Seal VacuSeal 3444H/4468H/5298H Vacuum Press

Instruction Manual

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SEAL.

Owner's Operation Manual

VacuSeal 3444H, 4468H and 5298H

Programmable
Combination Vacuum Presses

OM2160 02/96

Please read the entire manual and fully understand the proper operating procedures before using your press.

IMPORTANT SAFEGUARDS

1. Place the vacuum press on either a VacuSeal FloorStand or a sturdy flat level surface and ensure the feet and hinges are properly adjusted. The press should not be located in the direct path of air conditioning vents or room cooling.

2. Keep the vent cloth positioned so that it covers the vacuum manifolds (located in the rear corners of the press) and does not extend across the edge of the rubber diaphragm. Failure to do so will result in temporary loss of vacuum.

3. Place all materials inside the press so that they fit into the recessed chamber in the base. If any materials extend across the edge of the rubber diaphragm, they will prevent a seal and cause either low vacuum or no vacuum at all.

4. When opening and closing the press grasp both handles and keep your body, head and hands away from the press opening.

5. Foreign objects such as knives, tools, rulers, paper clips and markers should be kept out of the press and away from the press opening at all times.

6. Do not stack boards in the press. Placing a smaller board on top of a larger one may cause lines or dents in the aluminum platen.

7. Do not use an exposed blade to cut materials in the press. A slice or puncture in the rubber diaphragm will result in loss of vacuum.

8. Allow the vacuum level to drop before opening the press.

9. Turn the Power Breaker OFF and keep the press in the closed position when not in use. Disconnect the power supply before cleaning or replacing parts.

10. High pressure gas springs make opening and closing the press easier. If they are to be removed, the top MUST be held in the fully opened position for safety and to prevent damage.

Contact your authorized Seal dealer or Seal Technical Service in the event the press needs service for parts not covered in this Owner's Manual.

INTRODUCTION

Welcome to the large, rapidly growing family of Seal press users.

Once you have used your VacuSeal press, you'll understand exactly why it is of the highest quality in design and manufacture available. With proper care and minimal maintenance, you can expect many years of trouble free operation.

This Owner's Operation Manual will familiarize you with the features, operating principles, procedures for use, necessary maintenance and troubleshooting of the press.

Proper understanding of this manual will enable you to obtain the level of performance and dependability that has been incorporated into the design of the press.

This basic knowledge will also provide a springboard to new and innovative uses of your Seal press as you gain experience.

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PRESS FEATURES

The VacuSeal 3444H, 4468H and 5298H presses are professional mounting and laminating systems designed to provide the highest quality results with maximum versatility and ease of operation. The combination of two machines in one - a dry mount press and cold vacuum frame - allows the quick professional application of dry mounting adhesives and laminates, as well as wet and spray adhesives. The presses decrease labor costs and increase production while minimizing operator training and supervision.

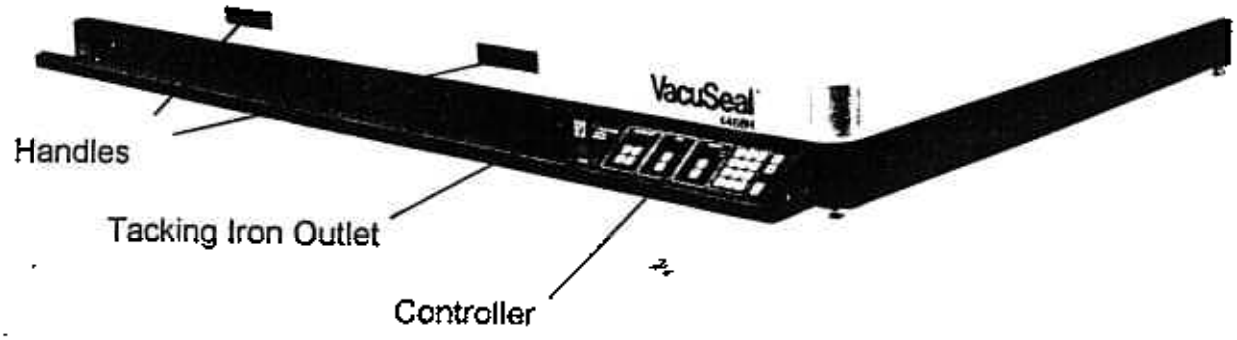
Specific features and benefits include:

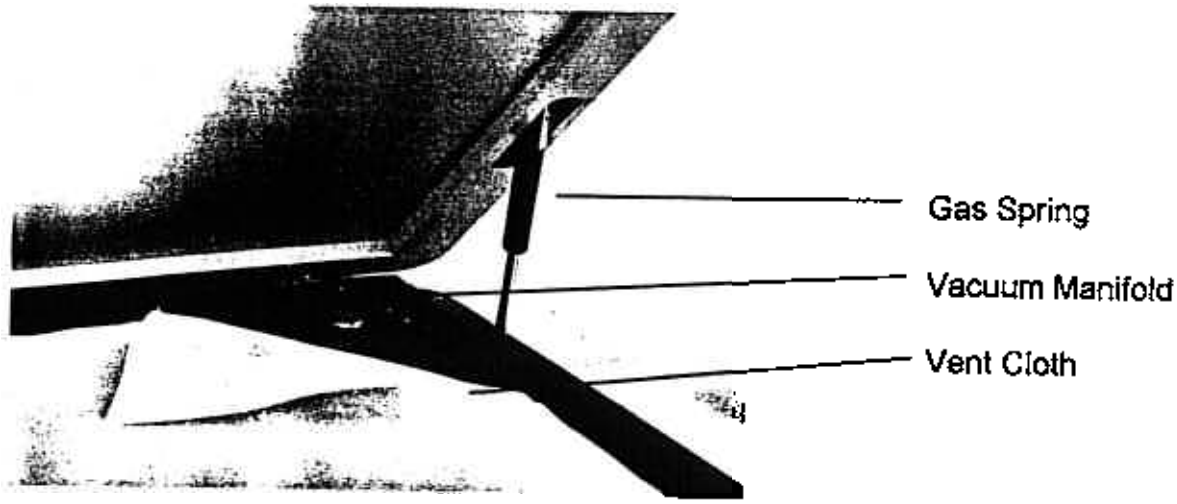
- **Easy to use:** Close the top, press a key, and wait for the signal that the work is done - automatic operation frees the operator for other duties.
- **Digital Display:** Lets the operator know at all times the vacuum level, platen temperature and cycle time remaining. The display is switchable between showing the original settings and actual readings.
- **Locking top:** 3444H and 4468H click shsut to ensure a tight seal. 5298H has side latches to ensure a consistent and tight seal over the large sealing perimeter.
- **Programmable Settings:** The operator can store up to six programs in memory for repeatable processes. Time and temperature settings for each program are stored for quick, easy access.
- **High uniform vacuum pressure:** 10-13 psi (20-27" Hg) ensures good bond penetration for consistent professional results.
- **Automatic pressure adjustment:** Self adjusts for boards up to 1" thick, or mounts several pieces of varying thickness at one time - without additional set-up time.
- **Double-duty top:** Specially constructed heavy duty flat top doubles as work or storage space when the press is not in use.
- **FloorStand:** Optional for 3444H and 4468H. Used to make the presses freestanding units rather than tabletop machines. Each incorporates one shelf support, with a second shelf support optional. 5298H comes with a floorstand.

