INSTRUCTIONS

VACUUM-PACKING MACHINES

MODELS

HT120	*ML-44050*
HT120G	*ML-44051*
HT190G	*ML-44052*
H190G	*ML-44053*
H210G/2	*ML-44054*

Hobart Food Equipment Group Canada

NORTH YORK (ONTARIO)
M3A 1B1

F28358A (991-18171)

IMPORTANT

WARNING: USE OF VACUUM PACKAGING MACHINES MAY BE COVERED BY STATE OR LOCAL HEALTH CODES. READ THIS INSTRUCTION MANUAL AND CONTACT YOUR LOCAL HEALTH DEPARTMENT BEFORE USE.

Refer to pages 13 & 14 for additional information.



HT120



HT120G



HT190G



H190G



H210G/2

Installation, Operation, Use and Care of Models HT120, HT120G, HT190G, H190G and H210G/2 VACUUM-PACKING MACHINES

SAVE THESE INSTRUCTIONS

GENERAL

The Vacuum-Packing Machines, Models HT120, HT120G, HT190G, H190G and H210G/2 are packaging machines which modify the atmosphere in the package. Reduction of oxygen from the package during the vacuum-packing process (less than one percent retained oxygen) can retard some bacterial growth, extend shelf-life, and make an attractive product. Vacuum packaging is NOT a substitute for proper food handling, sanitation and refrigeration before and after vacuum-packing.

Stainless steel compartments and housings provide durable service. Electronic controls provide variable adjustment for the amount of vacuum, and control heat-sealing time. When vacuum-packing soft or delicate products, some models provide the ability to introduce gas (Nitrogen, Carbon Dioxide or Oxygen mixtures approved for food use) into the vacuum compartment after the air is extracted. This will form a Modified Atmosphere Package.

Vacuum-packing bags are available from your Hobart sales representative.

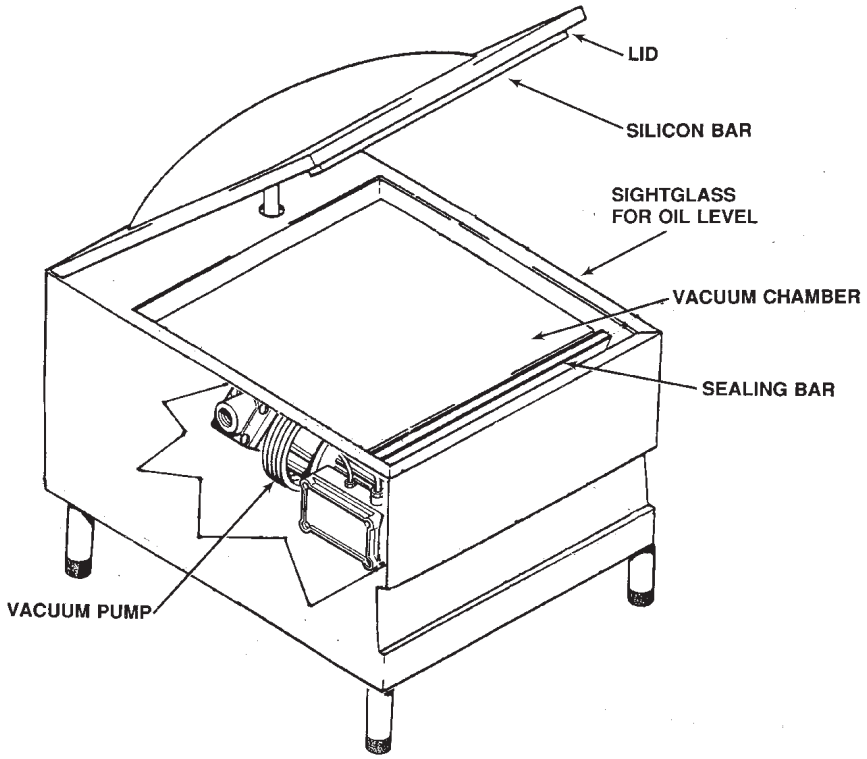


Fig. 1

INSTALLATION

UNPACKING

Immediately after unpacking the vacuum-packing machine, check for possible shipping damage. If this unit is found to be damaged after unpacking, save the packaging material and contact the carrier within 7 days of delivery.

