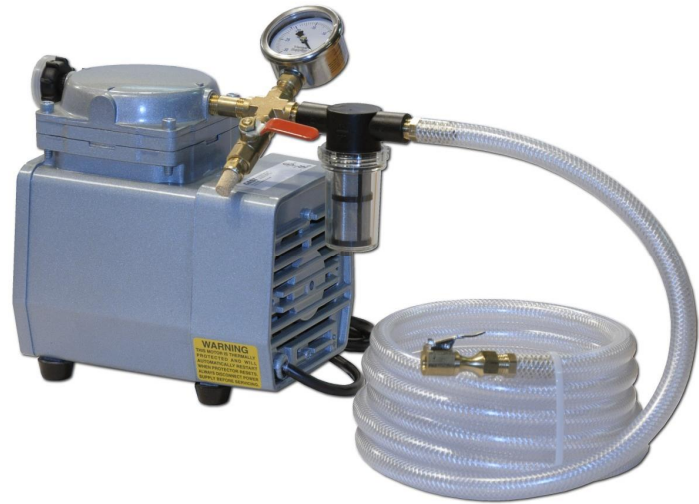




Thank you for purchasing the Excel 1™ Vacuum Pressing System. With its wide range of uses, you'll find it a versatile and practical addition to your arsenal of tools.

The system is designed for woodworkers looking for a simple and affordable method of veneering wood panels and clamping wood projects for routing, sanding and carving. With an integrated bleeder valve, the system is fully adjustable up to 1750 lbs of pressure per square foot.



At the heart of the system is a very quiet and energy-efficient vacuum pump from Gast Manufacturing to ensure many years of trouble-free operation. The unit is designed to run on standard household current (120v AC). This guide will help you get your vacuum press/clamp assembled as quickly as possible. If you have any questions, feel free to contact us through the VeneerSupplies.com website.

Assembly Time: 15 - 20 Minutes

Assembly Tools: Wrenches (9/16", 5/8", 11/16")

Kit Contents



Thread-Sealing Tape



Braided Vacuum Tube



Lock-On Connector



Brass Pipe (1.5")



