

MODEL LT15 MASSAGE TUMBLER SPECIFICATION SHEET

CONSTRUCTION

All Stainless Steel Construction with USDA approval

PHYSICAL DIMENSIONS

| | |
|--------------------|----------------------|
| Length | 47" |
| Width | 27" |
| Height | 35" |
| Drum Size | 20" diam. x 30" long |
| Approximate Weight | 250# |

PRODUCT CAPACITY

| | |
|---------|-----|
| Gallons | 40 |
| Liters | 150 |
| Pounds | 200 |

VACUUM PUMP SYSTEM

Pump capable of delivering 26" Hg (Mercury)
Easily Accessible Liquid Trap

DRUM SPEED

| | |
|----------------------|-----------|
| Variable Speed Drive | 1 - 9 RPM |
|----------------------|-----------|

TIMER CONTROLS

| | |
|----------------------|------------------------------|
| Tumbler Timer | 99 H 59 M Timer (changeable) |
| * Intermittent Timer | |
| On Time | Up to 99 Hr. 59 Min. |
| Off Time | Up to 99 Hr. 59 Min. |

MOTORS

| | |
|----------------------|------------------|
| Variable Speed Motor | 1/5 HP, 5.0 Amps |
| Vacuum Pump Motor | 1/3 HP, 3.3 Amps |

ELECTRICAL CONNECTIONS

115 volts, 60 cycle single phase (standard)
220 volts, 50 cycle single phase
220 volts, 60 cycle single phase
380 volts, 50 cycle single phase

(See outside cabinet of machine for electrical requirement, below serial # plate)

* Optional Equipment

Specifications Subject to change at anytime

INSTALLATION INSTRUCTIONS

A. Unpacking

1. Carefully remove crate from the skid.
2. Remove machine from skid.
3. Wipe down outside of the machine.
4. Clean inside of the drum.
5. Check aim of photo-eyes (see instructions in trouble-shooting section)
This is required due to vibration in shipping.

B. Checking Control Panel

1. Check outside the cabinet for the required voltage requirement for your machine. Plug the machine into the required outlet.
2. Press the (RST) button on the tumbler timer.
3. Check photo-eye for power (The green & amber lights on the back side of the photo-eye should be on. This can be seen through the observation windows near the photo-eye. The lights on the photo-eye must be on. If they are not, wipe the face of the photo eye and the reflectors opposite them to remove all moisture. (If still not on see instructions for checking aim of the photo-eye).

C. Check Vacuum Pump Control

1. Turn on the vacuum pump. It should run.

D. Check Tumbler Motor Controls

1. Set variable speed control to 20.
2. Set tumbler timer to 2 minutes. (See "SETTING THE CONTROL TIMER" in the Operating Instructions Section).
3. Press the tumbler start button - Drum will now turn.
4. Turn the variable speed control up & down (Drum will speed up & slow down).
5. The drum will turn until the tumbler timer counts down to zero at which time the drum will stop.
6. Press the (RST) button on the tumbler timer.
7. The machine is now ready to use.

OPERATING INSTRUCTIONS

A. Loading and Tumbling

1. Clean the machine drum.
2. Put the gasket and drain cap on the drum drain pipe.
3. Load the product into the drum.
4. Place the gasket over the drum opening.
5. Place the cover on the gasket.
6. Make sure the gasket is under the cover all the way around by pushing it up and into the opening or by visual inspection.
7. Tighten the cover by alternately tightening the knob in a diagonal pattern.
8. Plug the machine into the proper voltage receptacle.
9. Check for power to the photo-eye through observation windows (Green & Amber lights should be on, If they are not on, wipe the photo-eye face and reflector to remove moisture).
10. Turn on vacuum pump.
11. Open vacuum valve on the drum (next to the drum cover) (Make sure the vacuum passage to the drum is clean and that it is to the top. Pulling vacuum with the fitting not at the top position will result in liquid being drawn into the vacuum pump. THIS WILL DAMAGE THE PUMP!)
12. Push vacuum hose onto drum fitting.
13. Run vacuum pump until 15 inches of vacuum is drawn. (Higher vacuum can be drawn if you want to).
14. Shut off the valve on the drum.
15. Remove the hose from the drum.
16. Turn off the vacuum pump.
17. Set the tumbler timer to the desired time.
18. Set variable speed knob to the desired speed.
19. Make sure the vacuum hose is disconnected.
20. Press tumbler start button, The drum will now rotate until the tumbler timer runs down to zero.
- * It can be stopped at any time by pressing the tumbler stop button or by breaking the beam from the photo-eye to the reflector.
- * To restart the machine, press the tumbler start button, it will run for the time remaining on the timer.