LOCATION

Before installing, check the electrical service to assure that it agrees with the specifications on the data plate located on the left side of the machine.

Sufficient counter-type work space is needed adjacent to the machine for handling product. Allow at least 4" extra room above the machine beyond that required for the lid to raise (40" from table on table models; 60" from floor on floor models). Place the machine in a well-ventilated room and protect against spray and splash water. The machine may only be transported in the upright position and must not be put in operation after being tipped or dropped (call service).

ASSEMBLY

Gas Pressure Spring (Models HT120, HT120G, HT190G and H190G)

Assemble the gas pressure spring shipped in the top of the unit (Fig. 2). **NOTE**: The clamp assembled on the gas pressure spring activates a switch which starts the vacuum cycle when the lid is lowered. Assembly must be correct so the switch can perform its normal function.

Legs — Table Models (HT120, HT120G, HT190G)

Table models should be placed on an appropriate height work surface suitable for convenient operation of the machine. Five legs (supplied) must be assembled to the four corners and middle on table models (Fig. 3). Screw legs into threaded hole on base plate. Do not tilt more than necessary. 1) Tilt machine to left; assemble two right legs in threaded holes in corners. 2) Tilt machine to right; assemble two left legs in threaded holes in corners. 3) During shipping, a screw is installed in the threaded hole where the middle leg is to be installed. Remove this shipping screw before installing middle leg. Tilt front of machine and assemble middle leg. The middle leg must thread into the housing of the vacuum pump.

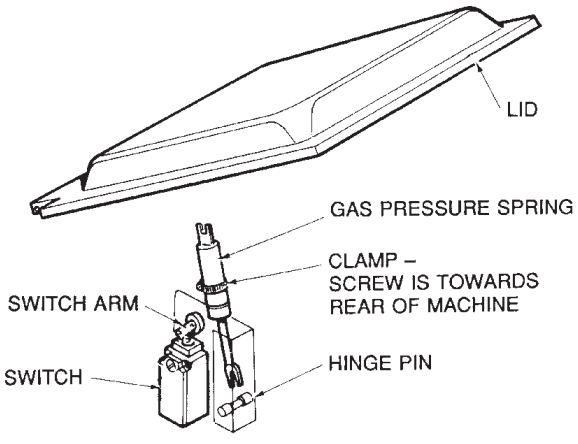


Fig. 2

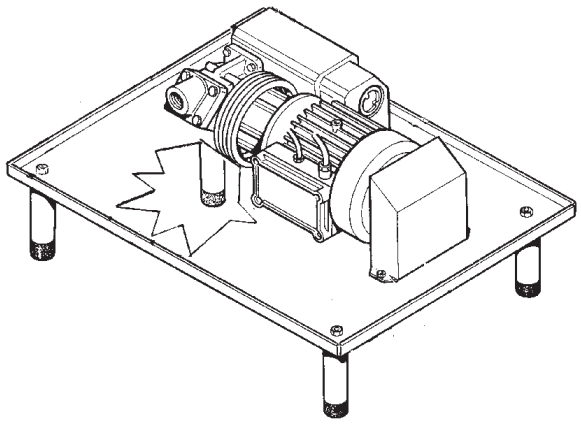


Fig. 3

Casters — Floor Models (H190G and H210G/2)

Floor models are shipped with casters pre-assembled on the bottom of the machine. The front casters swivel and have a pedal brake. The rear wheels do not swivel and do not have brakes (Fig. 4).

Vertical Orientation During Shipping

If the machine has been placed on its side or upside down during shipping, have the machine checked out by a qualified service technician before being put into service. Refer to Oil Level (see page 6).

