

WORKHOLDING SOLUTIONS

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BLICK INDUSTRIES



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SUCTION CUPS (PODS)



Blick Industries suction cups provide the superior workholding solution for the stone, glass, and solid surface fabricator. Our large selection of rectangular and shaped cups allows you to achieve maximum surface coverage which translates to maximum holding power. Modular construction allows for easy replacement of friction pads and seals as well as worn out or damaged parts, thus extending the life of the item and lowering the effective cost.

Like wide tires on a car, solid rubber vulcanized friction pads promote superior holding
All Replaceable Press-in Seals (No Glue!) Available with most popular air fitting sizes

***Available for All popular CNC and manual machines
All Shapes - All Sizes***

More Surface Area = More Holding Force

With any vacuum holding device, the only way to increase holding force is to increase the effective surface area in contact with vacuum. Our wide range of shapes and sizes of suction cups allows maximum surface area resulting in maximum holding force.



We make custom height cups for any machine

200 mm X 200 mm (7.87 in X 7.87 in)

Part Number: 12-200-10

Top Surface Area: 57.5 sq. in.
Base Surface Area: 57.5 sq. in.
Top Seal: 12-200-10-04
Bottom Seal: 12-200-10-11



12-200-10

Available in ANY height and most popular fitting sizes



12-200-12

200 mm X 400 mm (7.87 in X 15.75 in)

Part Number: 12-200-14

Top Surface Area: 115 sq. in.
Base Surface Area: 115 sq. in.
Top Seal: 12-200-14-04
Bottom Seal: 12-200-14-11

Available in ANY height and most popular fitting sizes

200 mm X 300 mm (7.87 in X 11.81 in)

Part Number: 12-200-12

Top Surface Area: 87.6 sq. in.
Base Surface Area: 87.6 sq. in.
Top Seal: 12-200-12-04
Bottom Seal: 12-200-12-11



12-200-14

Available in ANY height and most popular fitting sizes



12-250-12

250 mm X 500 mm (9.83 in X 19.68 in)

Part Number: 12-250-12

Top Surface Area: 171 sq. in.
Base Surface Area: 171 sq. in.
Top Seal: 12-250-12-04
Bottom Seal: 12-250-12-11

Available in ANY height and most popular fitting sizes

150 mm X 500 mm (5.91 in X 19.68 in)

Part Number: 12-150-50

Top Surface Area: 99 sq. in.
Base Surface Area: 99 sq. in.
Top Seal: 12-150-50-04
Bottom Seal: 12-150-5011



12-150-50

Available in ANY height and most popular fitting sizes

150 mm X 150 mm (5.91 X 5.91 in)

Part Number: 12-150-10

Top Surface Area: 31.25 sq. in.
Base Surface Area: 31.25 sq. in.
Top Seal: 12-150-10-04
Bottom Seal: 12-150-10-11



12-150-10

Available in ANY height and most popular fitting sizes

150 mm X 240 mm (5.91 in X 9.45 in)

Part Number: 12-150-14

Top Surface Area: 55 sq. in.
Base Surface Area: 55 sq. in.
Top Seal: 12-150-14-04
Bottom Seal: 12-150-14-11



12-150-14

Available in ANY height and most popular fitting sizes

150 mm X 300 mm (5.91 in X 11.81 in)

Part Number: 12-150-30

Top Surface Area: 64.25 sq. in.
Base Surface Area: 64.25 sq. in.
Top Seal: 12-150-30-04
Bottom Seal: 12-150-30-11



12-150-30

Available in ANY height and most popular fitting sizes

120 mm X 150 mm (4.72 in X 5.91 in)

Part Number: 12-120-14

Top Surface Area: 24.65 sq. in.
Base Surface Area: 24.65 sq. in.
Top Seal: 12-120-14-04
Bottom Seal: 12-120-14-11



12-120-14

Available in ANY height and most popular fitting sizes

120 mm X 120 mm (4.72 in X 4.72 in)

Part Number: 12-120-10

Top Surface Area: 19.3 sq. in.
Base Surface Area: 19.3 sq. in.
Top Seal: 12-120-10-04
Bottom Seal: 12-120-10-11



12-120-10

Available in ANY height and most popular fitting sizes

75 mm X 300 mm (2.95 in X 11.81 in)

Part Number: 12-075-01

Top Surface Area: 25 sq. in.
Base Surface Area: 26 sq. in.
Top Seal: 12-075-01-04
Bottom Seal: 12-075-01-11



12-075-01

Available in ANY height and most popular fitting sizes

70 mm X 240 mm (2.76 in X 9.45 in)

Part Number: 12-070-12

Top Surface Area: 22.3 sq. in.
Base Surface Area: 55 sq. in.
Top Seal: 12-070-12-04
Bottom Seal: 12-070-12-11



12-070-12

Available in ANY height and most popular fitting sizes

50 mm X 300 mm (1.97 in X 11.81 in)

Part Number: 12-050-12

Top Surface Area: 17 sq. in.
Base Surface Area: 64.25 sq. in.
Top Seal: 12-050-12-04
Bottom Seal: 12-050-12-11

Available in ANY height and most popular fitting sizes



12-050-12

75 mm X 200 mm (2.95 in X 7.87 in)

Part Number: 12-075-03

Top Surface Area: 15 sq. in.
Base Surface Area: 16 sq. in.
Top Seal: 12-075-03-04
Bottom Seal: 12-075-03-11

Available in ANY height and most popular fitting sizes



12-075-03

70 mm X 150 mm (2.76 in X 5.91 in)

Part Number: 12-070-10

Top Surface Area: 13.65 sq. in.
Base Surface Area: 31.25 sq. in.
Top Seal: 12-070-10-04
Bottom Seal: 12-070-10-11

Available in ANY height and most popular fitting sizes



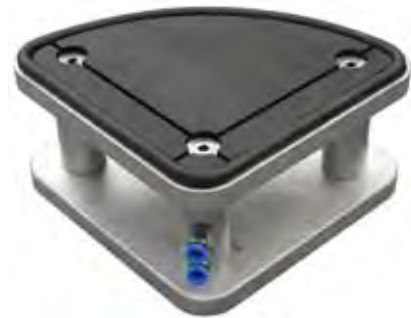
12-070-10

200 mm Radius Corner (7.87 in)

Part Number: 12-200-16

Top Surface Area: 41 sq. in.
Base Surface Area: 41 sq. in.
Top Seal: 12-200-16-04
Bottom Seal: 12-200-16-11

Available in ANY height and most popular fitting sizes



12-200-16



12-150-12

150 mm Radius Corner (5.91 in)

Part Number: 12-150-12

Top Surface Area: 22 sq. in.
Base Surface Area: 22 sq. in.
Top Seal: 12-150-12-04
Bottom Seal: 12-150-12-11

Available in ANY height and most popular fitting sizes

120 mm Radius Corner (4.72 in)

Part Number: 12-120-12

Top Surface Area: 15 sq. in.
Base Surface Area: 15 sq. in.
Top Seal: 12-120-12-04
Bottom Seal: 12-120-12-11

Available in ANY height and most popular fitting sizes



12-120-12

150 mm X 240 mm Concave Corner - Left
(5.91 in X 9.45 in)

Part Number: 12-150-18

Top Surface Area: 31.23 sq. in.
Base Surface Area: 55 sq. in.
Top Seal: 12-150-18-04
Bottom Seal: 12-150-18-11



12-150-18

Available in ANY height and most popular fitting sizes

150 mm X 240 mm Concave Corner - Right
(5.91 in X 9.45 in)

Part Number: 12-150-19

Top Surface Area: 31.23 sq. in.
Base Surface Area: 55 sq. in.
Top Seal: 12-150-19-04
Bottom Seal: 12-150-19-11



12-150-19

Available in ANY height and most popular fitting sizes

150 mm Concave Corner (5.91 in)

Part Number: 12-150-16

Top Surface Area: 20.9 sq. in.
Base Surface Area: 35.9 sq. in.
Top Seal: 12-150-16-04
Bottom Seal: 12-150-16-11



12-150-16

Available in ANY height and most popular fitting sizes

350 mm Round Cup (13.78 in)

Part Number: 12-350-01

Top Surface Area: 149 sq. in.
Base Surface Area: 149 sq. in.
Top Seal: 12-350-01-04
Bottom Seal: 12-350-01-11

Available in ANY height and most popular fitting sizes



12-350-01



12-250-01

250 mm Round Cup (9.84 in)

Part Number: 12-250-01

Top Surface Area: 66 sq. in.
Base Surface Area: 66 sq. in.
Top Seal: 12-250-01-04
Bottom Seal: 12-250-01-11

Available in ANY height and most popular fitting sizes

200 mm Round Cup (7.87 in)

Part Number: 12-200-01

Top Surface Area: 41 sq. in.
Base Surface Area: 41 sq. in.
Top Seal: 12-200-01-04
Bottom Seal: 12-200-01-11

Available in ANY height and most popular fitting sizes



12-200-01



12-150-01

150 mm Round Cup (5.91 in)

Part Number: 12-150-01

Top Surface Area: 22.5 sq. in.
Base Surface Area: 22.5 sq. in.
Top Seal: 12-150-01-04
Bottom Seal: 12-150-01-11

Available in ANY height and most popular fitting sizes

65 mm Round Cup (2.55 in)

Part Number: 12-065-01

NEW!!

Top Surface Area: 5.14 sq. in.
 Base Surface Area: 5.14 sq. in.
 Top Seal: 12-090-01-04
 Bottom Seal: 12-090-01-11



NEW!!

Available in ANY height and most popular fitting sizes

12-065-01



12-120-01
For Glass

120 mm Round (4.72") For Glass

Top Surface Area: 14 sq. in.
 Base Surface Area: 12.17 sq. in.
 Top Seal: 12-120-01-04
 Bottom Seal: 12-120-01-11

Available in ANY height and most popular fitting sizes

120 mm Round (4.72") For Stone

Top Surface Area: 14 sq. in.
 Base Surface Area: 12.17 sq. in.
 Top Seal: 12-120-03-04
 Bottom Seal: 12-120-01-11

Available in ANY height and most popular fitting sizes



12-120-03
For Stone

90 mm Round Cup (3.54 in)

Part Number: 12-090-01

Top Surface Area: 9.9 sq. in.
 Base Surface Area: 9.9 sq. in.
 Top Seal: 12-090-01-04
 Bottom Seal: 12-090-01-11

Available in ANY height and most popular fitting sizes



12-090-01

160 mm Round Cup (6.29 in)

Part Number: 12-160-01

Top Surface Area: 29.25 sq. in.
 Base Surface Area: 25.60 sq. in.
 Top Seal: 12-160-01-04
 Bottom Seal: 12-160-01-11

Available in ANY height and most popular fitting sizes



12-160-01

RETRACTABLE CUP

Extended



Retractable Cup, 200 mm (7.87 in)

Part Number: 12-200-02

Top Surface Area: 41 sq. in.
 Base Surface Area: 41 sq. in.
 Raised Height: 200mm
 Retracted Height: 125mm
 Top Seal: 12-200-02-04
 Bottom Seal: 12-200-02-11

This suction cup allows sink cutouts to be automatically lowered after routing to provide clearance for profiling and polishing.

Will work on any CNC machine operating at a height of 200mm.

Direct replacement for CMS Brembana machines.

