120 mm	11-301-01-120
150 mm	11-301-01-150
160 mm	11-301-01-160
180 mm	11-301-01-180
200 mm	11-301-01-200

### 31 mm Locating Pin

Height	Part #
100 mm	11-301-03-100

### 35 mm Locating Pin

Height	Part #
100 mm	11-301-07-100
200 mm	11-301-07-200

## Table Edge Locating Pins

### 26 mm Table Edge Locating Pin

Height	Part #
105 mm	11-401-02-105
150 mm	11-401-02-150
180 mm	11-401-02-180
213 mm	11-401-02-213

### 50 mm Table Edge Locating Pin

Height	Part #
105 mm	11-401-01-105
120 mm	11-401-01-120
150 mm	11-401-01-150
160 mm	11-401-01-160
180 mm	11-401-01-180
200 mm	11-401-01-200

## Table Edge Locating Pins EL

### 50 mm Table Edge Locating Pin

Height	Part #
105 mm	11-402-01-105
120 mm	11-402-01-120
150 mm	11-402-01-150
160 mm	11-402-01-160
180 mm	11-402-01-180
200 mm	11-402-01-200



## Locator Tools

### Stop Locator Tool

Part # 19-102-11

Tool holder *not included*

Stop Locator Tool attaches to customer supplied 1/2" gas tool holder



The Stop Locator Tool allows you to accurately position Locating Pins using your CNC machine's spindle.

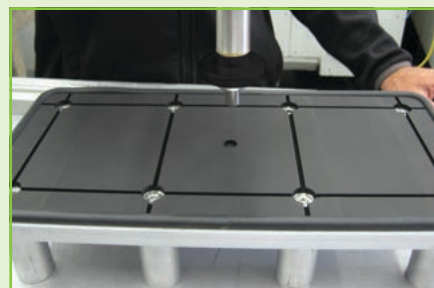
The ability to place stops at exact XY locations on your table makes setting up rectangular and irregular shapes a snap and eliminates the need to probe or edge-find workpieces.



Once the spindle is in the desired location, the Locating Pin is placed under the stop locator tool.



The spring loaded handle is pulled down and a hole in the plastic pin is lined up with the point on the tool. Vacuum is applied to the stop, fixing its location directly below the spindle.



Location holes on all BLICK Suction Cups

### 26 mm Aggregate

Part # 19-101-01

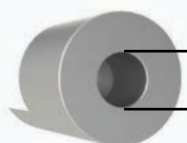
Tool holder *not included*

For use with patented BLICK Vac-Stop (see page 37).

Can also be used to locate 26 mm Locating Pin.



Aggregate attaches to customer supplied 22 mm tool holder



22 mm ID Mount

35 mm ID Mount is also available (Part# 19-101-02)



## Pneumatic Vacuum Back Stops

Pneumatic vac-stops provide a repeatable, automated way to locate workpieces.

They serve as a rigid reference point during setup which can then be lowered automatically providing clearance for cutting tools while the machine is in operation.

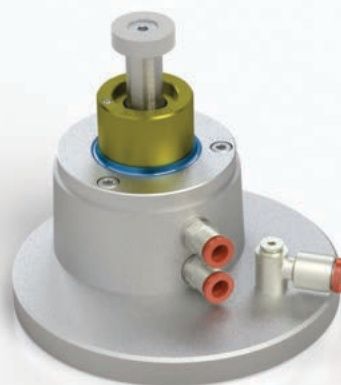


### Vac-Stop

105 mm Height Part #	11-101-01
150 mm Height Part #	11-101-05
180 mm Height Part #	11-101-04
Stop Extended Height(105 mm)	114 mm
Stop Extended Height (150 mm)	159 mm
Stop Extended Height (180 mm)	189 mm
Base Dimensions	150 mm (5.91") Diameter
Stop Diameter	26 mm
Base Surface Area	25.2 in. <sup>2</sup>
Bottom Seal #	11-101-01-13

### Stop Discs for Vac-Stop

Extended 26 mm Disc (20 mm height)	11-099-26
Replacement 26 mm Disc (17 mm height)	11-099-27



US Patent 5,562,276

### Vac-Stop Plus

Part #	11-102-01
Base Surface Area	25.2 in. <sup>2</sup>
Stop Diameter	40 mm
Stop Height	213 mm
Base Dimensions	150mm (5.91") Diameter
Bottom Seal #	11-02-01-11

### Stop Discs for Vac-Stop Plus

Replacement 40 mm Disc (13 mm height)	11-102-01-08
--	--------------



## Pneumatic Reference Pins

### Standard Pneumatic Reference Pin

Brembana Part #	11-601-01
Loffler Part #	11-801-01
Base Surface Area	41 in. <sup>2</sup>
Base Dimensions	200 mm (7.87") Diameter
Bottom Seal #	11-601-01-13
Standard Disc	11-601-01-17
Extended Height Disc (27 mm)	11-601-01-27



Brembana 35 mm Disc



Loffler 75 mm Disc

### Stop Discs for Standard Pneumatic Reference Pins



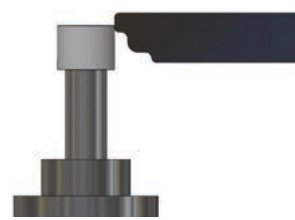
Part # (Brembanna)	11-601-01-17
Height	17 mm
Diameter	35 mm



Part # (Loffler)	11-801-01-17
Height	17 mm
Diameter	75 mm



Part # (Brembanna)	11-601-01-27
Height	27 mm
Diameter	35 mm



Part # (Loffler)	11-801-01-27
Height	27 mm
Diameter	75 mm

### Offset Pneumatic Reference Pin

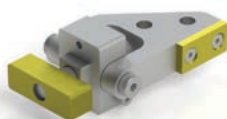
Brembana Part #	11-601-02
Stop Diameter	60 mm
Base Surface Area	41 in. <sup>2</sup>
Base Dimensions	200 mm (7.87") Diameter
Bottom Seal #	11-601-02-11
Standard Disc	11-601-02-03



## Flip-Stop

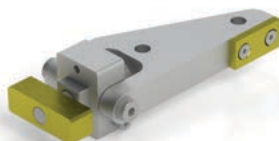
For use with slotted table on Breton machines

Part # 90 mm Height	11-201-01
Part # 150 mm Height	11-201-03
Stop Method	Flip-up arm with brass pad



90 mm Height

Part # 11-201-01



150 mm Height

Part # 11-201-03



*Flip-Stops provide rigid reference points on slotted tables*

# Fences

Prevents workpieces from being pushed laterally by providing extra support.



## Vacuum

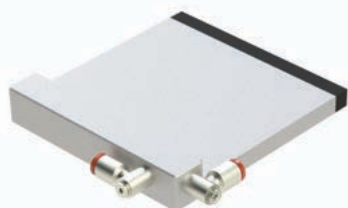


Vacuum Fences



Extended Vacuum Fences

## Polishing



Venturi Polishing Fences

## V-Grooving



V-Groove Fence

*NOTE: Heights of Fences are referencing the operating height of the corresponding Suction Cups.*

## Vacuum Fences

Vacuum fences are designed to both locate workpieces and provide extra support by preventing workpieces from being pushed laterally.

### 150 x 250 mm Vacuum Fence

90-130 mm Height Part #	15-101-01
140-180 mm Height Part #	15-101-06
200 mm Height Part #	15-101-04
Base Surface Area	50.9 in. <sup>2</sup>
Base Dimensions	150 x 250 mm (5.91" x 9.84")
Bottom Seal #	15-101-01-03



Available in ANY height and most popular fitting sizes.

### 150 x 300 mm Vacuum Fence

90-130 mm Height Part #	15-101-02
140-180 mm Height Part #	15-101-05
200 mm Height Part #	15-101-03
Base Surface Area	61.8 in. <sup>2</sup>
Base Dimensions	150 x 300 mm (5.91" x 11.81")
Bottom Seal #	15-101-02-03



Available in ANY height and most popular fitting sizes.

### Vacuum Fence - Sample Setup





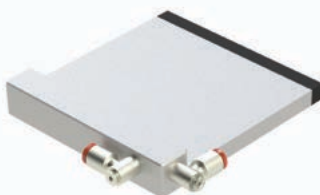
## Polishing Fence

Low profile design: Ideal for any CNC or manual polisher.

- Fences use shop air to create vacuum via a venturi vacuum generator, a vacuum pump is not needed.

### Venturi Polishing Fence

Part #	15-201-01
Base Dimensions	150 x 150 mm (5.9" x 5.9")
Base Surface Area	30 in. <sup>2</sup>
Clearance Height	12.7 mm (1/2")

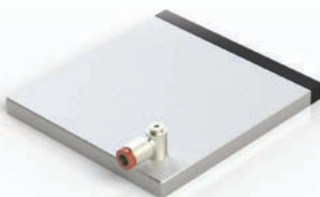


### Features:

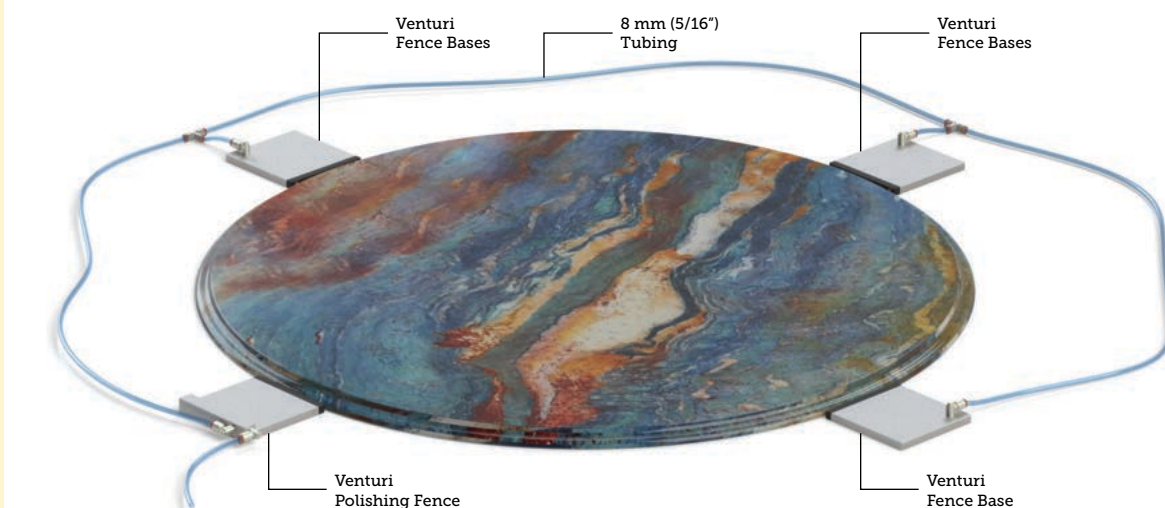
- Ideal for CNC or manual polishing
- 1 Compressed air input, 1 vacuum output
- Non-marking ABS pad
- Forgiving O-Ring Seal that allows holding on rough/uneven surfaces