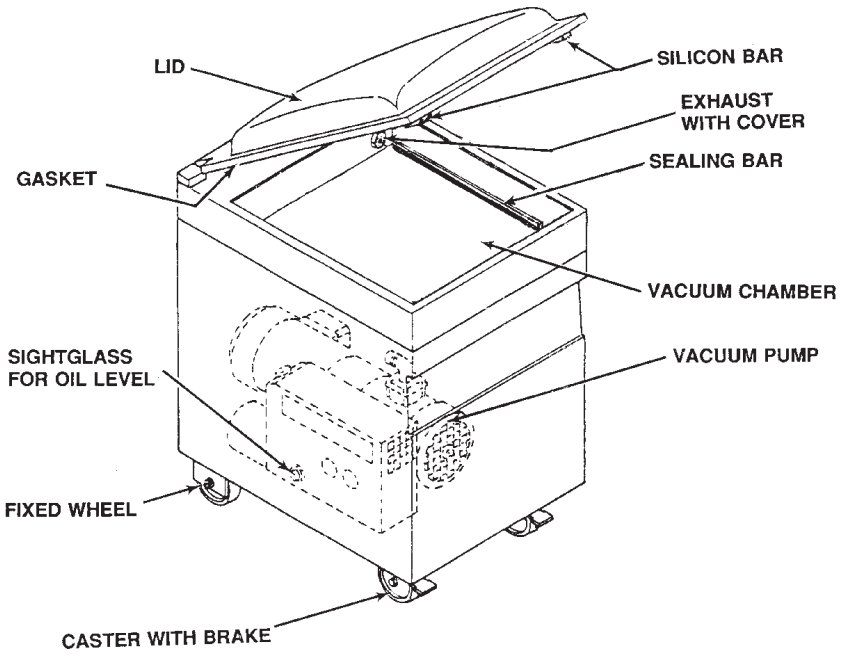


Fig. 4

CONNECTION OF GAS SUPPLY CYLINDER (Models HT120G, HT190G, H190G and H210G/2)

WARNING: EXPLOSION HAZARD. DO NOT USE ANY GAS MIXTURES CONTAINING MORE THAN 21% OXYGEN.

WARNING: GASES MUST BE **FOOD GRADE** PER F.D.A.

On models equipped with Gas Flush, connect gas hose to the gas bottle. An accurate pressure reducing gas valve set to a maximum of 14.5 psi (1 bar) must be used in the connection. Only Nitrogen, Carbon Dioxide or mixtures of these gases with no more than 21% Oxygen may be used. Explosive or toxic gases must not be used.

ELECTRICAL CONNECTIONS

120 Volt Cord Connected Machines (Models HT120, HT120G, HT190G)

WARNING: THIS MACHINE IS PROVIDED WITH A THREE-PRONGED GROUNDING PLUG. THE OUTLET TO WHICH THIS PLUG IS CONNECTED MUST BE PROPERLY GROUNDED. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, AN ELECTRICIAN SHOULD BE CONTACTED.

240 Volt Cord Connected Machines (Models H190G and H210G/2)

WARNING: THIS MACHINE IS PROVIDED WITH A FOUR-PRONG GROUNDING PLUG. THE OUTLET TO WHICH THIS PLUG IS CONNECTED MUST BE PROPERLY GROUNDED. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, AN ELECTRICIAN SHOULD BE CONTACTED.

ELECTRICAL DATA

MODEL	VOLTS / HZ / PH	CIRCUIT SIZE * (Amps)
HT120	120 / 60 / 1	15
HT120G	120 / 60 / 1	15
HT190G	120 / 60 / 1	20
H190G	240 / 60 / 3	15
H210G/2	240 / 60 / 3	15

* Maximum Circuit Breaker Size / Minimum Circuit Amperage compiled in accordance with the National Electrical Code, 1990 edition.

Check Rotation of the Pump (Models H190G and H210G/2)

In three-phase applications, a check must be made to verify correct direction of motor rotation. Remove the rear cover. Connect the electrical power supply and momentarily turn on the machine. The correct pump motor direction is indicated on the motor. If the rotation is not correct, follow this procedure:

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THE CIRCUIT IS BEING WORKED ON.

Interchange any two of the power supply leads (not the ground lead).

Again, connect the electrical supply to the machine and turn the machine on momentarily to verify correct rotation of the pump motor.