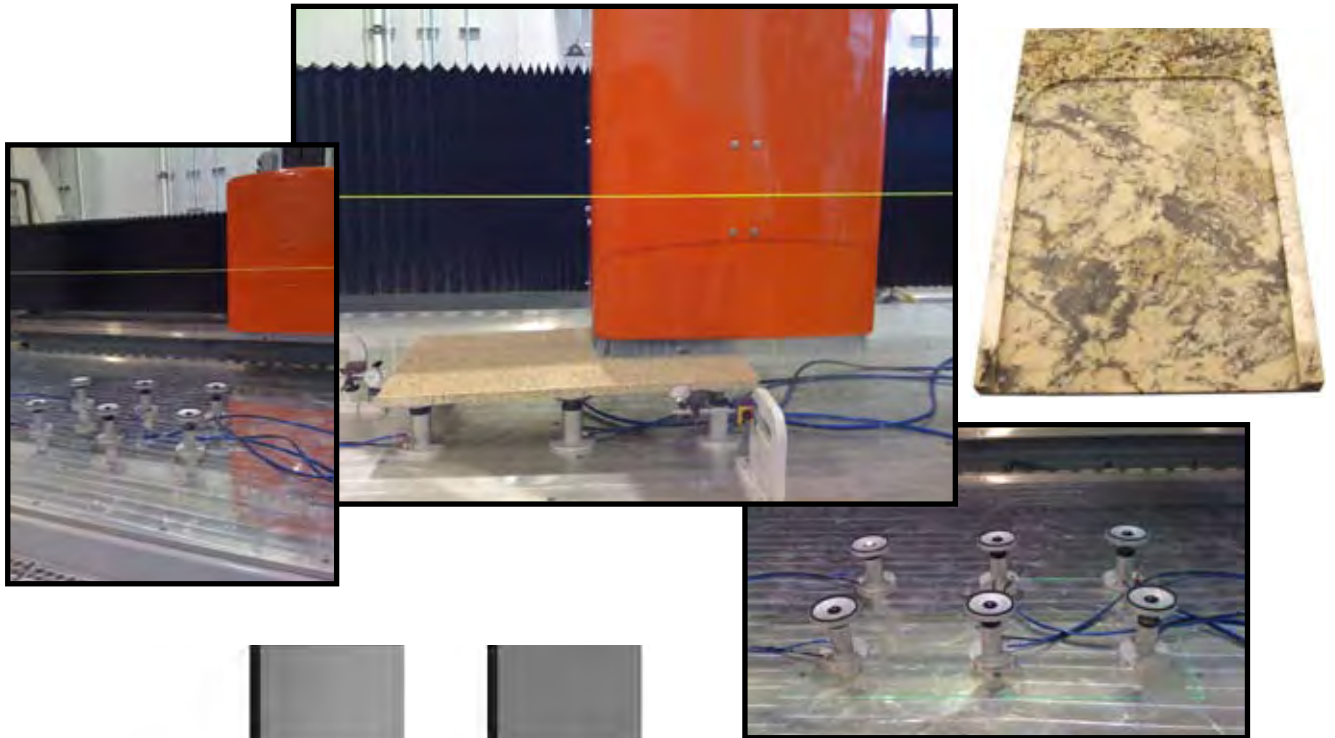


12-200-02

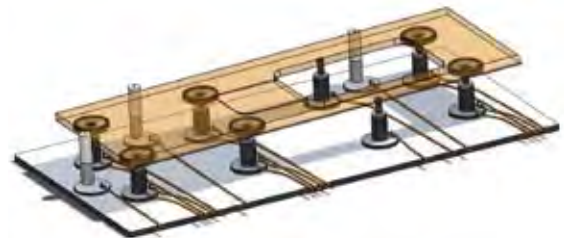
Retracted

DRAINBOARD SYSTEM

The Blick Drainboard System allows you to create and polish angled surfaces on 3 axis machines by inclining the workpiece. 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.



Locating of the cup using the machine's spindle and the special locator tool



Sample setup



Swivel Cup Locator
19-103-01

Swivel Cup

Part Number: 12-500-02

Diameter: 151mm (5.94")

Vertical Height Range: 155mm to ~210mm (6.1" to ~8.25")

Maximum Swivel Angle: ~15 Degrees

Top Surface Area: 25.6 sq. in.

Base Surface Area: 25.6 sq. in.

Top Seal: 12-500-02-04

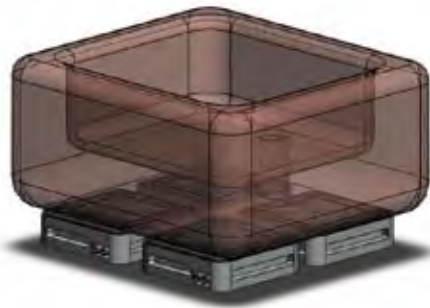
Bottom Seal: 12-500-02-11



12-500-02

Patent Pending

NEW!! *Low Profile Suction Cups*



- Standard height is 55mm
- Use these cups when working on thick blocks requiring extra Z clearance
- 55 mm (2.17in) height has 17 mm (.67in) milled slots for mechanical hold downs
- Securely hold Workpieces While Hand Grinding and Polishing
- Additional shapes, heights and sizes available upon request



160 mm Round
p/n: 29-160-01



150 mm Round
p/n: 29-150-01



120 mm Round
p/n: 29-120-01



200 mm X 200 mm
p/n: 29-200-10



150 mm X 240 mm
p/n: 29-150-14



150 mm X 150 mm
p/n: 29-150-10



100 mm X 100 mm
p/n: 29-100-10



75 mm X 300 mm
p/n: 29-075-01



50 mm X 300 mm
p/n: 29-050-12



70 mm X 240 mm
p/n: 29-070-12



70 mm X 150 mm
p/n: 29-070-10

NEW!! Vertical Splash Suction Cup NEW!!

The Vertical Splash Cup instantly turns your saw into a splash splitting machine. Using the Vertical suction cup in conjunction with our Venturi Manifold (see page 15), you can instantly create vacuum on any bridge saw.

- Different attachment options available, see below
- Required air pressure for Venturi Manifold 1.5 CFM @ 85 psi.



75 mm X 500 mm
p/n: 12-400-10



Optional Venturi Manifold

Attachment Option 1

The base plate air fitting allows the user to vacuum the fixture in place on the saw table for quick mounting and dismounting. See Example #1

Attachment Option 2

The base plate also has 4 holes for permanently mounting the fixture to the edge of your table. See Example #2.

Option 1



Option 2

Example # 1



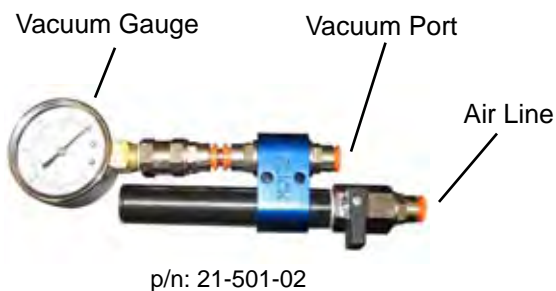
Example # 2



NEW!! *Venturi Manifold* NEW!!

Do you want to liberate yourself from a vacuum pump? Using the Blick Venturi Manifold, you can do just that. Whether you want to use our pods on your saw or a polishing table, we've got you vacuumed down!

- 3 options available; 1, 3 and 5 vacuum ports
- Required air pressure; 1.5 CFM @ 85 psi.



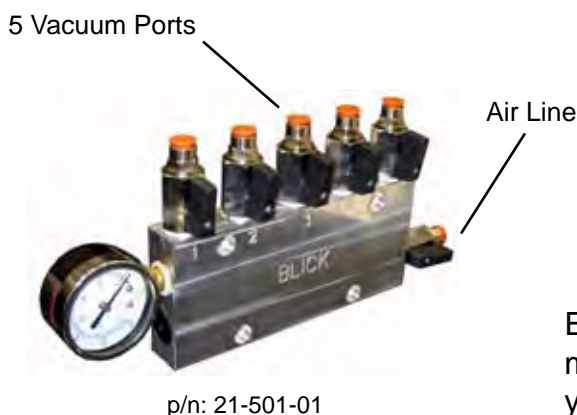
Option 1

One vacuum port also includes vacuum gauge



Option 2

Three vacuum ports also includes vacuum gauge
(Includes 3 plugs)



Option 3

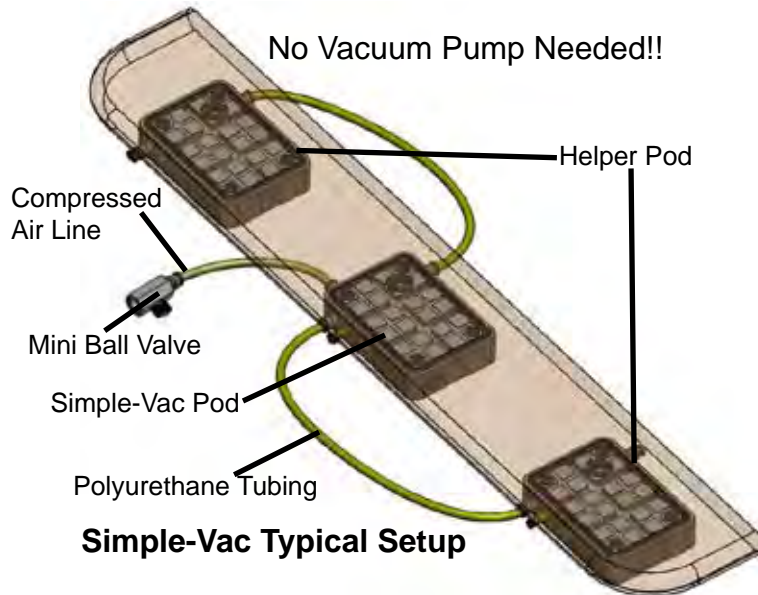
Five vacuum ports also includes vacuum gauge

Excellent backup option for any CNC machine. Don't let your vacuum pump stop your production. If your pump fails, simply run a shop air line to your Blick Venturi Manifold and you are back in business!

Simple-Vac Kit



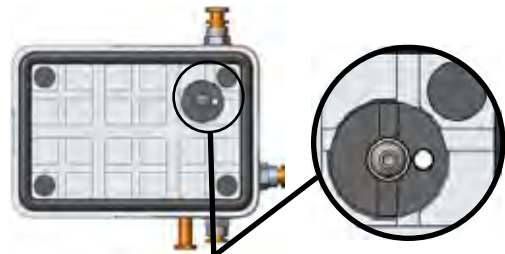
Break free from your vacuum pump!! Simple-Vac Cups can be used anywhere and are very easy to use. Only a compressed air line is needed to use the Simple-Vac Kit.



Simple-Vac Kit

Part Number: 35-200-01

- Includes 1 - Simple-Vac Pod, 2 - Helper Pods, 3 - five foot lengths of 8mm poly tubing, 1 - 1/4" NPT F X F mini ball valve, 2 - Extra lengths of foam seal
- Recommended air requirements 1.5 CFM @ 80 psi.



Vacuum Selector Valve: Resides on the top and bottom sides of the cup. Just simply rotate clockwise or counterclockwise to turn the valve ON or OFF. Turn off both valves to use solely as a vacuum generator.

Simple-Vac Pod

Part Number: 35-200-02

Size: 104.5mm X 149mm X 31mm
(4.11" X 5.87" X 1.22")

Top Surface Area: 21 sq. in.

Base Surface Area: 21 sq. in.

Seal: 35-200-02-04

Vacuum Generation: Venturi

Recommended PSI: 85 psi.

Includes: 2 Tube Plugs, 2 Screw Down feet



Helper Pod

Part Number: 35-200-03

Size: 104.5mm X 149mm X 31mm
(4.11" X 5.87" X 1.22")

Top Surface Area: 21 sq. in.

