

SmartVac Workholding System Installation and Operation Instructions

I. Installation

1. Mounting the Components

1. Starting with a clean machine table place the SmartVac Base unit on the table and use the included bolts and toe clamps to secure the Base to the table. You will need to use your own T-slot nuts matched to your machine's table.
2. Mount the Hand Valve to the table away from the machine's cutting area.
3. Mount the Air Regulator on the outside of the machine using the included magnetic bracket.

2. Air Connections - The SmartVac requires a minimum of 80 psi of compressed air at 0.8 cfm. Use any of the included connectors (industrial quick disconnect, 1/4" Wye, 1/4" or 1/8" NPT instant tube fittings) to tap into a compressed air source.

1. Connect a section of tubing from the inlet of the SmartVac Base to the left side connector on the hand valve (the right connector has an exhaust port above it).
2. Connect a section of tubing from the right side connector on the hand valve to the outlet side of the air regulator. The outlet side of the regulator is the right hand side and is marked with an arrow.
3. Connect a section of tubing from the inlet of the air regulator to the air source.

II. Operation

1. Using Standard Top Plates

1. Standard Top Plates come with a preconfigured groove pattern. Once attached to the Base, place the gasket material in any of the grooves in the shape of the part.
2. Gluing the ends of the gasket material together is NOT required. As long as one of the ends butts up against the side of the gasket (Fig. 1) or other end (Fig. 2), a sufficient seal will occur.
3. If there are any sections in your part that require drilling through-holes, you'll need to isolate that section from the rest of the vacuum area. (Fig. 3-A)

2. Using Blank Top Plates

1. Blank Top Plates are easily configured and machined to hold your specific part shape. Using the included .118" endmill (3mm) machine a slot .100" deep just inside the perimeter of the part preferably .100" in from the edge. (Fig. 3-B)
2. Drill a vacuum hole through the Top Plate to allow the vacuum to enter the area between your part and the Top Plate. (Fig. 3-C)
3. Machine shallow slots from the vacuum hole toward the perimeter of the gasket to allow the vacuum to flow across the entire surface. (Fig. 3-D)
4. If there are any sections in your part that require drilling through-holes, you'll need to isolate that section from the rest of the vacuum area. (Fig. 3-A)
5. Insert the gasket material in the slots you've created. Gluing the ends of the gasket material together is NOT required. As long as the ends butt up against each other, a sufficient seal will occur. (Fig. 2)

III. Maintenance – The SmartVac uses a sintered bronze filter to keep large particles from entering the vacuum generator. It is located on the top of the Base. The system is typically not affected by oils or coolant, however buildup from dried coolant can block this filter.

1. After each use, allow the system to run for at least one minute to clear out any coolant that has entered the system.
2. If the filter does get clogged, try covering the outlet port on the right side of the base which will force air backwards through the system to unclog the filter.
3. If the filter still remains clogged, simply unscrew it from the Base and soak it in an industrial cleaner/degreaser until clean.
4. When not in use, cover the system to reduce dirt and dust buildup which can clog the filter.

Included Items in Starter Package

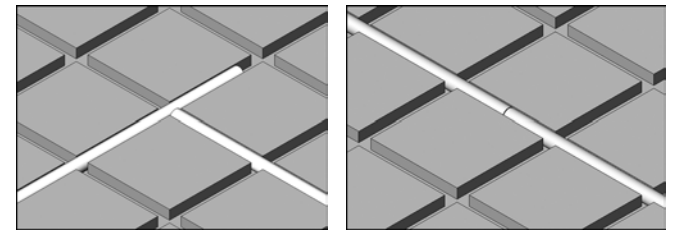
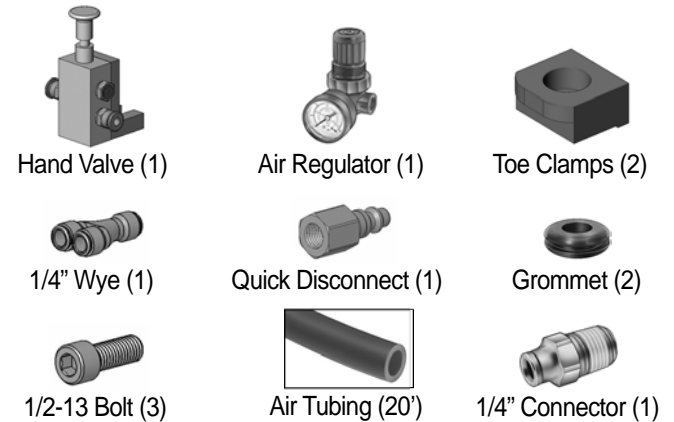


Fig.1

Fig. 2

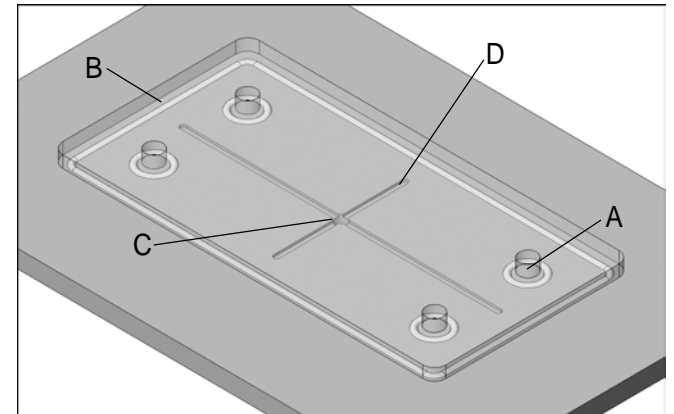


Fig. 3