### Venturi Polishing Fence Base

Part #	15-201-02
Base Dimensions	150 x 150 mm (5.9" x 5.9")
Base Surface Area	30 in. <sup>2</sup>
Clearance Height	12.7 mm (1/2")



### Venturi Polishing Fence - Sample Setup



## V-Grooving Fence

### Features:

- Allows glass to be located and held in place while V-Grooving
- Used for beveling square glass

### V-Grooving Fence

Part #	15-701-01
Base Surface Area	22.2 in. <sup>2</sup>
Bottom Seal #	15-701-01-11

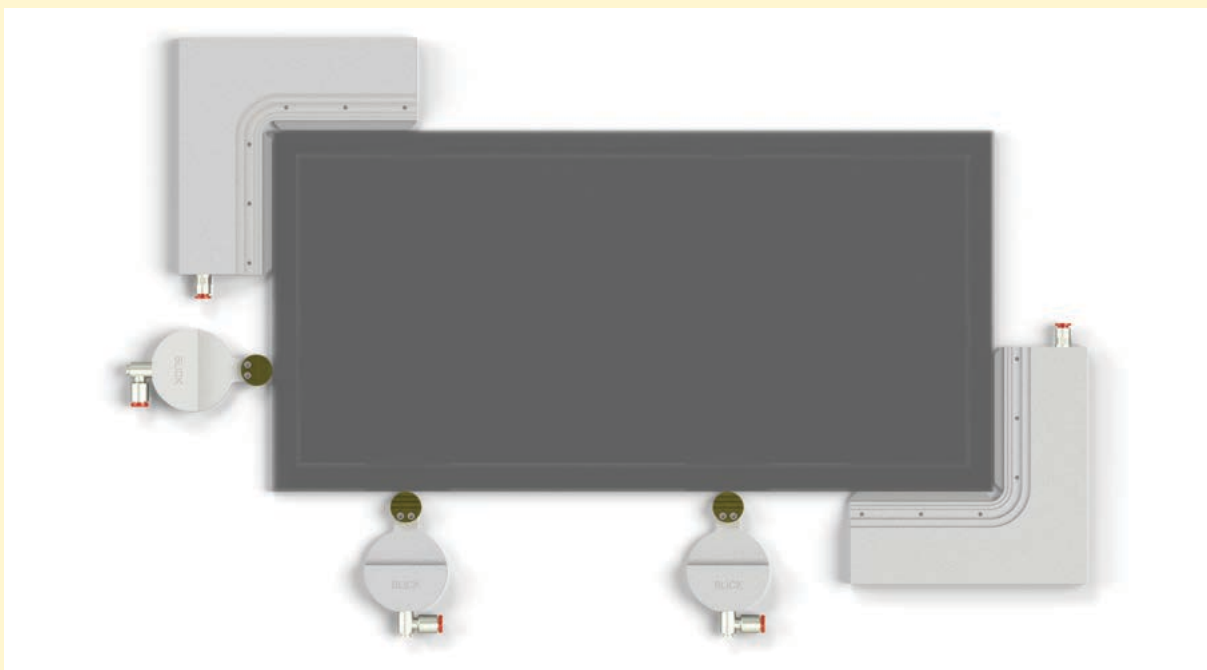


### V-Groove Positioning Stop

Part #	11-901-01
Base Surface Area	150 mm Ø (5.91") Diameter
Bottom Seal	11-901-01-11
Replacement Disc	11-901-01-02

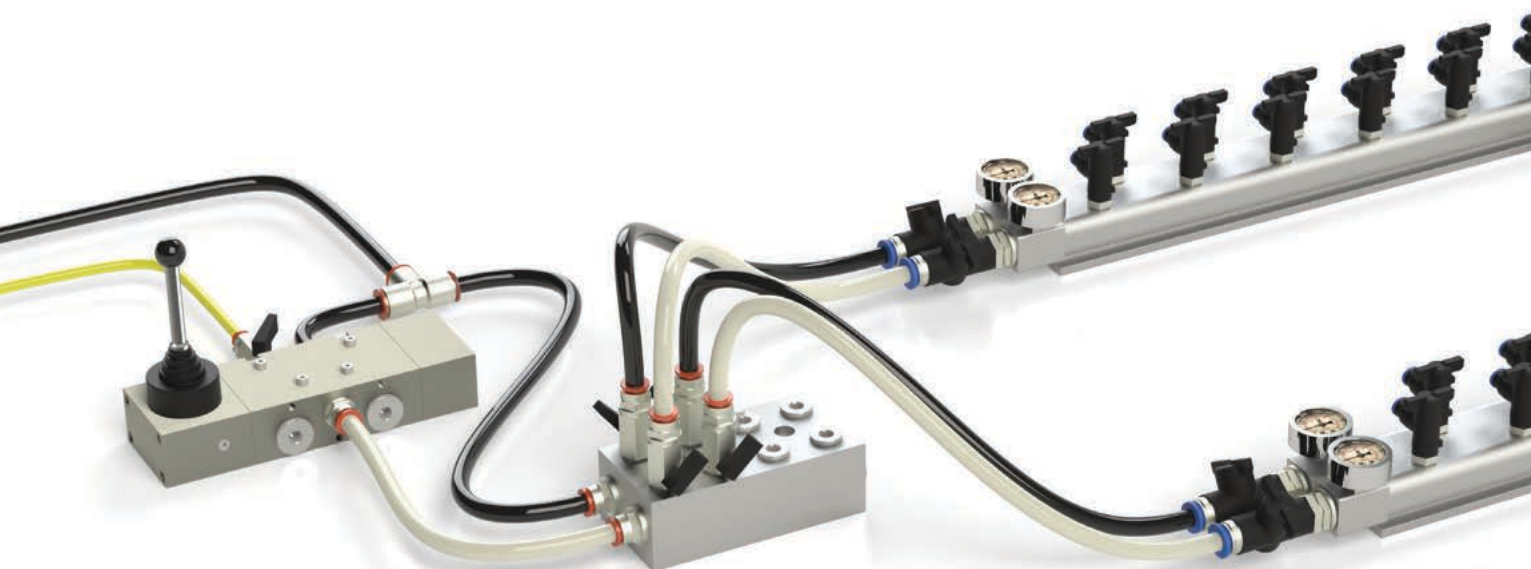


### V-Grooving Fence - Sample Setup



# Manifolds & Vacuum Generators

Get air and vacuum to  
where you need it.



Float your stone with  
the BLICK Blowback Kit!



Manifolds



Portable Manifold



Venturi Manifolds



Manifold Suction Cups

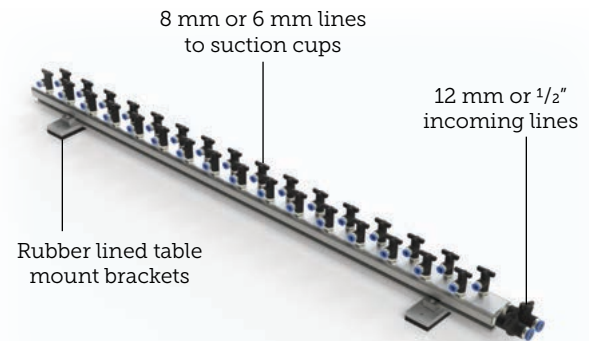
## Universal Manifolds

Take charge of the tubes running to your various vacuum products!

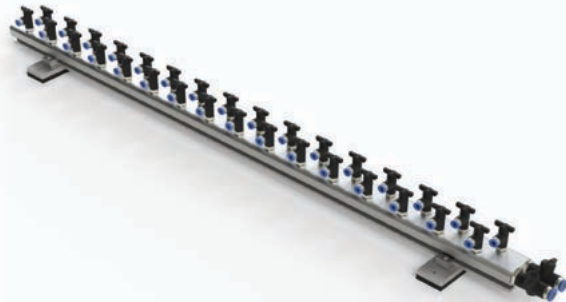
### Features:

- 2 Isolated chambers let you separate lines running to the top and bottom of your suction cups
- Master valves let you engage and disengage the top or bottom of your suction cups in unison
- Independent valves with quick disconnect on each line
- Various mounting options available
- Table Mount Brackets (2 piece set) included with every universal manifold\*

### Quick Overview:

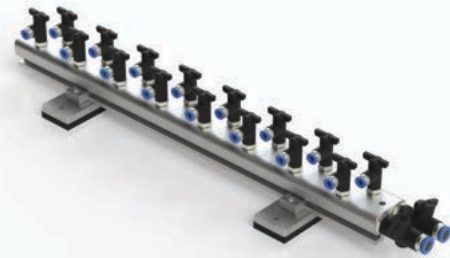


16 Pair, 50" Universal Manifold



Part # 21-102-01

8 Pair, 25" Universal Manifold



Part # 21-102-02

## Universal Manifold Accessories



\*Table Mount Brackets  
(2 piece set)

Part # 21-201-02



Side Mount Brackets  
(2 piece set)

Part # 21-201-01



Manifold  
Gauge Block

Part # 21-501-03



Combo Valve  
Outgoing Lines

8 mm	53-5001258
6 mm	53-5001256



Combo Valve  
Ingoing Lines

1/2"	53-50037505
12 mm	53-50037512



## Portable Manifold

Our Portable Manifold is the perfect solution for replacing old or damaged manifolds!

It has an anodized aluminum surface, non-skid rubber base and stainless steel handles to provide maximum protection in the harshest environments.