Base Surface Area: 21 sq. in.

Seal: 35-200-02-04

Vacuum Generation: None

Includes: 2 Tube Plugs, 2 Screw Down feet



Multiple Seal Configurations!!



Multiple Ways to Mount!!

Option 1: Vacuum Down



Option 2: Screw Down



Support Narrow, Fragile Regions



Sink Surround
40 x 150 x 300 mm

- Solid Rubber Vulcanized Friction Pads
- Replaceable Press-in Bottom Seals
- Available with most popular air fitting sizes
- Available in ANY height for ANY Machine
- Oversized base prevents tipping when loading workpieces

More Surface Area = More Holding Force

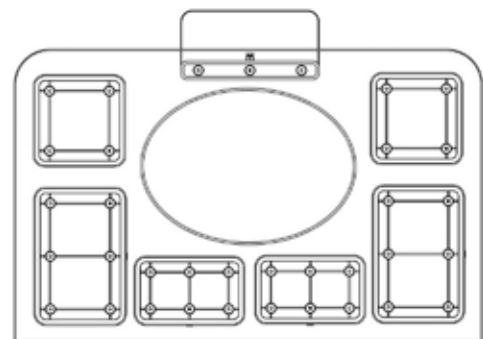
With any vacuum holding device, the only way to increase holding force is to increase the effective surface area in contact with vacuum. Our wide range of shapes and sizes of suction cups allows maximum surface area resulting in maximum holding force.

Our full size friction pads assure maximum traction for your work pieces much the same as wide tires make for better traction on your automobile

**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 larger suction cups. They are meant to provide vertical support and vibration resistance when there is no room for a conventional suction cup.



Corner Support
40 x 150 x 150 mm



Typical Layout

Core Drill Support



Sink Rail Support



40 mm X 100 mm X 300 mm - Support
(1.57 X 3.94 X 11.81 in)

Part Number: 12-100-02

Top Surface Area: 12.5 sq. in.
Base Surface Area: 36 sq. in.
Bottom Seal: 12-100-02-11



12-100-02

Available in ANY height and most popular fitting sizes



12-150-25

40 mm X 150 mm X 300 mm - Support
(1.57 X 5.91 X 11.81 in)

Part Number: 12-150-25

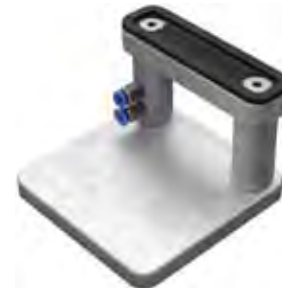
Top Surface Area: 12.5 sq. in.
Base Surface Area: 64.25 sq. in.
Bottom Seal: 12-150-25-11

Available in ANY height and most popular fitting sizes

40 mm X 150 mm X 150 mm - Straight Support
(1.57 X 5.91 X 5.91 in)

Part Number: 12-150-24

Top Surface Area: 6 sq. in.
Base Surface Area: 28 sq. in.
Bottom Seal: 12-150-24-11



12-150-24

Available in ANY height and most popular fitting sizes



12-150-23

40 mm X 150 mm X 150 mm - Corner Support
(1.57 X 5.91 X 5.91 in)

Part Number: 12-150-23

Top Surface Area: 16.12 sq. in.
Base Surface Area: 34.88 sq. in.
Bottom Seal: 12-150-23-11

Available in ANY height and most popular fitting size

40 mm X 120 mm X 120 mm - Corner Support
(1.57 X 4.72 X 4.72 in)

Part Number: 12-120-16

Top Surface Area: 12.4 sq. in.
Base Surface Area: 22.32 sq. in.
Bottom Seal: 12-120-16-11



12-120-16

Available in ANY height and most popular fitting sizes

Core Drill Supports

Our new core drill support allows CNC machines to core drill faucet holes all the way through, eliminating the need to chip out cores by hand and risk blowout. The core drill supports are placed underneath the areas to be drilled and they utilize a sacrificial top rubber pad that is designed to be drilled into many times and then replaced. The pads are pre-calibrated and easily changed without the use of tools.



75x300 Core Drill Support
P/N: 28-075-30



75mm Round Core Drill Support
P/N: 28-075-01



40x300 Core Drill Support
P/N: 28-040-30



NEW!! Sink Rail Support NEW!!

- Extra Narrow 1" wide support allows for positioning under narrow sink rails
- Clamp is compatible with other Blick suction cups and supports
- Removable hand knob for convenient tightening

Sink Rail Support Set

Part Number: 12-025-30
 Range: Clamps up to 4cm Material
 Top Surface Area: 10.62 sq. in.
 Base Surface Area: 62.5 sq. in.
 Bottom Seal: 12-050-12-11



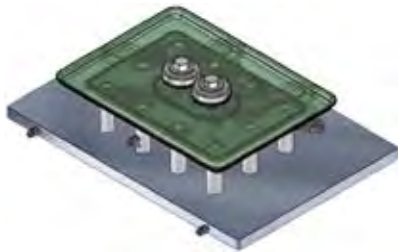
1. Position the support as you would any other suction cup
2. Run your perimeter profile
3. Pause the machine and attach the support clamp
4. Cut out and edge your bowl hole

Custom Fixtures

Our in-house engineering and manufacturing capabilities allow us to create custom fixturing in an affordable and timely fashion. 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.

To evaluate whether a custom fixture makes sense for a particular part, email us a .dxf drawing of the part you want to make and include the following information:

- Material
- Thickness
- Edge profile
- Will you be routing the part on the fixture
- Number of parts to be produced



Custom Fixtures for making Miniature Sample Vanities



Custom Sink Cutout Cups



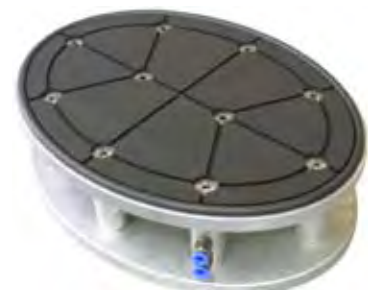
Custom Fixture for making Beveled Mirror Corners



Custom Fixture for making Small Glass Rectangles

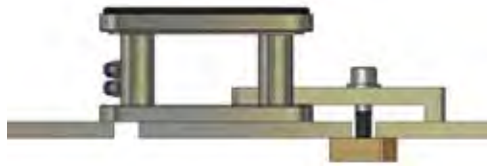


Custom Fixture in action making Beveled Glass Trophies



Custom Fixture for making Oval Stone Tabletops

Use these to anchor our suction cups and clamps to machines with slotted tables.



For Breton machines

200mm Slot Clamp Assembly (7.87 in)

Part Number: 13-105-01

Dimensions: 50 mm X 200 mm (1.97 in X 7.87 in)
Height: 15 mm, 0.59 in
Bolt Size: M16 Socket Head
Brass Tee Nut: 16 mm



13-105-01

120mm Slot Clamp Assembly (4.72 in)

Part Number: 13-105-02

Dimensions: 50 mm X 120 mm (1.97 in X 4.72 in)
Height: 15 mm, 0.59 in
Bolt Size: M16 Socket Head
Brass Tee Nut: 16 mm



13-105-02

For Denver machines

200mm Slot Clamp Assembly (7.87 in)

Part Number: 13-105-07

Dimensions: 50 mm X 200 mm (1.97 in X 7.87 in)
Height: 15 mm, 0.59 in
Bolt Size: M10 X 55, Hex Head
Brass Tee Nut: 10mm



13-105-07

120mm Slot Clamp Assembly (4.72 in)

Part Number: 13-105-06

Dimensions: 50 mm X 120 mm (1.97 in X 4.72 in)
Height: 15 mm, 0.59 in
Bolt Size: M10 X 55, Hex Head
Brass Tee Nut: 10 mm



13-105-06

T-Nut & Bolt Assembly, Breton Clamp

Part Number: 13-105-05

Includes M16 x 70 bolt, washer and T-Nut



T-Nut & Bolt Assembly, Denver Clamp

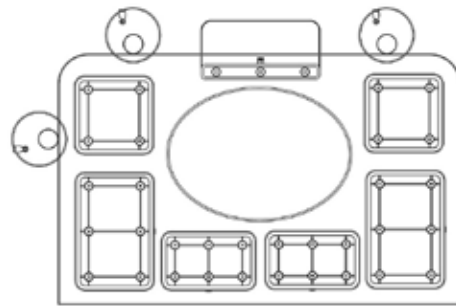
Part Number: 13-105-08

Includes M10 X 55 bolt, washer and T-Nut



Workpiece Locating Devices: Stops

Stops are used to locate workpieces on the table of a machine. The various styles shown below all serve the same purpose of providing a rigid reference point during setup which can then be removed or lowered to provide clearance for cutting tools while the machine is in operation.



Three stops are needed to locate a part



Pin-Stop

The pin-stop consists of a vacuum base and a removable delrin pin. The delrin pin is placed over the stainless steel pin on the base during setup, and then removed during the machining cycle. The pin-stop provides a simple, cost effective solution.



Edge-Stop

The edge-stop uses the same removable pin as the pin-stop. Two pins protruding from the base of the unit reference against one of the edges of your machine's table allowing quick, repeatable setup.



Vac-Stop

The Original Patented Vacuum Back Stop for Intermac machines. This is the same stop that comes with new Intermac machines.



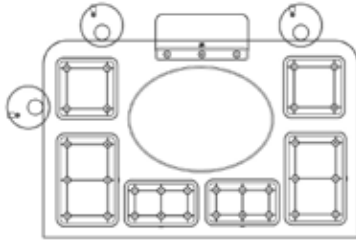
Reference Pin

The Reference Pin is designed for Brembana and Loffler machines with an operating height of 200mm. It is made to the same specifications as the reference pins that come with your machine.



Flip-Stop

The Flip Stop is the standard locating device used on Breton machines with slotted tables.



Three stops are needed to locate a part



Pin-Stop during workpiece positioning



Pin-Stop during edging with Pins removed

Standard Pin-Stop available w/ Laser Target



11-301-01

Pin-Stop - Vacuum Base 50mm Pin

Base Dimensions: 150 mm Diameter (5.91 in)
 Base Surface Area: 25.2 sq. in.
 Stop Method: 50 mm Removable Delrin Pin (1.97 in)
 Bottom Seal: 11-301-01-11

Available in ANY height and most popular fitting sizes

Replaces pneumatic Vac-Stop on Intermac machines



11-301-02

Pin-Stop - Vacuum Base 26mm Pin

Part Number: 11-301-02
 Base Dimensions: 150 mm Diameter (5.91 in)
 Base Surface Area: 25.2 sq. in.
 Stop Method: 26 mm Removable Delrin Pin
 Bottom Seal: 11-301-01-11

A simple, cost effective alternative to the Pneumatic Vac-Stop

Replaces reference pin on Brembana Concept machines



11-301-03

Pin-Stop - Vacuum Base 31mm Pin

Part Number: 11-301-03
 Base Dimensions: 150 mm Diameter (5.91 in)
 Base Surface Area: 25.2 sq. in.
 Stop Method: 31 mm Removable Delrin Pin
 Bottom Seal: 11-301-03-11

Pin-Stop - Replacement Delrin



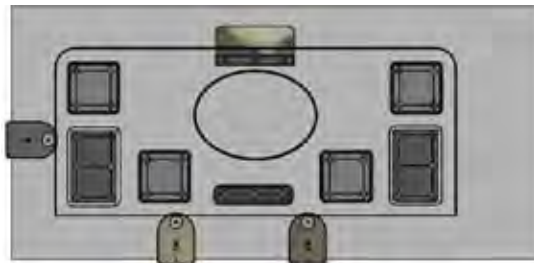
Delrin for 50 mm Pin
11-301-01-03



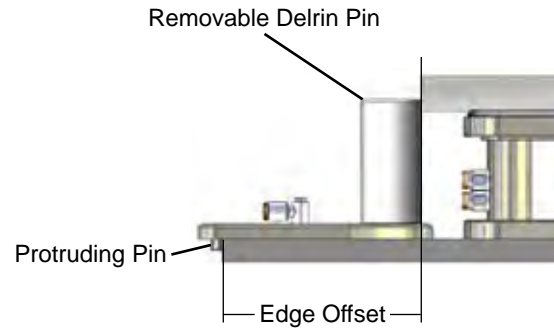
Delrin for 26 mm Pin
11-301-02-03



Delrin for 31 mm Pin
11-301-03-03



Edge-Stops set up on edges of table



There is no faster way to setup rectangular pieces. Use the corners of your machines table to create four fixed origins. The edge-stop uses the same removable pin as the pin-stop. Two pins protruding from the base of the unit reference against the front edge of the table allowing quick, repeatable setup.

