



MIDI STEAMER

OPERATION & SAFETY MANUAL



WARNING

*These instructions are for your personal safety. Always ensure that you have read and understood these instructions before using the equipment. **SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.***

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SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

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To watch practical demonstration videos, take a course, or to download an electronic copy of these Instructions, please visit www.picoteinstitute.com. Please note that videos and courses are not intended as a replacement or alternative to this operating and safety manual, but only as an additional learning tool.

SAFETY INFORMATION

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

WARNING

This section contains important safety information.
Failure to comply could result in serious injury or death.

Safety Symbols

Safety symbols are used throughout this manual to draw attention to potential hazards.



Danger risk of serious injury, follow instructions.



Danger hot surfaces risk of serious injury, follow instructions.



Danger risk of electrocution, follow instructions.

Personal Protective Equipment (PPE)

Safety symbols are used throughout this manual to draw attention to potential hazards.



Suitable eye protection to protect against injuries and chemicals from irritating eyes.



Suitable heat resistant gloves. Do not use gloves which can become entangled.



Suitable respirator to prevent any dust or fumes being inhaled or consumed, which could cause occupational asthma or dermatitis.

Operational Safety



1. **Always wear eye protection and heat resistant gloves.** Other personal protective equipment, such as dust mask, chemical resistant gloves and protective clothing should be worn when necessary.
2. **Before each use** inspect the Midi Steamer carefully for any potential damage.
3. Only use the Midi Steamer with the official accessories and spare parts offered by Picote Solutions. Accessories and spare parts should only be used in the manner intended and as described by Picote Solutions.
4. Some parts of the Midi Steamer can get very hot when steam curing.
Avoid touching these areas while steam curing.
5. Never leave the Midi Steamer operating unattended.

ENVIRONMENT, TRANSPORT, STORAGE & DISPOSAL

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ENVIRONMENT:

Operational Ambient Temperature Range: -5°C to +40°C (23-104°F)

TRANSPORT:

Always transport Picote Midi Steamer vertically/upright and secured to prevent any movement.

The Midi Steamer should be empty if transported in temperatures below 0°C (32°F).

STORAGE:

Storage Ambient Temperature Range: -5°C to +50°C (41-122°F)

Store in a condensation-free environment.

Always store Steamer empty and in a vertical/upright position.

When storing for extended periods of time, leave Dump Valve and/or Safety Fill Cap open to allow air to circulate inside the boiler.

Never store the Midi Steamer below 0°C (32°F). Freezing water can damage the Midi Steamer.

DISPOSAL:

Boiler and frame can be disposed of as metal waste.

Electrical cords and components can be recycled at electrical waste collection sites.

Always check and follow local waste handling rules and regulations!

CE DECLARATION OF CONFORMITY

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We Picote Solutions Oy Ltd as the responsible manufacturer, declare that the following Picote Solutions Oy Ltd steam generator:

Midi Steamer

Model No: 110V/120V & 230V/240V

is of series production and

Conforms to the following EU Directive:

2014/68/eu

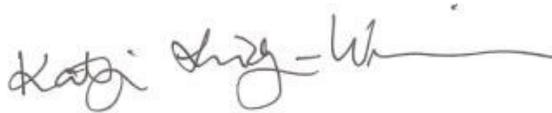
And is manufactured in accordance with the following standards or standardised documents:

ISO 16528-1:2007

The technical documentation is kept by our authorised representative in Europe who is:

Picote Solutions Oy Ltd, Pienteollisuustie 24
06450 Porvoo, Finland

4th April 2023



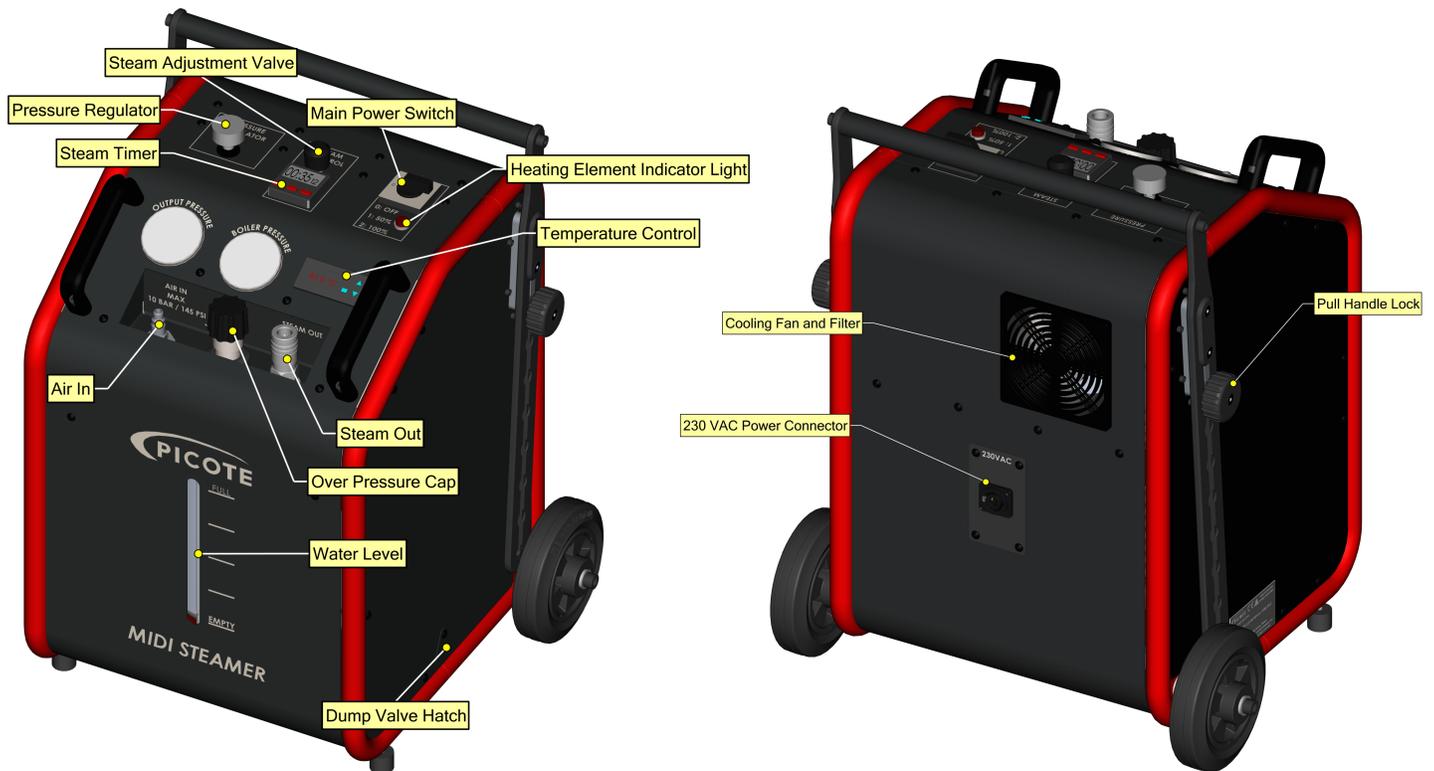
Katja Lindy-Wilkinson
C.E.O.

Picote Solutions Oy Ltd
Pienteollisuustie 24, 06450 Porvoo, Finland

TECHNICAL SPECIFICATIONS & CONTROLS

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Midi Steamer Technical Specifications	
Operation Pressure	Steam: 3 Bar \pm 0.2 Bar (43.5 PSI \pm 2.9 PSI) Air in (maximum): 10 Bar (145 PSI)
Voltage	110-125 VAC & 220-240 VAC
Power	3200W@230V, 2850W@120V
Volume	Total: 10L (2.6 gal) / Usable: 8.1L (2.1 gal)
Weight (empty)	25.5kg (56.2 lbs)



EQUIPMENT & ACCESSORIES: US

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Picote Midi Steamer

NEW!

Provides superior CIPP steam curing. Can be used in conjunction with the Picote Connection Collar System. Featuring a steam/air mixture temperature sensor, paired with a digital thermostat that can be adjusted to the desired setting. Its automatic system shuts down when low water level is detected. Pair with the Picote Pressure Guard to remotely monitor steam outlet temperature & pressure. Steaming End Package (2400000006) allows the Picote Midi Steamer to be used in conjunction with short CIPP liner curing (2-3" & 4-6" pipes).