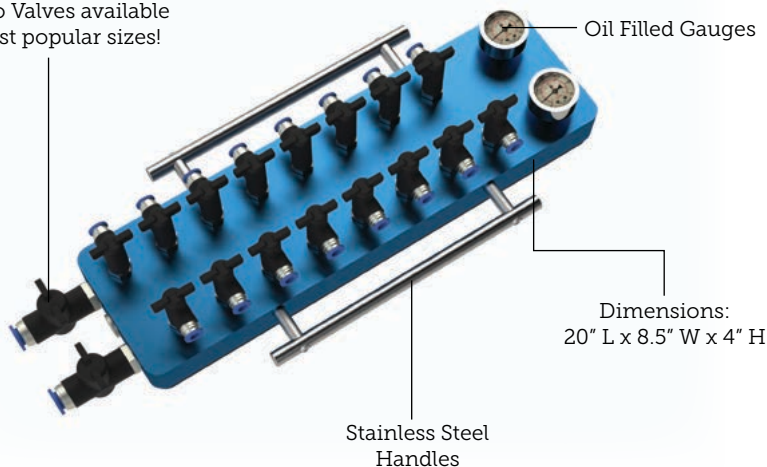
Part # 21-103-01

### Features:

- 8 Pairs of lines allow 8 double vacuum or 16 single vacuum suction cups
- Anodized aluminum surface
- Non-skid rubber base
- Stainless steel handles
- Comes with 2 oil-filled vacuum gauges to accurately check incoming vacuum lines.

### Quick Overview:

Combo Valves available in most popular sizes!



### Portable Manifold Accessories



Back Mount  
Oil Filled Gauge

Part # 56-15C18BKF



Combo Valve  
Outgoing Lines

8 mm	53-5001258
6 mm	53-5001256

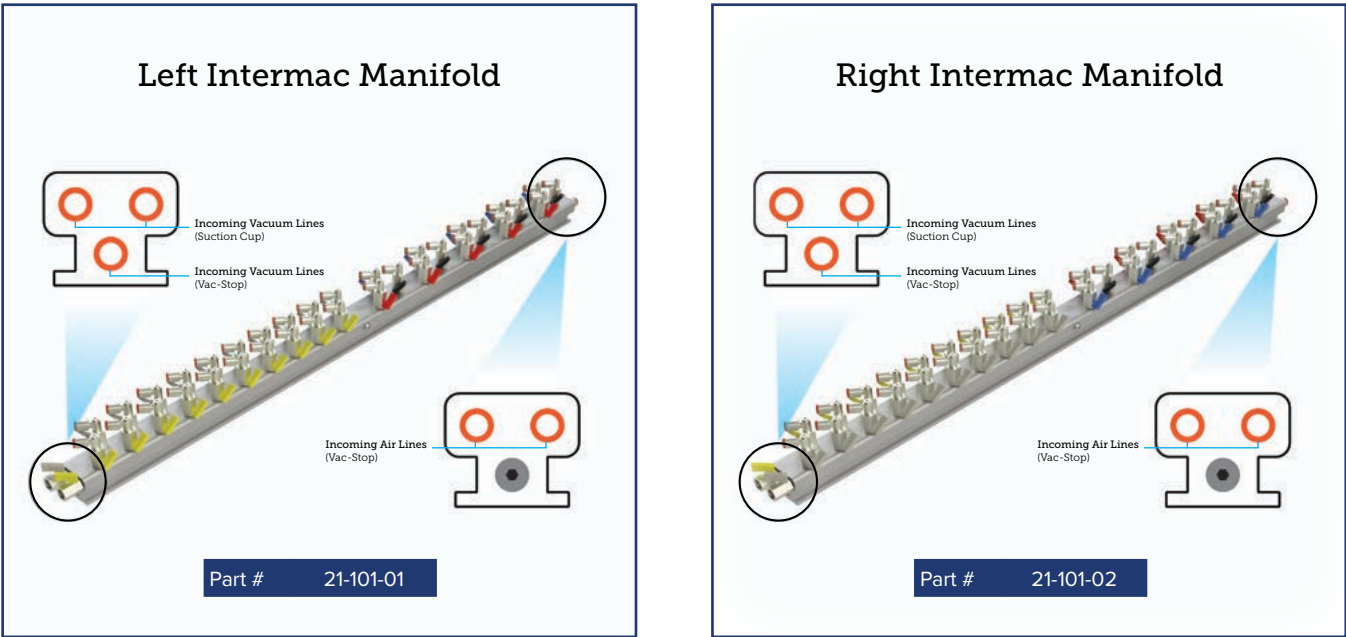


Combo Valve  
Ingoing Lines

1/2"	53-50037505
12 mm	53-50037512

## Intermac Manifolds

One piece extruded aluminum replacement manifold unit for Intermac machines.



Replacement Manifolds are 50" long and have color coded suction cup (10) and Vac-Stop (5) ports.

## Replacement Parts

Intermac manifolds have one of two options for valves that go on top of the manifold.

### Configuration A

Mini Ball Valve, adapter, & elbow fitting



Mini Ball Valve (1/8" BSP)	53-405125
Adapter (8 mm x 1/8" BSP)	53-2006009
Elbow (8 mm)	53-2004004

### Configuration B

Mini Ball Valve & Orientable "L" fitting



Mini Ball Valve (1/8" BSP)	53-405125
Orientable "L" (8 mm x 1/8" BSP)	53-2014006

## Manifold Suction Cups

Simplify your setup and reduce clutter on your table.

### Features:

- Functions the same as a regular suction cup
- Reduces the amount of tubing on the table allowing cleaner setups
- Ideal for FabCenter setups
- This cup can be made at ANY height and is available in most popular fitting sizes



### 200 x 200 mm (7.87" x 7.87")

Part #	21-200-10
Base Cup Dimensions	200 x 200 mm (7.87" x 7.87")
Base Surface Area	57.5 in. <sup>2</sup>
Top Surface Area	57.5 in. <sup>2</sup>
Top Seal #	12-200-10-04
Bottom Seal #	12-200-10-11

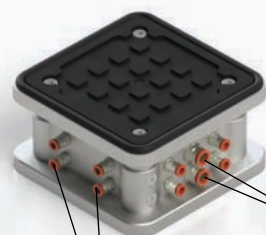


### 150 x 150 mm (5.91" x 5.91")

Part #	21-150-10
Base Cup Dimensions	150 x 150 mm (5.91" x 5.91")
Base Surface Area	31.25 in. <sup>2</sup>
Top Surface Area	31.25 in. <sup>2</sup>
Top Seal #	12-150-10-04
Bottom Seal #	12-150-10-11



### Quick Overview:



2 large incoming vacuum ports

8 pairs of outgoing port

## Blowback Kit

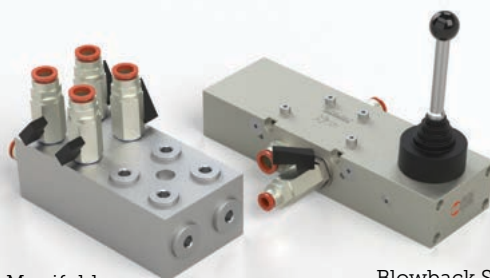
Part # 21-401-01

### Features:

- Switches between vacuum and compressed air
- Sending compressed air to your suction cups allows easier positioning of workpieces
- Available in most popular fitting sizes
- Kit includes Blowback Switch and Blowback Manifold

See page 63 for Blowback Kit Setup Diagram

## Float Your Stone!



Blowback Manifold

Blowback Switch

## Venturi Manifold

Whether you want to use our pods on your saw or a polishing table, we've got you vacuumed down!

### Single Port Venturi Vac Generator

Part #	01-502-01
Required Air Pressure	1.5 CFM @ 85 psi



### 5 Port Venturi Manifold

Part #	21-501-01
Required Air Pressure	1.5 CFM @ 85 psi

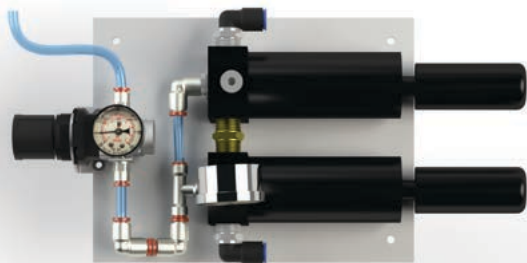


**Note:** Air regulator needs to be used, higher pressure can damage venturi manifolds.

## Dual Vacuum Generator Kit

Vacuum generation systems are a cost effective solution for small to medium sized applications.

Generate vacuum by passing compressed air from your compressor through an internal nozzle. The systems have a limited capacity and should not be used with porous materials. They also require that suction cups and manifolds be well maintained and free from extensive leaks.



Part #	01-501-02
Max Vacuum Level	26 in. Hg
Air Consumption	14 CFM @ 68 psi
Open Flow Capacity	34 CFM
Capacity at -20 in. Hg	1.5 CFM
Air Connection	1/4" NPT
Vacuum Connections	1/2" push connect

## Liquid Ring Vacuum Pump



We carry replacement Travini liquid ring vacuum pumps for replacing worn out systems.

These pumps are direct replacements for those found in many popular CNC models.

Contact us for help in choosing the correct model.



## Air Fittings

### Straight

Fitting & Thread Size	Part #
6 mm x 1/8" BSP	53-2001007
6 mm x 1/4" BSP	53-2001008
8 mm (5/16") x 1/8" BSP	53-2001009
8 mm (5/16") x 1/4" BSP	53-2001010
8 mm (5/16") x 3/8" BSP	53-2001011
12 mm x 3/8" BSP	53-2001014
14 mm x 3/8" BSP	53-2001016
14 mm x 1/2" BSP	53-2001017



### Elbow

Fitting Size	Part #
6 mm	53-2004003
8 mm (5/16")	53-2004004
10 mm	53-2004005
12 mm	53-2004006
14 mm	53-2004007



### Orientable "L"

Fitting & Thread Size	Part #
6 mm x 1/8" BSP	53-2014005
6 mm x 1/4" BSP	53-2014007
8 mm (5/16") x 1/8" BSP	53-2014006
8 mm (5/16") x 1/4" BSP	53-2014008
12 mm x 1/4" BSP	53-2014010
12 mm x 3/8" BSP	53-2014011



### Tee

Fitting Size	Part #
6 mm	53-2005003
8 mm (5/16")	53-2005004
10 mm	53-2005005
12 mm	53-2005006
14 mm	53-2005007



### Coupling

Fitting Size	Part #
6 mm	53-2003003
8 mm (5/16")	53-2003004
10 mm	53-2003005
12 mm	53-2003006
14 mm	53-2003007



### Tube Reducer MxF

Size	Part #
8 mm (5/16") x 6 mm	53-2008006
10 mm x 8 mm (5/16")	53-2008008
12 mm x 8 mm (5/16")	53-2008011
3/8" x 5/16" (8 mm)	53-2008013



### Adapter

Fitting & Thread Size	Part #
6 mm x 1/8" BSP	53-2006007
8 mm (5/16") x 1/8" BSP	53-2006009
8 mm (5/16") x 3/8" BSP	53-2006011
12 mm x 3/8" BSP	53-2006014
14 mm x 3/8" BSP	53-2006016



