

Descaling Process Guide

Tools Required

2 x 5 Gallon Buckets



1 Quart Potable Water Safe Descaling Solution (1 Per Heat Exchanger.)



2 x 3/4" MH x 3/4" FIP Adapters



Sump Pump



Water Test Strips



Automatic Plumber Snake



5.5 mm Socket and ratchet



Rags



Gloves



Stubby Flat Head Screwdriver

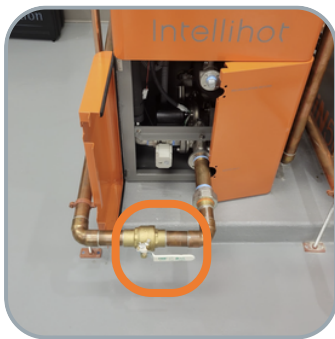


Descaling Process Guide

Steps to Drain Unit

1

Turn off the unit at the rocker switch then turn the unit on for 8 to 10 seconds then off again. Then isolate the unit by closing off the inlet and outlet isolation valves.



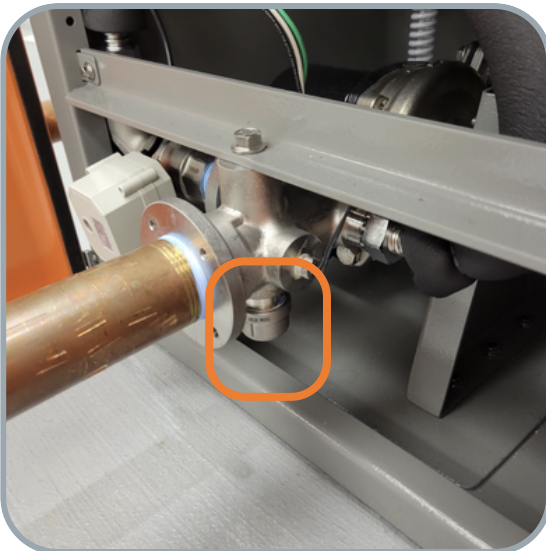
2

Using the T&P Relief valve, release any excess pressure inside the unit.



3

Unscrew the 3/4" cap on the inlet side of the unit, and attach the garden hose to the open port, and let the water drain out.



Descaling Process Guide

Steps to Prepare Unit

1

Before beginning the descaling process, disconnect any wires that go between the control board bracket and the top of the heat exchanger. Cover the control board bracket and any loose wiring with plastic to prevent any damage while descaling



2

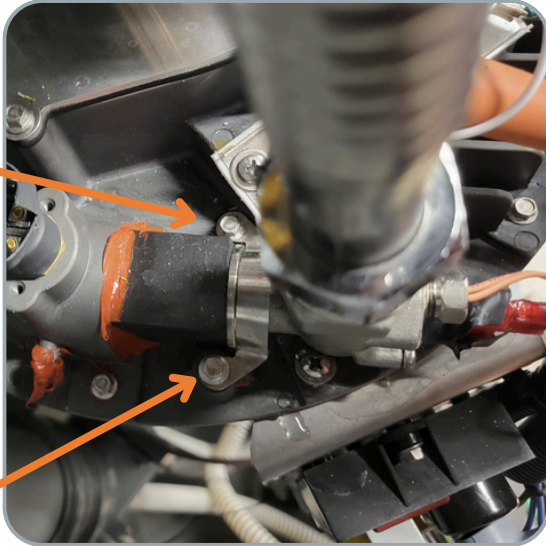
Begin the descaling process with the bottom heat exchanger, when moving to the top heat exchanger leave the bottom heat exchanger covered. As well ensure that the bottom blower is covered when descaling the top heat exchanger.