240V Single Power 30A: Single power cord with 240V/30 Amp plug (same as the 240V Maxi Miller). Single power setting. Highest power of all Midi Steamers at 3200W.

110V Dual Power 15A: Two power cords which connect to regular household 15A sockets (must be on separate fuses). Allows use of the Midi Steamer in almost any situation. If only using one cord the power is 1450W. Second cord adds 1400W for a combined power of 2850W.

110V Single Power 30A: Single power cord with 110V/30A plug (same as the 110V Maxi Miller). Two power settings (1450 and 1400W) with a combined power of 2850W.

Product #	Model
2400000001US	240V Single Power 30A
2400000002US	110V Dual Power 15A
2400000003US	110V Single Power 30A
2400000005US	Steamer Air Hose 79"
2400000006	Steaming End Package

Picote Smart Control Unit

1410000047US

Brings unparalleled ease-of-use and efficiency. Featuring a versatile dual-function design, this device expertly combines air pressure control and vacuum regulation capabilities. Seamlessly manage pressure and vacuum down Picote Connection Collars with a simple flip of a lever, reducing set-up time and improving productivity. Take control of your pressure and vacuum needs in one efficient, robust, and portable package.

NEW!



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Product #	Model/Part
2400000001	Midi Steamer 230v
2400000001UK	Midi Steamer 110v
2400000005	Steamer Air Hose 2m

NEW!



Picote Smart Control Unit

1410000047

Brings unparalleled ease-of-use and efficiency. Featuring a versatile dual-function design, this device expertly combines air pressure control and vacuum regulation capabilities. Seamlessly manage pressure and vacuum down Picote Connection Collars with a simple flip of a lever, reducing set-up time and improving productivity. Take control of your pressure and vacuum needs in one efficient, robust, and portable package.

PULL HANDLE OPERATION

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Pull Handle Operation:

1. To **unlock** the pull handle extension, turn the locking knobs on each side **counterclockwise**.
2. To **lock** the pull handle to the desired elevation, turn the locking knobs on each side **clockwise**.



OPERATING INSTRUCTIONS

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WARNING

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Failure to comply could result in serious injury or death.



Before Operation:

1. Always use clean, cold water. Dirty water can result in blockages and extensive scaling of boiler and valves.
2. Always make all necessary connections before turning on Midi Steamer!
3. Unplug Midi Steamer when filling or emptying the boiler.
4. Always wait for the pressure to drop inside the boiler before opening the Safety Fill Cap or Dump Valve!
5. If steam starts to come out of the bottom left hand side port, turn off Steamer and check the following:
 - Check that there are no blockages between Midi Steamer steam output and steam port on the tool head assembly or steaming end plugs. Steam needs to flow freely, otherwise backflow will occur.
 - Check there is correct air pressure coming into the Midi Steamer.
 - Check that the Pressure Regulator is set correctly. Minimum air pressure is 3 Bar (45 PSI).
 - Contact Picote, your Picote Reseller or Picote Authorised Service Centre for service and repairs.

OPERATING INSTRUCTIONS

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Safety Fill Cap:

The Midi Steamer is equipped with a Safety Fill Cap which opens automatically if overpressure occurs inside the boiler.

Another function is to release steam if opened while there is still pressure inside the boiler. While designed to direct escaping steam away from your hands, if you sense steam = stop opening immediately as this is a sign there is still pressure inside the boiler.

- **Opening the Safety Fill Cap too quickly while under pressure will cause steam to escape rapidly which can cause severe burns!**
- **If the Safety Fill Cap is damaged it should always be replaced with a new cap before using the unit. Never make any modifications, changes, or repairs to the Safety Cap!**
- **Tighten Safety Fill Cap by hand, do not use tools to prevent damaging the cap and/or seal.**

Cooling Fan Operation:

The Midi Steamer is equipped with an automatic cooling fan. The cooling fan will turn on when internal component temperatures reach 40°C (104°F) and will turn off when the unit cools down to 25°C (77°F).

