

THERMA-KLEEN®

Operators Manual

Therma-Steem® Model 400

Vapor Steam Cleaner



Made in the USA



THERMA-KLEEN
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OWNERS MANUAL

Do Not Use This System Without Reading This Manual First

You should be familiar with the information in this manual before you operate your equipment. The manual is structured so that it can be used for your reference.

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All information, illustrations and specifications contained within this manual are based on the information available at the time of production.

THERMA-KLEEN®, reserves the right to make changes at any time.

SERVICE INFORMATION:

Therma-Steem® Model 400

Please take the time to fill out the form on this page. When completed, this reference form will provide information essential to the proper servicing and ordering of parts for your THERMA-STEEM® Industrial 400 Model.

OWNER:

Name of Business: _____

Address: _____

City, _____ State: _____ Zip Code: _____

Telephone: _____ E-mail: _____

Serial #: _____ Date Shipped: _____

Our sales and parts department will be glad to answer any questions or provide troubleshooting help over the phone. All parts will be shipped via UPS unless otherwise specified. The warranty card must be filled out on our Web Site to activate your warranty.

www.THERMA-KLEEN.com

THERMA-KLEEN®

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E-Mail: sales@therma-kleen.com

MACHINE SPECIFICATIONS:

| | |
|------------------------|--|
| Boiler Capacity: | 1.5 Gallons Stainless Steel Tank |
| Reserve Tank Capacity: | 2 Gallons Stainless Steel Tank |
| Steam Pressure: | 160 psi / 11 Bar |
| Temperature: | 380 degrees "F" / 193 degrees "C" |
| Electrical Draw: | 120 vac @ 18 amps w/1750-watt heater 240 vac @ 13.0 amps w/2500-watt heater |
| Weight: | 80 lbs. / 36.3 kg with handle |
| Dimensions | 16" W x 16" D x 16" H |

Note: Therma-Kleen® reserves the right to change the package contents at any time, without notice.

Examine the unit and accessories for any possible shipping damage. If your unit is damaged or fails to operate, notify the shipper immediately.

Note: Only the consignee (the company or person receiving the unit) can file a claim against a carrier for shipping damage.

Record the serial number of your unit for future reference. It is recommended that you retain the original shipping carton and packing materials should you need to transport or ship the unit in the future.

WHAT IS VAPOR STEAM CLEANING:

Vapor Steam Cleaning is a unique way of cleaning. Understanding how vapor cleaning works will enable you to clean more effectively. The dry vapor, in the form of gas, penetrates the surface pores and violently expands, forcing dirt and debris to the surface where the particulate is either suspended in a re-condensed water molecule or driven into an absorbent cloth. The dry vapor is super-heated and is hot enough to kill bacteria and sanitize all surfaces. Vapor cleaning does not rely on pressure in order to clean efficiently. Once the vapor is emitted from the tool head, physics take over and the vapor works on its own. Therefore, only enough vapors are required to fill the pores under the tool head, and it is not necessary nor desirable to operate the equipment at full volume. More effective cleaning results are achieved by turning the volume down and let the vapor and heat do the cleaning. If the equipment is operated at too high of a

volume, the unit will not maintain pressure for extended periods of time, it will use too much water and oversaturated the surface that you are cleaning.

SAFETY:

READ ALL INSTRUCTIONS BEFORE USING THE VAPOR CLEANING SYSTEM.

Under no circumstances shall Therma-Kleen or its agents be held responsible for any injury or damage to people or property that may be caused by failure to follow the instructions below or by improper use of the equipment.



WARNING:

Your Therma-Steam unit is designed to be an entirely safe if used properly and incorporates the latest and most state-of-the art safety features.

Paying Close Attention to your system and surroundings are necessary when your Vapor Steam System is being used.

TO REDUC THE RISK OF ELECTRICAL SHOCK, FIRE OR PERSONAL INJURY, FOLLOW ALL THE INSTRUCTIONS AND ALWAYS USE BASIC PRECAUTIONS, INCLUDING THE FOLLOWING:

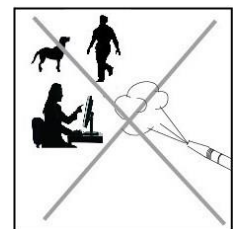
1. **ALWAYS** - Check the machine, power & steam hose for damage prior to start-up. If damage is detected, it must be repaired prior to use.
2. **CAUTION** - Before use check the electrical cord for damage, ware & tare, cuts or abrasion.
 - a. **DO NOT** - use your machine with a damaged electrical cord.
3. **NEVER** - Plug the unit into an un-grounded electrical receptacle.
4. **CAUTION** - The Electrical Outlet must be a GFI (Ground Fault Interrupt). If you are unsure the receptacle is grounded, contact a certified electrician.
 - a. **CAUTION** - If the Power Outlet is damaged, have a certified electrician repair the outlet.





