



## Simply Quiet

At the heart of the system is a 1.1 CFM vacuum pump from Gast Manufacturing that produces just 55dB of sound (at 10 ft on the A scale). It is so quiet that you can stand next to the running pump and hold a conversation without having to dramatically 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. With an integrated speed control valve, the Excel 1 system 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](http://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The lock-on connector shown above has been replaced by a new version which is included with your Excel 1 vacuum press kit.

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## 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 vacuum pump may be hot during and after use. Exercise care when handling the vacuum press system.
4. 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.



### 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.

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.

### 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](http://www.JoeWoodworker.com/veneering/getting-started.htm)

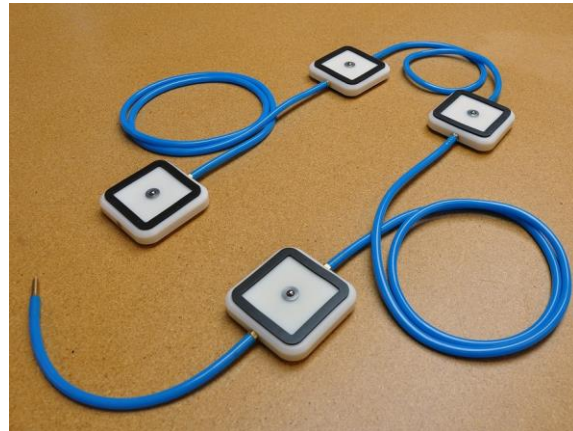




## Using the Excel System with Podz™ Vacuum Clamping Jigs (Optional)

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 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. See the full Podz instructions for details.



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.