B. Unloading the Drum

a. Manual Unloading

1. Set the speed control to a slow speed.
2. Press the (RST) button on the timer.
3. Press the tumbler start button.
4. When the cover is facing you, at the 2 o'clock position, press the stop button.
5. Loosen the cover knobs.
6. Open the vacuum valve on the drum to release the vacuum (Loosen cover knobs first).
7. Remove the cover.
8. Remove the gasket.
9. Unload the drum.

LT15
CONTROL PANEL WITH ELECTRONIC TUMBLER TIMER #CT4S

CONTROL PANEL FUNCTIONS

TUMBLER PUSH BUTTONS

Starts and stops timers for tumbling cycle.

VACUUM SWITCH

Starts and stops vacuum pump.

TOTAL TIMER

Sets the total amount of time the drum will rotate.

SETTING THE CONTROL TIMER

Direct start continuous tumbling

1. Press (RST) button on the tumbler timer.
2. Set the set point on the tumbler timer for total tumbling time (time required for the drum to rotate).
3. To set the time on the tumbler timer, press the left arrow button on the timer, notice the far right position on the lower display is blinking.
4. Use the UP or DN., arrow button to change the value of this number. (The timer is set for hour-min.).
5. Use the left arrow button to change to a new position, then repeat step #4. (Do this for each position).
6. When all the values are entered, press the (MD) button on the timer. (This will enter the time into memory).
7. Press the (RST) button to change the upper values on the timer.
8. The tumbler timer is ready to run.
9. Press the tumbler start button to begin the cycle.

Stopping the tumbler with the STOP button or photo-eye switch will stop the tumbler timer and maintain it's time.

Pressing the tumbler START button will restart the total timer where it left off. Pressing the reset button on the tumbler timer in the middle of a tumbling cycle will reset that timer to the preset time setting.

LT15
CONTROL PANEL WITH ELECTRONIC INTERVAL AND TUMBLER TIMER #CT4S
CONTROL PANEL FUNCTIONS

TUMBLER PUSH BUTTONS

Starts and stops timers for tumbling cycle.

VACUUM SWITCH

Starts and stops vacuum pump.

TOTAL TIMER

Sets the total amount of time the drum will rotate. During the intermittent tumbling cycle, this timer runs only during the on period of the cycle.

INTERVAL TIMER

Set point 1 “t.off” sets amount of time drum rotates during on cycle.

Set point 2 “t.on” sets amount of time drum rests during off cycle.

SETTING THE CONTROL TIMER

Direct start continuous tumbling

1. Press (RST) button on the tumbler timer.
2. Set the set point on the tumbler timer for total tumbling time (time required for the drum to rotate).
3. To set the time on the tumbler timer, press the left arrow button on the timer, notice the far right position on the lower display is blinking.
4. Use the UP or DN., arrow button to change the value of this number. (The timer is set for hour-min.).
5. Use the left arrow to change to a new position, then repeat step #4. (Do this for each position).
6. When all the values are entered, press the (MD) button on the timer. (This will enter the time into memory).
7. Press the (RST) button to change the upper values on the timer.
8. The tumbler timer is ready to run.
9. Press (RST) button on the interval timer.
10. Set, set point 1 “t.off” to a time greater than was set on the tumbler timer.
11. To set the “t.off” time on the interval timer press the left arrow button.
12. Notice the “t.off” in the upper display of the timer is for the on time, notice the far right position on the lower display is blinking.
13. Use the UP or DN., arrow button to change the value of this number. (The timer is set for hour-min.).
14. Use the left arrow button to change to a new position, then repeat step #13. (Do this for each position). Set this time higher than what was set on the tumbler timer.
15. When all the values are entered, press the (MD) button on the timer. (This will enter the time into memory, and “t.on” will be displayed in the upper display).
16. Set, set point 2 “t.on” to 1 min.
17. The far right position on the lower display should now be blinking on the interval timer.
18. Use the UP or DN., arrow button to change the value of this number to “1”. (The timer is set for hour-min.).
19. Use the left arrow to change to a new position, change all of these positions to “0”(The far right position should be the only position with a value in it when you are done for the “t.on”).
20. Press the (MD) button on the timer to enter the time into memory. (The display will go to the “t.off” time on the display).