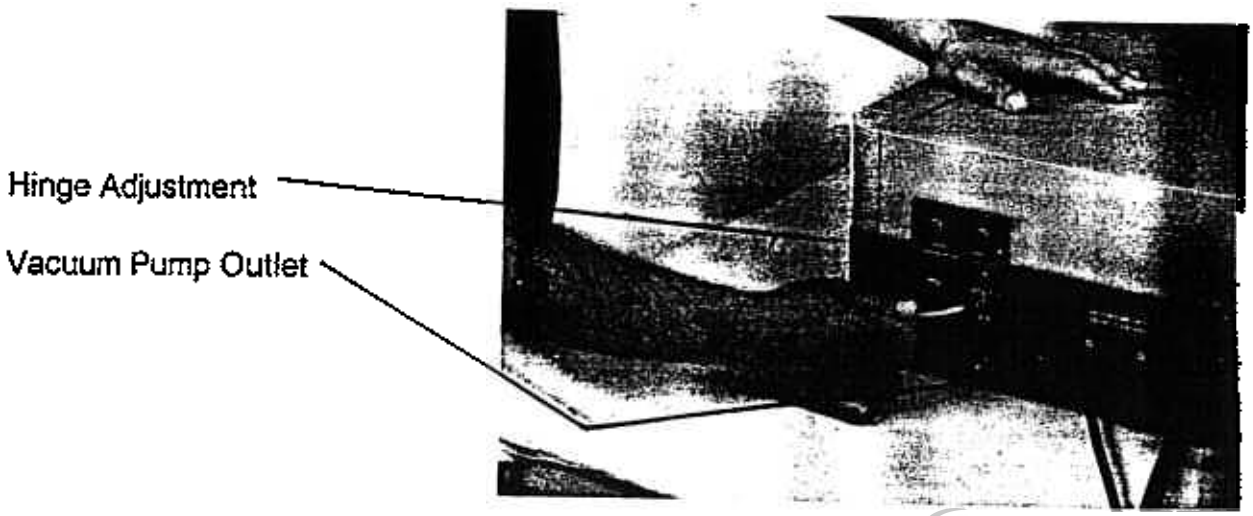
	VacuSeal 5298H	VacuSeal 4468H	VacuSeal 3444H
Catalog Number:	2170	2160	2161
FloorStand:	included	2165	2166
Working Area:	48"x96"x1"	44"x68"x1"	34"x44"x1"
Outside Dimensions:	109"x65"x7"	77"x57"x7"	53"x46"x7"
Net Weight:	350 lbs.	215 lbs.	125 lbs.
Shipping Weight:	800 lbs.	500 lbs.	275 lbs.
Power Requirements:	208-230V/Single Phase	208-230V/Single Phase	208-230V/Single Phase
Power Consumption:	Approx. 5925 Watts @ 230VAC (26 amps)	Approx. 3390 Watts @ 230VAC (15 amps)	Approx. 1700 Watts @ 230VAC (8 amps)
Plug Type:	NEMA L14-30P Twist Lock	NEMA L14-20P Twist Lock	NEMA L14-20P Twist Lock

*International plugs supplied by user.

IDENTIFICATION







INSTALLATION AND PREPARATION

Each VacuSeal 3444H, 4468H and 5298H (floorstand included) is fully assembled, calibrated and tested at the factory to pull a high level of vacuum in a minimum amount of time. Once passed by the Quality Control department, the completely tested press and pump are packaged and shipped together to ensure that each customer receives a complete and tested unit.

During shipping and uncrating, the alignment of the top and base of the press may be altered and require adjustment by the user. In addition, placing the press on an uneven or warped table surface may require adjustment of the leveling feet and hinges by the user. Follow these instructions to enure proper operation.

Installation:

For consistent long term operation of the 3444H and 4468H, Seal recommends using the appropriate VacuSeal FloorStand. First assemble the FloorStand following the directions supplied with it, then lift the press out of the shipping crate and position it on the FloorStand so that each of the four feet fit into the top of a FloorStand leg. Using the bolts supplied with the FloorStand, bolt the two support brackets on each leg into the corresponding hole underneath the VacuSeal frame. When complete, tighten each bolt fully and the press can be moved into position.

As an alternative to a 3444H/4468H VacuSeal FloorStand, a heavy duty, flat level table can be used. The press should sit completely on the table, so a 46"x53" or 57"x77" surface area is required. The recommended surface material is 3/4" Grade B plywood or better. A table height of 30" is typical. Make sure all four adjustable feet are screwed in fully, place the press on the prepared table and adjust the feet individually so that the press is level front to back and side to

For a Qualified Electrician

VacuSeal 3444H and 4468H are rated for 230VAC/60Hz Single Phase (with Neutral) on a 20 Amp circuit. Actual line voltages between 208-230 VAC are acceptable. The press power -cord has a NEMA L14-20P twist lock plug, which is UL listed for use in this application.

VacuSeal 5298H is rated for 230VAC/60Hz Single Phase (with Neutral) on a 30 Amp circuit. Actual line voltages between 208-230 VAC are acceptable. The press power cord has a NEMA L14-30P Twist-lock plug, which is UL listed for use in the application.

If you choose to hard-wire direct to a junction box, the 12 gauge power cord (3 wire plus ground) is color coded using the conventional standards:

Red - L1 (Hot)	White - Neutral
Black - L2 (Hot)	Green - Ground

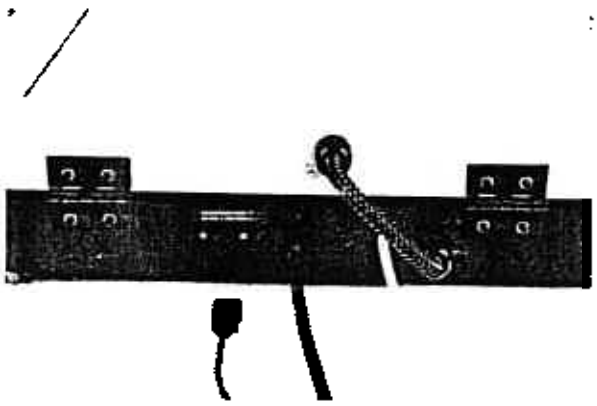
Note that separate ground and neutral lines must be installed or the pump will not operate and the press will not meet UL standards or safety codes.

After hookup is complete, check with the Power Switch ON, the tacking iron outlet on the front of the press measures 110-120 VAC between L1 and Neutral, that there are 0 Volts between Neutral and Ground, and that there is continuity between Ground and the press frame.

If there are any questions, call your distributor or Seal Technical Service at (203) 729-5201.

Leave at least 5" between the rear of the press and the wall so the top has room to open easily. The vacuum pump should be placed on the floor behind the press. The plastic vacuum line tubing is already connected underneath the press, and the free end will have to be attached to the inlet side of the pump. To attach, depending on the pump fitting, slide the vacuum line firmly into the chrome fitting on the pump until it snaps in place, or tighten the brass nut onto the pump fitting.

With the Power Switch OFF, plug the vacuum pump power cord into the electrical outlet marked "Vacuum Pump Only" on the rear of the press.



To check operation, close the press and turn the Power Switch (on the side of the press) ON. The programmable systems controller should come on and display room temperature, 0 time and 0 vacuum.

Press the vacuum "Manual On/Off" key, and the pump should run. If not, check that the pump is plugged into the back of the press and then have a qualified electrician re-check the electrical hookup. (If separate ground and neutral lines are not installed, the pump may not operate even though the display illuminates).

After turning on the pump, the display should read a minimum of 20" of Hg for: 3444H within 40 seconds, 4468H within 1 minute and for the 5298H within 2 minutes. If there is any difficulty in drawing a proper vacuum, refer to the Owner's Adjustment Procedures section on page 26 of this manual.

Press the "Heat On" key, and the press should begin to heat up to 180°F (the default setting). The press should warm up and stabilize at 180°F (+/- 2°F) within 15-20 minutes. If not, call Seal Technical Service at (203) 729-5201.

The press is now ready for use.

Preparation

The press should be cleaned thoroughly before initial use. UnSeal adhesive releasing solvent is suggested to fully clean the platen.. Normal cleaning solutions can be used on the top and metal components.