Edge-Stop - Vacuum Base

Part Number: 11-401-01

Edge Offset: 165 mm
 Base Dimensions: 140 mm X 195 mm (5.51 in X 7.68 in)
 Base Surface Area: 26.4 sq. in.
 Stop Method: 50 mm* Removeable Delrin Pin (1.97 in)
 Bottom Seal: 11-401-01-11

Available in ANY height and most popular fitting sizes
 *Available in other pin size diameters



11-401-01

Edge-Stop EL - Vacuum Base

Part Number: 11-401-03

Edge Offset: 355 mm
 Base Dimensions: 140 mm X 385 mm (5.51 in X 15.16 in)
 Base Surface Area: 61.8 sq. in.
 Stop Method: 50 mm* Removeable Delrin Pin (1.97 in)
 Bottom Seal: 11-401-03-11

Available in ANY height and most popular fitting sizes
 *Available in other pin size diameters



11-401-03

Edge-Stop - Replacement Delrin



11-301-01-03

Stop Locator Tool

Part Number: 19-102-01

The Stop Locator Tool allows you to accurately position pin-stops 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 pin stop 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.

Fig. 1



Spindle in location of first stop

Fig. 2



Handle extended to position first stop

Fig. 3



All stops in position. Slab placed against stops.

Fig. 4



Pins removed from stops. Ready to run program.



Stop Locator Tool attaches to customer supplied 1/2 gas toolholder.

NEW!!



Location holes on all Blick suction cups



Vac-Stop - Vacuum Back Stop

For Intermac Machines

Part Number: 11-101-01

Base Dimensions: 140 mm Diameter (5.51 in)
Base Surface Area: 22.2 sq. in.
Back Stop Disc: 26 mm
Bottom Seal: 11-140-01-13



11-101-01

Back Stop Locator Disc 26mm

Part Number: 11-099-26
Back Stop Disc Material: Delrin
Special sized discs available on request



Bevel Glass Discs

Part Number: 11-099-32
Back Stop Disc Material: Delrin
Standard Diameter: 32/26 mm
Special sized discs available on request



All discs come with screws

Vac-Stop Seal Kit

Part Number: 11-101-01-30
Kit contains one unit of each of the seals used in the Vac-Stop



Vac-Stop Piston Assembly

Part Number: 11-101-01-56



11-101-02

Vac-Stop Plus - Vacuum Back Stop

Part Number: 11-102-01

Base Dimensions: 165 mm Diameter (6.50 in)
Base Surface Area: 26 sq. in.
Back Stop Disc: 40 mm
Bottom Seal: 11-102-01-13

Back Stop Locator Disc- MasterPlus

Part Number: 11-099-40
Back Stop Disc Material: Delrin



Vac-Stop Plus Seal Kit

Part Number: 11-102-01-30
Kit contains one unit of each of the seals used in the Vac-Stop



Pneumatic Reference Pin

For Machines with 200mm operating height

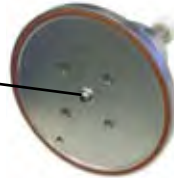
For Brembana machines: Part Number: 11-601-01

For Loffler machines: Part Number: 11-601-02

Base Dimensions: 200mm diameter
Base Surface Area: 41 sq. in.
Back Stop Disc: 35 mm
Bottom Seal: 11-601-01-13



Pin on bottom of base for referencing table.
12mm pin for Brembana
15mm pin for Loffler



Standard Replacement Discs

Part Number: 11-601-01-17

Back Stop Disc Material: Delrin

- Replaces discs on both stops manufactured by Blick Industries and Brembana



Extended Replacement Discs

Part Number: 11-601-01-27

Back Stop Disc Material: Delrin

- Fits stops manufactured by both Blick Industries and Brembana
- Extended height for locating already profiled edges



FLIP STOP

Flip-Stop

For use with Slotted Table on Breton machines

Part Number: 11-201-01 for 90mm height

11-201-03 for 150mm height

Stop Method: Flip up arm with brass pad



T-Nut & Bolt Assembly, Flip Stop

Part Number: 11-201-01-13

Includes M16 x 60 bolt, washer and T-Nut



Clamps

Clamps are used to hold workpieces that are either too small or have regions that are too delicate to be held by vacuum alone. All of our clamps have a mechanical or pneumatic clamping jaw that is coupled to a large vacuum base. The jaw securely grips smaller parts while the large vacuum base holds firm to your machine's table.

Mechanical Clamps

- Manually activated by a screw and an allen wrench
- Robust and affordable solution
- Requires one vacuum line to hold down the base



Large Mechanical Clamp



Standard Mechanical Clamp



Dual Mechanical Clamp

Pneumatic Clamps

- Automatically activated by compressed air
- Excellent for repetitive production jobs where quick part loading and unloading is important
- Requires 2 compressed air lines and one vacuum line



Swing Clamp



Mushroom Clamp



Brembana/Loffler Clamp

Backsplash Clamp System

- Specialized clamping system for making back splashes and other narrow parts such as moldings, window sills and thresholds on your CNC machine.



Sample System Setup



Backsplash Clamp



Backsplash Suction Cup

Strip Clamps



Edge Clamps



Vise Cups



Large Mechanical Vacuum Clamp

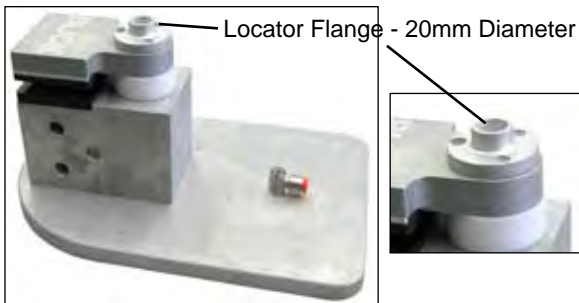
Part Number: 13-102-04
Method: Mechanical screw (12mm)
Base Dimensions: 200 x 300mm
Range: 1.2cm to 4cm material
Clamping Area: 2.5" depth x 3" width
(63.5 x 76.2mm)
Base Surface Area: 75 sq. in.
Bottom Seal: 13-102-04-11



13-102-04

Available in ANY height and most popular fitting sizes

The Large Mechanical Clamp was designed especially for the stone fabrication industry. It has a large clamping area and range and it is extra-tough to withstand the harsh environment it is intended to be used in.



13-102-05

Large Mechanical Vacuum Clamp - Denver

Part Number: 13-102-05
Method: Mechanical screw (12mm)
Base Dimensions: 200 x 300mm
Range: 1.2cm to 4cm material
Clamping Area: 2.5" depth x 3" width
(63.5 x 76.2mm)
Base Surface Area: 75 sq. in.
Bottom Seal: 13-102-02-11

Standard Mechanical Vacuum Clamp

Part Number: 13-102-01
Method: Mechanical screw (8mm)
Base Dimensions: 150 x 300mm
Range: Please specify what thickness material you will be holding
Clamping Area: 1.5" width x 1.25" depth
(38.1x31.75mm)
Base Surface Area: 58.7 sq. in.
Bottom Seal: 13-102-02-11



13-102-01

Available in ANY height and most popular fitting sizes

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

Dual Mechanical Vacuum Clamp

Part Number: 13-102-02
Method: Dual mechanical screw
Base Dimensions: 150 x 300mm
Range: Please specify what thickness material you will be holding
Clamping Area: 1.5" width x 1.25" depth
(38.1x31.75mm) each clamp
Base Surface Area: 64.25 sq. in.
Bottom Seal: 13-102-02-11



13-102-02

Available in ANY height and most popular fitting sizes

Dual clamps provide increased clamping area. These clamps are very effective when seaming through the middle of sink cut-outs.

Pneumatic Swing Clamp

Part Number: 13-101-01
Method: Pneumatic Cylinder
Range: 2cm - 4cm with included spacer
Clamping Area: 2" depth x 3" width (50.8 x 76.2mm)
Base Surface Area: 52.5 sq. in.
Bottom Seal: 13-101-01-11



13-101-01

This 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.



Open



Closed



13-103-01

Pneumatic Mushroom Clamp

Part Number: 13-103-01
Method: Pneumatic Cylinder
Range: .8cm - 4.4cm
Clamping Area: Circular Ring
152mm OD x 70mm ID
(6" OD x 2.75" ID)
Base Surface Area: 52.5 sq. in.
Bottom Seal: 13-103-01-11

The 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.

200mm Height Mushroom Clamp

For Brembana and Loffler machines with an operating height of 200mm

For Brembana machines: Part Number: 13-103-02

For Loffler machines: Part Number: 13-103-03

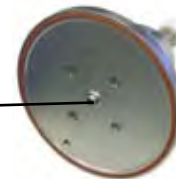
Method: Pneumatic Cylinder
Range: .8cm - 4.4cm
Clamping Area: Circular Ring
152mm OD x 70mm ID
(6" OD x 2.75" ID)

Base Surface Area: 42 sq. in.
Bottom Seal: 13-103-02-11



13-103-02

Pin on bottom of base for referencing table.
12mm pin for Brembana
15mm pin for Loffler



Air Switch Kit

Part Number: 13-104-02

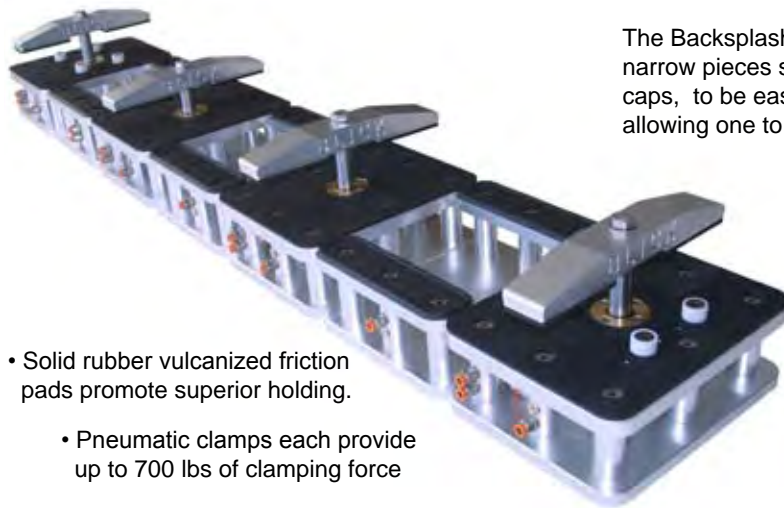
The air switch kit can be used to control the opening and closing of our pneumatic clamps. Vacuum base allows it to be secured in a convenient location.