### Y

Fitting Size	Part #
6 mm	53-2023003
8 mm (5/16")	53-2023004



## Pipe Fittings

### Threaded Coupling

Fitting & Thread Size	Part #
1/8" F x 1/8" F BSP	53-2103001
1/4" F x 1/4" F BSP	53-2103002
3/8" F x 3/8" F BSP	53-2103003



### Threaded Plug

Fitting Size	Part #
1/8" M BSP	53-2107001
1/4" M BSP	53-2107002
3/8" M BSP	53-2107003
1/2" M BSP	53-2107004



### Tube Connector

Fitting & Thread Size	Part #
6 mm	53-2007003
8 mm (5/16")	53-2007004
10 mm	53-2007005
12 mm	53-2007006
14 mm	53-2007007



### Tube Plug

Fitting Size	Part #
6 mm	53-2010003
8 mm (5/16")	53-2010004
10 mm	53-2010005
12 mm	53-2010006
14 mm	53-2010007



### Adapter

Fitting & Thread Size	Part #
6 mm x 1/8" BSP	53-2006007
8 mm (5/16") x 1/8" BSP	53-2006009
8 mm (5/16") x 3/8" BSP	53-2006011
12 mm x 3/8" BSP	53-2006014
14 mm x 3/8" BSP	53-2006016



## Valves

### Mini Ball Valve M-F

Fitting & Thread Size	Part #
1/8" BSP	53-405125
1/4" BSP	53-405250
3/8" BSP	53-405375



### Mini Ball Valve F-F

Fitting & Thread Size	Part #
1/8" BSP	53-400125
1/4" BSP	53-400250
3/8" BSP	53-400375



### Combo Valve - Angled

Fitting & Thread Size	Part #
6 mm x 1/8" BSP	53-5001256
8 mm (5/16") x 1/8" BSP	53-5001258



### Combo Valve - Straight

Fitting Size	Part #
1/2" x 3/8" BSP	53-50037505
12 mm x 3/8" BSP	53-50037512



# LEATHERHEADS

Use your CNC router or CNC bridge saw to leather your stone!

In addition to Frankfurt shoes **The Leatherhead** now comes with a set of (3) 4" and (3) 5" snail lock adaptors so you can use any style of brush! The adaptors are easily changed which makes for a quick setup with any brush.



**Leatherhead Mini** includes a 4" and 5" snail lock adaptor. It also fits into most tool racks.



**NEW!** from BLICK INDUSTRIES

## 1/2" Gas Adaptor

for The Leatherhead

Use The Leatherhead on a 5-axis saw with the BLICK 1/2" Gas Adaptor!



Proudly Made in the U.S.A.    [www.blickindustries.com](http://www.blickindustries.com)

2245 Laguna Canyon Road, Laguna Beach, CA 92651 USA | Phone: (949) 499-5026 | Fax: (949) 499-1598





# Tools & Accessories

## The Leatherhead

Use your CNC router or CNC bridge saw<sup>1</sup> to leather or hone your stone.

The Leatherhead adapts to any 35 mm conic tool holder. It accepts Frankfurt style brushes or 4", 5", and 6" snail lock brushes. It can be used on belt driven and electro-spindle machines.

Part #	14-500-03
Tool Diameter	5.5"
Tool Weight <sup>2</sup>	≈ 4 lbs.
Overall Length <sup>2</sup>	2 <sup>5</sup> / <sub>8</sub> "
Adapter Type	35 mm Conic Tool Holder



Tool holder, and brushes not included.

## The Leatherhead Mini



Tool holder, and brushes not included.

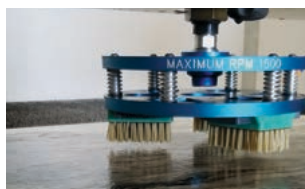
Use your CNC Router or CNC Bridge Saw<sup>1</sup> to leather your stone. The Leatherhead Mini adapts to any 35 mm conic tool holder. It accepts 4", 5" and 6" snail lock brushes.

- Can be used on belt driven and electro-spindle machines. Customer to supply tool holder, and brushes.

Part #	14-500-04
Tool Diameter	5.5"
Tool Weight <sup>2</sup>	≈ 4 lbs.
Overall Length <sup>2</sup>	2 <sup>5</sup> / <sub>8</sub> "
Adapter Type	35 mm Conic Tool Holder

## 1/2" Gas Adaptor

Use The Leatherhead on a 5-axis saw!



Left-handed Adaptor Part #	14-101-11
Right-handed Adaptor Part #	14-101-10
Tool Weight	1 lbs.
Tool Height	76.2 mm
Arbor Diameter	35 mm

The adaptor is available in Left-handed (tightens by turning counter-clockwise) and Right-handed (tightens by turning clockwise) threading.

<sup>1</sup> CNC bridge saw must be able to tilt head 90° and accept a 35 mm tool holder or 1/2" gas.

<sup>2</sup> Dimensions and weight are for the Leatherhead tool only, and does not include the brushes or tool holder.

<sup>3</sup> Do not use Left-handed Adaptor with Leatherhead Mini



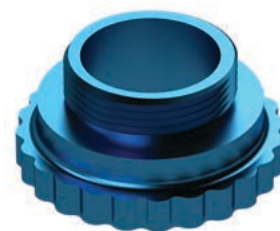
## Snail Locks

The Leatherhead and Leatherhead Mini come with both 4" and 5" Snail Lock Adapters. The 5" Snail Lock accepts 5" and 6" brushes.



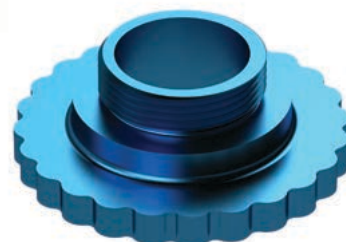
Leatherhead Mini with 5" Snail Lock and Brush

**US Patent 9,387,569**



4" Snail Lock

Part # 14-500-03-04



5" Snail Lock

Part # 14-500-03-05

### 5" Snail Lock

Part # 14-500-03-05

- Accepts 5" or 6" brushes
- Can be swapped out easily by hand or wrench



### 4" Snail Lock

Part # 14-500-03-04

- Accepts 4" brushes
- Can be swapped out easily by hand or wrench

## Dressing Tool

The Dressing Tool Assembly comes complete with cutter assembly, carbide inserts, wrench, mounting adapter, cone assembly mounting bolt and water disbursement fitting ready for mounting to customer supplied 22 mm or 35 mm Conic Tool Holder.

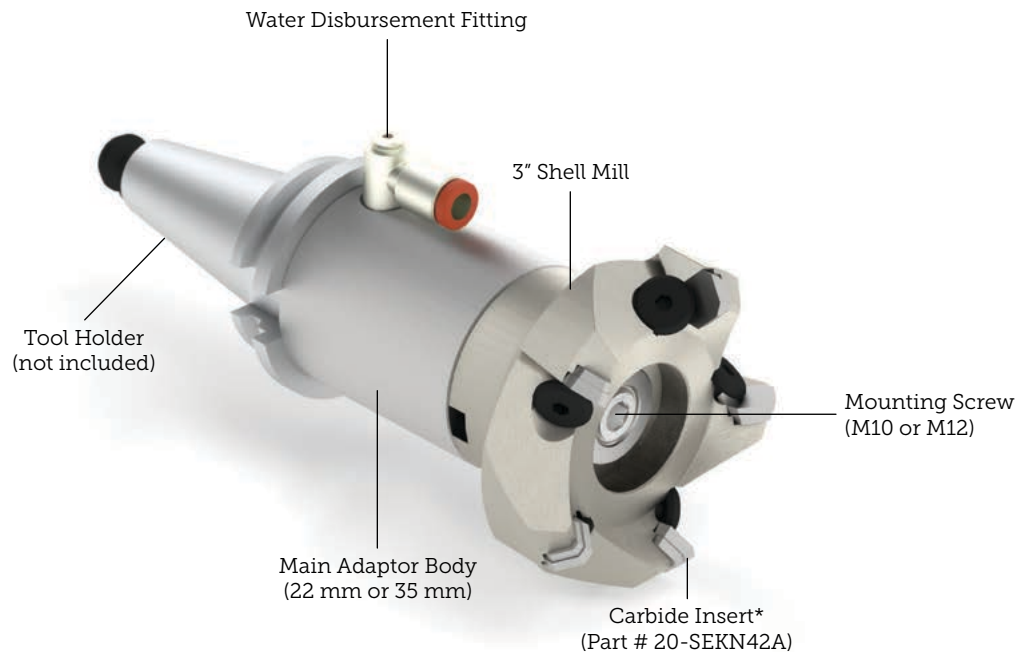


### The Dressing Tool can be used to dress:

- Table surfaces
- Suction Cup pads
- Suction Cup bearing feet
- Clamp surface pads

Tool Size	Part #
Standard 4.13", 35 mm ID	20-022-05
Standard 4.7", 35 mm ID	20-022-01
3.7", 35 mm ID Tool	20-022-02
7.7", 35 mm ID Tool	20-022-03
10.7", 35 mm	20-022-08
Standard 4.7", 22 mm ID	20-022-04

### Dressing Tool Overview



\*Carbide inserts held in place with reverse thread screws



Unassembled Dressing Tool Components



Dressing Tool Assembly



Installing Carbide Inserts  
(left-handed thread)

**Note:** Different variations of dressing tools are available. When ordering you will need to specify the bore diameter which corresponds to the tool holder that you intend to use (22 and 35 mm are available), and the screw size (10 mm and 12 mm are common sizes). Shorter or longer body lengths are available upon request.

## Isolator Kit

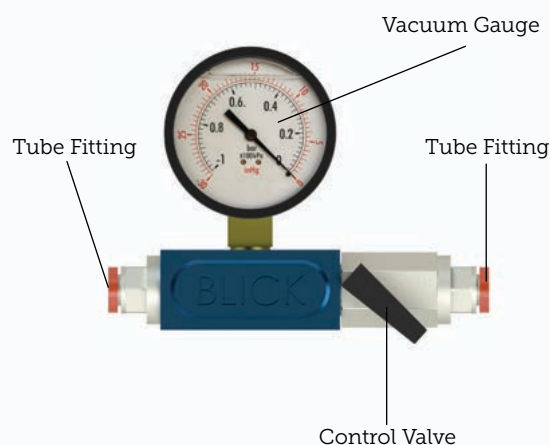
Don't Put Up With Leaks Any Longer!