- b. **NEVER** - Touch the electrical plug or unplug the unit with wet hands or while standing in a wet environment.
 - c. **NEVER** - Allow the electrical power cord to lie in water while cleaning.
 - d. **NEVER** - Unplug from the receptacle by pulling on the cord, always grasp the plug itself.
5. **NEVER** - Touch the system with wet hands or while standing in a wet environment.
6. **NEVER** - Allow the machine to get wet as electrical shock may occur.
7. **CAUTION** - use extra caution when using the system around water (Swimming Pools, Spas, Toilets, Etc.)
8. **DO NOT** - allow the electrical power cord or Steam Hose to be run over, stepped on or have something placed or dropped on it.
9. **DO NOT** - allow the Electrical Power Cord or Steam Hose to be caught in a closed door or pull over a sharp corner.
10. **CAUTION** - Turn off all controls prior to unplugging the unit.
11. **ALWAYS** - wear long sleeves, long pants, eye goggles, and gloves while operating your cleaner.
12. **CAUTION** - Make sure all attachments are secured before activating the gun.
 - a. **CAUTION** - Only operate the unit when it is in a Horizontal position.
13. **WARNING** - To prevent scalding or burning, ALWAYS keep your hands and body away from the nozzle tip during operation and wear appropriate protective clothing.
 - a. **DO NOT** - touch the steam nozzle while in use, or until after it cools.
 - b. **DO NOT** - grab the hot steam hose without appropriate gloves.
14. **NEVER** - Point or direct the wand or steam at any person, animal or electrical outlet or anything which could be damaged.
15. **DO NOT** - move or lift the machine by pulling on the electrical cord.
16. **DO NOT** - move or lift the machine by pulling on the steam hose or gun.
17. **DO NOT** - bend the steam hose past the 2" bend radius. This will shorten the life of your hose.



Fig. 2



-
18. **DO NOT** - use you Vapor Steam Cleaner if it has been dropped or damaged.
 19. **DO NOT** - allow the Vapor Steam System to become wet.
 20. **DO NOT** - operate without water, this will damage the cleaner's heating element, low water sensor and/ or pump.
 21. **DO NOT** - fill the water reservoir under a water tap. Always use a funnel and pour from a measured container so as not to over fill the reservoir. Consult the machine specifications to determine the reservoir capacity. 
 22. **NEVER UN-SCREW** - the boiler fill cap or drain plug while water is still hot or there is pressure in the unit as this may result in a dangerous release of steam or water which can cause a scalding hazard.
 - a. By activating the trigger on the gun will help dissipate pressure in the boiler
 23. **CAUTION** - Hand tighten the boiler fill cap.
 - a. **DO NOT** - over tighten as this will lead to premature failure of the sealing gasket.
 24. **DO NOT** - run chemicals through system, this could be harmful to people and the cleaner.
 25. **CAUTION** - Use caution when working in confined spaces, as the steam could cause debris to kick back towards you and the steam may seem greater.
 26. **DO NOT** - use this unit to clean items that may be harmed by steam or linger too long on surfaces that may cause damage.
 27. **DO NOT** - leave this unit unsupervised when in use or while cooling.
 28. **DO NOT** - allow children to use or handle machinery.
 29. **CAUTION** - Replace worn or damaged power cords, gaskets and "O"-rings.
 30. **DO NOT** - try to repair your machine, contact an Authorized Service Company or the factory. Retain your box for shipping.
 31. **DO NOT** - allow objects to get into the output nozzle. Do not try to operate the Vapor Cleaning System with any of the openings blocked. Keep openings free of dust, lint, hair, or anything which may reduce the flow of Vapor 
 32. **CAUTION** - Always keep all parts of the body away from the output nozzle, moving parts.
 33. **CAUTION** - Extra care must be taken when using the unit on stairways.
 34. **CAUTION** - Never use the Vapor Cleaner to clean animals.

35. **CAUTION** - If the “Air Vent Cap” becomes damaged or is lost, DO NOT replace with any other cap as it is not a pressure cap. Please reference the service part section of this manual and contact Therma-Kleen® for a replacement.
36. **ALWAYS** - Turn off unit when not in use – and allow to cool before storing.
37. **ALWAYS** - Unplug the Vapor System Electrical Cord when the system is not in use.
38. **ALWAYS** - Completely empty all water from the unit when not being used.
39. **NEVER** - Transport the unit with any water remaining in the machine.
40. **NEVER** - Leave the unit outside or allow it to be exposed to Freezing Temperatures.
- Freezing will severely damage the unit, internal components and hose.



WARNING:

Your Therma-Kleen® Vapor Steam Cleaner **MUST BE PLUGGED INTO A GROUNDED OUTLET**, or electrical shock can occur. Check with a certified electrician if there is any doubt that the outlet is grounded. Do not modify the Power Cord/Plug provided with the Therma-Kleen Vapor System. If it will not fit the outlet, have a properly grounded outlet installed by a certified electrician.



NOTE:

If an electrical extension cord is used with this system, it must be at a minimum, 12-gauge, 3 wire, grounded, SJ Quality, 60 Degree C.

WHY THIS UNIT MUST BE GROUNDED:

If the unit should malfunction or break down, grounding provides a path of least resistance for the electrical current to pass, reducing the risk of electrical shock. All Therma-Kleen units are equipped with a power cord with an equipment grounding conductor and plug. The plug must be inserted into an appropriate outlet which is properly grounded in accordance with national & local electrical codes and ordinances.



A



B

Therma-Kleen Model 400 is designed for use with a normal 120 or 240-volt grounded circuit. The 120-volt units have a grounded cord and plug such as what is illustrated in picture “A”, while the 240-volt units have a grounded plug & cord such as shown in picture “B”.

DO NOT remove the ground prong on the power cord. This will void the warranty on your machine and can be dangerous because it does not protect the user.

OPERATING INSTRUCTIONS:

NOTE: See owner’s manual for power requirements of your particular model prior to operating this machine. Always wear gloves, goggles, long sleeve coat or shirt and long pants or coveralls.

1. Before plugging in the electrical cord, Check to insure ALL switches are in the “OFF” position.
2. Remove the air vent cap from the reservoir (on top of machine). Using the funnel provided. Fill the reservoir with clean water, from a measured container, taking care not to spill or overflow the reservoir tank (approx. 2 gal. when empty). Distilled water is recommended.
3. Plug the Model 400 Vapor Steam Cleaner into an appropriately grounded 120 or 240-volt outlet as applicable.
 - a) Removing the ground on the electrical cord is not only dangerous but will also void the warranty. If an extension cord is to be used, it should be at least 12-gauge and no longer than 50 ft.
4. Turn the MAIN Power switch to the “ON” position.
5. If the boiler requires water, the reservoir pump will turn on. This is indicated by the blue light and a vibrating sound.
6. After the pump has stopped, it is now safe to turn the heater switch to the “ON” position.