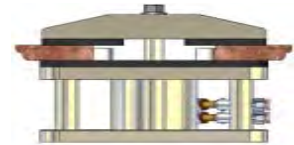
Backsplash Clamp System

Make Backsplashes on your CNC

The Backsplash Clamp System was developed to allow long narrow pieces such as backsplashes, stair treads, and wall caps, to be easily worked on a standard CNC machine. Thus allowing one to take advantage of the full range of CNC tooling.



- Solid rubber vulcanized friction pads promote superior holding.
- Pneumatic clamps each provide up to 700 lbs of clamping force
 - Easily adjusts for different widths
 - Width of each cup and each clamp is roughly 9.5"



Backsplash Clamp Suction Cup

Part Number: 12-240-10
Top Surface Area: 22.3 sq. in. (each side)
Base Surface Area: 98 sq. in.
Base Dimensions: 240mm x 300mm
Top Seal: 12-070-12-04 (each side)
Bottom Seal: 12-240-10-11



Backsplash Clamp

Part Number: 13-104-01
Clamping Range: 0 to 56mm (0 to 2.2")
Clamping Force (@ 100psi): 630 lbs.
Base Surface Area: 98 sq. in.
Base Dimensions: 240mm x 300mm
Bottom Seal: 13-104-01-11

The system consists of a series of alternating vacuum based pneumatic clamping units and suction cups. The clamping units provide the necessary downward pressure to securely hold the work while the suction cups support the work between clamps and prevent vibration. Various combinations of clamping units and suction cups can be used to accommodate work pieces of different lengths. The pneumatic clamping units can be actuated automatically by the CNC machine's air system, or manually with an air switch.

The Backsplash clamps are very versatile. I use them for backsplashes as well as any lamination work. We use it on skirts/stacked edges, ex. ogee and bull nose under it. Any step edge detail profile it will hold no problem. The holding power on it is unreal!

Joe De Lorenzo, Fabricator
De Lorenzo Marble, California

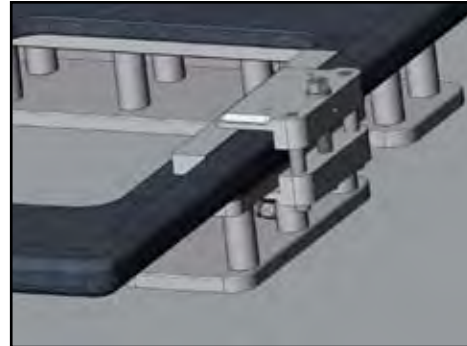
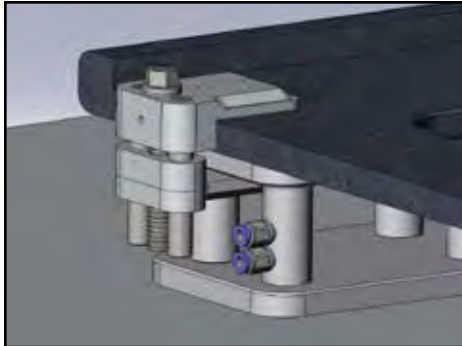
Air Switch Kit

Part Number: 13-104-02



NEW!! *Edge Clamps* NEW!!

- Provide extra support for fragile regions, such as sink rails, to prevent corner blowout or to prevent small pieces from moving.
- Designed to mount on all Blick suction cups and supports.
- Low profile unlike a C-Clamp.
- Handle included.
- Non-marking.



Edge Clamp - Large

Part Number: 13-300-01
Method: Mechanical Screw
Range: Clamps up to 4cm Material
Top Clamp Area: 2.625" D X 6" W
(66 X 152mm)



Edge Clamp Handle

Edge Clamp - Small

Part Number: 13-300-02
Method: Mechanical Screw
Range: Clamps up to 4cm Material
Top Clamp Area: 2.625" D X 3" W
(66 X 76mm)



NEW!! Strip Clamp Set NEW!!



Strip Clamp Support Base
13-300-03



Edge Clamp - Small
13-300-02

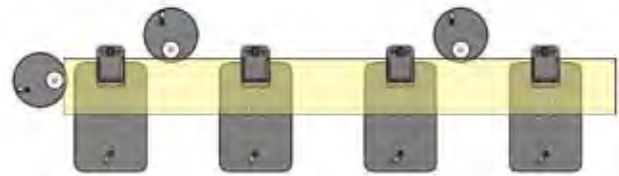
Part Number for Set: 13-300-12

Method: Mechanical Screw

Range: Clamps up to 4cm Material

Clamping Area: Top Clamp: 2.625" D X 3" W
(66mm x 76mm)

Bottom Seal: 13-300-03-11



- Edge and polish thin strips from all sides.
- Set includes one Strip Clamp Support Base(13-300-03) and one Edge Clamp (13-300-02).
- 6 support body positions (1" apart) allow clamps to be used with varying material widths.
- The clamps can be moved from one side to the other without moving the position of 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.



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.



Finished Piece

NEW!! *Vise Cup* NEW!!

- Allows material such as backsplashes to be stacked on edge for polishing or to hold block 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 3.375" (85mm)
- Non-marking rubber.



Vise Cup - Moveable Jaw

Part Number: 13-106-01

Method: Mechanical Screw

Base Dimensions: 150 mm X 300 mm (5.91" X 11.81")

Base Surface Area: 58 sq. in.

Bottom Seal: 12-150-25-11

Vise Cup - Stationary Jaw

Part Number: 13-106-02

Base Dimensions: 150 mm X 300 mm
(5.91" X 11.81")

Base Surface Area: 58 sq. in.

Bottom Seal: 12-150-25-11



Vacuum Fences

Vacuum fences are designed to both locate workpieces and provide extra support by preventing workpieces from being pushed laterally. A good solution for securing difficult to make pieces



Typical Vacuum Fence Setup

Vacuum Fence - 150 mm X 250 mm (5.91 in X 9.84 in)

Part Number: 15-101-01
 Base Dimensions: 150 mm X 250 mm
 Base Surface Area: 22.2 sq. in.
 Bottom Seal: 15-101-01-03



Vacuum Fence - 300 mm X 150 mm (11.81 in X 5.91 in)

Part Number: 15-101-02
 Base Dimensions: 150 mm X 300 mm
 Base Surface Area: 44.83 sq. in.
 Bottom Seal: 15-101-02-03



NEW!! Polishing Fences NEW!!

Polishing fences are low profile which is ideal for any CNC or manual polisher. These fences use shop air to create vacuum via venturi vacuum generator, an expensive vacuum pump is not needed.



Venturi Vacuum Fence Kit

Part Number: 15-201-03

Kit Includes:

- 2 Venturi Vacuum Fences
- 2 Venturi Vacuum Fence Bases
- 30 ft. 8mm Polyurethane tubing
- 1 Mini Ball Valve
- 1 8mm 'Y' Fitting, 2 Tube Plugs



Soft Foam Bottom Seal

Venturi Vacuum Fence:

Part Number: 15-201-01
 Base Dimensions: 150 mm X 150 mm
 (5.9" X 5.9")
 Base Surface Area: 30 sq. in.
 Clearance Height: 12.7 mm (1/2")
 Bottom Seal: 15-201-01-11
 Vacuum Generation: Venturi
 Recommended PSI: 80
 Air Consumption: 1.5 CFM

Venturi Vacuum Fence Base:

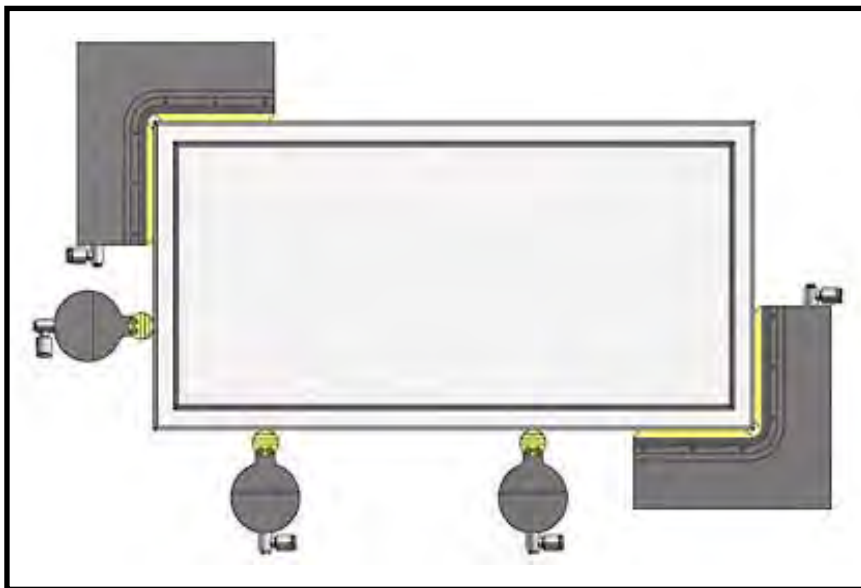
Part Number: 15-201-02
 Base Dimensions: 150 mm X 150 mm
 (5.9" X 5.9")
 Base Surface Area: 30 sq. in.
 Clearance Height: 12.7 mm (1/2")
 Bottom Seal: 15-201-01-11
 Vacuum Generation: None



Replaceable Plastic Pad

NEW!! V-Grooving Fence NEW!!

- Allows Glass to be located and held in place while V-Grooving
- Used for beveling Square Glass



V-Grooving Fence

Part Number: 15-701-01
Base Surface Area: 21.13 sq. in.
Bottom Seal: 15-701-01-11



V-Groove Positioning Stop

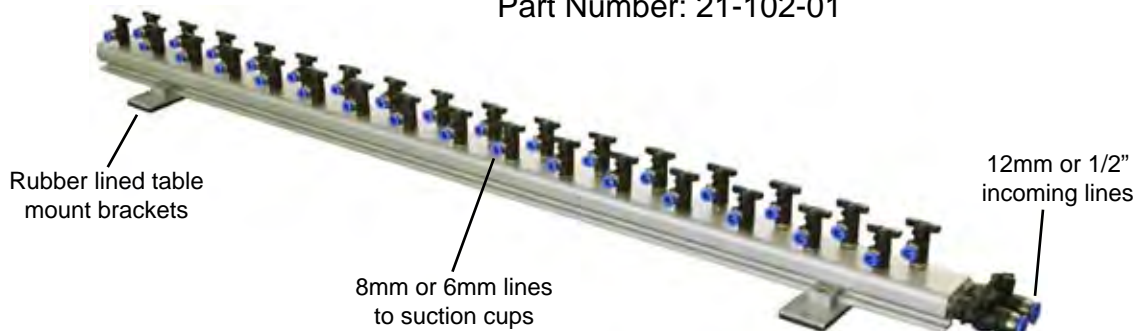
Part Number: 11-901-01
Base Surface Area: 150 mm Ø
(5.91") Diameter
Bottom Seal: 11-901-01-11

Our manifolds are designed to allow you to take charge of the tubes running to your various vacuum accessories.