2x Straight Brass Barbed Fitting



Vacuum Gauge



Vacuum Bleeder



Short Brass Pipe Nipple



Vacuum Valve Type I



Brass Cross Fitting



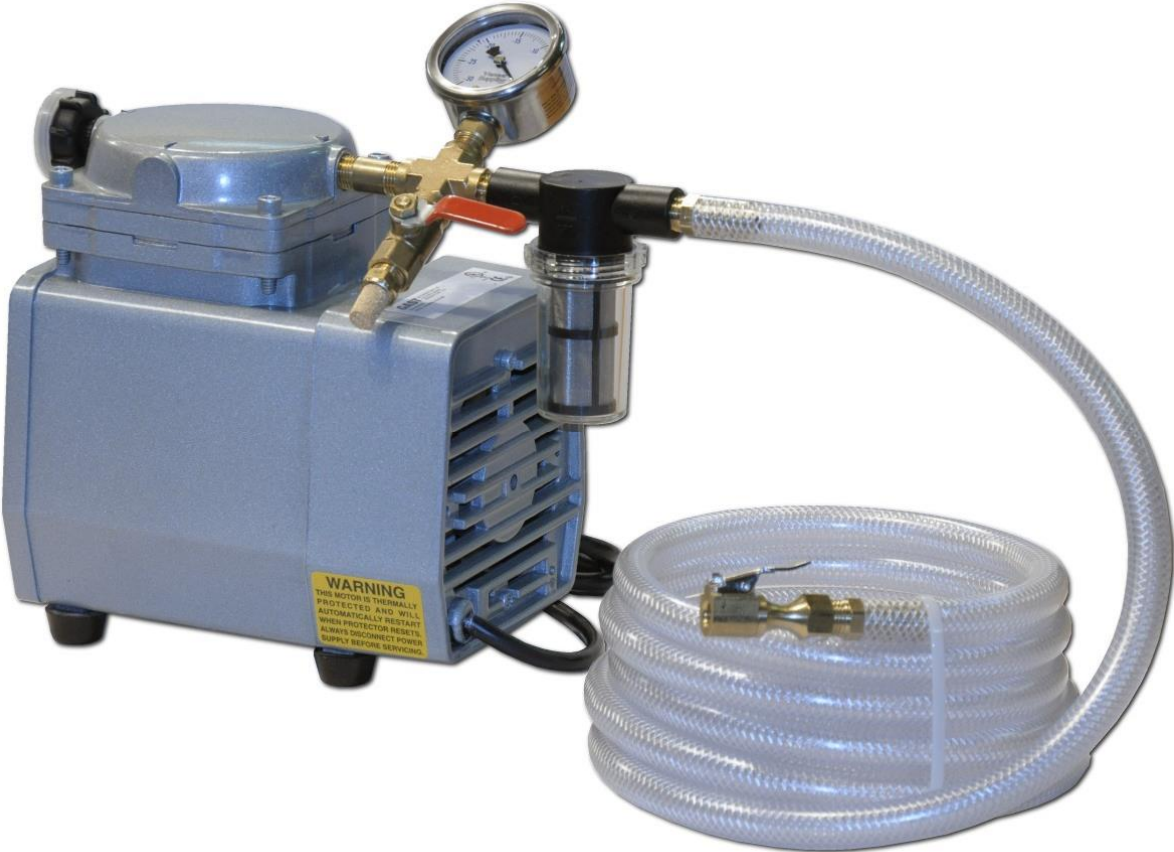
High-Flow Vacuum Filter



4x Rubber Feet & Screws

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For reference, keep this page on your workbench as you assemble the system.



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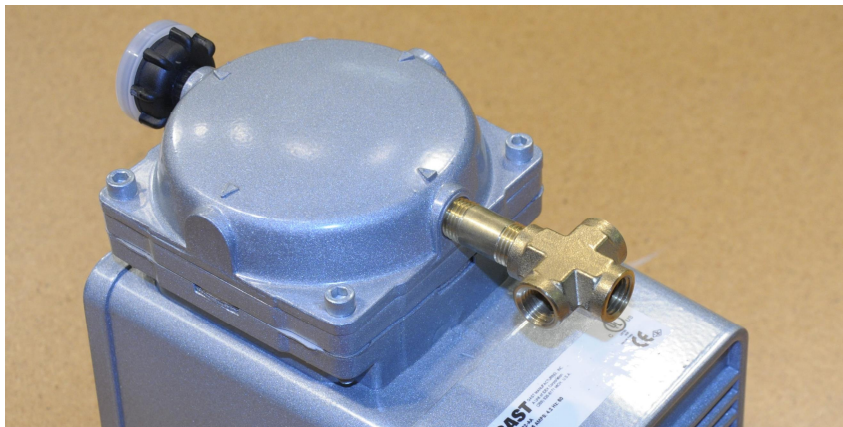
Assembly

1. Remove the orange plugs that are attached to the ports on the vacuum pump.
2. A muffler is included in the box with your vacuum pump. Depending upon the pump model, the muffler included in the box may be brass or black nylon. Attach the muffler to the exhaust port on the pump housing. There is a triangle shape casted into the pump head that points away from the pump housing, indicating the direction of air flow.
3. Attach the four rubber pump feet to the bottom of the pump using the provided screws.
4. Apply thread sealing tape to the male thread sides of the brass fittings below.
 - a. Brass Pipe (1.5")
 - b. Brass Pipe Nipple (1 side only)
 - c. Vacuum Valve
 - d. Brass Barbed Straight Fitting (apply to one of the two included fittings)
 - e. Vacuum Bleeder Fitting
 - f. Vacuum Gauge

Two or three layers of tape should be applied to the fitting in the direction of the threads. Hold the fitting in your right hand. Apply the starting end of the tape to the top threaded portion of the fitting and rotate the fitting away from you. The fitting should be rotating in the same direction as if it were being inserted into another fitting.

Thread sealing tape is not shown in the assembly pictures below for the sake of clarity.