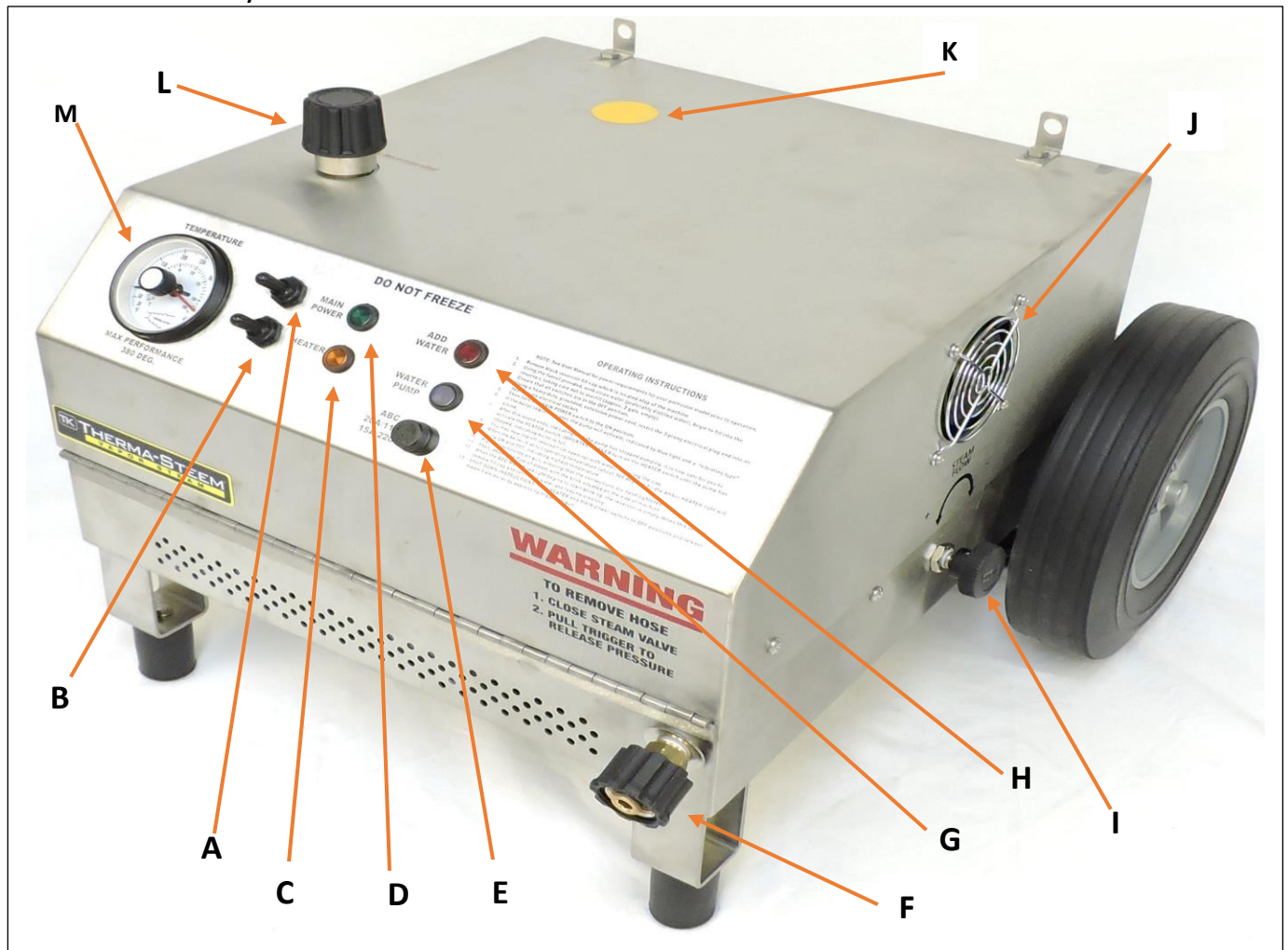
IMPORTANT: Never turn the heater switch to the “ON” position until the pump has stopped, indicating the boiler is full.

7. You can now top off the reservoir, if desire, with water and replace the air vent cap taking care not to over tighten.
8. When the boiler is at full operating temperature the “HEATER LIGHT” (amber) will go out. This will go on and off as needed.
9. Put attachments on the gun making sure connections are hand tight and adjust the flow of steam with the knob located on the side of the machine. Wear gloves.

- When the “ADD WATER” light blinks, the reservoir is empty. Remove the air vent cap, refill the water reservoir if desired, and resume cleaning. Do not over fill. It is important to immediately refill the reservoir tank, so the boiler does not run out of water.

Shut Down:

- Turn the “HEATER” and “MAIN” power switches to the “OFF” position.
- Release steam from the boiler by depressing the trigger on the gun.
- Close the steam knob.
- Once the system has cooled down and the water has been drained/removed, clean the machine and Store carefully.
- Store the unit in a warm dry location.
- NEVER store the unit in a freezing environment. Frozen water will destroy the unit.
- NEVER ship or transport the unit unless all the water has been completely drained from the system.