- 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

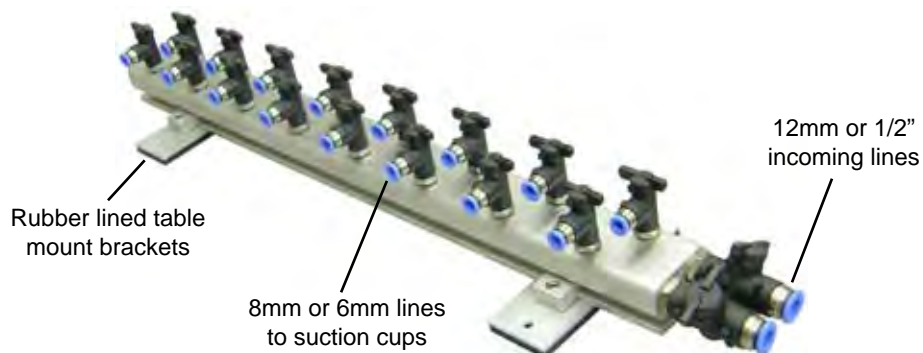
Universal Manifold - 16 Pair

Part Number: 21-102-01



Universal Manifold - 8 Pair, 25"

Part Number: 21-102-02



Universal Manifold Accessories

Table Mount Brackets

P/N: 21-201-02



Side Mount Brackets

P/N: 21-201-01



Gauge, Manifold, 1.5" Compound

P/N: 21-501-03-03

Measures vacuum 0 to -30 in. Hg
Measures air pressure 0 to 100 psi.



Combo Valve

Lines Out to Suction Cups

P/N: 53-5001258 - 8mm tubing
P/N: 53-5001256 - 6mm tubing



Combo Valve

Incoming Lines

P/N: 53-50037505 - 1/2" line in
P/N: 53-50037512 - 12mm line in

NEW!! *Manifold Suction Cups* **NEW!!**



8 pairs of outgoing vacuum ports
with plugs included.

2 large incoming vacuum ports
(10-14mm)

Made in two different sizes:

200 mm X 200 mm (7.87" X 7.87") - Part Number 21-200-10

150 mm X 150 mm (5.9" X 5.9") - Part Number 21-150-10

- Functions the same as a regular Suction Cup
- Allows cleaner setups by reducing the amount of tubing on the table.
 - Ideal for FabCenter setups.
- This cup can be made at ANY height and is available in most popular fitting sizes.

NEW!! *Blowback Kit*

- Switches between vacuum and compressed air.
- Includes the Blowback Switch and the Blowback Manifold
- Available in most popular fitting sizes.



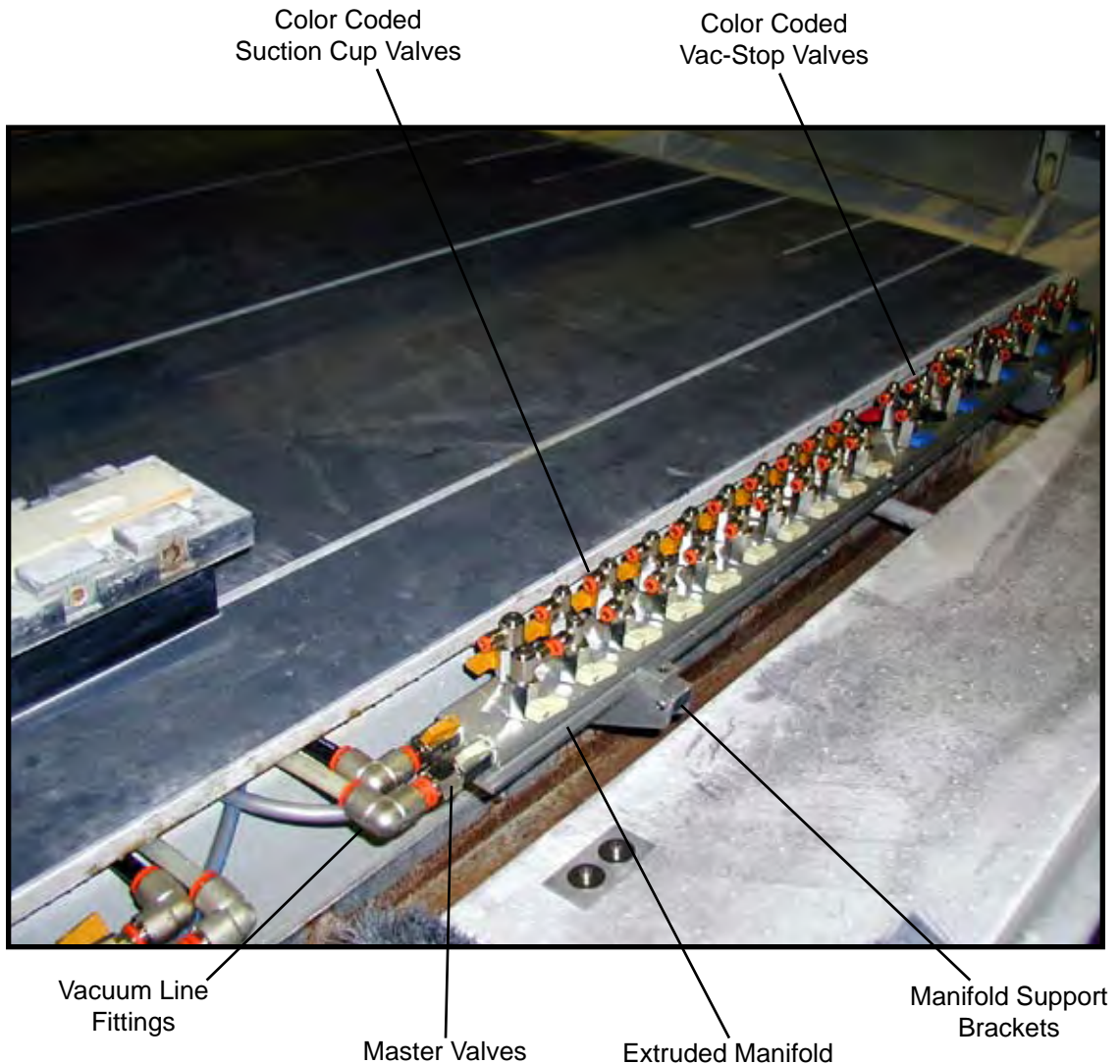
Blowback Kit
P/N: 21-401-01

One Piece Extruded Aluminum Replacement Manifold Unit For Intermac Master Series Machines

Intermac Manifold Left:
Part Number 21-101-01

Intermac Manifold Right:
Part Number 21-101-02

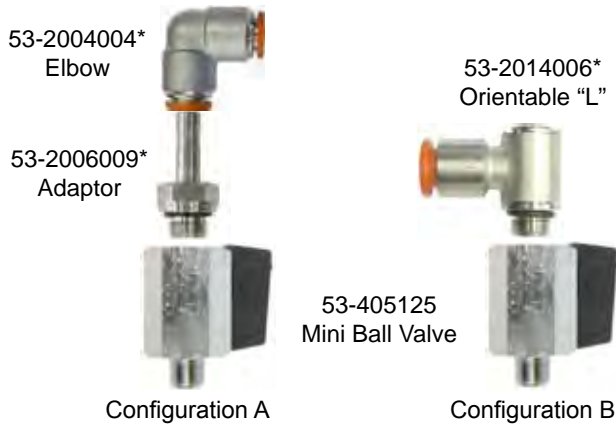
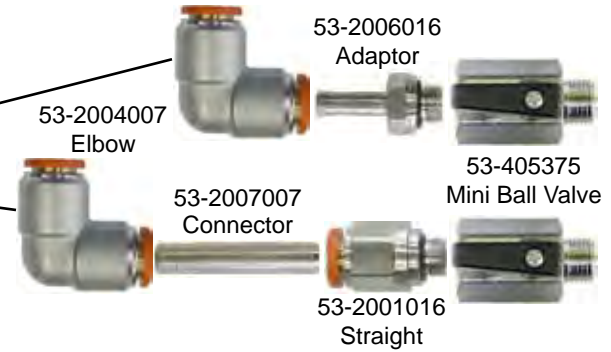
The replacement Intermac Manifolds are 50" long.
Each manifold comes with 10 suction cup ports
and 5 Vac-Stop ports, all color coded.



Replacement Parts



14mm End Fittings



Suction Cup Valves

Your Intermac manifold came with one of two options for the valves that go on top of the manifold. Configuration A consists of a Mini Ball Valve, an adaptor, and an elbow.

Configuration B consists of a Mini Ball Valve and an Orientable "L".

Take a look at the diagram above for reference.

*These part numbers are for an 8mm line. If you are using 6mm lines the part numbers are as follows. Elbow: 53-2004003. Adaptor: 53-2006007. Orientable "L": 53-2014005.

Replacement Handles



53-405H

Replacement Bracket - Side Mount



21-201-01

Vacuum Generators

These vacuum generation systems are a cost effective solution for small to medium sized applications. They generate vacuum by passing compressed air from your compressor through an internal nozzle. These systems have a limited capacity and should not be used with porous materials. They also require that your suction cups and manifolds be well maintained and free of extensive leaks.

Single Vacuum Generator Kit

Part Number: 01-501-01
Max Vacuum Level: 26 in. Hg
Air Consumption: 7 CFM @ 68 psi
Open Flow Capacity: 17 CFM
Capacity at -20 in. Hg: 0.75 CFM
Air Connection: 1/4" NPT
Vacuum Connections: 1/2" Push Connect



Dual Vacuum Generator Kit

Part Number: 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



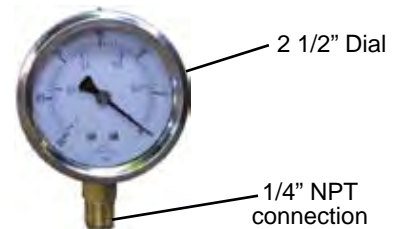
Vacuum Generator Rebuild Kit

Part Number: 01-501-01-01
Contains all the gaskets necessary to rebuild each generator.
(2 are needed to rebuild the dual)



Oil Filled Vacuum Gauge

Part Number: 01-501-01-02
Corrosion resistant stainless steel and brass construction.



NEW!! Liquid Ring Vacuum Pump NEW!!

We carry a complete line of liquid ring vacuum pumps for replacing worn out systems and for new installations. These pumps are direct replacements for those found in many popular CNC models. Call us for help choosing the correct model.



Table Retrofit / Replacement

Our table replacement system is meant to address two common situations that exist in the industry and is the result of years of observations and development. The first issue is repairing 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, pullup, or cracks..worked as advertised."