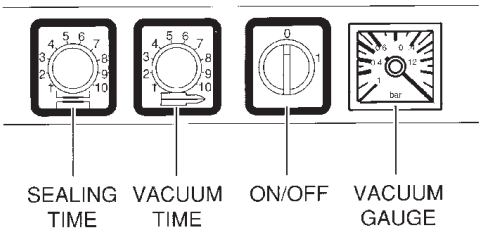
Oil Level (All models)

Check the oil level through the sightglass provided. **Caution: If the oil is not at the proper level, contact Hobart service before operating the machine.**

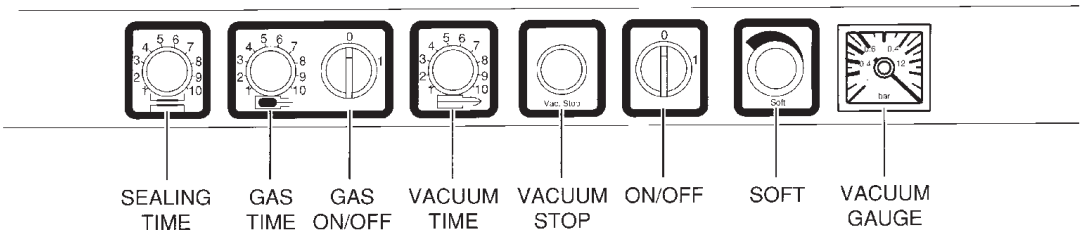
OPERATION

CONTROLS (Fig. 5)

MODEL HT120



MODELS HT120G, HT190G AND H190G



MODEL H210G/2

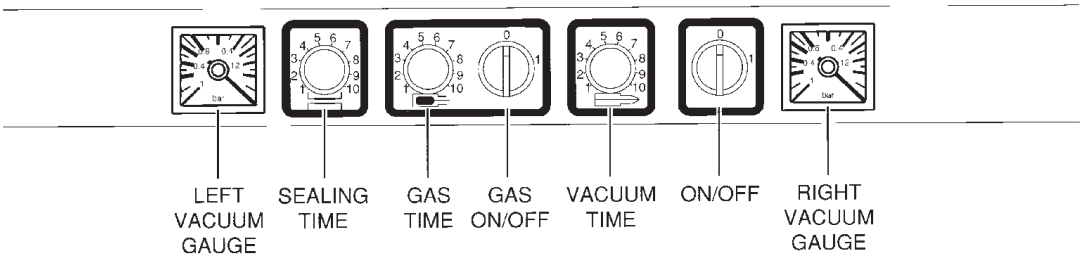


Fig. 5

SEALING TIME – Allows variable adjustment of Sealing Time. Normal = 5.

GAS TIME – Allows variable adjustment of Gas Flush Time. Normal = 5.

GAS ON-OFF – Turns Gas Flush on or off. On = 1; off = 0.

VACUUM TIME – Allows variable adjustment of Vacuum Time. Normal = 5.

VACUUM STOP – Stops vacuum, disregards preselected settings, and proceeds to seal and open.

ON-OFF – Turns the Power on or off. On = 1; off = 0.

SOFT – Adjusts to allow air to slowly reenter chamber after vacuum. Normal = .

VACUUM GAUGE – Gauge shows the amount of vacuum pressure in the chamber.

GENERAL INSTRUCTIONS (ALL MODELS)

- Proper food handling, sanitation and refrigeration are required before and after vacuum-packing. Only products suitable for vacuum-packing should be processed by this machine. Vacuum-packing does not insure against spoilage. Never package spoiled products. See pages 13, 14 for additional information.
- Liquids may boil under vacuum conditions. If this should occur, stop the machine immediately. Use either the On-Off switch (0 = off) to stop entire machine function, or, if machine is so equipped, press Vacuum Stop to stop the vacuum pump and proceed to sealing the bag.
- Products with tender structures may become crushed when air reenters the chamber. Such products may be processed with either a lower vacuum (reduce Vacuum Time) or use Gas Flush (if equipped).
- Never put previously sealed bags back into the chamber for a second sealing. They could burst.
- Insufficient oil level in the vacuum pump can damage the pump or result in insufficient vacuum.
- Insufficient vacuum can result in reduced shelf-life.
- No volatile and flammable liquids should be vacuum-packed.

Serrated Knives (Models HT120G, HT190G, H190G and H210G/2)

WARNING: SHARP KNIVES UNDER LID.

Serrated knives located under the lid are used to perforate the edge of the bag (Fig. 6). Use care when working near the knives.