Before using the press, prepare a Seal Release overlay. This performs the function of keeping the press and work clean while allowing adhesives to be used oversized without sticking to the press. Three types of Release Materials are available:

- Single Sided Release Paper - a heavy white paper coated with silicone on one side. This also permits mounting of the uncoated side to a smooth board to create a reusable release board. (Recommended size is Seal Cat. No. A490 - 42" x 30 yds)

- Double Sided Release Paper - a thin paper coated with silicone on both sides to create two non-stick surfaces. (Recommended size is Seal Cat. No. 934 - 42" x 30 yds for 3444H/4468H; Seal Cat. No. 986 - 50" x 35 yds for 5298H)

- Release Board - a thin, smooth board coated with silicone on both sides. Lays flat to smooth out posters, doesn't wrinkle or crease so it lasts longer than release papers. (Recommended size is Seal Cat. No. 938 - 32" x 40", pack of 5)

One sheet of Seal Release Paper should be cut to fit inside the base of the press (on top of the vent cloth), and either a second sheet of Seal Release Paper or a Seal Release Board should be placed over the materials being processed. Never use a sheet of Seal Release Board under another board, or damage to the press platen may occur.

Please read the entire manual and fully understand proper operating procedures before using your press.

CONTROLLER OPERATION

TURNING THE PRESS ON: A master power switch / circuit breaker on the side of the press turns on the display and tacking iron outlet.

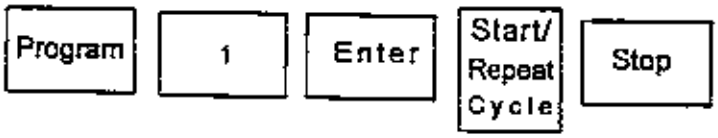
RUNNING A FACTORY LOADED PROGRAMS: The VacuSeal controller has 6 preset programs that automatically turn on the heat and set the proper time and temperature. They are handy for frequently used processes as they save time and eliminate guesswork. Programs are preset as shown below and can be initiated by pressing the "Program" key, number 1 through 6 from the numeric keypad, and "Enter". Before pressing "Enter" the display will blink to show the settings, upon pressing "Enter" the display will stop blinking and the press will begin to warm up to the temperature setting.

	Temperature	Time	Application
Program 1	190	5 minutes	Color Mount/MT5
Program 2	175	5 minutes	Fusion/ArchivalMount
Program 3	Off	5 minutes	Wet/Spray Mounting
Program 4	215	7 minutes	Print Guard - UV (posters)
Program 5	215	9 minutes	Print Guard - UV (photos)
Program 6	215	12 minutes	Exhibitex

When the press warms up and stabilizes (15-20 minutes) the program can be run by pressing the "Start/Repeat Cycle" key which starts the pump and timer. The press will display the set time and then countdown to 0 (time out). The controller will also display the vacuum level in the press and the actual platen temperature.

When the time is up, the press will sound an audible signal that the cycle is over, but the press will not turn off automatically. Upon hearing the signal, the operator should press the "Stop" key. The vacuum pump will stop, the vacuum will release and the press can be opened. The temperature display will continue to show the actual platen temperature, and the timer display will show the set time.

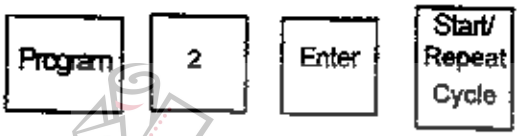
The entire sequence to run Program 1 for dry mounting with ColorMount or MT5 is:



NOTE: The press does not turn off automatically because materials could be accidentally left inside the press without pressure, while they are still hot. This could cause delaminating or excessive warping of the mounting board. The press should be turned off and the materials removed immediately by the operator.

REPEATING A PROGRAM: To repeat the same program again, just press the "Start/Repeat Cycle" key.

TO RUN ANOTHER PROGRAM: Press the "Program" key, the number of the program, and the "Enter" key. When the temperature has stabilized at the new setting press the "Start/Repeat Cycle" key to start the cycle.



WARMING UP THE PRESS:

Press the "Heat On" key to warm up the press (when the heat is turned on the light on the switch will illuminate). The press will start warming up to 180°F, the default setting.

SETTING THE TEMPERATURE

To set a temperature, press the "Set Temp" key, enter the desired temperature on the numeric keypad, and then press the "Enter" key. For example, to set the press temperature at 190°F, press "Set Temp", press 190 on the keypad and press "Enter". After "Enter" is pressed, the display will show the actual reading.

SETTING THE TIME

Press the "Set Minutes" key, enter the desired number of minutes on the numeric keypad, and press "Enter". For example, to set the timer for a 5 minute cycle press "Set Minutes", press 5 on the keypad and press "Enter". You can also set seconds using the "Set Seconds" key in the same sequence. The set time will display until the cycle is run.

REVIEWING SETTINGS

To check the temperature setting, press the "Heat On" key, and the setting will blink on the display for 5 seconds before reverting back to the actual temperature. While running a cycle the Time/Temperature settings can be seen by pressing the "Program" key. After 5 seconds, the display will revert back to the actual readings.

CHANGING SETTINGS

To change settings use the "Set", keypad and "Enter" keys. No changes can be made while a cycle is running.

TO CHANGE OR STORE A PROGRAM

To store the settings for a new program (6 programs are possible), press the "Program" key and any keypad number from 1 to 6. While the display is blinking set the desired time/temperature using the "Set" keys, numeric keypad and "enter" keys as usual, then press "Enter" a second time at the end to save the program. The programs will be remembered even after turning the press off.

To change the settings of an existing program, press "Program", the keypad number, and then the appropriate "Set" key, numeric entry and "Enter". Press "Enter" a second time to save the program change.

If a mistake is made while entering or changing a program, press the "Clear" key to cancel the entry (much like a calculator). The original program will remain unchanged.

ABORTING A CYCLE WHILE RUNNING

To stop in mid cycle, press "Stop".

RUNNING THE PUMP WITHOUT THE TIMER

To run the pump without the timer (for checking fittings, etc.), press vacuum "Manual On/Off". Press "Manual On/Off" again to stop the pump.

CHANGING THE DISPLAY TO METRIC

If you wish, press the Temperature "English/Metric" key to change the display to Celsius or back to Fahrenheit. The vacuum display can also be set for in/Hg or mm/Hg using the Vacuum "English/Metric" key. The display will show whether it is in English or Metric mode by illuminating the appropriate symbol next to each display.

BASIC OPERATIMG PRINCIPLES

To achieve optimum results when dry, wet or spray mounting, or laminating, the following procedures should be followed:

A. Apply a uniform layer of an appropriate adhesive.

B. Remove all air and excess moisture.

C. Apply uniform pressure (more than 1 psi).

D. Uniformly heat the artwork, adhesive and board to the minimum temperature of the adhesive (if required).

E. Maintain pressure (and temperature) for enough time to form an adequate bond.

F. Allow enough time for the adhesive to cure before testing the bond strength or subjecting it to stress.

The VacuSeal presses are designed to automatically control the main four variables (moisture, pressure, temperature and time) and thus ensure consistent results while minimizing operator involvement. The operator need only apply the adhesive, select the proper settings, start the press, and follow proper procedures after removing the materials.

During operation, an airtight chamber is formed when the press is closed. When the cycle is started, the vacuum pump draws the air from the chamber and from between the layers of artwork, adhesive and board. Atmospheric pressure outside the chamber then forces the flexible diaphragm up against the platen and applies approx. 20-27" Hg (10-13 psi) uniformly to the artwork and board, regardless of its thickness.

If used hot, the platen temperature will be maintained within +/-2°F of the set temperature. After drawing a vacuum the press will heat up and stabilize the materials at the set temperature. While warming, the materials will release moisture, which the vacuum pump automatically withdraws. This eliminates the need to pre-dry materials but still prevents moisture bubbles and/or poor bonds. Thirty seconds after the temperature has restabilized, or after 1-4 minutes if laminating or texturing, the materials are ready to be removed. Full cycle times can average 4-10 minutes depending upon size, thickness and types of materials.

When the time set on the timer has elapsed, the press signals the operator to stop the cycle (which turns off the vacuum pump) and remove the materials from the press. The press does not turn off the pump automatically. Leaving materials in the press while heated and without any pressure can cause warping or delaminating of mounted materials.

To minimize the bowing of mounted materials and increase bond strength, it is recommended that you allow the materials to cool completely under a flat weight (1/4" plate glass, metal, etc.) before flexing, bending, picking at corners, or trimming. This is especially important with removable dry adhesives that bond while cooling, and with wet mounting adhesives.