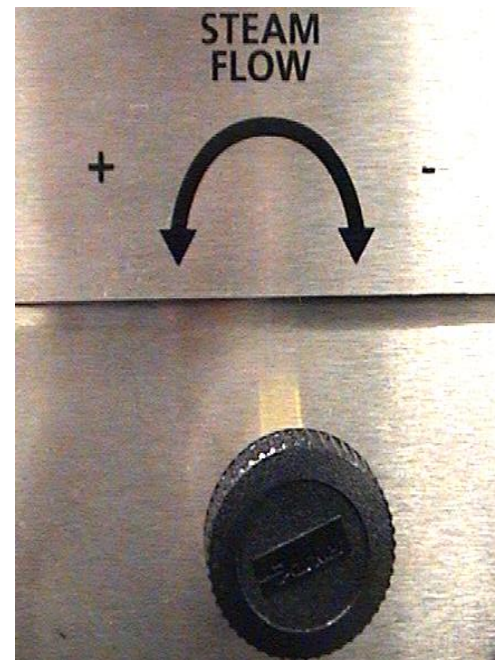


OPERATION LOCATIONS:

- A. Main Power “On/Off” Switch)
- B. Heater “On/Off” Switch
- C. Heater Amber indicator light
- D. Main Power Green Indicator Light
- E. Fuse holder with ABC fuse. 20-amp fuse for 110 volts
- F. Pressure Hose Coupling
- G. Boiler Filling Light – comes on when boiler is being filled
- H. Add Water Indicator Light
- I. Steam Control Valve
- J. Fan
- K. Hot Surface Indicator Decal (Yellow). The word “HOT” appears when surface becomes hot
- L. Air Vent Cap
- M. Combistat (Adjustable High Limit Cut-off with Temperature Gauge)

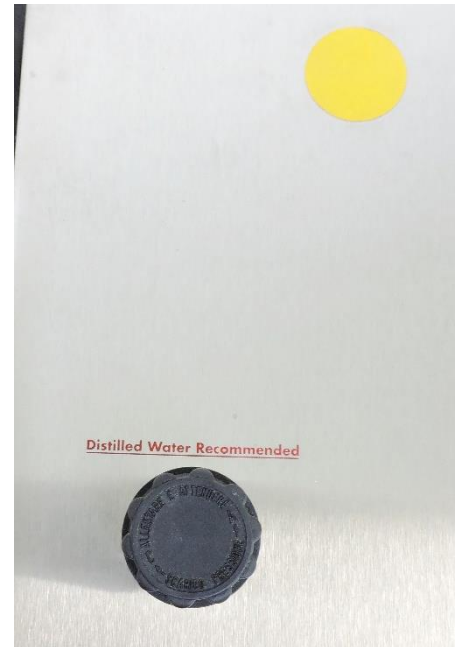
STEAM CONTROL VALVE:

This knob controls the volume of steam. Counter-clockwise: increase volume, Clockwise: decreases volume. For maximum pressure and temperature, leave the knob turned to the highest-pressure settings.



RESERVOIR TANK:

The reservoir tank with your Model 400 holds two gallons of water. The tank is designed to hold the initial water supply to the boiler and then supply additional water as the boiler calls for it. When you engage the MAIN power switch, if the boiler requires water, the reservoir pump will turn "ON". **DO NOT** turn on the heater to the boiler before the pump stops pumping, which indicates that the boiler is full. The "Blue Light" indicates when the boiler is calling for more water. This will go on and off during the time you are using the machine. The reservoir has an air vent cap, which covers the fill opening; this can be removed to add more water at any time. This is not a pressure cap. Do not substitute any other cap. (Shown with the Yellow Hot Surface Decal). Do not run the pump dry. Contact Therma-Kleen® for a replacement.



NEVER use water from a water softener as they use an ion exchange process that replaces calcium and magnesium minerals in the water with sodium. Sodium can significantly shorten the lifespan of the boiler system and internal components of your vapor steam unit.

It is always best to use Distiller Water in your cleaner.

LOW WATER ALARM:

When the tank is out of water and the boiler is almost empty, a low water alarm will sound to let you know that the heater has shut off and you are out of water. This sensor protects your heating element. **CAUTION:** never allow the boiler to be "ON" when there is no water in the boiler. This will overheat and damage the low water sensor and heating element.

BOILER:

DISTILLED WATER

We recommend that you use distilled water with your steam cleaner. This would eliminate the possibility of creating hard water stains while you are cleaning and prevent excessive build-up of mineral deposits around the heating element in the boiler. If you are using tap water, remember that the life of the heating element

may be shortened due to mineral/scale build up. The heating element will not be covered under the warranty if this situation happens.

FLUSHING OUT THE BOILER:

Located under your unit is a plug that, when unscrewed, will drain your boiler.

CAUTION do not remove drain plug until the unit has cooled down. Refer to the temperature gauge to determine the water temperature in you unit. (Your boiler can retain its heat for several hours.)

CHEMICALS:

VERY IMPORTANT: NEVER INTRODUCE CHEMICALS INTO THE SYSTEM.

It shall void your warranty and could result in malfunction and/or damage to your system. Also, note that our service department will not work on machines that have chemicals in the system.

DRY TANK:

VERY IMPORTANT. NEVER ALLOW THE MAIN POWER SWITCH TO BE "ON" WHEN THERE IS NO WATER IN THE BOILER. THIS WILL OVERHEAT AND DAMAGE YOUR LOW WATER SENSOR AND HEATING ELEMENT.

DRAIN:

Your machine has two drains, one for the reservoir and one for the boiler. The boiler drain plug is located just below the steam control knob on the bottom of the machine. The reservoir drain plug is the other. Use a screw driver and carefully unscrew the cap on the drain plug. This will release the water. Replace carefully. Use caution since the water in the boiler stays hot for a long time.

The Reservoir Drain is the one nearest the front of the unit.