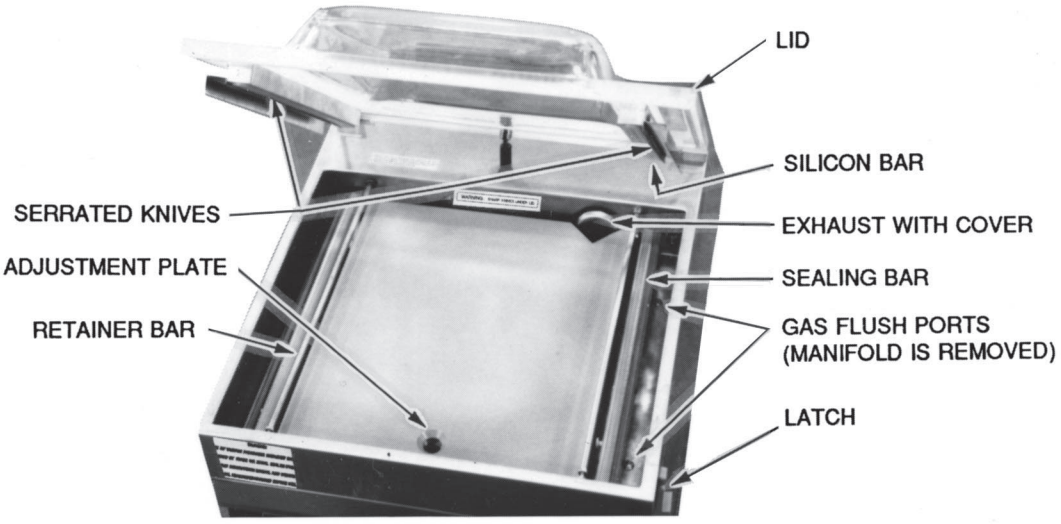


Fig. 6

OPERATING THE VACUUM-PACKING MACHINE

Caution: Check the oil level through the sightglass before operating the machine. If the oil level is below the sightglass, call for service. Operating the pump with inadequate oil can damage the pump or result in insufficient vacuum. A damaged pump as a result of insufficient oil may not be covered by warranty.

Check that the sealing bar and the silicon bar are in the correct position.

Turn the machine on. On models HT120, HT120G and HT190G, the machine is ready to cycle (the motor starts when the lid is lowered). On model H190G, the motor starts when the switch is turned on and remains at idle until the lid is lowered and the vacuum cycle begins.

Place an empty bag of the appropriate size and type in the chamber under the retainer bar (if equipped) with the open end laying on the sealing bar. Press the lid down and hold it closed for a few seconds. The vacuum gauge will indicate that the pressure is decreasing below atmospheric pressure. The vacuum gauge should be routinely checked and verified. After a short time the lid will open again.

Notice the seal on the bag that was in the chamber. The seal can be compared with the sample shipped with the machine. If the seal does not appear like the sample, you can adjust the sealing time. This and other adjustments are described in the CONTROLS section and below.

All machine aeration and ventilation apertures must remain open and unblocked.

PREPARATION

Assure the chamber is clean and dry. Assemble or remove the height adjustment plate(s) to provide the appropriate height for the product being packaged.

Prepare the product. Portion product in appropriate amounts and place the product in the correct size and type of bag for packaging. Take care that no product debris is in the vicinity of the sealing strip. This could prevent proper sealing of the product since grease or protein could prevent proper seal. The open end of the plastic bag should lay flat on the sealing bar so that no creases will form.

ASSURE THE SEAL IS PROPERLY MADE

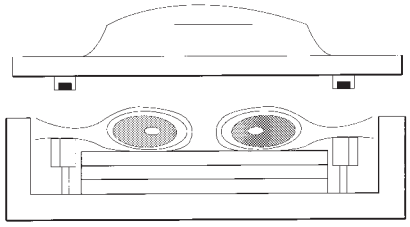
Check the seal seam. If seam is secure, it should not be possible to tear apart. The seal seam should not be scorched on either side.

If sealing is not sufficient, sealing time can be increased, >5. If seal is scorched, sealing time can be reduced, < 5.

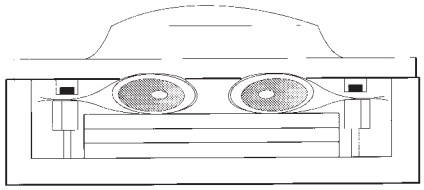
DOUBLE CHAMBER (Model H210G/2)

One person operating the double chamber model H210G/2 can produce double the output. While the machine is vacuum-packing and sealing one chamber, the operator loads the other chamber with packages to be vacuum-packed and sealed. After vacuuming and sealing is complete in the first chamber, the lid is shifted to the second chamber for vacuuming and sealing and the first chamber is unloaded and re-loaded. The cycle repeats. Thus the operator makes better use of the time the machine uses to vacuum and seal.