Isolator Kit

Part # 53-30HG1

### Quick Overview:



Vacuum leaks, no matter the cause, are your enemy. Sometimes just finding them is a real problem. The Isolator Kit allows the operator to check for vacuum leaks by easily isolating suspicious items and then eliminating the problem.

Simply insert the Isolator in line upstream from the suspect item, connect the appropriate tube, apply vacuum to the item and then shut off the Isolator's control valve and wait. If the gauge shows a loss of vacuum the suspect item is leaking. Simple as that. The leak may be caused by various factors, such as, a bad seal, a bad o-ring, damage to the part or defects in the table surface, etc.

With the Isolator you can quickly locate, "isolate" and eliminate pesky vacuum leaks which will in turn increase the your overall vacuum and effective holding power of your machine for better and faster processing.

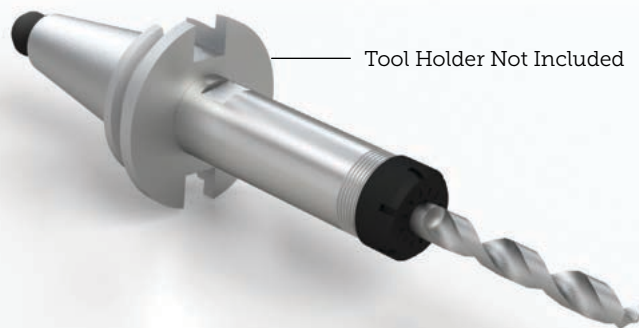
Comes complete with Vacuum Gauge, Control Valve and three separate pairs of tube fittings (6 mm, 8 mm, and 12 mm) for isolating all vacuum lines commonly used in the industry.

## Collet Holders

### Lets you use standard router bits!

Precision hardened and ground, all stainless collet holders let you use standard straight shank router bits in your machine.

Collet holders screw in to standard half gas ( $\frac{1}{2}$ " BSP) tool holder/cone.



### 4.5" ER25 Collet Holder - $\frac{1}{2}$ " BSP Adapter

Part #	14-100-05
Collet Style	ER25
Capacity	$\frac{1}{8}$ " - $\frac{5}{8}$ " (6 - 16 mm)
Overall Length	4.5"
Adapter Thread	$\frac{1}{2}$ " BSP

*Fits all tool holders with standard  $\frac{1}{2}$ " BSP female thread ( $\frac{1}{2}$ " gas adapter)*



### 1.5" ER25 Collet Holder - $\frac{1}{2}$ " BSP Adapter

Part #	14-100-04
Collet Style	ER25
Capacity	$\frac{1}{8}$ " - $\frac{5}{8}$ " (6 - 16 mm)
Overall Length	1.5"
Adapter Thread	$\frac{1}{2}$ " BSP

*Fits all tool holders with standard  $\frac{1}{2}$ " BSP female thread ( $\frac{1}{2}$ " gas adapter)*



### ER25 Collets

Part #	14-125
--------	--------

Standard and metric sizes available



### Tap & Drill Kit

$\frac{1}{8}$ " BSP	58-125-11
$\frac{1}{4}$ " BSP	58-250-11

*Common drill and tap size for air fittings on our suction cups and manifolds.*





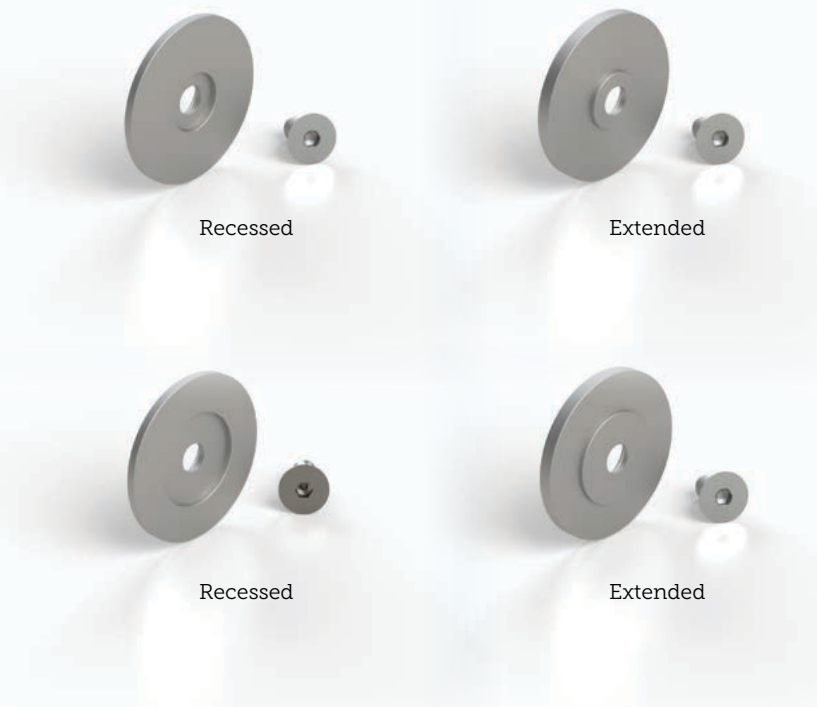
## **Tool Accessories**

Replacement end caps for cutting/profiling tools.

- Allows for adequate clearance when profiling sink cut-outs.

### **22 mm Low-Profile End Cap**

Recessed Part #	14-102-01
Extended Part #	14-102-02
Diameter	22 mm
Mounting Screw	M10 Flat Head
OD	63.5 mm



### **35 mm Low-Profile End Cap**

Recessed Part #	14-102-03
Extended Part #	14-102-04
Shaft Diameter	35 mm
Mounting Screw	M10 Flat Head
OD	63.5 mm



## **Tool Forks**

### **Intermac**



Part # 14-200-01

### **Bimatech**



Part # 14-200-02

## Tubing

### 6 mm Polyurethane Tubing

Red (20m (66') roll)	54-6RP
White (20m (66') roll)	54-6WP
Blue (20m (66') roll)	54-6WP
Black (20m (66') roll)	54-6BLAP
Yellow (20m (66') roll)	54-6YP

### 8 mm (<sup>5</sup>/<sub>16</sub>") Polyurethane Tubing

Red (100' roll)	54-8RP
White (100' roll)	54-8WP
Blue (100' roll)	54-8BLUP
Black (100' roll)	54-8BLAP
Yellow (100' roll)	54-8YP

### 10 mm Polyurethane Tubing

Red (20m (66') roll)	54-10RP
White (20m (66') roll)	54-10WP
Blue (20m (66') roll)	54-10WP
Black (20m (66') roll)	54-10BLAP
Yellow (20m (66') roll)	54-10YP



### 8 mm (<sup>5</sup>/<sub>16</sub>") Bonded Polyurethane Tubing

Red/Blue (100' roll)	54-82RBLU
Yellow/White (100' roll)	54-82YW
Blue/Black (100' roll)	54-82BB

Bonded Tubing consists of two separate lines that are joined together, but can easily be separated

### 1/2" Polyurethane Tubing

Black (Per ft.)	54-50BLAP
White (Per ft.)	54-50W

### 12 mm Polyurethane Tubing

Black (Per ft.)	54-12BLAP
White (Per ft.)	54-12WP

### 14 mm Nylon Tubing

Black (Per ft.)	54-14BLA
White (Per ft.)	54-14W



### Tube Mat

Part #	54-101-01
--------	-----------

## Replacement Seals

Replacement seals are available for all of our products and are sold individually packaged, labeled, and ready to be installed. All of our seals are designed to be pressed in by hand and do not require the use of glue or any special tools.



Visit [www.blickindustries.com/seal-replacement/](http://www.blickindustries.com/seal-replacement/) to view our seal replacement procedure videos

### Top Seal Replacement



### Bottom Seal Replacement



**Note:** Replacement seal part numbers are listed with the corresponding product. As a general rule, add a -04 to the end of the part number for top seals and a -11 for the bottom seal.

# Top & Bottom Seal Length Chart

## Get the right fit!

Use this chart to find the correct lengths for your top seals and bottom seals (not including black o-rings). Seal measurements run slightly longer to compensate for differences in atmospheric pressures that may effect the fit of the seal.

Category	Suction Cup Size	Top Seal Length (in.)	Bottom Seal Length (in.)
Square	100 x 100 mm	13	13.5
Square	120 x 120 mm	17	16.875
Square	150 x 150 mm	21.75	21.625
Square	200 x 200 mm	29.5	29.5
Square	250 x 250 mm	31	30.75
Rectangular	100 x 500 mm	46.25	44.5
Rectangular	120 x 150 mm	19.25	19.25
Rectangular	150 x 240 mm	28.75	28.75
Rectangular	150 x 300 mm	33.5	33.5
Rectangular	150 x 500 mm	49.25	49.25
Rectangular	200 x 300 mm	37.5	37.5
Rectangular	200 x 400 mm	45.25	45.25
Rectangular	250 x 500 mm	57	57
Rectangular	40 x 100 x 300 mm	25.25	29.5
Rectangular	40 x 150 x 300 mm	25.25	33.25
Rectangular	50 x 300 mm	26	33.5
Rectangular	50 x 500 mm	41.5	40
Rectangular	70 x 150 mm	15.5	21.625
Rectangular	70 x 240 mm	22.5	28.75
Rectangular	75 x 200 mm	19.75	19.75
Rectangular	75 x 300 mm	27.5	27.5
Rectangular	75 x 500 mm	44	42.25
Shaped	120mm Radius Corner	15.75	15.625
Shaped	150 mm Concave Corner	20.875	21.625
Shaped	150 mm Radius Corner	19.875	19.75
Shaped	150 x 240 mm Concave Corner - Left	28	28.75
Shaped	150 x 240 mm Concave Corner - Right	28	28.75
Shaped	200 mm Radius Corner	26.75	26.75
Shaped	Vanity Sink Suction Cup	52.75	47.5
Round	120mm Stone	14.625	14.625
Round	150 mm	18.25	18.25
Round	200 mm	24.5	24.5
Round	250 mm	30.5	30.5
Round	350 mm	43	43



## Top & Bottom Seal Length Chart (cont.)

Category	Suction Cup Size	Top Seal Length (in.)	Bottom Seal Length (in.)
Low-Profile	100 x 100 mm Low-Profile	13	13.5
Low-Profile	120 mm Round Low-Profile	14.75	14.5
Low-Profile	150 mm Round Low-Profile	18.25	18.25
Low-Profile	150 x 150 mm Low-Profile	21.625	21.625
Low-Profile	150 x 240 mm Low-Profile	28	28.75
Low-Profile	200 x 200 mm Low-Profile	29.5	29.5
Low-Profile	250 x 500 mm Low-Profile	57	57
Low-Profile	50 x 300 mm Low-Profile	26	33.5
Low-Profile	70 x 150 mm Low-Profile	15.5	21.625
Low-Profile	70 x 240 mm Low-Profile	22.5	28.75
Low-Profile	75 x 300 mm Low-Profile	27.5	27.5
Specialty	105 mm - Retractable Suction Cups	29.5	29.5
Specialty	150 x 150 mm - Manifold Suction Cup	21.625	21.625
Specialty	150 x 150 mm Robocup by Breton	21.625	33.5
Specialty	150 x 300 mm Robocup by Breton	33.5	33.5
Specialty	150 mm - Retractable Suction Cups	29.5	29.5
Specialty	200 x 200 mm - Manifold Suction Cup	29.5	29.5
Specialty	200 mm - Retractable Suction Cups	29.5	29.5
Specialty	75 x 300 mm Robocup by Breton	27.5	27.5
Specialty	75 x 300 mm Saw Cup	N/A	27.5
Specialty	Backsplash Clamp Suction Cup (x2 seals)	21.5	40
Specialty	Miter Cup - Corner - Seal 1	21.75	30.75
Specialty	Miter Cup - Corner - Seal 2 (x2)	13.5	30.75
Specialty	Miter Cup - Straight (x2 Seals)	26	33.45
Specialty	Swivel Cup	N/A	18.25
Specialty	Vertical Holding Suction Cup	43	45.5

Seals are available in 50 ft. rolls or pre-cut to specific lengths.