DRY MOUNTING PROCEDURES

VacuSeal presses use standard operating procedures to make the majority of dry mounting jobs as easy as:

1. Placing the materials in the press.
2. Closing the press and starting the controller.
3. Opening the top when the timer sounds and removing the mounted materials.

Following are detailed, step-by-step instructions for normal operation of your VacuSeal press, and recommendations on how to handle a variety of special applications.

Check the Recommended Time and Temperature Settings on pages 24 & 25 for the specific adhesive and board being used.

Press Warm-up

1. Close the top and push down until the latch clicks to lock the top closed, or on a 5298H engage the side latches.
2. Turn the Power switch to "ON" and press the "Heat On" key so the switch illuminates. Notice that 180°F will blink on the display. The press begins to warm up to that temperature automatically, or you can set your own temperature (see step 1 following).

NOTE: As a shortcut, after turning on the Power Switch load a program setting by pressing "Program", the program number, and "Enter".

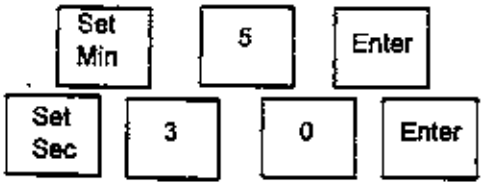
The press will load the time and temperature settings for that program and begin warming up without having to press the "Heat On" key.

3. Wait for the temperature to stabilize (approx. 15-20 min).

Standard Dry Mounting Operation

1. Allow the press to stabilize at the temperature setting, or set a new temperature by pressing the "Set Temp" key, press the appropriate numbers for the temperature setting and "Enter" and wait for the temperature to stabilize.

2. Set the time desired using the "Set Min" or "Set Sec" key, press the appropriate numbers for the time and press "Enter"



NOTE: If you used the "Program" shortcut, the time and temperature are already loaded and these Steps 1 and 2 can be disregarded.

3. Place a suitable dry mounting adhesive on top of the board. To save time, cut the adhesive slightly oversized to make lining up easy.

4. Place the artwork on the adhesive. If exact positioning of the artwork is necessary, tack the artwork to the adhesive and board in one spot using a tacking iron through release paper. With glossy or soft artwork surfaces, tack the adhesive to the rear of the artwork, and then the opposite edge of the adhesive to the board. This avoids touching the tacking iron to the face of the artwork.

5. If a high gloss RC photograph is being mounted, trim the adhesive to the exact size of the photo and place a ColorMount Cover Sheet over the face of the photo to preserve the glossy surface of the emulsion.

6. Place the assembled materials in the press on the bottom sheet of Release Paper. The materials should be placed in the center of the press platen for optimum results.

7. Position the remaining sheet of Release Paper (or a Release Board) to completely cover the materials. Visually check to ensure all materials are inside the recessed area of the base frame.

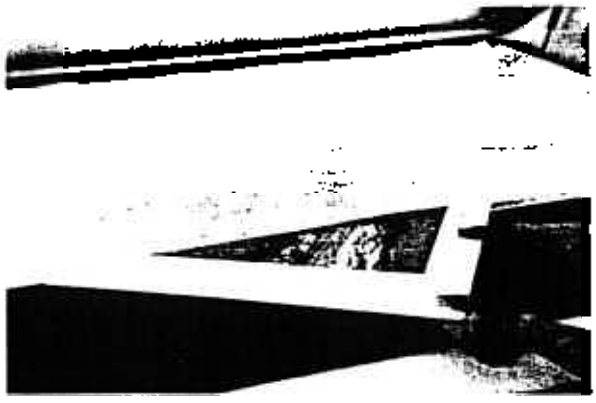
8. Close the vacuum press and press the "Start/Repeat Cycle" key <u>immediately</u> to withdraw the air and apply pressure before the heat starts activating the adhesive.

9. The timer will sound when the cycle time has ended.

Note: If more time is desired, press "Stop" and set the new time using the "Set Min" or "Set Sec" keys, a numeric entry and "Enter". Press the "Start/Repeat Cycle" key to restart the cycle.

10. Press the "Stop" key to turn off the pump and reset the timer.

11. Open the press, remove the materials and allow them to cool under a flat weight (glass, metal, etc.).



You may now reload the press and start the next cycle. If you will not be mounting for the next several minutes, close the press to conserve heat and electrical power.

Mounting on Foam Boards

VacuSeal presses are designed to professionally dry mount using foam center boards. Full vacuum pressure should not affect the boards during a normal 5 minute dwell time at 175- 190° F.

The VacuSeal diaphragm may impart a slight bevel to the bottom edge of a foam board. For this reason, mount on an oversized board and trim away the excess (this is an excellent time saver!).

Another way to avoid beveling the edge of foam boards is to place scrap strips of foam board about one inch wide next to the edges of the board on which you are mounting. Or create a reusable mask by cutting a slightly oversized opening in another piece of foam board.

Mounting Non-Porous Materials

When mounting non-porous materials such as RC photographs, aluminum, Plexiglas, Formica, etc., warm up the press initially to a lower temperature (160°F). Place the materials in the press, load the proper program (or individually set the proper time and temperatures), close the press and start the cycle.

Starting at a low temperature helps ensure complete air removal before the adhesive gets hot enough to trap air bubbles between the layers. Leave the materials in long enough to reach the desired temperature and hold them for 30 seconds to one minute.

Mounting on Canvas

Materials can be mounted to canvas with Seal Fusion 4000. The procedure is the same as normal dry mounting, except a protective board (see below) is placed under the bottom Release Paper sheet.

Protective Boards

The VacuSeal presses perform many operations in addition to mounting artwork onto rigid boards. In procedures where a board or other rigid board is not used, the woven Vent Cloth material may texture the materials in the press. Examples of these procedures are precoating prints, double sided laminating, applying Chartex, canvas mounting, etc.

To avoid this, place a protective board beneath the bottom Release Paper sheet during these procedures. Protective boards may be a Release Board, single-or double-weight mount board, 1/8" Masonite, 1/32" Formica, etc. Do not use foam center board.

Precoating Artwork

A situation may arise where it is desirable to precoat the artwork with a dry mounting adhesive and trim it to the exact size before placing the artwork on the mounting board.

1. Place a protective board under the bottom sheet of Release Paper.
2. Use the same temperature and time you would use if you were actually mounting the artwork.
3. Place the adhesive on the Release Paper, the artwork face up on the adhesive, and cover with a sheet of Release Paper (or a Release Board).
4. Close the press and start the cycle.
5. When the timer sounds press the "Stop" key and open the press. Allow the materials to cool before removing them along with the protective board.

Precoating Boards

It is also possible to precoat boards with adhesive for later use. The procedures are identical to regular dry mounting except that the artwork is left out. Place the top sheet of Release Paper directly on the adhesive.

At the end of the cycle, remove the board and Release Paper from the press and allow them to cool before lifting off the Release Paper.

Cloth Backing

Artwork can be reinforced using Seal Chartex. The procedures are the same as for precoating artwork except Chartex is placed on the Release Paper with the adhesive side up and the artwork is placed over it with the face side up.

DRY MOUNTING ADHESIVES

Seal currently offers five different dry mounting adhesives in addition to wet and pressure sensitives. A specific adhesive may be required for a particular job, however some are much more versatile than others.

All users must review their own requirements and choose the adhesive or adhesives that will perform best for them. Many find that it is best to have a selection of two or three, so that the entire range of their workload can be completed quickly and professionally.

Color Mount: A dry mounting adhesive that permanently bonds together almost any smooth surfaced paper or photograph and board at 175-200° F. Once mounted, the bond is unaffected by extremes in either temperature or humidity and requires a solvent to remove. ColorMount is the single largest selling dry mounting adhesive worldwide due to its high quality and versatility.

ArchivalMount: A removable 160-170° F dry mounting adhesive with an alkaline buffered paper core. Extremely versatile, ArchivalMount handles even the thinnest materials (rice papers, tissues, silks) without any chance of bleed-through, yet has great holding power. To remove, simply reheat (200° F) and peel the work off. For the ultimate protection of dry mounted work, use with acid-free boards.