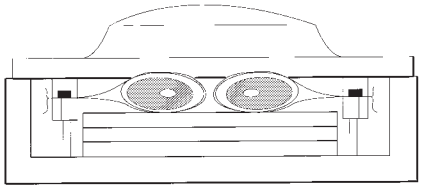
VACUUM-PACKING PROCEDURE (Without Gas Flush)



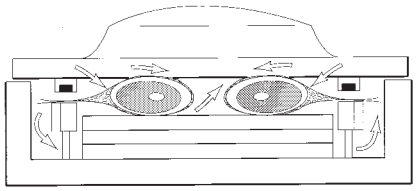
1. Place bags in chamber. Approximately two-inch open end of bag hangs over sealing bar. Check that the sealing area of the bag is clear of any product or contaminants that might prevent proper seal. Turn machine on. Set Sealing Time and Vacuum Time to Normal position 5.



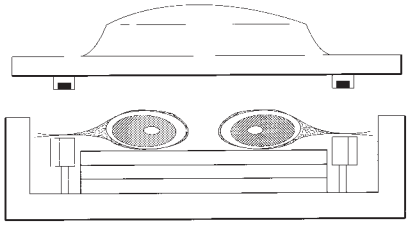
2. Hold down lid with both hands. Vacuum pump begins to remove air from chamber; lid will then hold itself down. Steps 3-5 occur automatically.



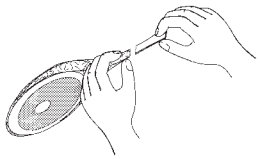
3. After vacuum time is completed, vacuum is turned off. Bags are sealed and end of bag is perforated or scored.



4. After sealing, a vent valve allows room air to reenter chamber causing bag to collapse around product.

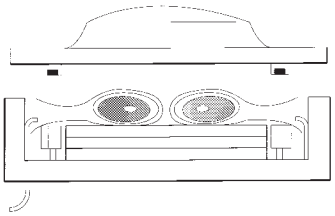


5. Lid opens automatically.

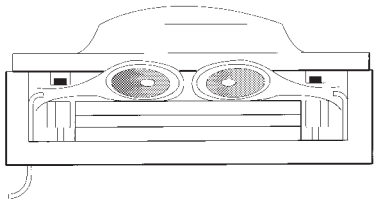


6. Remove vacuum-packed product from chamber. Tear perforated or scored edge from bag. Return product to refrigerator or freezer.

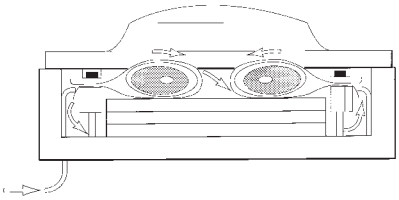
VACUUM-PACKING PROCEDURE (With Gas Flush)



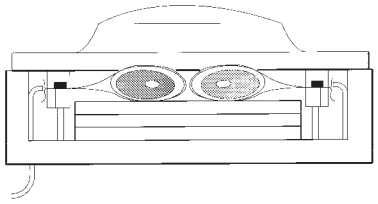
1. Place bags in chamber. Approximately two-inch open end of bag hangs over sealing bar; gas tube(s) are at open end of bag. Check that the sealing area of the bag is clear of any product or contaminants that might prevent proper seal. Turn machine on. Set Sealing Time, Vacuum Time and Gas Time to Normal position 5.



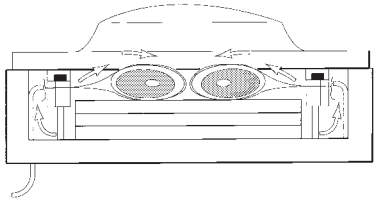
2. Hold down lid with both hands. Vacuum pump begins to remove air from chamber; lid will then hold itself down. Steps 3-5 occur automatically.