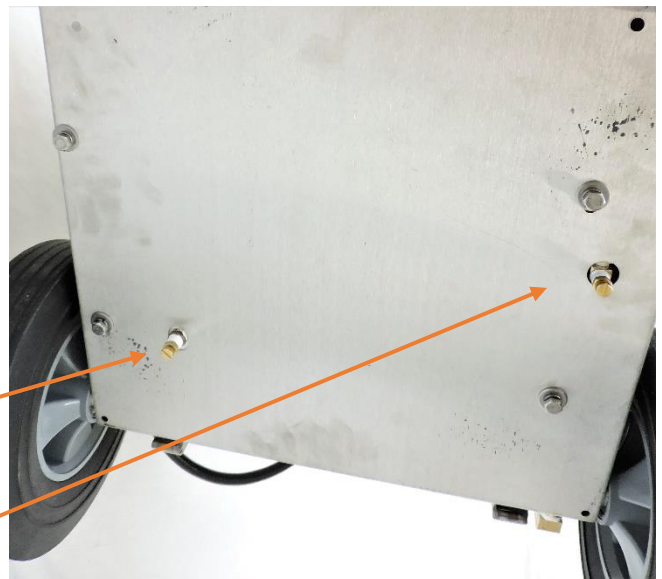
NEVER store machine with Water in the tank or boiler.

NEVER expose the machine to freezing temperatures.

NEVER ship or transport unless all water has been completely drained from the system.

Reservoir
Drain

Boiler
Drain



HOSE MAINTENANCE:

This unit is supplied with a high temperature stainless steel hose. It is very important to protect the integrity of this hose by not exceeding the bend radius of 2" as it could cause premature failure which is not covered under the warranty. If a hose is subjected to excess wear and tear it could fail and will not be covered under warranty. Please inspect your hose and cover on a regular basis for any wear. **DO NOT USE THIS HOSE IF IT IS DAMAGED. DO NOT PULL OR MOVE THE MACHINE BY PULLING/TUGGING ON THE HOSE.**

ACCESSORIE MAINTENANCE:

It is recommended that you clean your accessories on a regular basis. You can do this by one of several method:

1. Use the nozzle, with or without a small circular brush.
2. Use another nozzle to hold small brushes to be cleaned

COOLING FAN:

The THERMA-STEEM® Industrial 400 Vapor Steam System has a cooling fan built into the housing to reduce internal temperature. **DO NOT** use this machine if the fan is not operating. The fan is located on the side of the machine



TRIGGER GUN:

Your machine comes with a trigger gun on the end of the steam hose. When you change attachments, it is very important you place the guns trigger in the locked position, so you cannot accidently squeeze the trigger and release steam. To lock the trigger, slide the red lever down towards the handle.

Locked



Unlocked



MAINTENANCE:

BOILER:

The only maintenance required on the THERMA-STEEM® Industrial 400 is to flush out the mineral deposits from the boiler every so often. A good way of monitoring the mineral build up in the tank is by bleeding the system. If the water residue is discolored in a towel, flush the boiler, using tap water until the water runs clear.

Removing hard water scale is often the most common and overlooked of vapor steam cleaner maintenance, because it involves the part of the unit not seen. As water is heated and converted to steam any minerals in the water can be left behind in the form of mineral deposits/scale in the boiler tank. This will at some point impede the flow of water and steam through the system. Decaling the boiler is not as difficult as it may seem.

DESCALING: There are two benign methods of removing scale.

Baking Soda:

- i. Empty the tank
- ii. Mix 1 ½ ounces of baking soda with one quart of distilled water.
- iii. Fill the empty tank with this mix
- iv. Tighten the cap and allow the unit to heat up and stay warm for 1 to 2 hours
- v. Run the unit for about one minute, turn off and unplug the power cord and allow the unit to cool, usually about for 3 to 4 hours
- vi. Remove the drain plug and empty the tank
- vii. Flush the tank as many times as necessary to remove all debris in the tank
- viii. Reinstall the drain plug

Vinegar:

- i. Remove the drain plug on the bottom of the unit
- ii. Mix together a solution of ½ distilled vinegar & ½ distilled water
- iii. Using the funnel, fill the water tank with this solution
- iv. Turn on the unit, allow it to heat up and steam out about ½ of the mixture

- v. Turn off the unit and let it rest for 30 minutes
- vi. Repeat this process until the steam flow returns to normal (could be 2 to 3 times). NOTE there is an odor associated with this process

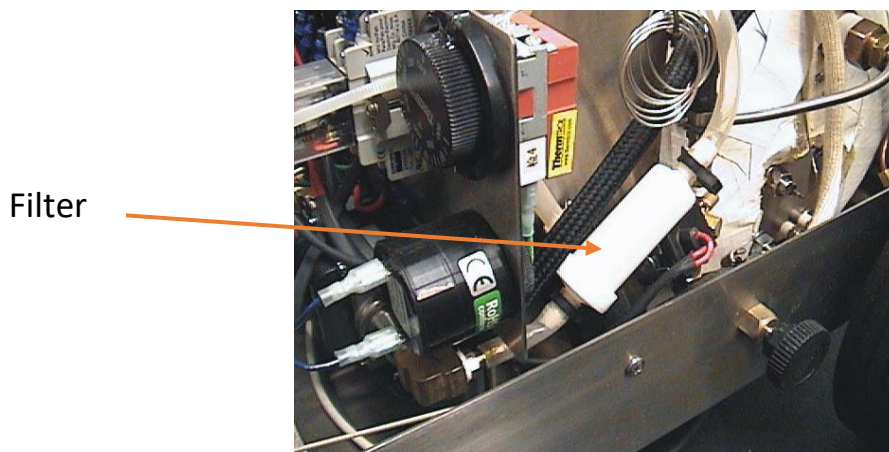
After each use the water tank should be emptied. We realize that it's tempting to just leave the water in the tank for the next cleaning go-around but taking the time to empty the tank before storing will lessen scale build up from mineral deposits. Not to mention avoiding the musty odor that can be produced from steaming with stagnant water.