Fusion 4000: The porous adhesive film of Fusion 4000 melts when heated (170-190° F) and flows evenly and easily to bond even the most difficult pieces. Because it has no paper core it can be pieced together and overlapped for oversize work. Fusion 4000 can be used for almost any mounting job but is best for fabrics or heavily textured prints. To remove, simply reheat (200° F) and peel the work off the board.

MT5: An economical permanent dry mounting adhesive. Similar to ColorMount (175-200° F), but limited to use with porous papers or similar materials that air and moisture can readily pass through. Not recommended for use with photographs or 'slick' posters.

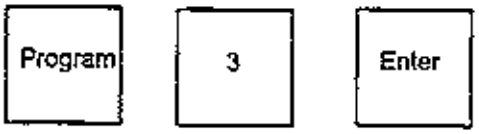
Refer to the Recommended Time and Temperature Settings located on pages 23 & 24 of this manual when using any of these adhesives. For more information on specific applications, please refer to The Sealection Guide (a slide chart), or MOUNTING, LAMINATING and TEXTURING, Seal's 96-page comprehensive instruction manual.

WET MOUNTING PROCEDURES

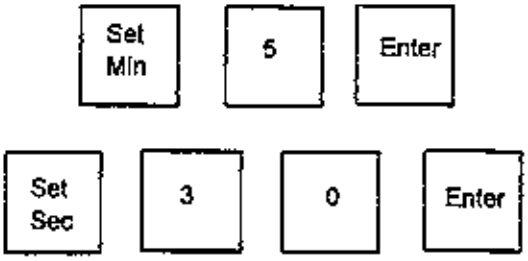
VacuSeal presses can be used to mount most artwork using wet adhesives. The following instructions refer to use with Seal VacuGlue 300, an acid-free, water soluble mounting adhesive that has great bonding strength but fully reversible (or removable) by rewetting the adhesive.

1. Make sure that the heat is OFF (press the "Heat Off" key) and the press is cool.

(Or, as a shortcut, load Program 3.)



2. Set the Timer for 2 to 5 minutes. Use 3 to 7 minutes for nonporous materials. (If program 3 has been loaded then this step is not needed.)



3. Apply Seal VacuGlue 300 to the board evenly with a brush, paint roller or spray gun (for RC photos or other nonporous materials, coat the back of the artwork).

4. Position the artwork in place on the board while the adhesive is still wet (up to 7 minutes).

5. Cover the board with porous Kraft paper and place in the press. The Kraft paper will absorb any excess adhesive around the artwork and keep the press clean.

6. Close the press and press the "Start/Repeat Cycle" key.

7. When the timer signals, press the "Stop" key, open the top and remove the materials.

8. Peel off and discard the Kraft paper.

9. Allow the bond to cure for 15 - 30 minutes before handling; longer in more humid areas (or for RC photos).

Press Time: Artwork mounted in the press for 1-2 minutes can be peeled off the board immediately if necessary. Leaving materials in the press for a longer time dries the bond more thoroughly so that not as much curing time is needed.

Removing Artwork After It Is Mounted: This can be done even at a later date by using one of a variety of methods:

a) Immerse the entire board and artwork in water until the adhesive is dissolved and the artwork released.

b) Mist water over the artwork (covered with Kraft paper or towel), place in press, and pull vacuum for 1 - 5 minutes to rewet the adhesive and allow easy removal.

c) Moisten an edge of the artwork to dissolve the adhesive, and then gently peel the artwork off the board while spraying more water between the artwork and the board.

d) Peel off most of the board from the back, then wet the remaining layer and gently separate from the artwork.

Countermounting: This is recommended to eliminate excessive bowing. To do this, simultaneously mount similar material (Kraft paper, etc.) to the rear of the board with Seal VacuGlue 300 to equalize the surface tensions.

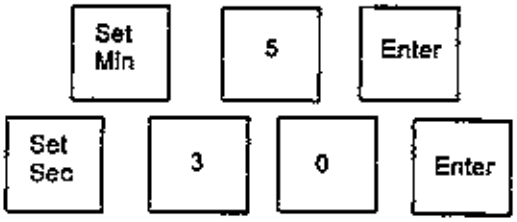
SPRAY MOUNTING PROCEDURES

VacuSeal presses may also be used to mount artwork using spray adhesives. The following are instructions for use with Seal ProBond Spray Mounting Adhesive.

1. Make sure that the heat is OFF (press the "Heat Off" key) and the press is cool.

(Or, as a shortcut, load Program 3.)

2. Set the Timer for 2 to 5 minutes. Use 3 to 7 minutes for nonporous materials. (If program 3 has been loaded then this step is not needed.)



3. Place the artwork face down on a piece of Kraft paper, or on the rack of a spray booth.

4. Shake the can of spray adhesive well before using, and turn the spray nozzle so that it points to the mark on the rim of the can.

NOTE: For safety always use spray adhesives in an adequately ventilated area. Check local regulations.

5. Spray the adhesive uniformly across the back of the artwork, keeping the can a constant 6-8 inches away. Start and finish past the edge of the artwork. A double application of adhesive in a crisscross pattern is suggested for best results.

6. Invert the can and spray until the nozzle is clear.

7. Wait until the adhesive dries and is re-positionable (approx. 2 minutes). Test tackiness by touching a bent knuckle lightly to the adhesive coated print. When pulled away, the knuckle should release without adhesive residue.

NOTE: Using the adhesive while still in it's tacky stage (30 seconds to 2 minutes) results in greater bond strength, but care must be taken to ensure that the artwork is correctly positioned.

8. Place the board in the press.

9. Position the artwork on the board and press lightly into place. A sheet of Release Paper or Kraft paper placed on top of the board will help keep the press clean.

10. Close the press and press the "Start/Repeat Cycle" key.

11. When the timer signals, press the "Stop" key, open the top and remove the materials.

While the artwork is now adhered to the board, the bond is not yet fully set. For best results, allow 8-24 hours curing time before subjecting work to bending, flexing, or substantial temperature change.

LAMINATING PROCEDURES

VacuSeal presses are engineered to make combined mounting and laminating of artwork simple and consistent through the sophisticated controller system and automated operating principles.

Seal currently offers three different types of laminating films for vacuum press applications: Print Guard-UV, Exhibitex and Seal-Lamin. Comparative information on each is given at the end of this section. While specific procedures may vary depending upon the materials used and effects desired, the following instructions will provide basic guidelines for the proper use of each of the three films.

Note: When choosing to mount and laminate a piece of artwork onto a foam center board, be aware that the surface will not be protected from denting or otherwise being harmed.

Two and four ply card stock boards - Masonite, aluminum and presswood are more dense and less likely to suffer from damage.

Mounting and laminating onto foam boards may be able to be accomplished simultaneously (try 200° F for 4 minutes), however the operator should experiment first with their own brand of foam board before proceeding.

Laminating with Print Guard-UV

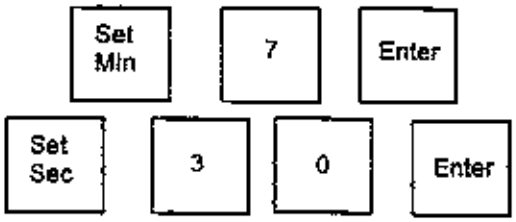
With Print Guard-UV, mounting and laminating of porous paper artwork can be done quickly and simply in one step. Photographic materials and other non-porous artwork will require some extra precautions to eliminate any chance of air or moisture entrapment.

Mounting and Laminating Porous Paper Artwork with Print Guard-UV:

1. Set the Temperature at 215° F.

(Or, as a shortcut, load program 4.)