Descaling Process Guide

Breaking up the Scale

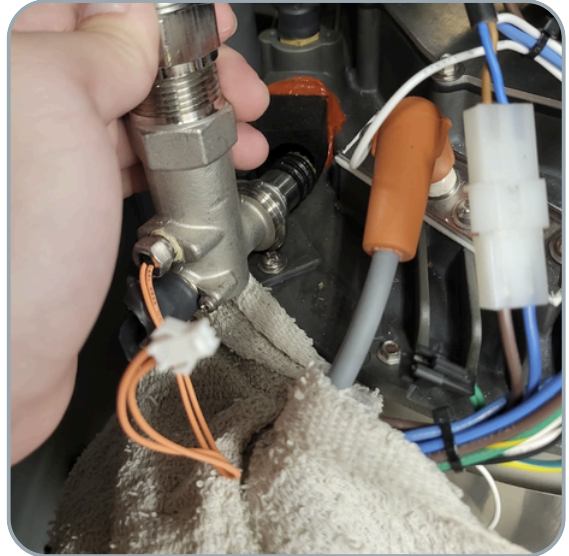
1

Using a 5.5 mm socket and ratchet, remove the two screws that hold the bracket on the outlet elbow.



2

Pull the outlet elbow out of the heat exchanger coil. Be prepared with a rag incase any water spills out.



3

Remove the clip on the inlet elbow by pushing down on both of the tabs.



4

Pull the inlet elbow out of the heat exchanger coil. Be prepared with a rag incase any water spills out.



Descaling Process Guide

Breaking up the Scale

1

Insert an automatic plumber snake with a diameter of less than 17 mm into the outlet of the heat exchanger. Please ensure that you are using the plumbers snake correctly per manufactures recommendations.



2

You can hang a small bucket on the inlet of the heat exchanger to catch any scale that may come out of the heat exchanger coil.



3

Ensure that the plumbers snake can go at least 48 inches into the heat exchanger coil. (Recommended 7 to 10 feet)



4

Reconnect both the outlet and inlet elbows to the heat exchanger.

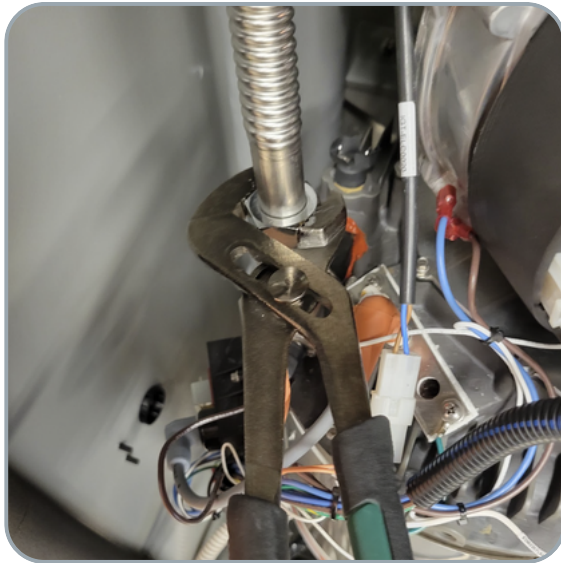


Descaling Process Guide

Steps to Descale

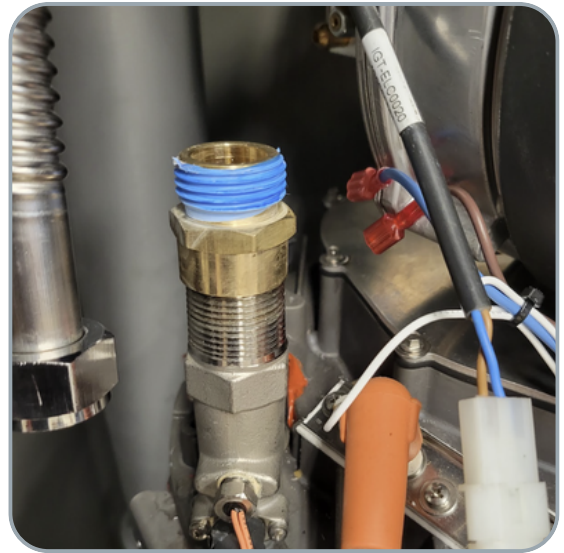
1

Using channel locks unscrew and remove the corrugated metal lines from the inlet and outlet elbows.



