**Simple and Quiet**
At the heart of the system is a 1.1 CFM vacuum pump from Gast Manufacturing that produces just 45dB of sound. It is so quiet that you can stand next to the running pump and hold a conversation without having to raise your voice.

The Excel 1 Quiet™ Vacuum Pressing System is designed for woodworkers looking for a simple and quiet method of veneering wood panels and clamping wood projects for routing, sanding and carving. Every part of this system was designed with simplicity in mind. This makes it easy to assemble and incredibly durable. The vacuum level is fully adjustable from 840 to 1785 lbs of pressure per square foot.

The Excel 1 Quiet runs on standard household current (120v AC) and is suitable for vacuum bags up to 4’ x 4’ in size. The assembly consists of only a few pieces and each uses standard NPT threads. There is no wiring involved in the assembly process and the whole system goes together very quickly.

I hope you find the assembly process to be very easy. This guide will help get your vacuum press put together as quick as possible. As always, feel free to contact me any time through my website at VeneerSupplies.com if you have any questions.

**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”)
- 1/4” NPT x 3/8” Barb Brass Fitting
- 1/8” NPT x 3/8” Barb Brass Fitting
- 1x Vacuum Bleeder
- 1x Exhaust Muffler
- Short Brass Pipe Nipple
- Vacuum Valve Type I
- Brass Cross Fitting
- High-Flow Vacuum Filter
- Vacuum Gauge

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

The lock-on connector shown above has been replaced by a new version which is included with your Excel 1 vacuum press kit.
**Assembly**

1. Remove the orange plugs that are attached to the ports on the vacuum pump.

2. Apply thread sealing tape to the male thread sides of the brass fittings below.
   a. Brass Pipe (1.5”)
   b. Short Brass Pipe Nipple (1 side only)
   c. Vacuum Valve
   d. Vacuum Bleeder Fitting and Exhaust Muffler
   e. Vacuum Gauge
   f. 1/8” NPT x 3/8” Barb Brass Fitting
   (do not apply thread sealing tape to the 1/4” NPT brass barb fitting)

   *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.*

3. Two mufflers are included in the parts bag that came with your kit. One of these is used on the pump. The other muffler is used as a bleeder fitting and will be attached later in these instructions.

   Notice the triangle markings cast into the vacuum pump head. Attach the exhaust muffler fitting to the port with the triangle that points away from the pump head.

4. Loosely attach the 1.5” brass pipe to the intake port on the vacuum pump. This port is marked by a triangle that points toward the center of the pump head.

5. 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.

6. 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.

7. 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.

8. 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 filters the air going back into the system when the vacuum level is adjusted by the vacuum valve.

9. 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.

10. 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 edge of the rubber plug at the top of the gauge. Excess pressure inside the gauge will escape and the needle will reset.

11. Attach the vacuum filter. Make note of the arrow embossed on the side of the filter head. 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.
12. Attach the 1/4" NPT x 3/8" barb brass fitting to the open port on the vacuum filter. Thread sealing tape is not needed for this part. Avoid over-tightening this fitting. A bit more than “snug” is adequate.

13. Attach the 10-foot piece of braided vacuum tube to the 1/8" x 3/8" barb brass fitting on the filter.

14. Attach the remaining brass barb fitting to the lock-on connector using a 5/8" and a 9/16" wrench. This fitting should have thread sealing tape applied.

15. To complete your system, slide the completed lock-on connector assembly onto the open end of the braided vacuum tube.
How to Use the Excel 1 Quiet™ Vacuum Press System

Apply the bag closure to the vacuum bag when the project is prepared and placed inside. Pull back the sleeve on the lock-on connector and slide it onto the brass stem* on the vacuum bag. Release the sleeve while gently pushing the downward to snap the lock-on connector into position.

Plug in the Excel 1 Quiet 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.

* 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.

Warnings
1. Do not allow the vacuum press system to run unattended.
2. The vacuum gauge is a sensitive instrument and will be rendered inaccurate if dropped or struck with a hard object.
3. The individual components of this kit and the completed assembly of these components should not be considered suitable for use in areas where flammable or combustible gases or dusts are present.
4. The vacuum pump may be hot during and after use. Exercise care when handling the vacuum press system.
5. Keep in mind that this system is designed to run continuously while the adhesive is setting up. The vacuum pump will not restart if power is removed from the system and there is any vacuum shown on the gauge. If you need to turn the system off while pressing a project, then you must temporarily disconnect the lock-on connector from the vacuum bag before turning on the pump again. When the pump is running, re-attach the connector to the bag. Failure to do this will cause the pump to stall and over-heat which can result in permanent pump damage.

Pressing Time
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.

Your Excel 1 Quiet™ Vacuum Pressing System Is Now Complete!
I've written a short but helpful article that explains what else you will need to use your vacuum press. The article also includes a step by step guide to using your system for vacuum pressing a veneered panel. Follow the guide carefully and your first veneer project will turn out perfectly.

Check it out here… www.JoeWoodworker.com/veneering/getting-started.htm
Optional Excel System with Podz™ Vacuum Clamping Jigs

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

Begin preparing the vacuum press system and the Podz jigs for use by attaching the tube adapter from the lead Podz clamping jig to the lock-on connector from the Excel vacuum system.

Attach the power cord from the vacuum pump to the end of the power cord on the electric foot pedal included with the Podz clamping kit.

Plug the foot pedal power cord into a standard 120v AC wall socket.

Using the Excel System with Podz™ Vacuum Clamping Jigs
Set the vacuum valve about half way between the fully open and fully closed position. Then turn the system on by depressing the front edge of the foot pedal (the area closest to the power cord). Now place your work piece onto the Podz jigs. You should feel the vacuum pull it down.

You may wish to adjust the vacuum valve if the clamping piece is very porous and causes inadequate clamping pressure. Adjust the vacuum valve handle as needed to create an ideal balance of vacuum clamping force and release time.

Slight adjustments toward closing the vacuum valve increase the clamping pressure and decrease the speed at which the project releases from the clamping jigs. Slight adjustments toward opening the vacuum valve decrease the clamping pressure but increase the rate of release when the system is turned off.

Press the back edge of the foot pedal to turn off the vacuum pump and release your project. You may hear the flow of air from the bleeder fitting as the vacuum from the jigs is unloaded.