Dump Valve Operation:

The Dump Valve is located underneath the Midi Steamer and is used to drain water from the boiler.

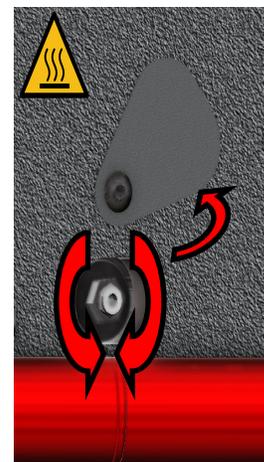


ALWAYS wait for the pressure to drop inside the boiler before opening the Dump Valve!



NOTE: Water will be hot for a long time even after the pressure drops!

1. Move the Dump Valve cover to the side.
2. Turn valve counterclockwise using a 10mm ($\frac{3}{8}$ ") socket to open.
3. The water will drain from underneath the Midi Steamer.
4. To speed up the emptying process, open the Safety Fill Cap.
5. Turn valve clockwise to close.



OPERATING INSTRUCTIONS - STEAMING PROCESS

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Filling Boiler:

1. Ensure Dump Valve is closed.
2. Open Safety Fill Cap and pour clean, cold water inside.
3. Fill to the maximum level on the level indicator.
4. **Do not overfill the boiler.** If boiler is overfilled, there will be no room for steam. When turned on, the initial pressure reading will drop immediately and the Steamer will push boiling water through the unit's internals and into the steam hoses, potentially causing damage.
5. Hand tighten Safety Fill Cap to avoid damaging it.



Preheating Steamer:

1. Connect power cord(s) and turn Steamer to desired power level (see below).
2. Ensure that the Steam Control Valve is **closed**.
3. Make sure Timer is not running.
4. Steamer is ready to go once the Pressure Gauge reaches 3.0 Bar (44 PSI)
(**At this stage ignore the temperature gauge reading**) Temperature will not display correctly until steam output is active.



Heating Up Using Single Plug Version:

- Plug in the power cord.
- Turn on Midi Steamer via main power switch.
- Setting 1 is half power and setting 2 is full power.
- Red indicator light will turn ON.
- After the desired boiler pressure has been reached, light will turn OFF along with heating elements.



Heating Up Using Double Plug Version (U.S. model option)

The 110V/120V Double Plug Midi Steamer for the U.S. can be used with one or two power cords. Power input marked #1 is the master input and should always be used. Power input marked #2 feeds power to the secondary heating element which doubles the power.

Note: The power outlets used should be on different fuses.

- Plug in the power cord(s).
- Turn on Midi Steamer via main power switch.
- Setting 1 is half power & setting 2 is full power. **Can't use setting 2 if only using one plug.**
- Red indicator light will turn ON.
- When proper boiler pressure has been reached, light will turn off along with heating elements.
- Half power is most suitable for connection collars and patches.
- Using full power heats up water faster and is recommended if Midi Steamer is unable to produce enough heat due to long install distances or when steam curing CIPP liners.
- **It is okay to use full power in all situations.**
- If desired temperature can't be reached, a longer cure time is needed. In this case, adjust the temperature to a value the Midi Steamer is able to maintain.



OPERATING INSTRUCTIONS

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Steaming:

1. Connect Air Supply:

- Connect air compressor hose to the Midi Steamer.
- Maximum incoming air supply pressure is 10 Bar (145 PSI)
- Air compressor connection can be found on top front side of Midi Steamer.

2. Set Air Pressure:

- Adjust air pressure (Output Pressure Gauge) using Pressure Regulator Knob.
- Pressure should be set based on the correct setting for the collar, patch or liner being installed and cured.
- To **increase** pressure, turn Pressure Regulator Knob **clockwise**
- To **decrease** pressure, turn Pressure Regulator Knob **counterclockwise**
- **If air pressure is too low steam could enter Pressure Regulator and damage it. If too high it could damage the repair equipment or repair being steam cured.**



3. Set Temperature:

- Temperature is measured at Steamer outlet, not at the repair area.
- To adjust the temperature, press the SET button 
- Press  to start changing the temperature value.
- Use  and  buttons to select desired temperature.