2. Set Timer between 7-12 minutes, depending upon the size and type of board being used. **(Disregard if Program 4 has been loaded).**



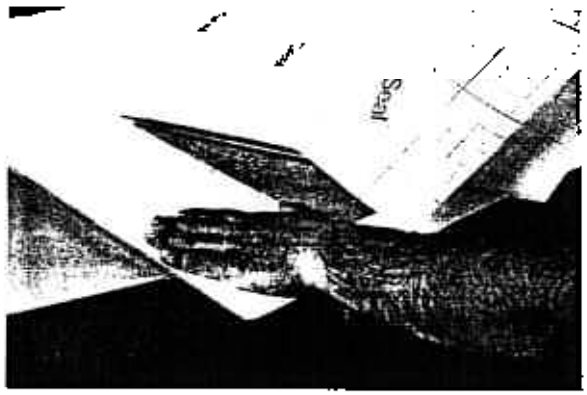
3. Place the proper dry mounting adhesive on the back of the artwork, tack it in place, and trim the adhesive to the size of or slightly larger than the artwork. Position the artwork on the board and tack in place.

4. Cut the Print Guard-UV laminating film so that it will completely cover the artwork and adhesive.

5. Apply the film to the artwork, making sure that the dry mounting adhesive is fully covered.

NOTE: For artwork less than 16"x20", completely remove the release liner from the Print Guard-UV film before applying the film to the artwork, adhesive (tacky) side down. Smooth the film in place with a soft cloth.

NOTE: For artwork 16" x 20" and larger, peel approximately one inch of the release liner back from the Print Guard-UV film. Position the film over the artwork, and secure in place by smoothing the 1" strip of exposed adhesive onto the artwork using a soft cloth. Then peel off the rest of the release liner while smoothing the film onto the surface of the artwork using a soft cloth (the technique is similar to applying contact paper).



6. With a soft cloth, gently rub smooth the surface of the applied film, removing the air and eliminating wrinkles.

7. Place the assembled materials – board, adhesive, artwork and film -- on top of the bottom sheet of Release Paper in the press. Put a Sponge Foam Overlay (see following note) on top and cover with another sheet of Release Paper (or Release Board).

8. Close the vacuum press and press the "Start/Repeat Cycle" key.

9. The timer will sound when the set time has elapsed. If more time is desired, reset the appropriate time on the timer, and press the "Start/Repeat" key.

10. Press the "Stop" key and open the press.

11. Remove the finished material from the press and allow to cool.

NOTE: The Sponge Foam Overlay is needed to allow air and moisture to escape from the film's surface. As the sponge foam may impart a texture to the surface of the Print Guard-UV film, it is important to use a suitable material. A Seal Sponge Foam Overlay specially suited for this use is available from your Seal distributor.

Mounting and Laminating Photographs with Print Guard-UV:

Photographs and other non-porous artwork normally have a tendency to trap air and moisture between the face of the print and the laminating film, causing bubbles or "silvered" areas.

This problem is eliminated with Print Guard-UV laminating films by perforating the film prior to use. The perforations allow the air and moisture to escape, then seal and disappear during heating for perfect lamination every time.

For small photographs, pre-perforated Print Guard-UV sheets are available in 8" x 10" and 11" x 14" sizes. For larger sizes, use a Seal Perforator to perforate the film using the following procedures.

For foolproof operation, start out with the press initially at a low temperature (160-180° F) so the perforations stay open. Just before closing the press, load the bonding temperature (215° F) and then quickly close the press and start the cycle so the temperature will rise slowly during the cycle, allowing time for the air to escape before sealing the perforations.

1. Set the Temperature at 160° F and allow the press to stabilize at that temperature (or load a low temperature program).

2. Tack and trim the dry mount adhesive and photo in position on the mounting board.

3. After cutting the laminating film to size, lay it (release side down) onto a scrap piece of mount board and use a Seal Perforator to randomly and lightly perforate the film. The resulting perforations should be 1/8" to 1/4" apart. (For photographs up to 11"x14", pre-perforated Print Guard-UV sheets are available.)

4. Apply the film to the photo and rub out any air pockets with a soft cloth.

5. Open the press and place the materials on the bottom sheet of release paper.

6. Cover the materials with a Sponge Foam Overlay and then a sheet of Release Paper or Release Board.

7. While the press is open, set the Timer between 9-12 minutes, depending upon the size and type of board **(or load program 5 as a shortcut)**.

8. Set the temperature at 215° F **(not needed if program 5 is loaded)** and quickly close the press and press the "Start/Repeat Cycle" key.

9. Make sure that the press reaches 215° F and holds it for 2-4 minutes before pressing the "Stop" key and opening the press.

Laminating and Texturing with Exhibitex:

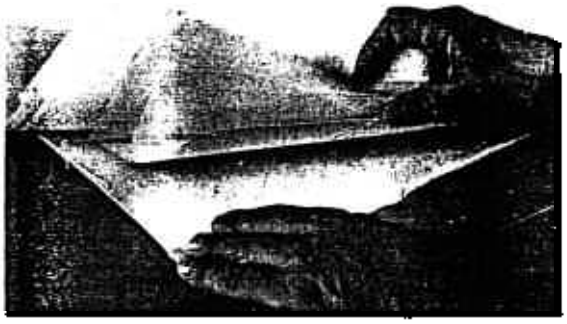
With Exhibitex, all porous paper artwork can be given a textured matte or gloss finish in one step. Photographic materials must be given a matte finish first which can be changed to a gloss finish in a subsequent second procedure.

Exhibitex - Matte Finish

1. Set the Temperature 160-180° F (or load a low temperature program).

2. Place the dry mounting adhesive on the board, and the artwork on the adhesive. (For canvas mounting use adhesive coated Seal CanvasMount, or Fusion 4000 if mounting onto your own canvas fabric.)

3. Place a sheet or Exhibitex LaminTex Film over the artwork, cut slightly larger than the artwork.

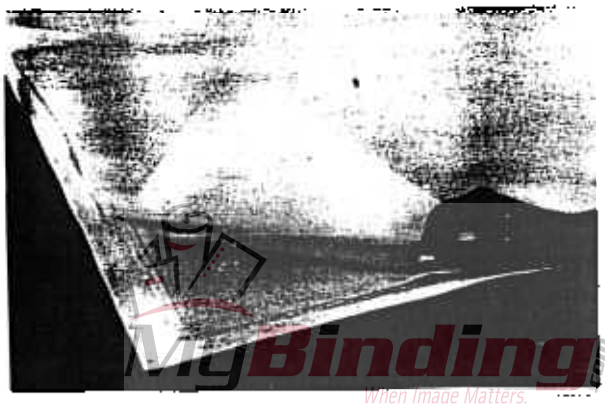


4. Place a sheet of Exhibitex Matte (blue) Release Film over the LaminTex Film. The Matte Release Film should be large enough to completely cover the LaminTex Film and the adhesive.

5. Place a texturing medium over the Matte Release Film if desired.

6. Place a Seal Sponge Foam Overlay over the texturing medium.

7. Place the assembled materials in the press on top of the bottom sheet of Release Paper and cover with another sheet (or Release Board).



8. While the press is open, set the Timer between 8-20 minutes, depending upon the size and type of board **(or load program 6 as a shortcut)**.

9. Set the temperature to 215° F **(not needed if program 6 is loaded)** and quickly close the press and press the "start/Repeat Cycle" key.

10. Make sure that the press reaches 215° F and holds it for 2-4 minutes before pressing the "Stop" key and opening the press.

11. Remove the materials. Allow them to cool before removing and discarding the Matte Release Film. The foam and texture materials may be stored for future use (inspect for lines, wrinkles).

Exhibitex - Gloss Finish

As previously mentioned, porous paper artwork can be given a gloss finish in one step by substituting Gloss Release Film for Matte Release Film in Step 4 of the preceding instructions.

Photographs and other non-porous artwork require a two-step procedure. First bond the LaminTex Film to the artwork using the Matte Finish instructions above, then give it a gloss finish in a second step. Follow the instructions below:

A. Using the Matte Finish instructions, perform steps 1 through 4, and 8 through 11, skipping step 5 (leave out texturing medium).

B. Perform steps 4 through 11, substituting Gloss Release Film for Matte Release Film.

Laminating with Seal-Lamin

Seal-Lamin can be used to protect paper artwork that is mounted, or as a protective covering for either one or both sides of unmounted artwork. Seal-Lamin is not intended or recommended for use on any photographic or non-porous materials.