2

Thread a 3/4" MH x 3/4" FIP Adapter on the inlet and the outlet elbows.



3

Connect one of the hoses to the outlet of the sump pump and then to the inlet elbow of the heat exchanger.

4

Connect the other hose to the outlet elbow of the heat exchanger and place the other side of the hose in the bucket.



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Steps to Descale

5

Fill the 5 gallon bucket with 1 gallon of water to 1 quart of descaling solution. (if you have a different descaling solution please follow the manufacturers recommended mixture.)



6

Run the sump pump for about 5 minutes to get any broken up scale out of the heat exchanger.



7

Turn off the sump pump and disconnect the inlet and outlet elbows again



8

Using the automatic Plumbers Snake break up any leftover scale inside the heat exchanger



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Steps to Descale

9

Repeat steps 6, 7 and 8 until no scale comes out of the heat exchanger.

10

Drain all of the solution out of the heat exchanger and with a new 5 gallon bucket with clean water, run the sump pump for 3 to 5 minutes.



11

To verify that all of the solution is cleaned out of the heat exchanger, run some water through the heat exchanger and ensure that the pH is the same as the water from a cold water faucet.

12

Repeat this process for each heat exchanger in the unit.

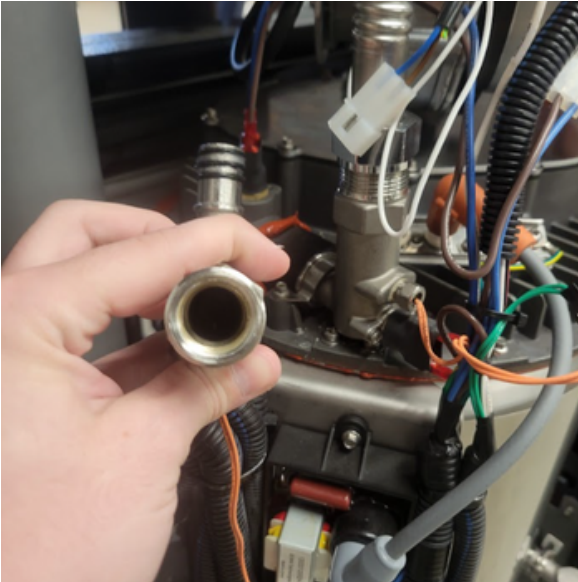


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Other Possible Blockage Locations

1

Outlet Elbow



2

Inlet Elbow



Remove the elbow and inspect both sides with a flashlight, if required clean out the elbow or replace it.