21. After the times are set, press the (RST) button to enter the time.
22. The Interval timer is now ready to run.
23. Press the tumbler start button to begin the cycle.

Direct start intermittent tumbling

1. Press (RST) button on the tumbler timer.
2. Set the set point on the tumbler timer for total tumbling time (time required for the drum to rotate).
3. To set the time on the tumbler timer, press the left arrow button on the timer, notice the far right position on the lower display is blinking.
4. Use the UP or DN., arrow button to change the value of this number. (The timer is set for hour-min.).
5. Use the left arrow to change to a new position, then repeat step #4. (Do this for each position).
6. When all the values are entered, press the (MD) button on the timer. (This will enter the time into memory).
7. Press the (RST) button to change the upper values on the timer.
8. The tumbler timer is ready to run.
9. Press (RST) button on the interval timer.
10. Set, set point 1 "t.off" for the amount of time you want the tumbler to run during it's on cycle. (The on cycle will start first).
11. To set the "t.off" time on the interval timer press the left arrow button.
12. Notice the "t.off" in the upper display of the timer is for the on time, notice the far right position on the lower display is blinking.
13. Use the UP or DN., arrow button to change the value of this number. (The timer is set for hour-min.).
14. Use the left arrow button to change to a new position, then repeat step #13. (Do this for each position). Set this time for the amount of time you want the tumbler to run during it's on cycle. (The on cycle will start first).
15. When all the values are entered, press the (MD) button on the timer. (This will enter the time into memory, and "t.on" will be displayed in the upper display).
16. Set, set point 2 "t.on" for the amount of time you want the tumbler to rest during it's off cycle. (The total timer will not time down during this time).
17. The far right position on the lower display should now be blinking on the interval timer.
18. Use the UP or DN., arrow button to change the value of this number. (The timer is set for hour-min.).
19. Use the left arrow to change to a new position, then repeat step #18.(Do this for each position).
20. Press the (MD) button on the timer to enter the time into memory. (The display will go to the "t.off" time on the display).
21. After the times are set, press the (RST) button to enter the time.
22. The Interval timer is now ready to run.
23. Press the tumbler start button to begin the cycle.

During the continuous or intermittent timing cycle the tumbler timer will only count down when the "t.off" cycle is timing on the interval timer. Stopping the tumbler with the STOP button or photo-eye switch will stop the tumbler timer and maintain it's time. The interval timer will reset to the preset times. Pressing the tumbler START button will restart the interval timer. The total timer will restart from where it left off. Pressing the reset button on either the tumbler timer or interval timer in the middle of a tumbling cycle will reset that timer to the preset time setting.

CLEANING PRECAUTIONS

Do not clean photo-eyes and reflectors with abrasive material, this could damage the components.

Do not spray water directly at the control panel, it could damage the components. Use a damp rag to clean the control panel face.

CLEANING YOUR MACHINE

Fill your machine so warm water goes to top of paddle. Using your standard cleaning solution, put in 1/2 to 1 cup, depending on the strength. Turn machine on and agitate for ten to fifteen minutes. When you stop the machine, make sure the drain plug is on top. Remove the plug and turn the machine on until drain is at the bottom. Remove lid and rinse. (**CAUTION: Extremely hot water will cause fat to bake on walls.**) Wipe off safety eyes and reflectors after cleaning.