Mounting and Laminating with Seal-Lamin

1. Set the temperature at 160-180° F and allow the press to stabilize.

2. Set the Timer between 8-12 minutes, depending upon the size and type of board.

3. Place the board on the bottom sheet of Release Paper, the dry mounting adhesive over the board, and the artwork over the adhesive. The adhesive should not extend more than 1/4" past the edges of the artwork.

4. Cut the Seal-Lamin film so that it will completely cover the artwork and adhesive, and place the film adhesive (dull) side down over the artwork, making sure it extends no more than 1/2" past the artwork and adhesive.

5. Cover the assembled materials with the remaining sheet of Release Paper (or Release Board).

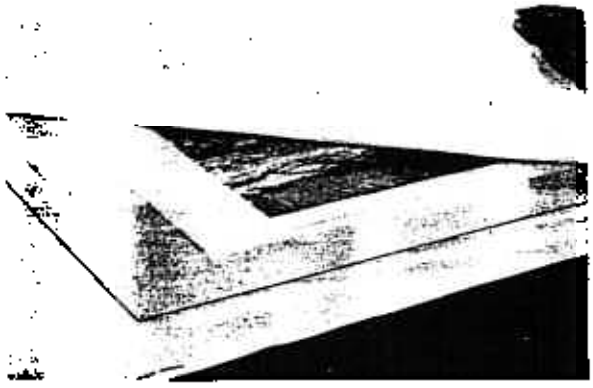
6. Close the press, set the Temperature at the bonding temperature (see Recommended Time and Temperature Settings on pages 23 and 24) and immediately press the "Start/Repeat Cycle" key.

7. After the platen has reached the bonding temperature and remained at that temperature for two minutes, press the "Stop" key. Open the press, and allow the materials to cool to a temperature low enough to allow their safe removal from the press.

8. Set the Temperature back to 160-180° F and allow the platen temperature to cool to that temperature before starting the next job in the press.

Single Side Laminations (without mounting) with Seal-Lamin

Follow the instructions for mounting and laminating (preceding section) making the following change:



Place a protective board under the bottom sheet of Release Paper in the press, and place the artwork face up on top of the Release Paper.

Remove the protective board from the press when the process is completed.

Double Sided Laminating with Seal-Lamin

For a double-sided lamination using Seal-Lamin films, it is recommended to laminate each side in separate operations to prevent premature sealing of the film at the edges, causing air entrapment.

Follow the directions from the preceding section on single side laminating, and then trim the excess laminate to within 1/8" of the edge of the artwork. To laminate the second side, place the already laminated artwork face down and repeat steps 4 through 8.

LAMINATING FILMS

Print Guard-UV is a vinyl based laminating film that can be used to protect both photographs and paper artwork. It comes in Lustre, Matte, Canvas and Linen finishes in a variety of roll sizes. Print Guard-UV is extremely durable, eliminates glass and adds UV protection.

Print Guard-UV Luster - is an attractive complement to posters and graphics. The surface has a sparkling sheen that highlights the work without the glaring reflection and weight of picture glass.

Print Guard-UV Matte - gives a completely non-glare finish for a softer look on art prints and posters.

Print Guard-UV Canvas - replicates the look and feel of artists canvas on the face of art reproductions and portraits.

Print Guard-UV Linen - has a pre-embossed fine linen texture and matte finish.

Exhibitex is a unique laminating process that both protects and enhances artwork with any choice of surface textures and finished.

Any artwork – paper or photograph – can be given either a gloss or matte finish, and textured for a canvas, linen, pebble or any other look. Should the texture or finish need to be changed, all work can be reprocessed easily and quickly. Just choose the right materials for the new look and reprocess in the press.

Many users choose to "canvas mount" using Exhibitex. Artwork can be mounted onto canvas (using adhesive coated Seal CanvasMount, or Fusion 4000 and your own fabric) and in the same step laminated and textured with a canvas surface. The result looks and feels like canvas, but is protected from dirt, scratches, moisture and ultraviolet degradation.

The technique is simple, and the visual options are endless. Experiment with a number of combinations of finishes and textures, and put your finished samples on display as sales aids. Exhibitex is an excellent vehicle for gaining additional sales and profits.

Seal-Lamin is a clear polyester laminating film used to protect porous paper artwork. Seal-Lamin can be written on and wiped off. Mounting and laminating can be done at one time, or the artwork can be laminated on one or both sides without mounting.

Seal-Lamin is available in either a high gloss or dull matte finish in a variety of widths and thickness. The thicker materials (5, 10, and 15 mil) provide rigidity as well as protection.

Seal-Lamin has been developed for use on paper prints, blueprints, maps, charts, menus and other porous material and is not intended or recommended for use on non-porous materials such as photographs and coated posters.

RECOMMENDED TIME AND TEMPERATURE SETTINGS

The following suggested settings should give professional level results under a variety of conditions. Depending on thickness and size of board, amount of moisture present, actual line voltage, and other local conditions you may be able to process materials faster or you may require longer dwell times. It may also be possible to lower temperatures slightly (up to 10° F) without effecting results if the time is set adequately. Follow the guidelines in the instruction manual and personal experience for best results.

MOUNTING

Material	Adhesive	Temp	Time	Program
FoamBoards	ColorMount/MT5	190° F	4-5 Min	1
	Fusion/ArchivalMount	180° F	4-5 Min	2
Card Stock	ColorMount/MT5	190° F	5-6 Min	1
	Fusion/ArchivalMount	180° F	5-6 Min	2
Masonite	ColorMount/MT5	190° F	8-10 Min	N/A
	Fusion/ArchivalMount	180° F	8-10 Min	N/A
Canvas	Fusion 4000	175° F	4-5 Min	2
Any	Spray	Off	5 Min	3
Any	VacuGlue 300	Off	5 Min	3
Cloth Back	Chart	170° F	4-5 Min	2

Factory Program Settings

	Temperature	Time	Application
Program 1	190	5 minutes	ColorMount/MT5
Program 2	175	5 minutes	Fusion/ArchivalMount
Program 3	Off	5 minutes	Wet/Spray Mounting
Program 4	215	7 minutes	Print Guard-UV (posters)
Program 5	215	9 minutes	Print Guard-UV (photos)
Program 6	215	12 minutes	Exhibitex

Mounting and Laminating
Print Guard-UV

Material	Adhesive	Temp	Time	Program
Posters	ColorMount/MT5	215° F	7-10 Min	4
Photos	ColorMount	225° F*	9-12 Min	5

Start at low 160-180° F temperature, load bonding temp before closing press.
See NOTE below

Mounting, Laminating and Texturing
Exhibitex

Material	Adhesive	Temp	Time	Program
Any	Fusion/ColorMount	215° F*	8-20 Min	6

Start at low 160-180° F temperature, load bonding temp before closing press.
See NOTE below

Mounting and Laminating
Seal-Lamin

Material	Adhesive	Temp	Time	Program
1.5 mil	ColorMount	265° F*	8-12 Min	N/A
Others	ColorMount	230° F*	8-12 Min	N/A

Start at low 160-180° F temperature, load bonding temp before closing press.

NOTE: Allow time for the press temperature to rise from the initial to the bonding temperature and maintain it for 1-4 minutes (dwell time). With the press at the initial temperature setting, place the materials inside, set the temperature at the bonding temperature and quickly close the press and press the "Start/Repeat Cycle" key. Watch the press temperature rise, and when it reaches the bonding temperature allow an additional 1-4 minutes (depending upon the size and type of material) processing time. Note the complete cycle time for future reference.

OWNER ADJUSTMENT PROCEDURES

Proper leveling of the press and adjustment of the hinges and self-locking latch are necessary to consistently achieve proper vacuum. Check the following owner adjustment procedures, in the order listed, if any difficulty arises.

Leveling: If the press is not placed on a sturdy, flat, level surface, proper operation cannot be guaranteed. Ensure press levelness by opening the press and placing a 2' carpenter's level on the frame. Shim the floorstand legs so that the frame of the press is level (both front-to-back and side-to-side). If not on a floorstand, adjust the corner feet until the press is level.