5. Loosely attach the 1.5" brass pipe to the intake port on the vacuum pump.
6. Attach the brass cross and tighten it firmly. This will also tighten the brass pipe. After the brass cross begins to become snug, continue turning until the brass cross is oriented horizontally as shown below.



7. Loosely attach the brass pipe nipple to the open side port of the brass cross. The side of the nipple with the thread sealing tape is the side that is attached to the brass cross.
8. Attach the vacuum valve to the forward facing port of the brass cross using a 11/16" wrench. The valve should be oriented so the handle is facing upright when fully tightened.

The vacuum valve allows the user to quickly and easily adjust the amount of vacuum being applied to the project.

9. Attach the vacuum bleeder fitting to the vacuum valve using 9/16" and 11/16" wrenches.

The fitting which we call a "bleeder" can be used for many purposes such as for muffling the vacuum pump exhaust. However for this kit, the bleeder fitting simply allows filtered air back into the system.

10. You can now turn/tilt the entire brass assembly so the gauge is angled up by 40° and then attach the vacuum gauge to the top port on the brass cross.

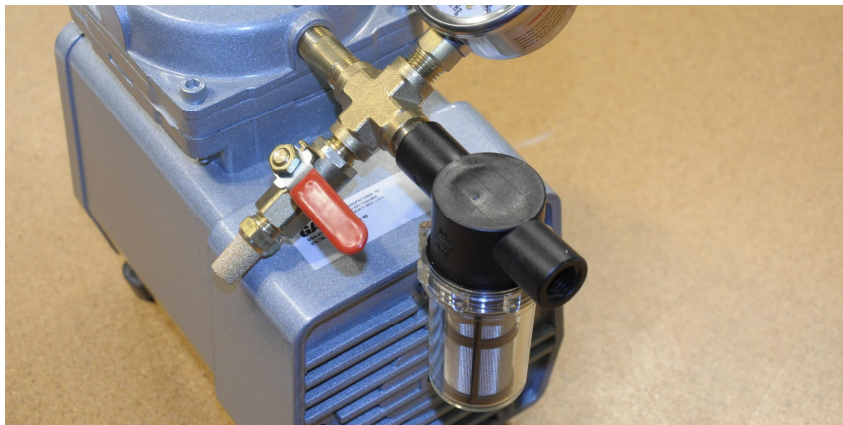
11. Attach the vacuum gauge to the brass cross. Use a 9/16" wrench on the base of the gauge to prevent damage. Do not apply force to the gauge housing.

If the gauge needle is not at zero, carefully lift the plastic insert at the top of the gauge. Excess pressure inside the gauge will escape and the needle will reset.



12. Attach the vacuum filter. Make note of the arrow on the side of the filter. This arrow should be pointing toward the pump. Do not over-tighten the filter. Even when the filter is hand tight, it will still provide a very good seal. The final position of the filter should be the 6 o'clock or vertical position as shown in the picture below.

Do not over-tighten the filter head. The plastic is soft and so it will easily seal against the threads on the brass fitting.



13. Attach the straight brass barbed fitting to the open port on the vacuum filter. Thread sealing tape is not needed for this part. Avoid over-tightening this fitting.

14. Attach one end of the 10 foot piece of braided vacuum tube to the brass barbed straight fitting on the filter.
15. Attach the remaining brass barbed straight fitting to the lock-on connector on the end of vacuum tube using a 5/8" and a 9/16" wrench. This fitting should have thread sealing tape applied.

Be sure to hold the lock-on connector at the hexagon part of the casting when attaching the barbed fitting. Do not use the wrench on the head of the lock-on connector.

16. Slide the brass barbed straight fitting (which is attached to the lock-on connector) onto the remaining open end of the braided vacuum tube.



Your Excel 1™ Vacuum Pressing System Is Now Complete!

I've written a short but helpful article that explains what you'll need to begin using your vacuum press. The article also includes a step by step guide to using your system for veneering.

Check it out here... www.joewoodworker.com/veneering/getting-started.htm

How to Use the Excel 1 Vacuum Press System

When the project is prepared and placed in the vacuum bag, apply the bag closure. Depress the spring clip on the lock-on connector (included with this kit) and slide it onto the brass stem* on the vacuum bag. Release the spring clip while gently pushing the downward on the lock-on connector.