4. Connecting Steam Hose:



NOTE! Steam output connector may get very hot during use!



- Ensure steam valve is closed before making any connections.
- Connect steam hose to Midi Steamer steam output connection.
- Connect other end of hose to the valve going to the repair equipment.
- If there isn't a valve between the Steam Hose and connection collar, patch, or liner, be sure air pressure is already set from Midi Steamer to avoid a collapse.

5. Setting Timer:

- To set the Timer, press **PROG** button once. The hour digits will begin flashing.
- Press **PROG** button repeatedly to cycle through hours, minutes and seconds.
- Use + and - buttons to adjust the Timer.
- Pressing the **START/STOP** button will start/stop the Timer.
- Press/hold **RESET** to reset the Timer back to the original programmed time.
- Pressing all three buttons at the same time will set Timer to 0:00.
- Pressing and holding all three buttons for 4 seconds will perform a total Timer reset.
- On loss of power, countdown will stop and steam valve will close.
- Time remaining will be stored.
- When power is restored, remaining time will be shown but timer will need to be restarted to continue.
- NOTE: If START/STOP button is pressed when the timer is 0, a bell symbol is displayed and relay will open steam valve. Pressing button again will close the valve.

OPERATING INSTRUCTIONS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Steaming Continued:

6. Start Timer and steam valve relay will open.
7. Slowly open the Steam Control Knob 4 full turns to allow steam flow.
8. Temperature gauge will now start to show the correct temperature.
9. Boiler pressure will fall, and temperature will steadily rise.
10. Temperature should rise steadily to target temperature and shouldn't overshoot the temperature more than 7°C or 12°F.
11. If the pressure falls below 1.5 Bar (21.75 PSI) pause Timer and let Steamer re-heat.
12. If all parameters are set correctly and there is sufficient flow, the temperature should fluctuate between $\pm 5^{\circ}\text{C}$ or $\pm 9^{\circ}\text{F}$.



Adjusting Steam Flow:

Adjust Steam Flow via Steam Control Knob if pressure is fluctuating/unstable.

- Increase flow: Turn knob counterclockwise.
- Reduce flow: Turn knob clockwise



WARNING!

- **Steam Control Valve may get hot during use!**
- **Opening the Steam Control Valve too much may cause steam to enter the Pressure Regulator, limiting its performance or causing damage.**
- **Excess steam is directed under the Midi Steamer's left-hand side.**



Cool Down:

1. After curing has finished, wait for the connection collar, patch, or liner to cool down and harden properly before disconnecting the air supply.
2. Steamer starts the cooling process automatically after Timer goes to 0:00.
3. Timer will give an audible sound when the cooling process starts.

MAINTENANCE

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RISK OF ELECTROCUTION OR SEVERE BURNS!

Do not open the panelling and attempt to fix the electronics or pressurised parts. Any repairs or adjustments to the electronics, system components or the pressurized vessel must be done by authorised personnel only!

Descaling Boiler:

The boiler should be descaled with diluted citric acid every 2 months. If the local water source has hard water, or the Midi Steamer is used extensively, perform descaling monthly.

Rinsing and Descaling:

1. Before adding the citric acid solution, rinse the boiler with clean water.
2. Add 4L (1 gal) of clean water and shake the machine gently.
3. Open Dump Valve to drain (removing the Safety Fill Cap will speed draining).
4. Close the Dump Valve.
5. Prepare 8L (2.1 gal) citric acid mixture and fill up the boiler (do not overfill the boiler).