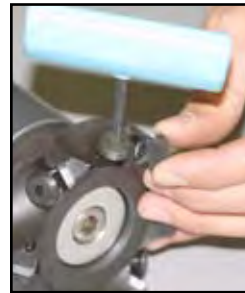
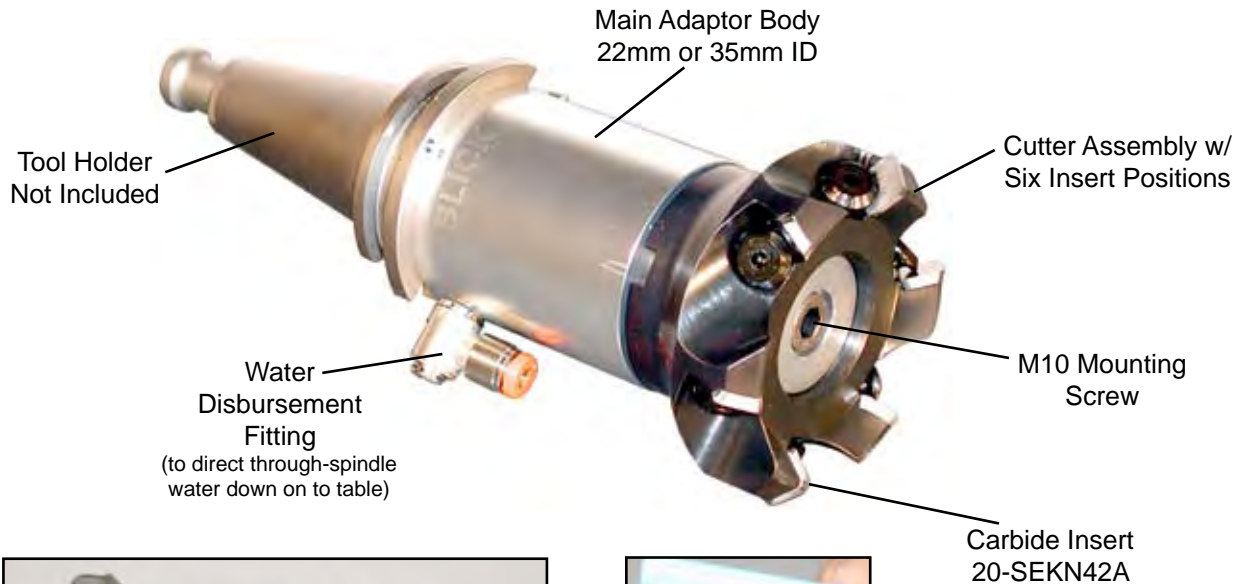
Chris Harrelson, Fabricator
Marquis Marble & Granite, South Carolina

"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



Dressing Tool Assembly - Part Number: 20-022-01



Dress Table Surface, Suction Cups, Clamps & Fixtures

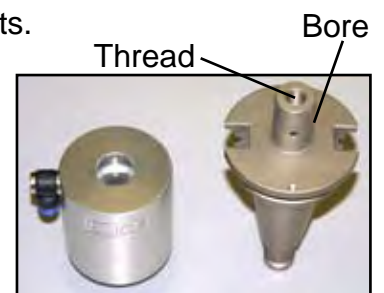
Dressing Tool Assembly comes complete with cutter assembly, six carbide inserts, wrench, mounting adaptor, cone assembly mounting bolt and water disbursement fitting ready for mounting to customer supplied 22 mm or 35 mm Conic Tool Holder.

Tool can be used to dress table surface, suction cup bearing feet, suction cup & clamp surface pads as well as various styles of fixtures.

Carbide cutter uses readily available carbide insert replacements.

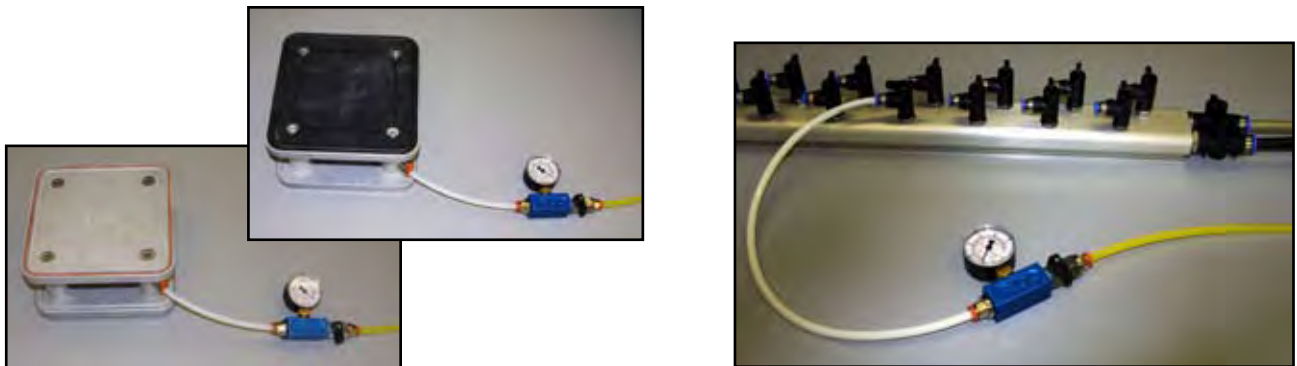
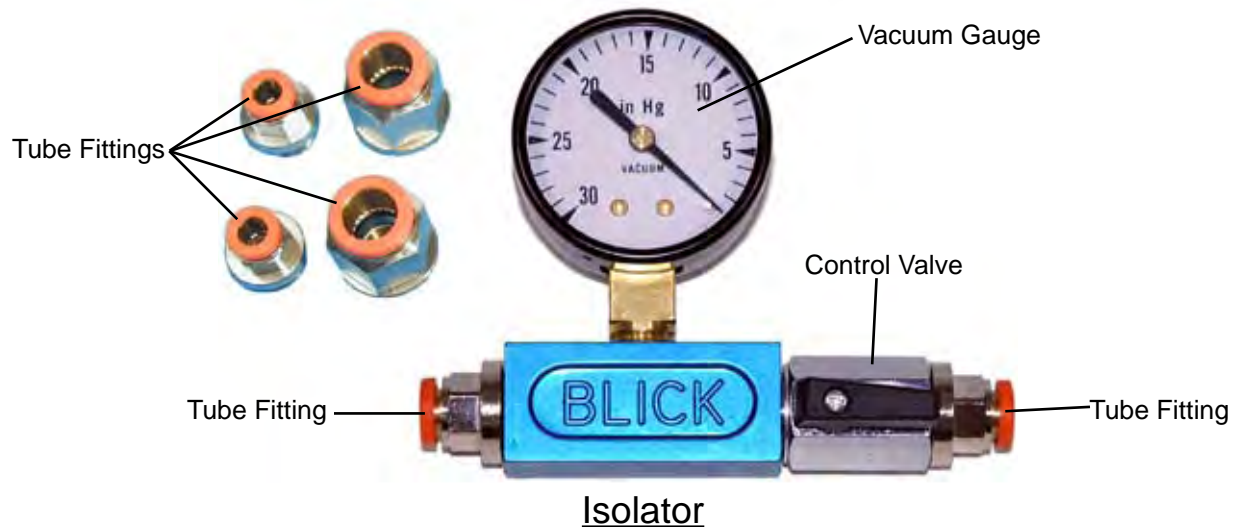
Please Note:

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



Don't Put Up With Leaks Any Longer

Isolator Kit - Part Number: 53-30HG1



Isolator - Vacuum Leak Detector

Vacuum leaks, no matter the cause, are your enemy. Sometimes just finding them is a real problem. The Isolator 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 and "isolate" and eliminate nagging 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 14 mm] for isolating all vacuum lines commonly used in the industry.

Collet Holders



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 (1/2 BSP) toolholder/cone.

ER25 Collet Holder X 1/2" BSP Adaptor - 4.5" Long

Part Number: 14-100-05

Lets you use standard router bits

Collet Style: ER25
Capacity: 1/8" to 5/8"
Length Overall: 4.5"
Adaptor Thread: 1/2" BSP



14-100-05

Fits all toolholders with standard 1/2" BSP
Female thread [1/2" Gas adaptor]

ER25 Collet Holder X 1/2" BSP Adaptor - 1.5" Long

Part Number: 14-100-04

Collet Style: ER25
Capacity: 1/8" to 5/8"
Length Overall: 1.5"
Adaptor Thread: 1/2" BSP



14-100-04

Fits all toolholders with standard 1/2" BSP
Female thread [1/2" Gas adaptor]

ER25 Collets

Part Number: 14-125

Standard Sizes

1/4"	14-125-14	11/32"	14-125-32
3/8"	14-125-38	5/8"	14-125-58
1/2"	14-125-12		



14-125

Tool Holder End Caps



Low Profile End Cap - 22 mm

Mounting Shaft Diameter: 22 mm
 Mounting Screw: M10 Flat Head
 OD: 63.5 mm

Recessed Part Number: 14-102-01
 Extended Part Number: 14-102-02

Low Profile End Cap - 35 mm

Mounting Shaft Diameter: 35 mm
 Mounting Screw: M10 Flat Head
 OD: 63.5 mm

Recessed Part Number: 14-102-03
 Extended Part Number: 14-102-04

NEW!! Intermac and Brembana Tool Forks
Replacements now available!!



14-200-01



14-200-02

Tap & Drill Kit

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



1/8 inch BSPP part number: 58-125-11
 1/4 inch BSPP part number: 58-250-11



Inline Vacuum Breaker

Part Numbers:

6mm	53-103-06
8mm	53-103-08
10mm	53-103-10
12mm	53-103-12

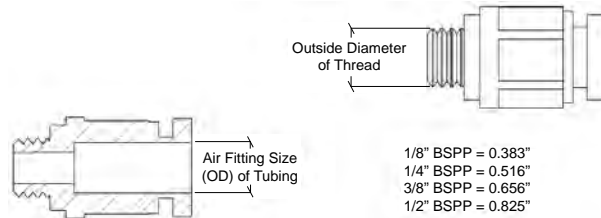
Allows easy repositioning of your vacuum devices.



Push In Type Air & Vacuum Fittings

The air fittings that we use on our products use a quick push in style connection to link with tubing. These fittings connect to our products using a straight pipe thread known by the interchangeable names of BSP or "G". These threads seal using a rubber o-ring and do not require any sealant or tapes.

To identify the correct model of a fitting that you are trying to replace you will need to measure the ID of any tube connections and the OD of any threaded connections. The tube sizes are as they measure in millimeters while the thread size will be in inches and must be converted using the table below.



Air Fitting - Straight

Part Numbers:

6 mm X 1/8" BSP	53-2001007
6 mm X 1/4" BSP	53-2001008
8 mm X 1/8" BSP	53-2001009
8 mm X 1/4" BSP	53-2001010
8 mm 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



Air Fitting - Orientable "L"

Part Numbers:

6 mm X 1/8" BSP	53-2014005
8 mm X 1/8" BSP	53-2014006
6 mm X 1/4" BSP	53-2014007
8 mm X 1/4" BSP	53-2014008
12 mm X 1/4" BSP	53-2014010



Air Fitting - Elbow

Part Numbers:

6 mm Elbow	53-2004003
8 mm Elbow	53-2004004
12 mm Elbow	53-2004006
14 mm Elbow	53-2004007



Air Fitting - Adaptor

Part Numbers:

6 mm X 1/8" BSP	53-2006007
8 mm X 1/8" BSP	53-2006009
8 mm X 3/8" BSP	53-2006011
12 mm X 3/8" BSP	53-2006014
14 mm X 3/8" BSP	53-2006016



Air Fitting - Tube Coupling

Part Numbers:

6 mm Coupling	53-2003003
8 mm Coupling	53-2003004
12 mm Coupling	53-2003006
14 mm Coupling	53-2003007



Air Fitting - Tee

Part Numbers:

6 mm Tee	53-2005003
8 mm Tee	53-2005004
12 mm Tee	53-2005006
14 mm Tee	53-2005007



Air Fitting - Threaded Tee

Part Numbers:

6 mm x 1/8" BSP	53-2032008
10 mm x 1/4" BSP	53-2032013



Air Fitting - Y

Part Numbers:

6 mm Y	53-2023003
8 mm Y	53-2023004



Air Fitting - Tube Plug

Part Numbers:

6 mm Plug	53-2011003
8 mm Plug	53-2011004
10 mm Plug	53-2011005
12 mm Plug	53-2011006
14 mm Plug	53-2011007



Air Fitting - Tube Reducer M x F

Part Numbers:

8 mm X 6 mm Tube Reducer	53-2008006
10mm X8 mm Tube Reducer	53-2008008
12mm X8 mm Tube Reducer	53-2008011
3/8" x 5/16" Tube Reducer	53-2008013



Pipe Fitting - Threaded Plug

Part Numbers:

1/8" BSP Male Plug	53-2107001
1/4" BSP Male Plug	53-2107002
3/8" BSP Male Plug	53-2107003
1/2" BSP Male Plug	53-2107004



Pipe Fitting - Threaded Coupling

Part Numbers:

1/8" BSP Coupling	53-2103001
1/4" BSP Coupling	53-2103002
3/8" BSP Coupling	53-2103003
1/2" BSP Coupling	53-2103004



Mini Ball Valve

Part Numbers:

1/8" BSP Male/Female	53-405-125	Top of Imac manifold
1/4" BSP Male/Female	53-405-250	
3/8" BSP Male/Female	53-405-375	End of Imac manifold

Handles are available in the following colors:
White, Red, Yellow, Blue, Black



These are the valves found on Intermac manifolds. For more information on repairing Intermac manifolds see page number 29. Must be installed using included crush washer.