STAINLESS STEEL BODY:

The housing and handle of your THERMA-STEEM® Industrial 400 are made of stainless steel. We recommend that you preserve the finish by keeping the machine dry and polished. Use a good stainless-steel cleaner, being careful not to rub off any instructions.

FILTER CONNECTED TO THE PUMP:

The filter connected to the pump (see below) needs to be checked on a regular basis. Even if distilled water is being used in the machine, the filter may still become clogged. To check the filter, look for discoloration and/or detach it from the pump and see if you can blow air through it. If it is discolored or Resistance to the passage of air through the filter, the filter should be replaced.



ELECTRICAL REQUIREMENTS:

Check your serial plate on the back of your machine to determine the voltage. This machine is available in 120 volts or 240-volt, single phase.

120-volt models:

This unit draws 18 amps and requires a 20-amp fuse. Always make sure that your MAIN POWER SWITCH is in the “OFF” position when you plug your unit into an electrical outlet. If possible, plug the unit into a designated 20-amp electrical outlet, as the combined electrical amperage of the Model 400 and other items on the same electrical circuits may cause a circuit breaker to trip.

If you use an extension cord it must be at a minimum, 12-gauge, 3 wire, grounded, SJ Quality, cord and make sure it is rated for the amp draw of the system and does not exceed 25 ft in length.

240-volt models:

This unit draws 13 amps and requires a 15-amp ABC fuse. Always make sure that your MAIN POWER SWITCH is in the “OFF” position when you plug your unit into an electrical outlet. If possible, plug the unit into a designated 20-amp electrical outlet, as the combined electrical amperage of the Model 400 and other items on the same electrical circuits may cause a circuit breaker to trip.

If you need to replace a fuse:

1. Turn all the switches to the “OFF” position.
2. Unplug your machine from the power outlet.
3. Push down and twist the fuse cap to release the cap and fuse.
4. Pull the fuse from the cap and replace with an ABC 20-amp fuse if 120 volt or ABC 15-amp fuse if 240v volt system.
5. Place the fuse and cap back in the fuse holder and push down while twisting. This will lock the cap into place. Make sure it is locked.
6. Plug the machine into an electrical outlet.

OPERATING TEMPERATURES:

The maximum temperature of the steam in the vessel for the Model 400 is 380°F. This is controlled by the high limit red line on the temperature gauge. At this temperature, your unit will also achieve its highest pressure of 160 PSI. It is very easy to stay in the 380° range if you open and close the gun while cleaning. The closed position will allow the unit to re-heat to greater temperatures before the wand is opened again. If you clean with the wand in the open position for a sustained period of time, you will begin to see the temperature and consequent pressure drop quickly.

LOWER TEMPERATURE CLEANING:

There may be times when you want the temperature to be lower than the 380°F. At these times, you may want to adjust the red line on the temperature gauge to a lower temperature. Turn the knob and therefore the red line to the desired temperature. At this time, the heater may shut off and cycle back on later as needed. The temperature will stay at this or below the set temperature until the temperature is re-set. Remember as you lower the temperature, the pressure will also decrease.

ACCESSORIES:

YOUR MACHINE SHIPS WITH THESE STANDARD TOOLS:

- (1) 15' S.S. Hose w/Gun #4030
- (1) Curved Nozzle #4013
- (3) 1" Nylon Brushes #4010
- (1) Zero Degree Blast Nozzle #4014
- (3) 1" Brass Brushes #4011
- (3) Stainless Steel Brushes #4012
- (1) 2-1/2" Nylon Brush #4009
- (1) Triangle Brush #4016
- (1) Floor Brush #4061
- (1) Small Micro-fiber Cloth #3534
- (1) Large Micro-fiber Cloth #3910
- (2) Terry Cloth Towels #3119
- (1) Hand Held Squeegee #3570
- (1) Funnel #3499
- (1) Pair of High Temperature Gloves #4052
- (1) Goggles #4053
- 20" Extension #5008
- 3 ft. Extension \$5009

OPTIONAL ACCESSORIES:

- 1" Round Horse Hair Brush
- 2-1/2" Round Horse Hair Brush
- 2-1/2" Round Brass Brush
- 2-1/2" Round Stainless-Steel Brush

ACCESSORIE DESCRIPTION:

All attachable accessories for the Model 400 use threaded ends due to the higher pressures.

Each of your accessories and attachments are recommended of the following specific cleaning tasks:

Triangle Brush:



The Triangle Brush may be used for diverse applications on many surfaces. It can be used on almost any dry surface type including (but on limited to), Fabric, All Metals, Ceramic, Stone, Porcelain, Vinyl, Leather and Plastic.

Generally, use of the triangle brush is dictated by the size of the object or surface being cleaned, rather than a specific surface type. The Triangle Brush is used when the surface is too large to be cleaned with the Detail Tool or too small to be cleaned by the Wide Brush. The Triangle Brush can also be used on large areas that are too dirty for the Wide Brush to work effectively.

Use of a Cloth: The Triangle Brush can be used with or without a cloth. If a cloth is to be used, there are clips on the brush to attach the cloth. When used without a cloth on a hard surface, the surface will need to be wiped with a clean, dry cloth immediately after passing over the surface with the Triangle Brush.



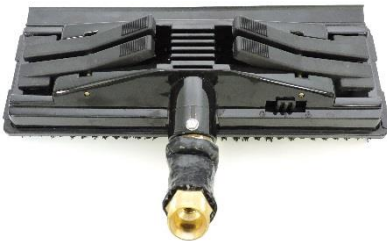
Rough Textured surfaces: It is more desirable to clean without a cloth or mitten over the brush.