Preparing the 5-7% Citric Acid Solution:

- 8L (2.1 gal) of water into a bucket.
 - Add approximately 0.5kg (1.1lbs) of citric acid powder.
 - Once the citric acid has dissolved, pour the solution into the boiler.
 - **Be careful to not overfill.**
 - Replace the Safety Fill Cap - hand tighten.
6. Let the citric acid mixture sit in the boiler for 15 minutes.
 7. Heat up the boiler and release steam for 5 minutes.
 8. Let boiler cool down.
 9. Once pressure has dropped, open Dump Valve to drain.
 10. Rinse the boiler once again with 4L (1 gal) of clean water.
 11. Drain boiler.
 12. Close Dump Valve

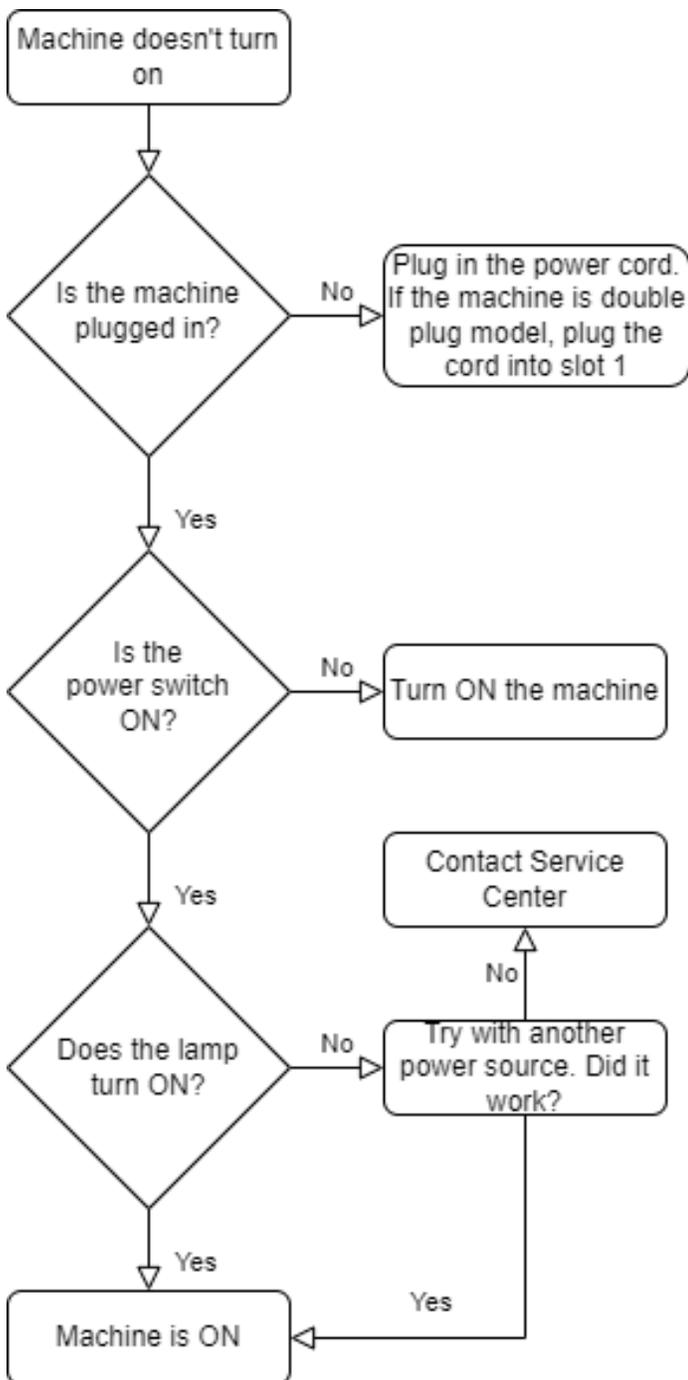
Cleaning Cooling Fan Air Filter:

- Check the Cooling Fan air filter once a month.
- Filter should be cleaned when it gets clogged.
- Clean it by removing the protective grill by hand. Filter can then be washed and dried, or vacuumed.
- **Do not vacuum the filter while it is still on the Midi Steamer or you may damage the fan!**