Hinge Adjustment: After leveling the press, check the adjustment of the rear hinges. These might shift during shipment, handling or rigorous use and are essential to proper alignment of the top to the base. To realign, follow these instructions:

1. Open the press and loosen the Allen set screw on the base of the self-locking latch (on the front base frame). Unscrew the plunger (counterclockwise) from the base, counting the number of turns it takes to remove the plunger. **NOTE:** It is important to count the turns in order to reset the plunger to its original position after aligning the top. There is no self-locking latch on the 5298H.

2. Have an assistant hold the top in the fully opened position. Take off the locking clip on the lower end of each gas spring and remove each of the gas springs by unsnapping them from their upper and lower mount by tapping the gas spring to the side with a rubber mallet or block of wood. After the springs are removed, lower the top.

3. With a 1/4" Allen wrench, loosen the bolts securing each hinge one turn. The hinges are located on the rear frame of the press.

4. Press down on the rear of the top slightly while tightening the hinge bolts. Press down on the top only enough to ensure complete contact between the platen and the rubber diaphragm along the rear edge of the press.

5. Open the press and reattach the gas springs. Screw the latch plunger back in the same number of turns it took to remove it and tighten the set screw.

Latch Adjustment: The self-locking latch (3444H and 4468H only) is designed to hold the top closed and ensure a tight seal between the platen and the rubber diaphragm. The latch plunger can be adjusted by loosening the set screw and turning the plunger clockwise for more pressure or counterclockwise for less. If there is difficulty in pulling a vacuum within one minute, try tightening the plunger in half-turn increments until the top seals properly. Do not over-compress the diaphragm or increased wear will result.

If any further questions arise, contact your authorized Seal dealer or the Seal Technical Service Department at (203) 729-5201.

PERIODIC MAINTENANCE

Your VacuSeal press has been engineered to require a minimum level of maintenance. Review the following to keep the press in prime operating condition throughout its lifetime.

1. Clean the platen regularly. UnSeal adhesive releasing solvent or Seal Platen Cleaner can be used to dissolve difficult deposits.

2. Check the vent cloth regularly for proper positioning and cleanliness. Ensure both vacuum manifolds are fully covered, and clean or replace the vent cloth as necessary when soiled.

3. Check the vacuum manifolds occasionally for blockages. Make sure that obstructions, paper and debris are removed.

4. Check the rubber diaphragm occasionally for abrasions, cuts, slices and cleanliness. Repair or clean as necessary.

5. Check the foam support occasionally for tears, depressions, hard or soft spots, and cleanliness. Repair or clean as necessary.

6. Check the overall press occasionally for levelness, loose screws or damaged components. Adjust, tighten or fix as necessary.

7. Check the vacuum pump occasionally for cleanliness, dryness and any strange or unusual noises. The vacuum pump requires no maintenance; however, keeping the pump clean and dry will result in a longer life.

TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	ACTION
No Vacuum	• Pump, fittings • Levelness • Hinge Adjustment • Latch Adjustment	• Perform check below • See page 25 • See page 25 • See page 25
Low Vacuum	• Materials extending across rubber edges • Vent Cloth • Leak in diaphragm	• Reposition materials placed in press • Check position, clean or replace • Locate and patch or replace diaphragm
No Heat	• Not plugged in • Power supply off • Power Switch off • Heat off • Controller malfunction	• Check power cord • Check circuit breaker • Check position • Check controller setting • Contact Seal Technical Service
Uncontrolled Heat	• Controller malfunction	• Contact Seal Technical Service
Bumps, pits	• Cleanliness	• Clean platen
Bubbles, no adhesion	• Improper adhesive • Inadequate time • High moisture level • Low/uneven pressure • Low/high temperature	• Check specifications • Reprocess longer • Reprocess longer • See low vacuum • Check specifications

Checking the Pump and Fittings:

To check attachment of the vacuum pump and tubing, open the press and fold the vent cloth forward exposing the two vacuum manifolds. Place a small piece of thin plastic, rubber or similar material (i.e., inner tube, heavy shrink wrap or plastic film approximately 6" x 6") over each vacuum manifold.

Press the "Manual On/Off" key to turn the vacuum pump on and observe the reading on the Vacuum display. If the display does not read a good vacuum (over 20"Hg), check the vacuum line for leaks. If there are no leaks in the line then have the pump repaired or replaced. If the vacuum display reads over 20"Hg, then the pump, lines, and fittings are all fine.

After completing these checks, press the "Manual On/Off" key to turn the vacuum pump off, remove the pieces of plastic or rubber from both manifolds and reposition the vent cloth.

Description	3444H	4468H	5298H
Pump, Piston			
Domestic	6299122	6299122	6299122
International	1701024	1701024	1701024
Ball Stud	1068010	1068010	1068010
Feet - Leveling	1103010	1103010	1103010
Strain Relief, Power Cord			
Domestic	1106045	1106045	1106045
International	1106048	1106048	1106048
Strain Relief, Conduit	1106046	1106046	1106046
Union, Tee 3/8"	1122083	1122083	1122083
Gas Spring	1124010	1124013	1124014
Clip, Gas Spring	1126015	1126015	1126015
Plug, Male, Domestic	1201022	1201022	1201024
Accessory Plug, Pump	1202052	1202052	1202052
Outlet, Tacking Iron			
Domestic	1105024	1105024	1105024
International	1105025	1105025	1105025
Breaker, 2 Pole			
(Domestic and International)	1308041	1308041	1308061
Control Board, Assembly			
Domestic	2304093	2304093	2304093
International	2304093-I	2304093-I	2304093-I
Ribbon Cable, Interface	5304026	5304026	5304026
Insulation	0511009	0511009	0511010
Latch Assembly	1123012	1123012	1123013
Heater(s)			
Right	2302090	2302089	2302097
Left	N/A	2302089	2302097
Center	N/A	N/A	2302096
Platen	5612020	5612019	5612026
Power Board Assembly			
Domestic	2304092	2304092	2304092
International	2304092-I	2304092-I	2304092-I
Wire Harness			
Domestic	5304027	5304027	5304053
International	5304028	5304028	5304054
Diaphragm Assembly	6299116KIT	6299114KIT	6299130KIT
Tubing, 1/4"	016042	016042	016042
Tubing, 3/8"	0509003	509003	509003
Male Elbow, 3/8" Tubing	0509003	0509003	0509003
Coupling, F - F	1122082	1122082	1122082
Vent Cloth	5214009	5214008	5214001
Controller Instructions	TB2160C	TB2160C	TB2160C
Formica Top	5704015	5704014	5704013
Sensor, Temperature	6208075	6208075	6208075
Relay, SS	1306026	1306026	1306028
Solenoid, 12 VDC	1122087	1122087	1122087
Flag Terminal, Solenoid	1238001	1238001	1238001
Male Elbow, 1/4" Tubing	1122070	1122070	1122070
Terminal Block	N/A	N/A	1203043

Hunt 3444H Parts

Model	Part Name	Part #
3444H	Side Latch Retrofit Kit	TS6299139
5298H/2170	Diaphram Assembly	TS6299130Kit
3444H	Current Pump - Thomas	TS6299126Kit
3444H	Old Pump - Gast or Vane	TS6299122Kit
3444H	Diaphram Assembly	TS6299116Kit
3444H	Temperature Sensor Assy	TS6208075
3444H	Ribbon Cable	TS5304026
3444H	control panel	TS2304093
3444H	POWER BOARD VACUSEAL	TS2304092
3444H	Power Switch/Breaker (HR)	TS1308041
3444H	foot Kit	TS1306026Kit
3444H	Accesory Plug - Pump	TS1202052
3444H	Gas Springs	TS1124010
3444H	Old Front Latch	TS1123012
3444H	Solenoid, Air	TS1122087

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Seal Products, Inc., 550 Spring St. • Naugatuck, CT USA 06770 • Telephone: (203) 729-5201 • Fax: (203) 729-5639

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