Mini Ball Valve

Part Numbers:

1/8" BSP Female/Female	53-400-125
1/4" BSP Female/Female	53-400-250
3/8" BSP Female/Female	53-400-375

Handles are available in the following colors:
White, Red, Yellow, Blue, Black



Combo Valve

Part Numbers:

This is for line out from manifold

6mm x 1/8" BSP	53-5001256
8mm x 1/8" BSP	53-5001258

These valves are used on our universal manifolds and will work on Intermac manifolds. They are very tough and the handle is conveniently located on top of the valve. These valves have an o-ring seal and do not require crush washers.



Combo Valve

Part Numbers:

This is for incoming line to manifold

12mm x 3/8" BSP	53-50037512
1/2" x 3/8" BSP	53-5003750



Polyurethane Tubing - 6 mm

Part Numbers:

6 mm Red Poly. Tubing	54-6RP	20 meter (66') roll
6 mm White Poly. Tubing	54-6WP	20 meter (66') roll
6 mm Blue Poly. Tubing	54-6BLUP	20 meter (66') roll
6 mm Black Poly. Tubing	54-6BLAP	20 meter (66') roll
6 mm Yellow Poly. Tubing	54-6YP	20 meter (66') roll



Polyurethane Tubing - 8 mm

Part Numbers:

8 mm Red Poly. Tubing	54-8RP	100 foot roll
8 mm White Poly. Tubing	54-8WP	100 foot roll
8 mm Blue Poly. Tubing	54-8BLUP	100 foot roll
8 mm Black Poly. Tubing	54-8BLAP	100 foot roll
8 mm Yellow Poly. Tubing	54-8YP	100 foot roll



Polyurethane Tubing - 8 mm, Bonded

Part Numbers:

8 mm Red/Blue Poly. Tubing	54-82RBLU	100 foot roll
8 mm Yellow/White Poly. Tubing	54-82YW	100 foot roll
8 mm Blue/Black Poly. Tubing	54-82BB	100 foot roll

Our bonded tubing consists of two separate lines that are joined together and can easily be separated when necessary.



Polyurethane Tubing - 1/2"

Part Numbers:

1/2" Black Nylon Tubing	54-50BLA	Per Foot
1/2" White Nylon Tubing	54-50W	Per Foot



Polyurethane Tubing - 12 mm

Part Numbers:

12 mm Black Nylon Tubing	54-12-BLA	Per Foot
12 mm White Nylon Tubing	54-12-W	Per Foot



Nylon Tubing - 14 mm

Part Numbers:

14 mm Black Nylon Tubing	54-14-BLA	Per Foot
14 mm White Nylon Tubing	54-14-W	Per Foot



Tube Mat

Part Number: 54-101-01

These mats are used to weigh down tubing and prevent it from interfering with the spindle. The mats have cutouts for hanging for easy storage.



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.

- Please go to our website to view our seal replacement procedure videos. -



Rectangular Suction Cup
Top Seals



Rectangular Suction Cup
Bottom Seals



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.

160 mm Suction Cup Top Seal

Part Number: 12-160-01-04

Nitrile Rubber Sealing Ring
Fits both Cast & Modular Style Cups
160 mm Suction Cups



12-160-01-04



12-120-01-04

120 mm Suction Cup Top Seal

Part Number: 12-120-01-04

Nitrile Rubber Sealing Ring
Fits both Cast & Modular Style Cups
120 mm Suction Cups



12-090-01-04

90 mm Suction Cup Top Seal

Part Number: 12-090-01-04

Nitrile Rubber Sealing Ring
Fits both Cast & Modular Style Cups
90 mm Suction Cups



23-101-01

Suction Cup Bearing Feet

Part Number: 23-101-03

Nitrile Rubber Pad
80 Shore Hardness Rubber
4 mm Screw
Fits both Cast & Modular Style Cups

How Vacuum Works

The atmospheric pressure that surrounds us is the result of all of the air above us pushing down on us. The weight of a 1 foot by 1 foot column of air reaching from sea level out into space is approximately 2,117 lbs. This results in a pressure of 2,117lbs / 144sq. in. which equals 14.7 psi (pounds per square inch), or 29.92 inHg (inches of mercury). The reason that we do not feel this substantial pressure is because the fluids and gases in our bodies are at roughly the same pressure. This equilibrium results in no net force.

Vacuum is a word used to describe 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 more complete or stronger the vacuum. 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 and attempt to equalize the pressure. If it were possible to completely remove all of 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.

This leads us to an important conclusion: **Since the pressure exerted on a volume under vacuum is the result of the atmosphere pushing on it, 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. Table 1 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. This is why we provide such a large selection of shapes and sizes of suction cups.

Cont.

How Vacuum Works, cont.

Common Unit used to Measure Vacuum:

1inHg = .491psi = .0339Bar

1psi = 2.036inHg = .0689Bar

1Bar = 14.50psi = 29.530inHg

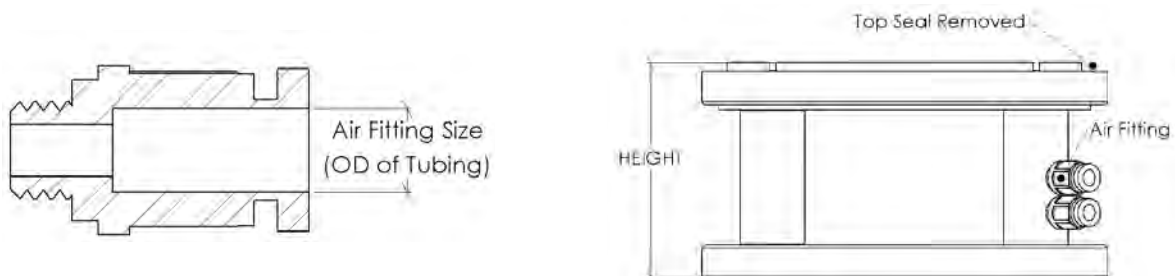
Table 1

Altitude Above Sea Level (Feet)	Altitude Above Sea Level (Meters)	Atmospheric Pressure (psi)	Maximum Vacuum Level Attainable (inches Hg)	Vacuum Level Loss at Altitude	Maximum Vacuum Level Possible at this Altitude
0'	0 M	14.70 psi	29.921" Hg	-	-
1000'	305 M	14.16 psi	28.9" Hg	3.4%	96.6%
2000'	610 M	13.66 psi	27.8" Hg	7.1%	92.9%
3000'	914 M	13.16 psi	26.8" Hg	10.4%	89.6%
4000'	1219 M	12.68 psi	25.8" Hg	13.8%	86.2%
5000'	1524 M	12.22 psi	24.9" Hg	16.8%	83.2%
6000'	1829 M	11.77 psi	24.0" Hg	19.8%	80.2%
7000'	2134 M	11.33 psi	23.1" Hg	22.8%	77.2%
8000'	2438 M	10.91 psi	22.2" Hg	25.9%	74.1%
9000'	2743 M	10.50 psi	21.4" Hg	28.6%	71.4%
10,000'	3048 M	10.10 psi	20.6" Hg	31.3%	68.7%

Height and Air Fitting Size Specification

When ordering suction cups, we will need to know what height you need, and what air fitting size you are using. The height is defined as the distance from the aluminum base of the suction cup to the top of the hard rubber bearing surface on top of the suction cup. It is important not to include either the top or bottom seal in the measurement. The air fitting size is the outside diameter of the tubing that you are using.

To obtain precision height measurements, the suction cup must be held down to a flat surface by vacuum (using its own base) and the top of the hard rubber bearing surface must be measured using a height gage. Since most fabricators do not have this equipment, when there is uncertainty about the exact height of suction cups, we recommend sending a sample to us to be measured.



Calibrating:

Having consistent height amongst your suction cups is of fundamental importance to obtaining proper holding ability and uniform edge work. We go to great efforts to maintain standard heights. This will ensure proper performance and interchangeability among all of our products whether purchased together, separately, or repaired at a later date.

Our exacting height tolerances are maintained by putting all of our products through a calibration and measuring process. After final assembly, all of our products are run through a machine in which they are held down by their own vacuum bases and the top rubber pad is trimmed to a specified height.

Because most fabricators do not have the tools, measuring equipment, or time to properly calibrate our suction cups, we encourage customers to take advantage of our repair service and ship damaged items to us. After having damaged parts replaced, the items can be properly calibrated and tested.

Although most machine manufacturers have a standard specified height, we cannot guarantee that suction cups that are supplied by other manufacturers accurately match this standard, or each other.

Don't worry, we can fix it . . .



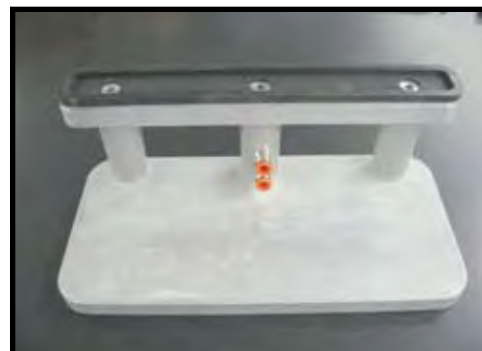
We offer a full repair service for **BLICK** products that have been damaged. Simply return the damaged item to us. We will repair or replace the damaged parts. You will be charged only for the necessary parts and service to return them to proper working order.

*Please note: Because we only stock parts for Blick products, we are unable to make repairs to any parts other than those made by Blick Industries.

Repair Procedure

To simplify the repair process please follow this procedure.

1. 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.**
2. Complete the Repair Form and include it with your shipment. The repair form can be found at the end of the Blick product catalog. A printable form is also available in the customer services section of our web site, located at www.blickindustries.com. Be sure to complete the entire form and designate the type of UPS service you desire.
3. Allow seven to ten days, plus shipping time, for normal repair service.



Make a photocopy of this form, fill it out, keep a copy for your records and send the original along with your shipment. Ship to us at the address listed below. Additional forms are available on our web site. Be sure to use adequate packaging for heavy items.

Company Name: _____

Contact: _____

Address: _____

City/State: _____ **Zip:** _____

Phone Number: _____ **Fax:** _____

Preferred UPS Return Shipping Method (check one)

Ground 3 Day Select 2nd Day Air Next Day Air

Would you like to have a Quotation BEFORE we repair any items. (check one)

YES, Please call/send me a Quotation. NO, Go ahead and repair all items.

Items to be Repaired:

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

DISCLAIMER: Please send us only the items you want repaired. We cannot store your items. Items the customer declines to have repaired will be discarded. We can only make repairs to BLICK products.