FLUSHING VACUUM VALVE ON DRUM

Open vacuum valve and thoroughly flush with water. This must be done between loads, before pulling vacuum on the drum. If valve is not cleaned properly, food particles will be drawn into the vacuum hose.

CLEANING VACUUM HOSE

To clean food particles from the vacuum hose, remove glass jar (located inside cabinet) from the filter, and flush water through hose. Clean glass jar before replacing.

EMERGENCY STOP PHOTO-EYE

These are installed for your protection! When the sensor beam is broken, the machine is automatically shut off. If the machine does not want to start, it is possible either the reflector or sensor eyes are dirty or wet. If you do have a problem with the sensor, it is quickly identified by a green & amber lights located on the back of the sensor. Check for power to the photo-eyes through observation window. (Green & Amber lights should be on, if they are not on wipe the photo-eye face and reflector to remove moisture.)

RECOMMENDED PROCEDURES FOR TUMBLING PRODUCT

| <u>PRODUCT & INSTRUCTION</u> | <u>% OF BRINE GREEN WT.</u> | <u>TOTAL TIME</u> | <u>DRUM LOAD</u> | <u>MOTOR SPEED%</u> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------|------------------|-------------------------|
| <u>Dried Beef</u> | | | | |
| Pump product with normal or recommended % of brine. | 10% | 3 hrs. | 1/2 or more | 40 |
| Put product and excess purge into tumbler. | | 2.5 hrs. | 1/2 or less | |
| <u>Beef Jerky</u> | | | | |
| Get total weight of sliced product to verify % of brine to be added | 10% | 25 min. | 1/2 or more | 40 |
| | | 15 min. | 1/2 or less | |
| <u>Chunked & Formed</u> | | | | |
| Using Ham Meat and Boston Butt parts (90%lean), run product through kidney plate on grinder. Get total weight to verify % of brine to be added. Tumble for stated period of time. Remove from tumbler. Run product through stuffer into large casing. Put into ham press and smoke under normal smoking conditions. | 10% | 1 hr. | | 70 |
| <u>Chicken</u> | | | | |
| After obtaining total weight of birds, add normal or recommended % of brine and tumble product and brine for required time. | 10% | 1 hr. | 1/2 or more | 40 |
| <u>Turkey</u> | | | | |
| Obtain total weight of birds. Pump breast, leg and wings on both sides with normal or recommended % of brine. Put product and excess purge in tumbler for recommended time. Then follow normal smoking procedures. | 10% | 1 hr. | 1/2 or more | 60 |

Bone-In Ham

| | | | | |
|----------------------------------------------------------------------------------------------------------|-----|--------------------|----------------------------|----|
| Pump your normal or recommended % of brine per green weight and put product and excess purge in tumbler. | 15% | 3.5 hrs. 3 hrs. | 1/2 or more 1/2 or less | 60 |
|----------------------------------------------------------------------------------------------------------|-----|--------------------|----------------------------|----|

Boneless Ham

| | | | | |
|-------------------------|-----|--------------------|----------------------------|----|
| Same process as Bone-In | 15% | 3 hrs. 2.5 hrs. | 1/2 or more 1/2 or less | 50 |
|-------------------------|-----|--------------------|----------------------------|----|

Bacon

| | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------|----------------------------|----|
| Obtain total weight of all product. Using your normal or recommended % of brine per green weight, put bellies and brine into tumbler | 10% | 3 hrs. 2.5 hrs. | 1/2 or more 1/2 or less | 50 |
|--------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------|----------------------------|----|

Cottage Bacon

| | | | | |
|-----------------------------------------------------------------------------------------------------------------|-----|-------------------|----------------------------|----|
| Pump product with normal or recommended % of brine per green weight. Put product and excess purge into tumbler. | 10% | 3 hrs. 2.5 hrs | 1/2 or more 1/2 or less | 50 |
|-----------------------------------------------------------------------------------------------------------------|-----|-------------------|----------------------------|----|

Pork Ribs

| | | | | |
|-------------------------------------------------------------------|-----|---------|--|----|
| Get total weight of the product to verify % of brine to be added. | 10% | .5 hrs. | | 40 |
|-------------------------------------------------------------------|-----|---------|--|----|