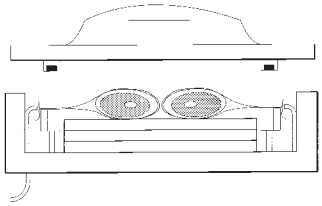
3. After vacuum time is completed, vacuum is turned off. A valve opens allowing gas to enter chamber and bag.



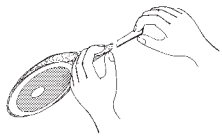
4. Bags are sealed and end of bag is perforated.



5. After sealing, a vent valve allows room air to reenter chamber. Innert gas prevents bag from collapsing around product.



6. Lid opens automatically.



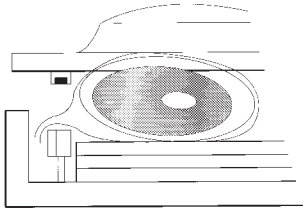
7. Remove gas flushed, vacuum-packed product from chamber. Tear perforated edge from bag. Return product to refrigerator or freezer. When all gas flushed products are packaged, turn the gas valve off.

HEIGHT ADJUSTMENT PLATES

Use the appropriate number of height adjustment plates to obtain the desired product height for ease of packaging and sealing.

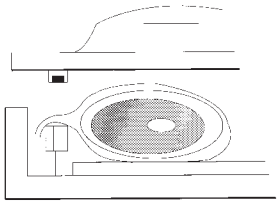
TOO HIGH

REMOVE PLATE(S)



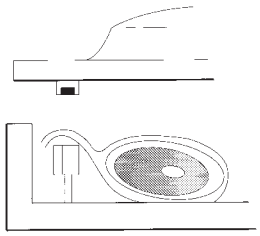
HALF ABOVE/HALF BELOW

BEST



TOO LOW

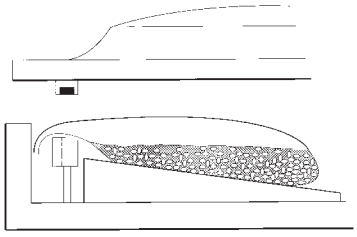
ADD PLATE(S)



INCLINE (Optional)

Use the incline (optional) to obtain the desired product orientation for ease of packaging and sealing.

INCLINE (Optional)



RECOMMENDATIONS AND GUIDELINES

The F.D.A. has made recommendations and guidelines for Vacuum Packaging. Some state and local governments have rules which cover the use of vacuum packaging equipment. Check with your local health department for the rules in effect in your location. As an example:

Regulations of the New York Department of Agriculture and Markets:

BULLETIN #2: REQUIREMENTS FOR REDUCED OXYGEN PACKAGING AT RETAIL

1. Reduced oxygen packaging refers to vacuum packaging, modified atmosphere packaging, controlled atmosphere packaging, sous vide or cook-chill.

2. Foods placed in reduced oxygen packaging must be restricted to those which will not support the growth of *Clostridium botulinum*. This would include:

   a. Foods with a water activity (^{a}w) below .93.

   b. Foods with a pH (acidity) of 4.6 or less.

   c. Meat products produced under the auspices of the USDA's Meat Inspection Program in a USDA regulated establishment and cured with a combination of salt, nitrates and nitrites (initially 120 ppm or more sodium nitrite and a brine concentration of 3.5% or more). Such products must be received in an intact package.

   d. Foods with high levels of non-pathogenic competing organisms (harmless bacteria) such as raw meat, raw poultry, or fermented natural hard and semi-soft cheeses containing live starter culture organisms. (Ricotta, cottage cheese, cheese spreads and combinations of cheese and other ingredients such as vegetables or meat are examples of cheese products which **may not** be packaged.)

   e. Frozen foods, which do not meet the foregoing criteria, provided they are conspicuously labeled "**Important – Keep Frozen Until Use.**"

   Fish and fish products (except frozen product) **may not** be packaged in reduced oxygen containers at retail. In addition, meat and poultry products which are smoked or cured at retail **may not** be packaged in reduced oxygen containers, with the exception of raw product which is cured in compliance with the criteria described under Item [2c.] above in a USDA regulated processing plant. Such product may subsequently be smoked in accordance with appropriate time/temperature requirements at retail and packaged in reduced oxygen containers.

3. Reduced oxygen packaged foods must be maintained at a temperature of 45°F. or below (frozen foods at 0°F. or below) and retail packages must be prominently and conspicuously labeled with those temperature requirements.