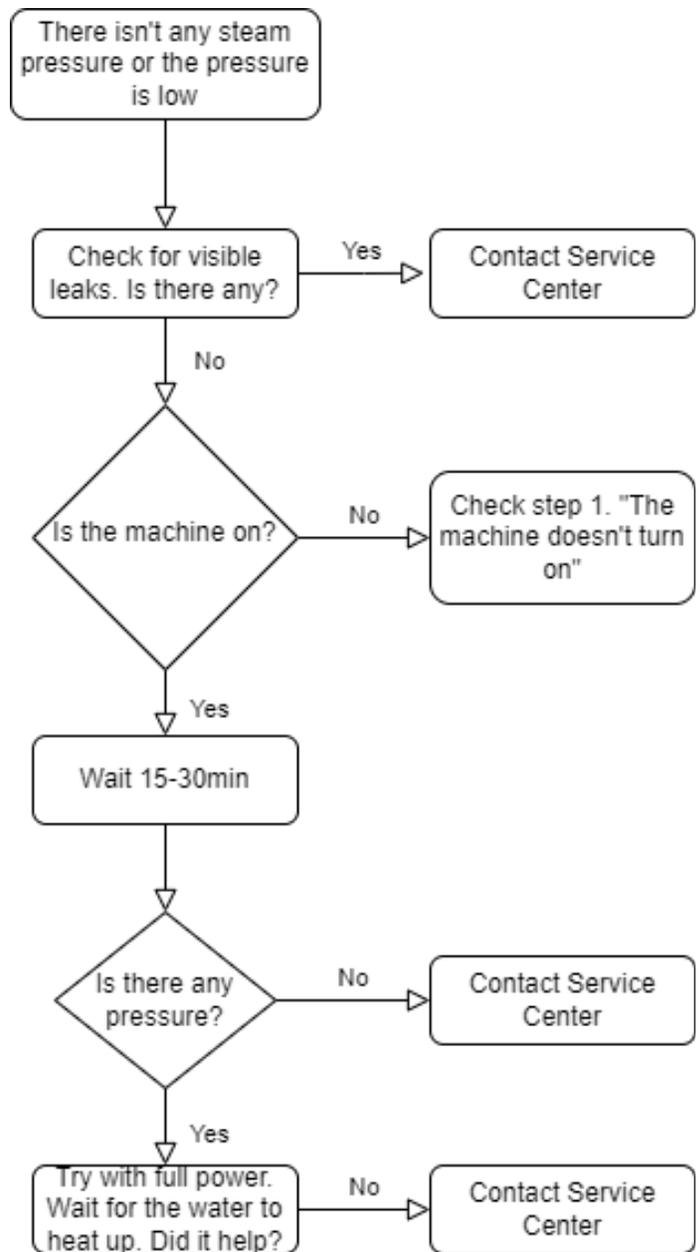
FAULT FINDING CHARTS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