Plug in the Excel 1 vacuum press and close the vacuum valve by turning the handle to the horizontal position. The gauge will show how much vacuum is being applied to the bag. The ideal vacuum level for most veneering projects is 21" of Hg. Observe the vacuum gauge as the indicator needle moves toward this ideal vacuum level. When the needle passes the 21" of Hg mark on the gauge, slowly open the vacuum valve. Doing so will allow a small amount of air to vent back into the system and the gauge needle will move backward. Adjust the position of the vacuum valve handle until the gauge needle settles at the 21" mark. No further adjustment should be needed during the pressing time for the project.



Keep in mind that this system is designed to run continuously while the adhesive is setting up. The vacuum pump will not restart if there is any vacuum shown on the gauge. In the event that you need to turn off the system during the pressing, you will need to temporarily disconnect the lock-on connector from the vacuum bag before turning on the pump again. When the pump is running, re-attach the lock on connector to the bag.

The adhesive used on your project will determine how long the panel needs to be pressed in the bag. Follow the instructions on the adhesive bottle for clamping time. Excess clamping time for some adhesives can be problematic so avoid pressing the project for too long.

When the suggested pressing time is complete, unplug the Excel vacuum system and remove the lock-on connector from the bag by depressing the spring clip.

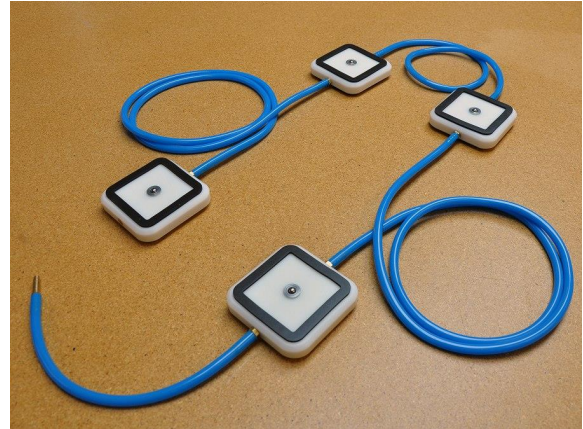
** The vacuum bags offered at VeneerSupplies.com include a special brass stem that mates with the lock-on connector included with this vacuum press kit.*



Using the Excel System with Podz™ Vacuum Clamping Jigs (Optional)

If you ordered your Excel system with the optional Podz™ clamping kit, assemble the jigs using the instructions included with the kit.

Begin preparing the system and Podz jigs for use by attaching the tube adapter from the lead Podz clamping jig to the lock-on connector from the Excel 1 vacuum system. Turn the vacuum valve to the 4 o'clock position. When the system is running, this will allow a small amount of air to vent back into the system and is necessary for releasing the vacuum clamped project when the system is turned off.



Attach the power cord from the vacuum pump to the end of the power cord on the electric foot pedal that is included with the Podz clamping option for the Excel 1 system. Plug the cord assembly into a standard 120v wall socket. Press the back side of the pedal to turn the system on. To turn the system off, press the front side of the pedal.

How It Works

Turn the system on via the foot pedal and place your project panel onto the Podz jigs. Adjust the vacuum valve handle as needed to create an ideal balance of vacuum clamping force and release time. The release time is the amount of time it takes for the vacuum to bleed out of the system (when it is turned off) so that the clamped project panel can be removed from the Podz jigs. Increase the clamping force by moving the vacuum valve handle toward the horizontal or 3 o'clock position but be aware that doing so can increase the amount of time it takes for the Podz jigs to release the clamped panel.

Press the back edge of the foot pedal to turn the vacuum pump on. Place the work piece onto the vacuum jig and you should feel the vacuum pressure pull the work piece solidly onto the jig. If the clamping piece is very porous and causes inadequate vacuum, you may wish to adjust the bleeder fitting to reduce the amount of air allowed back into the system.

To release the pressure from the Podz jigs, press down on the front edge of the pedal. You may hear the flow of air from the bleeder fitting as the vacuum from the jig is unloaded and the work piece is released.