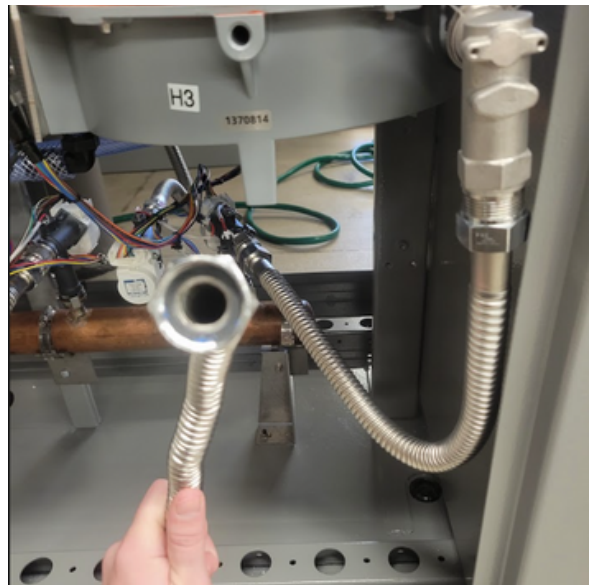
3

Outlet Corrugated Line



4

Inlet Corrugated Line



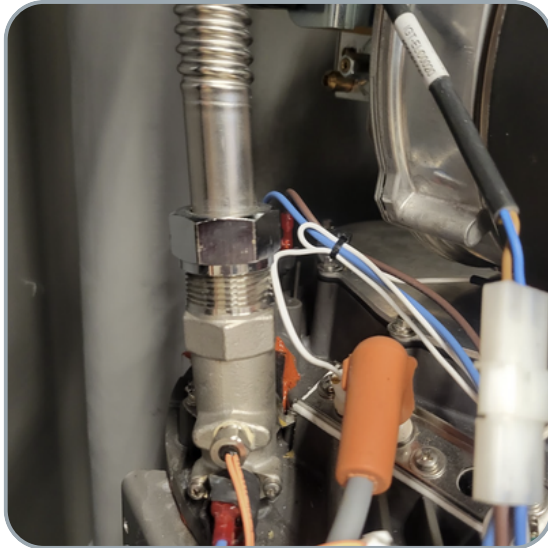
Remove the corrugated line and inspect for any blockage or buildup, and clean out if required.

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Steps to Pressurize Unit

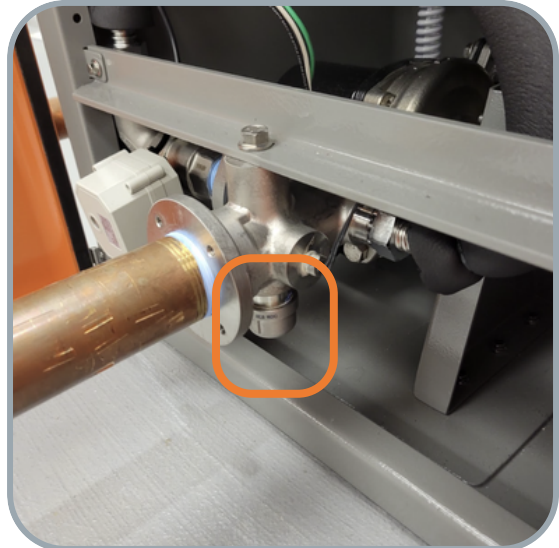
1

Reattach the corrugated lines, do not overtighten as this can degrade the gaskets.



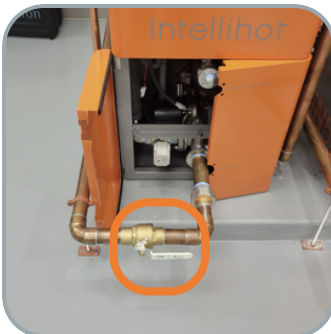
2

Ensure that the drain port is reinstalled with PTFE tape.



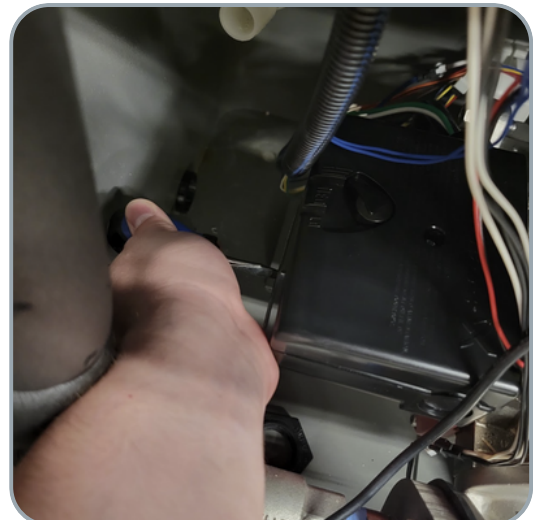
3

Slowly open up the outlet isolation valve then slowly open up the inlet isolation valve



4

Using a stubby flat head screwdriver loosen the bleed screw on the pump about 3 turns, and let any air bleed out of the pump. Be prepared with some rags as water may drip out.



5

Once the pump is bled, turn on the unit at the rocker switch and check the flow rates on each heat exchanger. You should be seeing about 4 or 5 gpm on each hex.