Pork Hocks

| | | | | |
|-------------------------------------------------------------------|-----|--------------------|----------------------------|----|
| Get total weight of the product to verify % of brine to be added. | 15% | 2 hrs. 1.5 hrs. | 1/2 or more 1/2 or less | 40 |
|-------------------------------------------------------------------|-----|--------------------|----------------------------|----|

Beef or Pork Roast

| | | | | |
|-------------------------------------------------------------|-----|--------------------|----------------------------|----|
| Pump roasts with normal or recommended soluble roast spice. | 10% | 4 hrs. 3.5 hrs. | 1/2 or more 1/2 or less | 40 |
|-------------------------------------------------------------|-----|--------------------|----------------------------|----|

* After tumbling put into cooking bag and bring internal temperature to 150 degrees. Product is now ready for sale.

MAINTENANCE

WARNING: DISCONNECT POWER BEFORE SERVICING.

NOTE: Lock and tag power disconnect to prevent application of power.

CLEANING

Properly selected and installed electric motors are capable of operating for long periods with minimal maintenance. Periodically clean dirt accumulations from open-type motors, especially in and around vent openings, preferably by vacuuming (avoid imbedding dirt in windings). At the same time check that electrical connections are tight.

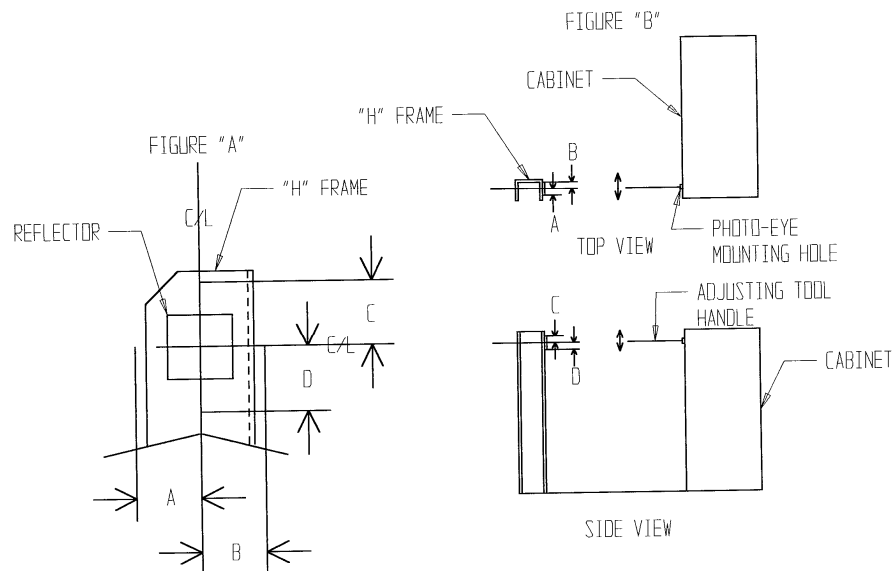
LUBRICATION

The motor is equipped with pre-lubricated ball bearings and will not require re-lubrication. The gears and bearings should be re-lubricated on a regular basis, use type "L-Industrial 30" (American Oil Co.) grease or its equivalent. The following is a list of lubricants which can be used: Mobile UX-EP2, Philube =EP2, Gulf Crown =EP2, Alvania =EP2, or Mutifax =EP2.

IMPORTANT: COMPLETELY CLEAN THE OLD LUBRICANT FROM THE GEAR BOX BEFORE ADDING FRESH LUBRICANT. UNDER NO CIRCUMSTANCES SHOULD DIFFERENT TYPES OF LUBRICANTS BE MIXED!