Fabrics: A cloth is or is not necessary when cleaning fabrics. Placing a cloth over the brush is not necessary when the desired goal is to sanitize the fabric more than to clean it. To remove certain carpet stains, place a terry cloth or microfiber cloth on the stain and gently apply the brush to the stain. The stain will incrementally be driven into the cloth. Gradually move the cloth to absorb the stain into the clean areas of the cloth, until the stain is gone.

Most of the time, better results will be achieved by placing a terry or microfiber cloth over the Triangle Brush. This is done by placing the cloth on a smooth surface and neatly

folding the cloth over the brush. Push down on the clips (located on top of the brush) and tuck the cloth underneath. Release the clips and the cloth will be securely fastened to the brush. When covered with an absorbent cloth, cleaning becomes a one-step process. Simply wipe the surface slowly and all dirt and debris will be driven into the cloth, hard surfaces will usually dry in less than a minute.

WIDE BRUSH:



The 12" Wide Brush is used to clean larger areas. The Wide Brush is faster than a mop and certainly does a more effective job. The Wide Brush is generally used more for daily or weekly cleaning & sanitization rather than restoration.

MATERIALS – Fabrics, Metals, Ceramic, Stone, Porcelain, Vinyl, Leather, Plastic, Wooden Floors, Waxed Floors – Carpet (200 degrees or less for Nylon carpets), Upholstered Chairs, Draperies, Etc. or any other surface that extreme heat does not harm the surface which you intend to clean.

USE – the size of the area more than the type of surface dictates the use of the Wide Brush.

CLOTH – Use of a Cloth: The Triangle Brush can be used with or without a cloth. If a cloth is to be used, there are clips on the brush to attach the cloth.



When used without a cloth over it, on a hard surface, the surface will need to be wiped with a clean, dry cloth or mop immediately after passing over the surface. When cleaning a rough textured surface, it is more desirable to clean without a cloth over the brush.

Fabric surface – same as Triangle Brush.

VAPOR VOLUME – adjust the volume to about 3/8. Occasionally more volume will be required, however volume should always be less than 1/2. If the volume is turned too high the surface will become oversaturated, requiring more time to dry, also it will become difficult for the unit to maintain pressure for extended periods of time

SQUEEGEE:



The Squeegee can be used on Glass, Windows, Countertops and other smooth surfaces. As with the other tools, the Squeegee will both clean & sanitize.

Glass Cleaning – Adjust the volume to $\frac{1}{4}$ or less. Start at the top of the window in one corner and pull down to the bottom of the glass & repeat until the entire surface has been cleaned. Turn off & squeegee dry & wipe the bottom of the pane or sill with a clean dry cloth. Excessive vapor volume will result in too much water on the glass, simply turn down the vapor volume.

Smooth Surfaces – Adjust the volume to $\frac{1}{4}$ or less. Start on one corner and slowly proceed from one side the other. Wipe with a clean dry cloth when excessive water becomes present.

DETAIL & BLAST TOOLS:



Use – to clean small areas that are difficult or impossible to clean using any other method. You will be able to clean areas which are too small to clean with a tooth brush. Example – Faucets, Fixtures, Dishwasher Edges, Stains in Carpets, Car Interiors, Deodorize, Etc.

The detail tool should almost always be used with the detail brush attached to the end of the detail tool. Exceptions to this are when cleaning condensers, radiators, artificial plants and real plants which are sprayed with a cool vapor from a distance is the preferred method of cleaning.

Because of the increased pressure of the Model 400, the detail tool has a threaded end.

Operate this tool at $\frac{1}{4}$ volume. For best results first gently rub the surface with the end of the tool, heating it. Make a second pass, after the surface is heated and dirt & debris will be completely removed. Once clean wipe the surface with a dry absorbent cloth.

Clean hard to reach areas and corners first, then proceed with the appropriate larger brush.

NYLON DETAIL BRUSH

1" Dia.

2-1/2" Dia.



Use - to be used where there is a possibility of scratching the surface, such as Bath Tubs, Door Jambs, Grout, Glass Shower Doors (Pre-steam) Etc. When in doubt about which brush to use, the Nylon brush first. This brush can generally be used on almost any surface except on flat

latex wall paint and non-water proof ceiling tiles.

STAINLESS STEEL DETAIL BRUSH:

1" Dia.

2-1/2" Dia.



Use - Stainless Steel is hard and should only be used on surfaces that are scratch resistant. Always test in a small area before proceeding. This brush can be used on surfaces such as masonry, certain tiles such as Quarry tile and high quality stainless steel. This brush can be used

to remove some painted areas if the surface will undergo a sanding process prior to repainting. If in doubt test an out of the way area first. The stainless-steel brush will also leave a black mark, which is difficult to remove on certain types of tile.

BRASS DETAIL BRUSH:

1" Dia.

2-1/2" Dia.



Use - This brush can be used on many metal surfaces as well as on some Tile, Ovens, Etc. Always test on an out of the way area before to Use. Brass is softer than stainless steel and will consequently wear faster. This brush works well on oxidized aluminum surfaces, it will however, have

a polishing effect and make the surface look brighter than arras which have not been cleaned with this tool.

HORSE HAIR DETAIL BRUSH: Optional

1" Dia. 2-1/2" Dia.



Use - Most commonly used on material which is delicate and has fine details. The Natural Horse Hair is naturally soft, durable and nonabrasive, and packed with thousands of genuine horse hairs which tend to wrap around a surface and because they are fine, they

tend to penetrate deeper than other brush materials. They are perfect for delicate jobs such as leather, vinyl, cloth, porcelain, scratch sensitive plastic, Jewelry, Automotive Detailing as it works well by gently cleaning all Interior surfaces, air vents, convertible tops, etc. They are generally considered safe on all surfaces, but it is best to test on an inconspicuous area before beginning.