**50 ft. Top Seal**

Part # 23-375-04



**50 ft. Bottom Seal**

Part # 23-183-04

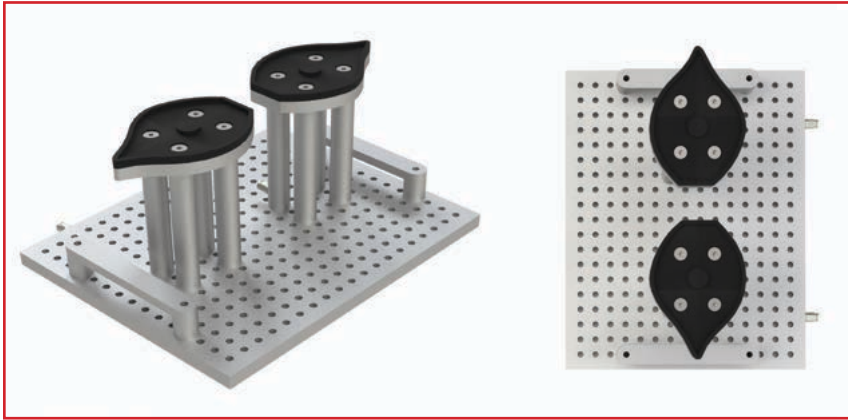
# Services and Information

## Need something custom?

We can make any shape you want.

Our in-house engineering and manufacturing capabilities allow us to create custom fixturing.

Custom fixtures are generally used for high production jobs where every second saved per part can add up to large increases in profits. They can also be a solution for hard to hold smaller parts, or parts of unusual shapes.



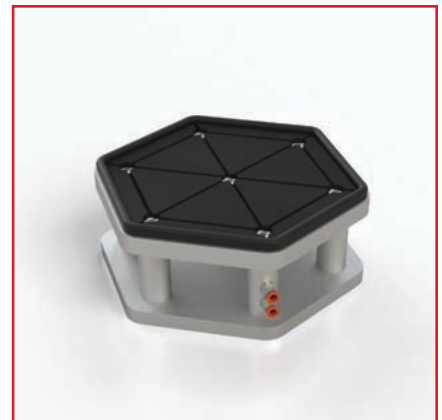
Custom fixture for making beveled glass trophies



Custom fixture for making trapezoidal parts



Custom fixture for making small glass parts



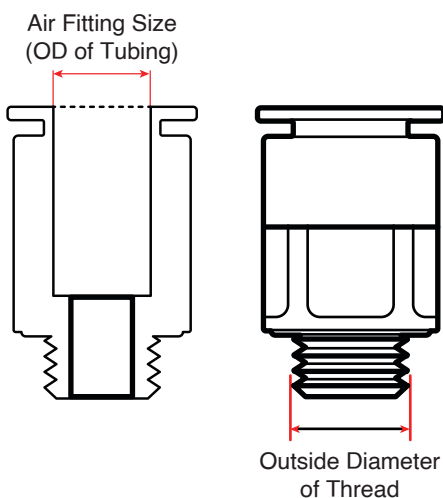
Custom fixture for making hexagonal parts

## Helpful Information and Diagrams

### Air Fitting Measurement

Our fittings connect to tubing with a quick push-in style connection. The threads seal using a rubber o-ring and do not require any sealant or tape.

To find the correct fitting size you will need both the inner diameter (ID) of the tube connection and the outer diameter (OD) of the threaded connection.



### BSP to Inches Conversion

$\frac{1}{8}$ " BSP	= .383" $\approx \frac{3}{8}$ "
$\frac{1}{4}$ " BSP	= .518" $\approx \frac{1}{2}$ "
$\frac{3}{8}$ " BSP	= .656" $\approx \frac{5}{8}$ "
$\frac{1}{2}$ " BSP	= .825" $\approx \frac{13}{16}$ "

Tube sizes are measured in millimeters and thread sizes are measured in inches.

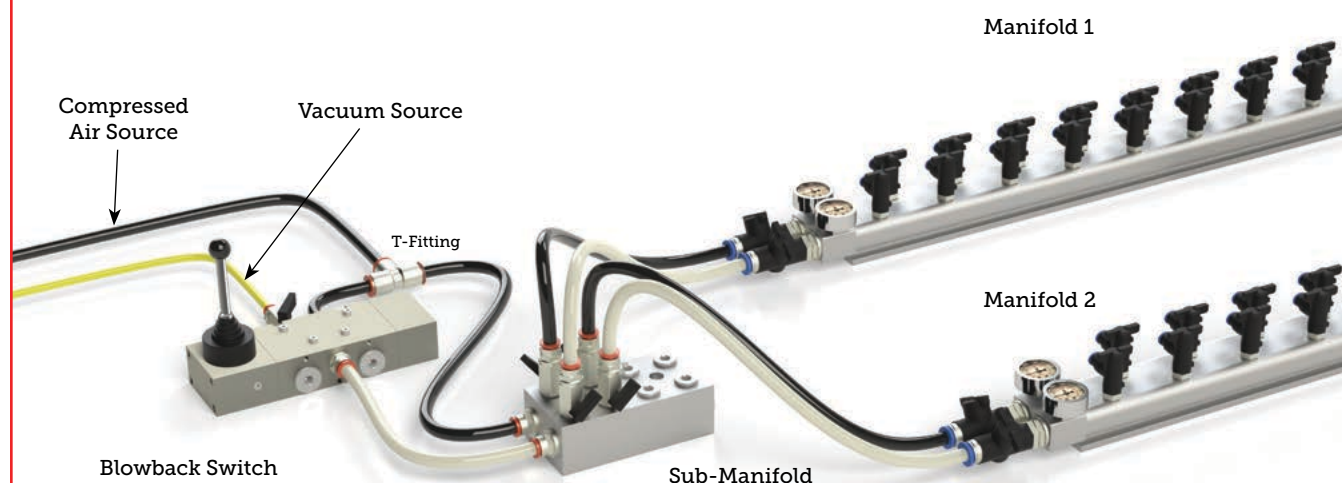
### Drill Sizes Chart

Fraction	Decimal	Metric (mm)
$\frac{1}{8}$ "	.125"	3.175 mm
$\frac{1}{4}$ "	.25"	6.350 mm
$\frac{3}{8}$ "	.375"	9.525 mm
$\frac{1}{2}$ "	.5"	12.700 mm
$\frac{5}{8}$ "	.625"	15.875 mm
$\frac{3}{4}$ "	.75"	19.050 mm
$\frac{7}{8}$ "	.875"	22.225 mm

### Tapping Chart

To Tap This Size Thread	Use This Drill Bit	Metric (mm)
$\frac{1}{8}$ " BSP	R Drill (.339")	8.6 mm
$\frac{1}{4}$ " BSP	$\frac{29}{64}$ " (.453")	11.5 mm
$\frac{3}{8}$ " BSP	$\frac{19}{32}$ " (.594")	15.1 mm
$\frac{1}{8}$ " NPT	Q Drill (.332")	8.4 mm
$\frac{1}{4}$ " NPT	$\frac{7}{16}$ " (.438")	11.1 mm
$\frac{3}{8}$ " NPT	$\frac{9}{16}$ " (.562")	14.3 mm

### Blowback Kit Diagram



## **Understanding Vacuum**

Atmospheric pressure is the result of all the air above us pushing down. The weight of a 1 ft. by 1 ft. column of air spanning from sea level to space is approximately 2,117 lbs. This results in a pressure of 14.7 psi (pounds per square inch), or 29.92 in-Hg (inches of mercury). The reason we do not feel this substantial pressure is because the fluids and gases in our bodies are at roughly the same pressure resulting in no net force.

Vacuum is a situation where the pressure of a contained volume is less than the surrounding atmospheric pressure. To create a vacuum, the air contained in a volume must be at least partially removed. The more completely it is removed, the stronger the vacuum will be. As air is removed from a volume the pressure inside the volume will begin to fall, and the weight of the atmosphere will begin to push on the volume. If there is a hole in the volume, the air will rush in, attempting to equalize the pressure. If it were possible to completely remove all the air from the volume, the pressure inside would fall to zero, and the pressure exerted on the walls of the container would be equal to the surrounding atmospheric pressure.

Since the pressure exerted on a volume under vacuum is the result of the atmosphere, it cannot be greater than the surrounding atmospheric pressure.

As altitude increases, the size of the column of air pushing down on us decreases resulting in a lower atmospheric pressure. Up to 6,500 ft., atmospheric pressure decreases about 3.4% for every 1,000 feet. The "Altitude Effect on Vacuum" chart on page 65 shows this relationship in more detail.

To calculate the force exerted on an object under vacuum, we multiply the surface area of the object that is exposed to vacuum by the vacuum pressure.

When a workpiece is secured using suction cups, air is evacuated from the cups and the atmosphere pushes down on top of the material, sandwiching it against the suction cups. The magnitude of the force pushing against an individual suction cup is equal to the surface area of the suction cup multiplied by the vacuum pressure present in the cup. Therefore, if our goal is to prevent a workpiece from moving by creating the largest possible downward force, we have two options: increase our vacuum pressure, or increase the surface area of our part that is covered by suction cups.