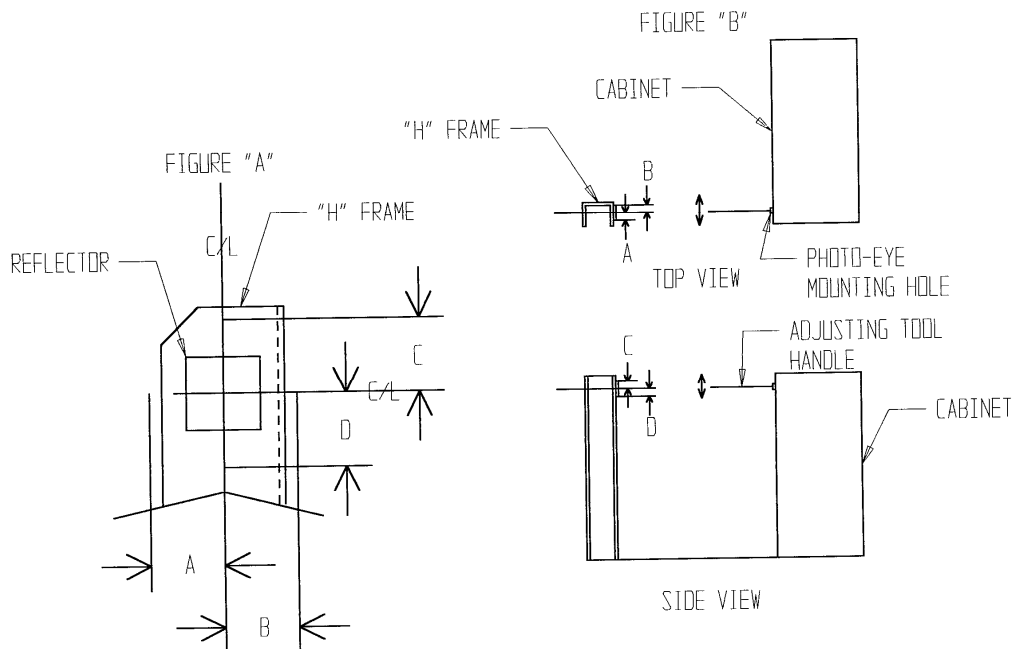
CHECKING THE AIM OF A PHOTO-EYE

1. Press the (RST) button on the timer. This will supply power to the photo-eyes which will be indicated by a green & amber lights on at the back of the photo-eye. (If they won't come on, the photo-eye might be out of alignment.)
2. Take a piece of masking tape and cover up the reflector. Only the one reflector that is opposite of the photo-eye that you are checking.
3. Use a reflector for checking the sensing range of the photo-eye. Take this reflector and hold it over the reflector that you taped up.
 - A. Move the reflector to the left until the amber light on the photo-eye goes out, measure this distance (see Figure "A"), which we will call distance "A".
 - B. Move the reflector to the right until the amber light on the photo-eye goes out, measure this distance (see Figure "A"), which we will call distance "B".
 - C. Move the reflector up until the amber light on the photo-eye goes out, measure this distance (see Figure "A"), which we will call distance "C".
 - D. Move the reflector down until the amber light on the photo-eye goes out, measure this distance (see Figure "A"), which we will call Distance "D".
4. Distance "A" & "B" should be about the same and "C" & "D" should be about the same. If measurement "A" & "B" are not equal and "C" & "D" are not equal the photo-eye aim needs to be adjusted (see **ADJUSTING THE AIM OF THE PHOTO-EYE**). If they are equal repeat this procedure on the second photo-eye (Model LT30 and LT60 only).



ADJUSTING THE AIM OF A PHOTO-EYE

1. Remove side panel of cabinet.
2. Press the (RST) button on the timer. This will supply power to the photo-eyes which will be indicated by a green & amber lights on at the back of the photo-eye. (If they don't come on, the photo-eye might be out of alignment.)
3. For adjusting the mounting hole on the cabinet, there is an Adjusting Tool available.
 - A. Remove the photo-eye from the cabinet.
 - B. Remove one of the nuts that is threaded onto the Adjusting Tool and insert the threaded end into the hole in the cabinet (from the outside) and thread the nut back on the tool.
 - C. Pull the handle of the Adjusting Tool into the direction of the smaller measurements that you recorded in step #4 (see Figure "B"). You should be able to bend the mounting hole in the cabinet, to align the photo-eye.
4. Install the photo-eye back into the cabinet.
5. Repeat instructions for **CHECKING THE AIM OF THE PHOTO-EYE**. Re-adjust again if necessary.
6. Once this is complete remove the tape from the reflector and put the side panel back on the cabinet.
7. Alignment is now complete.