TRIGGER GUN:

A safety feature on your machine is a Steam Hose Trigger Gun with a Trigger Lock. Whenever the system is powered up and you set the steam gun/wand down it is very important that you engage the trigger lock to avoid accidental steam discharge. Also, whenever you change attachments, it is very important you place the guns trigger in the locked position towards the handle.

To Lock the Trigger simply slide the red lever, located on the trigger, toward the handle

Unlocked Position



Locked Position



WAND EXTENSIONS:

One 18" & One 36" insulated wand extensions, which attach to the end of the Vapor Steam hose. These extensions allow the operator to easily reach places which otherwise would be difficult to clean.



PARTS LIST:

| | |
|--------------------------|--------------|
| Snap Pins | Part #4000 |
| Wing Nuts | Part #4001 |
| ¼-20 Bolts | Part #3440 |
| ¼" Washers | Part #3451 |
| Goggles | Part #4053 |
| Gloves | Part #4053 |
| Curved Nozzle Attachment | Part #4013 |
| 0° Blast Nozzle | Part #4014 |
| Nozzle-0° | Part #4015 |
| 2 ½" Nylon Brush | Part #4009 |
| 1" Nylon Brush | Part #4010 |
| 1" Brass Brush | Part #4011 |
| 1" Stainless Steel Brush | Part #4012 |
| Triangle Brush | Part #4016 |
| Microfiber Cloth | Part #3534 |
| Floor Brush | Part #4061 |
| Microfiber Cloth | Part #3910 |
| 20" Extension | Part #5008 |
| 36" Extension | Part #5009 |
| Complete Squeegee | Part #3570 |
| Squeegee Handle | Part #3570-B |
| Squeegee Blade | Part #3570-A |
| Funnel | Part #3499 |

Therma-Steam® Model 400

| | |
|------------------------|--------------|
| 15 ft. Steam Hose | Part #4030 |
| Steam Hose Cover | Part #4059 |
| Gun | Part #4034-A |
| Stainless Steel Swivel | Part #4065 |
| European Plug | Part #4071 |
| Male Swivel Fitting | Part #4070 |
| Female Swivel Fitting | Part #4069 |

Optional Accessories:

| | |
|----------------------------|------------|
| 1" Horsehair Brush | Part #4038 |
| 2 ½" Horsehair Brush | Part #4039 |
| 2 ½" Brass Brush | Part #4008 |
| 2 ½" Stainless Steel Brush | Part #4102 |
| 25 ft. Steam Hose with Gun | Part #4031 |

TROUBLE SHOOTING:

BLOWING FUSES:

If you blow a fuse on this unit

- 1st: Check and make sure you are not plugged into an outlet with more than one appliance.
- 2nd: Have the right size fuse in the unit. 20 amp. ABC ceramic fuse for 110 volts. Or 10-amp ABC ceramic fuse for 220 volts. Make sure the fuse holder cap is on correctly and the fuse holder is in good shape.
- 3rd: Replace the heater and the heater gasket, if needed.

WATER FLOW LESS THAN NORMAL:

- 1ST. Check for an obstruction in the nozzle
- 2nd. Check filter located in the unit. If discolored or there is resistance when you blow through it, filter needs replacing.
- 3rd. Check pressure hose for a kink or damage.

LIMITED WARRANTY:

THERMA-KLEEN®, as manufacturer, warrants to the original purchaser, each new machine for a period of one year from date of shipment from the factory, to be free from defects in material and workmanship under normal use and service. “Normal use and service” means not in excess of recommended maximum pressures, temperatures, incorrect fuels, or handling fluids not compatible with component materials, as noted in THERMA-KLEEN®, manuals. This warranty shall not apply to any machine or component which has been repaired or altered to adversely affect the performance or reliability of this product. The heating element on the THERMA-STEEM® models will not be covered if distilled water is not used or scale is present. The boiler has a lifetime warranty.

Neither this warranty nor any implied warranty applies to damage or harm caused by any or all of the following:

1. Freight damage;
2. Freezing damage;
3. Damage caused by parts and/or accessories or components not obtained from or approved by THERMA-KLEEN®,
4. Consequential or incidental damages arising from the use of a THERMA-KLEEN®;
5. Damage due to misapplication or misuse.

Pump valves and bearings on the Ultra models are not warrantied if they are broken. The liability of THERMA-KLEEN® under the forgoing warranty is limited to repair or replacement of a defective component or part at THERMA-KLEEN®'s option. The defective component will be returned to the original manufacturer for judgment as to whether the component failed under normal operating conditions and therefore replaced or misused. These parts must be returned to the regional office or manufacturing facility within the warranty period, at the sole expense of the purchaser. This warranty is limited to furnishing the parts for replacement exclusive of installation labor. The liability of THERMA-KLEEN®, Inc. under any theory of recovery (except any express warranty where the remedy is set forth in the above paragraph) for loss, harm or damage, shall be limited to the lesser of the actual loss, harm, damage, or the purchase price of the involved machine.

THERMA-KLEEN®, expressly warrants its machines as above stated. There are no other express warranties. Any implied warranties, including warranty of merchantability or of fitness for a particular purpose or merchantability when this product is put to an industrial, commercial or rental use. Before using any product, customer shall determine

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Therma-Steem® Model 400

the suitability of the product for its intended purpose and the customer assumes all risk and liability whatsoever in connection therewith.

No person including any dealer or representative of THERMA-KLEEN®, is authorized to make any representation or warranty concerning THERMA-KLEEN®, products on behalf of THERMA-KLEEN®, or to assume for THERMA-KLEEN®, the obligations contained in this warranty. THERMA-KLEEN®, reserves the right to make changes in design and other changes and improvements upon its products without imposing any obligations upon itself to install the same, upon its existing products or products then in process or manufacture.