We have already concluded that the maximum possible vacuum pressure is equal to the surrounding atmospheric pressure. Therefore, if our vacuum system is working properly, our only choice is to maximize the surface area of our workpiece that is in contact with a suction cup.

BLICK INDUSTRIES supplies largest selection of shapes and sizes of suction cups to fit any solid surface fabrication.

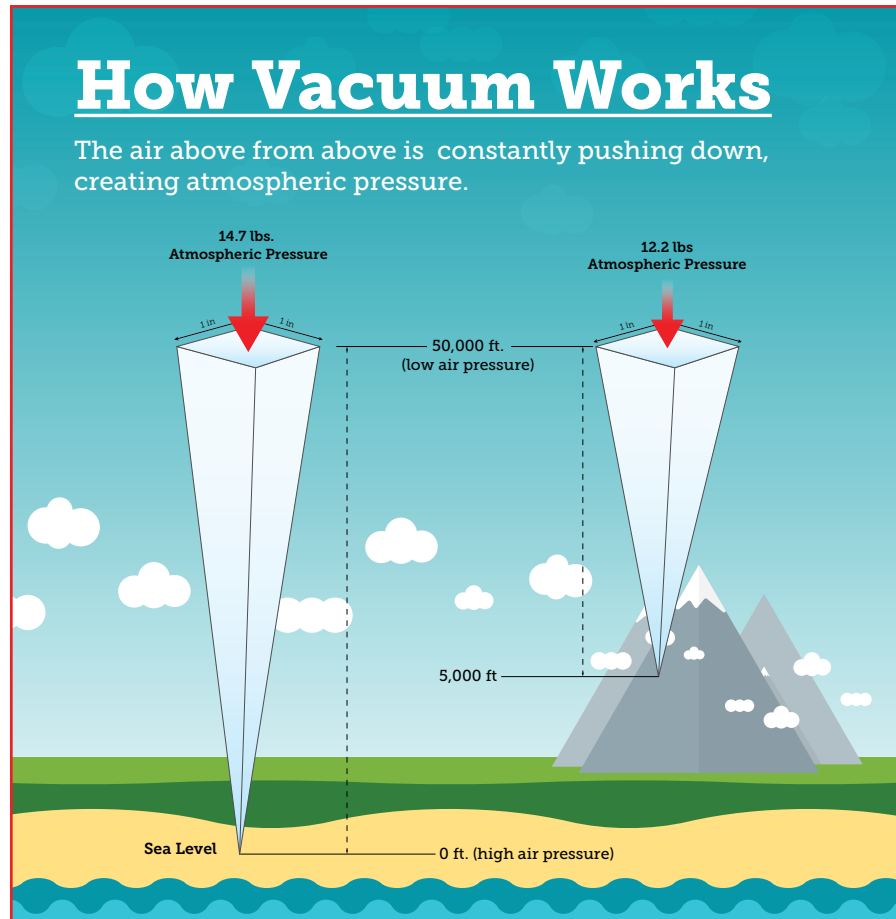


## Common Vacuum Unit Conversions

1 in. Hg	.491 psi	.0339 Bar
1 psi	2.036 in. Hg	.0689 Bar
1 Bar	14.5 psi	29.530 in. Hg

## Altitude Effect on Vacuum

Altitude Above Sea Level (feet)	Altitude Above Sea Level (meters)	Atmospheric Pressure (psi)	Maximum Vacuum Level (in. Hg)	Vacuum Level Loss	Maximum Vacuum Level
0'	0	14.70	29.9	-	-
1000'	305	14.16	28.9	3.4%	96.6%
2000'	610	13.66	27.8	7.1%	92.9%
3000'	914	13.16	26.8	10.4%	89.6%
4000'	1219	12.68	25.8	13.8%	86.2%
5000'	1524	12.22	24.9	16.8%	83.2%
6000'	1829	11.77	24.0	19.8%	80.2%
7000'	2134	11.33	23.1	22.8%	77.2%
8000'	2438	10.91	22.2	25.9%	74.1%
9000'	2743	10.50	21.4	28.6%	71.4%
10,000'	3048	10.10	20.6	31.3%	68.7%



## Table Retrofit/Replacement

Our table replacement system addresses two common issues that exist in the industry and is the result of years of observations and development. The first issue is aging machines with delaminating PVC tables, and the second issue is the desire to eliminate the slots found in many machines that have aluminum tables.

The new table material is 1" PVC and is attached to the existing table surface using special fasteners. The thick table can be resurfaced many times and should last for the life of the machine. The system can be configured in various ways.

### Customer Fabrication & Installation:

The customer buys the PVC locally, machines and installs it using the included supplies and rented toolkit.

### Customer/BLICK Installation:

BLICK pre-manufactures the PVC table material according to the specifications of the customers machine and the customer installs with the rented tool kit.

### Professional Installation:

BLICK pre-manufactures the PVC table material to fit the customers machine and our independent technician installs the table at the customer's facility.

For more information, please contact us. It will be necessary to know the make and model of your machine, as well as the size of your machine's table.



*"Greatest thing since sliced bread ...the system and support couldn't have been any better ...the performance of the system has been spectacular ...after 2 years of running there has been no separation, pull-up, or cracks ...worked as advertised."*

*Chris Harrelson, Fabricator  
Marquis Marble & Granite, South Carolina*

*"Best system on the market! Easily done, zero problems since and none I can see coming up. The surface was much better."*

*John Mishler, Fabricator  
Custom Stone, Virginia*

## **Maintenance & Warranty Information**

### **Recommended Maintenance Procedures**

#### **Suction Cups / Clamps**

- Clean and rinse all suction cups/clamps daily
- Store suction cups on their sides (do not store them on their seals)
- Disconnect and reconnect tubing at least once a week to exercise the fittings and clear out any debris in the fitting
- Disconnect and cut ends of tubing every so often to remove worn out/damaged ends for better sealing
- Typically, top seals should be replaced every 6-18 months depending on use
- Typically, bottom seals should be replaced every 12-24 months depending on use
- Lubricate mechanical and pneumatic clamps parts as needed  
(Magnalube-G recommended)

#### **Manifolds**

- Exercise all valves/fittings daily
- Thoroughly rinse and blow out manifolds/fittings weekly
- Disconnect and cut ends of tubing every so often to remove worn out/damaged ends for better sealing
- Help prevent leaks in your vacuum system by replacing valves and fittings whenever needed

**Note:** We carry a full line of fittings and replacement manifolds for all machines

### **Repair Procedures / Warranty Information**

- We offer a full repair service (see page 68).
- Our products that contain a rubber pad come with a lifetime warranty! If the pad delaminates for reasons other than damage we will replace the pad free! We will also waive the \$10 service charge as long as no other damage has been done to the cup/clamp.
- **IMPORTANT NOTE:** Cups and Clamps must be fully assembled when sent in for repair. If there is any damage to the cup (i.e. damaged suction cup top, base) we cannot waive the \$10 service charge. Additionally, you will be charged for replacement air fittings, top and bottom seals unless the customer specifies otherwise.
- If you have any questions regarding the warranty and repair procedure/pricing please call (949)499-5026.

### **Warranty Information**

Our suction cups and clamp's rubber pads come with a lifetime warranty when delamination has occurred. Actual damage to suction cups and clamps is not included under this warranty. All warranty claims are subject to approval by BLICK INDUSTRIES and MUST be sent to our facility for replacement.

## **Repair Procedure**

**Send us your damaged Suction Cups or repair them yourself!**

### **Benefits of sending us your pods for repair:**

- We have a dedicated facility for handling repairs
- No cost cleaning service
- Receive your pods in like-new condition (tolerances of  $+0.05/-0.00$  mm or  $+0.002/-0.000$ " )

See below for the repair procedure

### **Repair procedure**

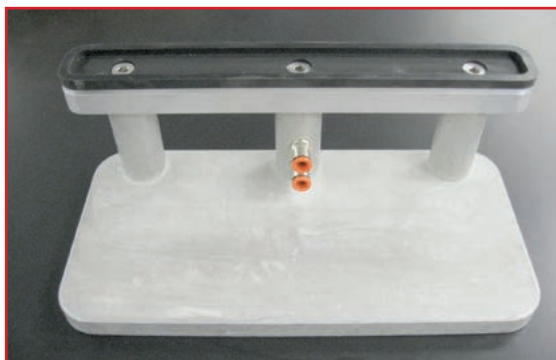
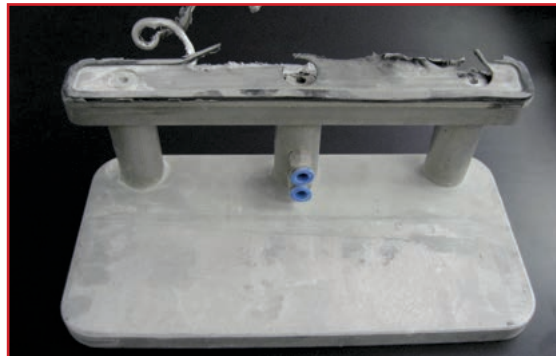
Securely package the damaged items in an appropriate container, if possible, re-use the packaging from the original shipment. Proper packaging is extremely important. Many of our products are heavy and can be further damaged during shipment if not packaged properly.

1. Complete the Repair Form and include it with your shipment. The repair form can be found on page 70. A printable form is also available on our website.