A Gardner Denver Product

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(920) 457-4891 www.rtpumps.com

MODEL NUMBER: 688CE22, 688CE44, 688CGHI22, 688CWW44, 688CGHI32, 688CGHI44, 688CS44

Read and understand the follow information and instructions included with this product before using. This information is for your safety and to prevent damage to this product.

CAUTION: To reduce risk of electrical shock...

1. Do not disassemble. Disassembly or attempted repairs if accomplished incorrectly can create electrical shock hazard. Refer servicing to qualified service agencies only.
2. If this plug is supplied with a three pronged plug, connect unit to a properly grounded outlet only.

WARNING: To reduce risk of electrocution ...

1. This product should never be left unattended when plugged in.
2. Always unplug this product immediately after using and store in dry place.
3. Do not use this product in or near area where it can fall or be pulled into water or other liquids.
4. Do not reach for this product if it has fallen into liquid. Unplug immediately.
5. Never operate this product outdoors in the rain or in a wet area.

DANGER: To reduce risk of explosion or fire...

1. Do not use this product in or near explosive atmospheres or where aerosol (spray) products are being used.
2. Do not pump anything other than atmospheric air.
3. Do not pump combustible liquids or vapors with this product or use in or near an area where flammable or explosive liquids or vapors may exist.
4. Do not use this product near flames.

CAUTION: To prevent Injury...

1. Close supervision is necessary when this product is used near children or invalids. Never allow children to operate unit.
2. Never operate this product if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged or if it has fallen into water. Return the product to a service center for examination and repair.
3. Keep the cord away from heated surfaces.
4. Never block any air openings (inlet) of this product or place it on a soft surface where the openings may be blocked. Keep all air openings free of lint, dirt and other foreign objects.
5. Never use while sleeping or drowsy.
8. Never drop or insert fingers or any other object into openings.
7. Do not operate this product where oxygen is being administered.
8. This unit may be thermally protected and can automatically restart when the protector resets. Always disconnect power source before servicing.
9. Wear safety glasses or goggles when operating this product.
10. Use only in well ventilated areas.
11. Do not use any tools or attachments without first determining maximum air pressure for that tool or attachment.
12. Never point any air nozzle or air sprayer toward another person or any part of the body.
13. All electrical products generate heat. To avoid serious burns never touch unit during or immediately after operation.

Failure to observe the above safety precautions could result in severe bodily injury, including death in extreme cases.

SAVE THESE INSTRUCTIONS



Warning: Thomas compressors are precision-made, and carefully assembled and wired. Do not disassemble or attempt to repair this product. Repair should be performed by qualified service personnel only.



IMPORTANT NOTICE TO PURCHASER: WARRANTY AND EXCLUSIVE REMEDIES

Thomas finished OEM products, when properly installed and under normal conditions of use, are warranted by Thomas to be free from defects in material and workmanship at time of shipment. Warranty claims regarding OEM limited products must be asserted within 18 months (the "warranty period") from date of manufacture encoded on the product (unless otherwise agreed in writing or specified in a Thomas OEM Quotation). The customer's exclusive remedy against Thomas for a warranty claim or otherwise, shall be limited to repair or replacement of the subject OEM finished product if it is shown to have been defective in material and workmanship at time of shipment, and then only if the claim is asserted during the warranty period. Thomas maximum liability under this exclusive remedy shall never exceed the cost of the subject product and Thomas reserves the right, at its sole discretion, to refund the purchase price in lieu of repair or replacement. Except for such warranty and exclusive remedy as stated (and except for the express warranty of title) THOMAS DISCLAIMS ALL OTHER WARRANTIES WITH RESPECT TO ITS OEM FINISHED PRODUCTS, WHETHER IMPLIED, AND SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL THOMAS BE LIABLE TO CUSTOMER OR THIRD PARTIES

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