4. All refrigerated reduced oxygen packaged product must be given a maximum fourteen day shelf life with a statement on the label which clearly indicates that the product should not be used after the pull date has expired. At no time shall the use by date on the retail package exceed the manufacturer's expiration date, as indicated on the original container.

5. Conspicuous signs listing products which may be packaged in reduced oxygen containers (those listed on your license application) and warning against packaging any other products, must be posted in the reduced oxygen packaging area.

6. You must verify that the refrigeration products you package in reduced oxygen containers meet the criteria set forth in item 2 listed above either via written certification from the product manufacturer or independent laboratory analysis of incoming product. Product your firm purchases for the purpose of repackaging must include stringent written product purchase specifications for the *Clostridium botulinum* control parameter, i.e., pH, water activity, nitrites, viable competing microbes, etc., which the original manufacturer of the product must meet.

7. Access to the reduced oxygen packaging equipment must be restricted to persons who understand the equipment, the procedures, and the concepts required for safe reduced oxygen packaging.

8. Only entire prepackaged loaves of cold cuts or cheese may be sliced and reduced oxygen packaged. If it is necessary to stop slicing and packaging a particular loaf of product for a period of time exceeding one-half hour, the remainder of that loaf should be diverted for some other use such as a customer service deli counter.

9. Detailed written in-store procedures must be developed, adhered to and monitored. These procedures must include steps to minimize opportunities for product adulteration and cross-contamination.

10. You must have applied for and received an Article 20-C Food Processing License which specifically authorizes your establishment to reduce oxygen package foods.

11. You must also sign a copy of this requirements bulletin #2 and return it with the other required information. "

CLEANING AND SANITIZING

WARNING: UNPLUG ELECTRIC SUPPLY CORD BEFORE CLEANING. DO NOT HOSE DOWN. COVER MACHINE IF SPRAY TYPE SANITATION IS USED NEAR MACHINE.

WARNING: SHARP KNIVES UNDER LID.

Remove height adjustment plates from the chamber; clean with mild, non-abrasive detergent and warm water solution. DO NOT use abrasive cleaners or solutions containing ammonia to clean the lid. Wipe out the chamber surfaces with a cloth moistened with mild detergent and warm water solution. Wipe gaskets and silicon strips. Rinse with clean water. Dry chamber with clean dry cloth. Water should not be allowed to remain in the bottom of the chamber. Dry with clean cloth. Replace clean, dry, height adjustment plates in chamber and check correct position of gasket and silicon strips.

The sealing bar should be cleaned at regular intervals to remove any sealing residue. A neutral solution of detergent and water can be used. **Caution: Do not use any hard or sharp-edged objects when cleaning the sealing bar to avoid damage to the Teflon strip.**

Approved means of sanitizing food contact surfaces in the Vacuum-Packing machine must be thoroughly done on a regular basis. Also thoroughly and routinely sanitize any food contact areas of any other machines coming in contact with the food.

MAINTENANCE

Check the oil level on the vacuum pump once each week. If the oil level falls below the sightglass, call your local Hobart service office.

Vacuum pump oil should be changed every 500 operating hours or every 6 months. If you have a Hobart Maintenance Contract, this should be covered. Contact your local Hobart service office for details.

MODEL	RECOMMENDED VACUUM PUMP OIL
HT120	10 W Non-Detergent
HT120G	10 W Non-Detergent
HT190G	10 W Non-Detergent
H190G	30 W Non-Detergent
H210G/2	30 W Non-Detergent

If the machine fails to perform in the normal manner, contact your local Hobart service office.

TROUBLESHOOTING

Symptom	Possible Cause
1. Pump does not start after machine is turned on or lid is closed.	Check cord and plug to assure electric supply is properly connected. Check fuse or circuit breaker.
2. Pump is running but not producing vacuum.	If seal on lid needs to be replaced, contact service. If hose needs to be replaced, contact service. Check Oil Level. If oil is below sightglass, contact service. If machine is connected to 3 phase electric power, the motor may be running the wrong direction. Refer to Check Rotation of Pump in the Electrical Connections section.
3. Machine does not seal.	Adjust Sealing Time. If sealing rod is defective, contact service.

Contact your local Hobart service office for any repairs or adjustments needed on this equipment.