**NOTE: Be sure to complete the entire form and designate the type of UPS service you desire.**

2. Allow seven to ten days, plus shipping time, for normal repair service.

**NOTE: Please indicate on the form if you would like us to schedule a pickup through UPS. We will need box dimensions and approximate weights. Also, please indicate if you would like a quote before proceeding with repairs. If not we will replace the damaged parts to return the suction cup back to 100% functionality.**



### **How to repair damaged pods yourself in-house:**

1. Order replacement parts for your damaged pods
2. Once you receive the new parts, remove the damaged pieces and fasten the new parts on
3. Mill the oversized rubber pad\* using our dressing tool (see page 54)

**\* Our rubber pads are purposefully oversized so they can be milled to the exact height you need. This is the same process we use when manufacturing brand-new suction cups.**



# BLICK INDUSTRIES

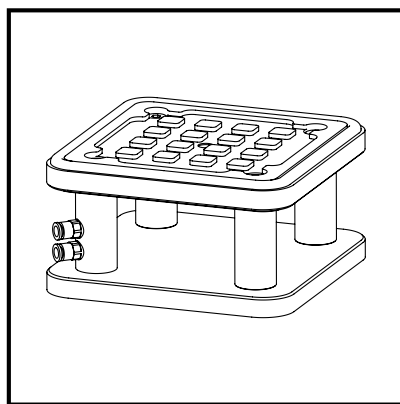
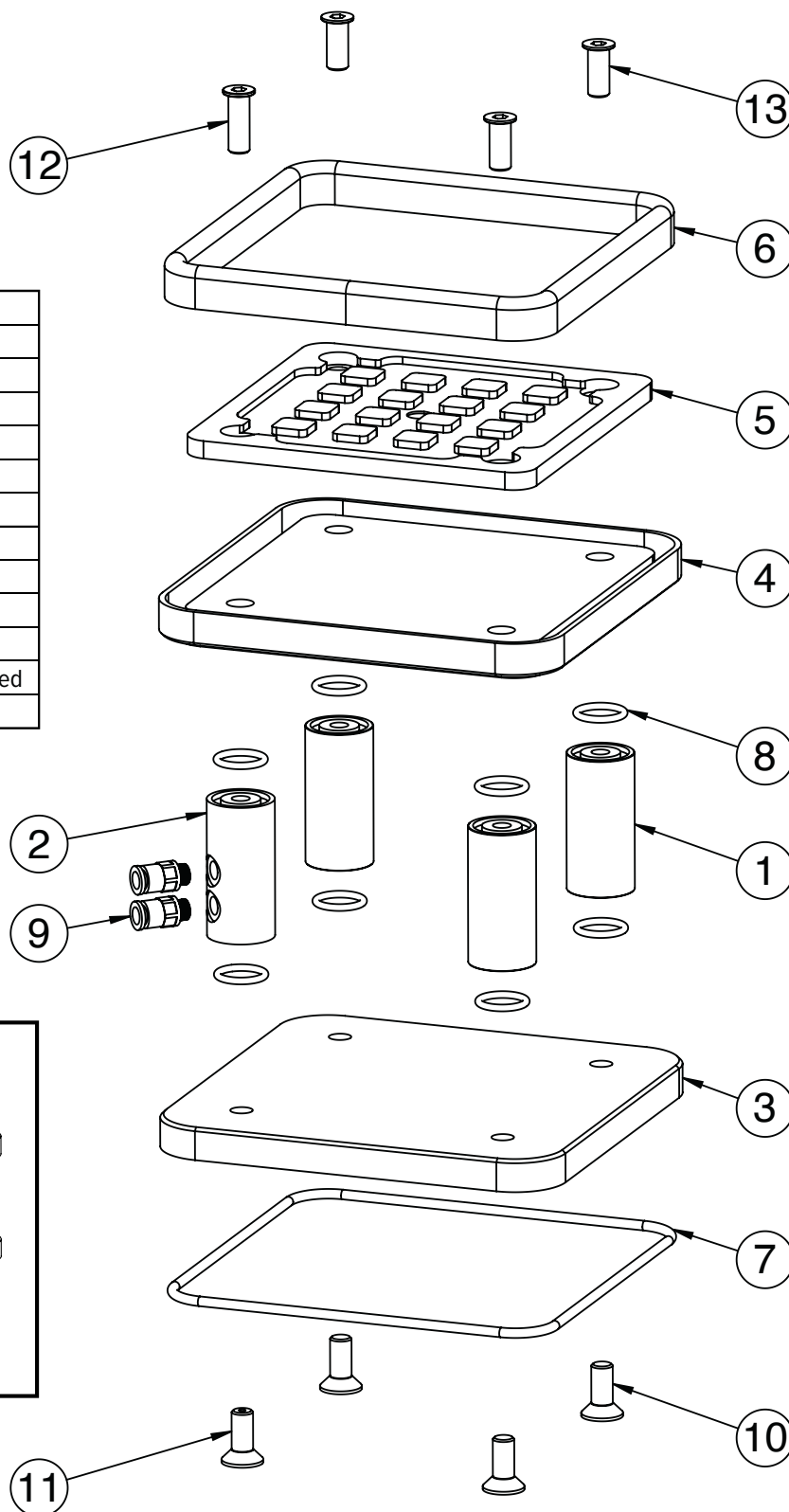
## Anatomy of a Suction Cup

200 x 200 mm

Part # 12-200-10

### KEY

1	Post
2	Air Post
3	Base
4	Top
5	Pad
6	Top Seal
7	Bottom Seal
8	O-Ring
9	8 mm X 1/8" BSP Straight
10	M10 X 25 mm Flat Head
11	M10 X 25 FH Vented
12	M10 X 30 mm Top Screw Vented
13	M10 X 30 mm Top Screw



200 x 200 mm

Part # 12-200-10



# Repair Form

E-mail this form to [orders@blickindustries.com](mailto:orders@blickindustries.com)

**Disclaimer:** Please send only the items you want repaired.  
We Cannot store your items for more than 90 days.  
Items the customer declines to have repaired will be discarded.  
We can only make repairs to **BLICK** products.

Company Name: \_\_\_\_\_

Contact: \_\_\_\_\_ PO#: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

## Preferred UPS Return Shipping Method (check only one)

☐ Ground ☐ 3 Day Select ☐ 2nd Day Air ☐ Next Day Air

## Would you like a quotation **BEFORE** we repair any items? (check only one)

☐ **YES**, please call me for a quotation ☐ **NO**, go ahead and repair all items

	<u>Quantity</u>	<u>Item Description</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____
9.	_____	_____
10.	_____	_____

## Would you like us to schedule a pickup (UPS only)? If yes, we will need the box dimensions and weight.

☐ **YES**, call me to schedule a pickup ☐ **NO**, I will arrange shipment to BLICK

	<u>Dimensions</u>	<u>Weight</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

\*\*\* Fill out this form and include the original along with your shipment. Make sure to keep a copy for your records. \*\*\*  
Ship to - Attn: Repairs, BLICK INDUSTRIES, 2245 Laguna Canyon Road, Laguna Beach, CA 92651  
Additional forms are available on our website. Be sure to use adequate packaging for heavy items.

# Fax Order Form

Please use this form to place an order with us. Fax the completed form to BLICK INDUSTRIES at (949) 499-1398. If you have any questions about your order please contact us at (949) 499-5026

Account Number: \_\_\_\_\_

Company Name: \_\_\_\_\_

Contact: \_\_\_\_\_ PO#: \_\_\_\_\_

Address: \_\_\_\_\_

City/State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

Preferred UPS Return Shipping Method (check **only** one)

☐ Ground ☐ 3 Day Select ☐ 2nd Day Air ☐ Next Day Air

Preferred Payment Method (check **only** one)

☐ COD ☐ AMEX ☐ Mastercard ☐ Visa ☐ Discover

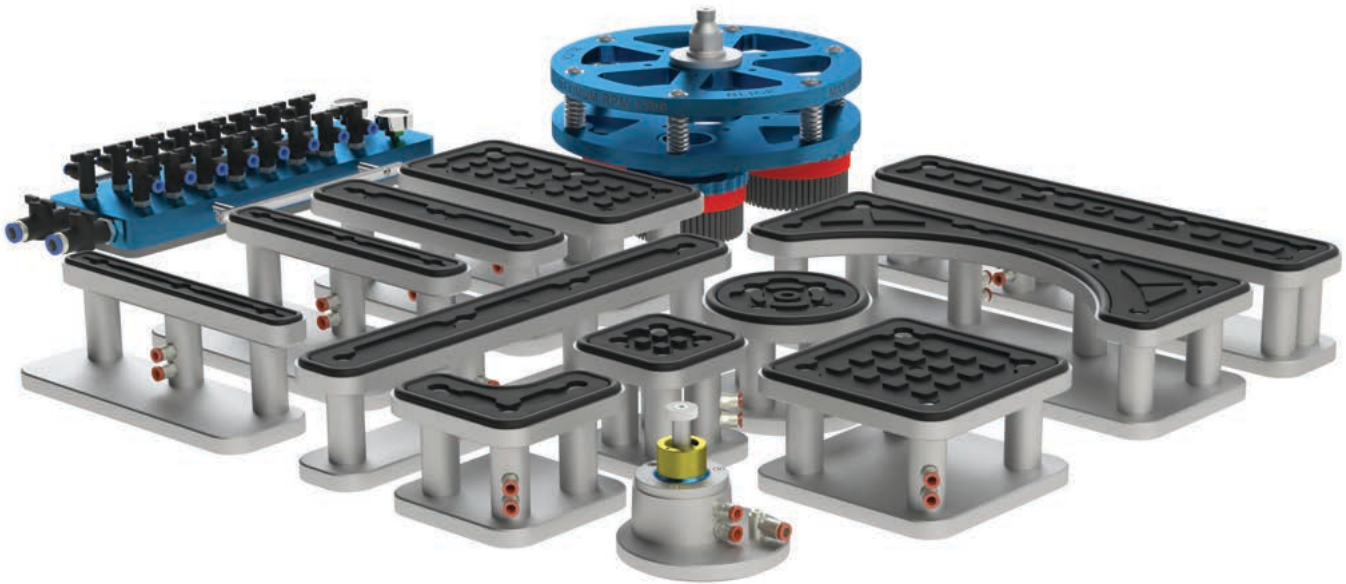
Credit Card Number: \_\_\_\_\_

Exp. Date: \_\_\_\_\_ SCC#: \_\_\_\_\_ ☐ On File

Machine Make and Model: \_\_\_\_\_

## Items to be Ordered:

	<u>Quantity</u>	<u>Part Number</u>	<u>Description</u>	<u>Height</u>	<u>Fitting Size</u>
1.	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____
4.	_____	_____	_____	_____	_____
5.	_____	_____	_____	_____	_____
6.	_____	_____	_____	_____	_____
7.	_____	_____	_____	_____	_____
8.	_____	_____	_____	_____	_____
9.	_____	_____	_____	_____	_____
10.	_____	_____	_____	_____	_____
11.	_____	_____	_____	_____	_____
12.	_____	_____	_____	_____	_____
13.	_____	_____	_____	_____	_____
14.	_____	_____	_____	_____	_____
15.	_____	_____	_____	_____	_____



DESIGNED & MANUFACTURED  
IN THE U.S.A.

**WWW.BLICKINDUSTRIES.COM**

**BLICK INDUSTRIES**

2245 Laguna Canyon Road, Laguna Beach, CA 92651 USA  
Tel: (949) 499-5026 | Fax: (949) 499-1398 | Email: [info@blickindustries.com](mailto:info@blickindustries.com)