1 - Midi Steamer Does Not Turn ON



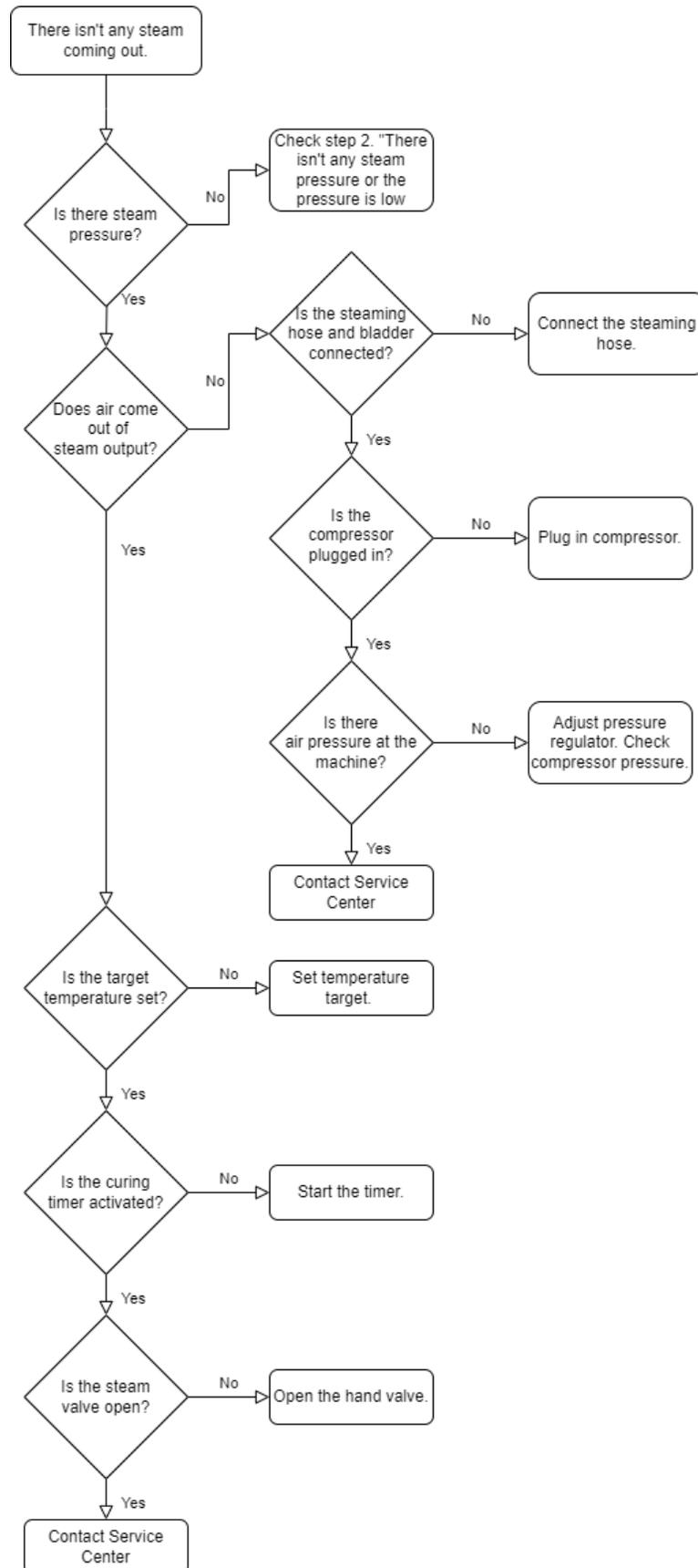
2 - No Steam or Low Pressure



FAULT FINDING CHARTS

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

3 - No Steam Coming Out



WARRANTY POLICY & PROCEDURE

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

Limited Warranty:

Picote warrants to the original End User that the Product purchased by such End User will operate in accordance with, and substantially conform to their published specifications when shipped or otherwise delivered to the End User and for a period of one (1) year, except electric motors and batteries for which the warranty period shall be six (6) months, provided, however, that Picote does not warrant any claim or damage under this Warranty if such claim or damage results from:

1. Consumable parts or normal wear and tear resulting from use of the Products,
2. Regular periodic maintenance of Products,
3. Misuse, neglect, or improper installation or maintenance of the Products, or use of Products not for their intended purpose,
4. Products that have been altered, modified, repaired, opened or tampered with by anyone other than Picote or an authorized Picote Service Centre, or unsuitable or unauthorized spare parts, accessories or third party products when using the Products or;
5. the use of the Products not in compliance with their respective Documentation, user manuals, safety and maintenance instructions, and any usage restrictions contained therein, or
7. accident, fire, power failure, power surge, or other hazard.

Otherwise, the Products are sold AS IS. End User is responsible for using the Products within their specifications and instructions as contained in the Documentation.

EXCEPT AS SPECIFIED IN THIS WARRANTY, ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON INFRINGEMENT, SATISFACTORY QUALITY OR ARISING FROM A COURSE OF DEALING, LAW, USAGE, OR TRADE PRACTICE, ARE HEREBY EXCLUDED TO THE EXTENT ALLOWED BY APPLICABLE LAW. TO THE EXTENT AN IMPLIED WARRANTY CANNOT BE EXCLUDED, SUCH WARRANTY IS LIMITED IN DURATION TO THE WARRANTY PERIOD. BECAUSE SOME STATES OR JURISDICTIONS DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, THE ABOVE LIMITATION MAY NOT APPLY. This disclaimer and exclusion shall apply even if the express warranty set forth above fails of its essential purpose.



Please Contact:

Your Reseller / Salesperson or Picote

www.picotegroup.com



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E-Learning

Free Connection Collar 2.0 - Equipment
101 E-learning course is available at:
www.picoteinstitute.com

Claims

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Authorised Resellers:

www.picotegroup.com/resellers