RIELLO

Array

Service Manual

RIELLO

ENERGY FOR LIFE

Multimeter Checks

⚠ WARNING: Risk of electrical shock. Use caution when testing the power sources. Failure to do so may result in severe personal injury or death

AL Link

24VDC (with S1 Switch On and open circuit). Voltage is variable while in normal operation depending on data stream.

Pressure Switches

(ie: Gas Pressure, Water Pressure, Flue Pressure, etc) 3.3VDC while circuit is open.

Safety Switch

(High Limit) 24VDC while open

Flow Meter

5VDC at all times

Types of Errors

1. Locking: Error Codes <100. These are hard lockouts. Manual reset is required to clear these errors. Reset button will be available on the Touchscreen, PB display or the individual controller.
2. Blocking: Error Codes 100<200. These errors are self-resettable errors. No reset button will be available to clear these errors. A blocking error that does not reset itself after a period of time will cause a hard lockout condition to occur. Burner/boiler will not operate until blocking error is corrected.
3. Warning: Error Codes >200. These are informational errors only. Boiler will still be functional.

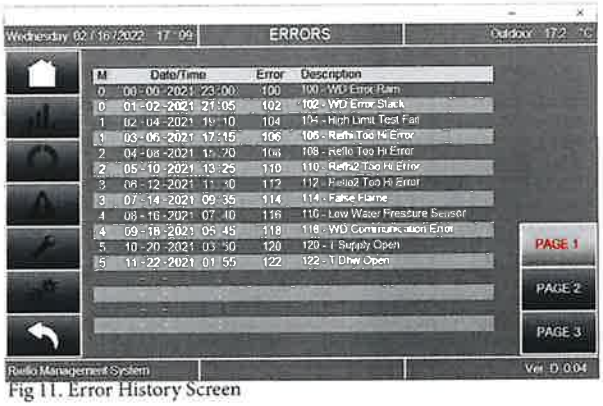


Fig 11. Error History Screen

Error List

Locking Errors

Error no.	Error	Common Errors	Causes	Solutions
0	EEPROM_READ_ERROR	✓	Loss of communication	If communication errors occur with the touchscreen but not on the PB display, then the communication problem is between the touchscreen and PB display. Check all wiring to ensure proper connections. Verify proper Modbus setting on the PB display. Modbus address on the PB must always be set for Address 1 with 2 stop bits. If only data for module 1 is available on the touchscreen and not additional modules: check the Cascade Mode Setting in the PB display. Ensure that it is set for FULL not BASIC.
1	IGNIT_ERROR	✓	3 unsuccessful ignition attempts in a row	Burner attempted to light normally but was unsuccessful. Check gas pressure. Check spark and ignitor rod. Ensure that the gas valve is functioning properly by checking for changes in gas pressure.
2	GV_RELAY_ERROR		Failure detected in the GV (Gas Valve) relay	Check the integrity of the wire connections between gas valve and control board. a- If wires are damaged, replace them b- If wires are ok, replace the gas valve or the power control board
3	SAFETY_RELAY_ERROR	✓	High Limit Switch was detected open in stand-by	Check connections in High Limit circuit on the heat exchanger
4	BLOCKING_TOO_LONG	✓	A blocking error can be any error that was not corrected for more than 20 hours	Check error log on touchscreen. The blocking error that occurred previous to current locking error will be the cause (i.e.- 163 LowExFlow).
5	FAN_ERROR_NOT_RUNNING		Fan is not running after 60 seconds	a- Check for 120 VAC power connection of the fan. If no 120 VAC voltage is present, replace the power control board b- Check PWM connection of the fan. If no PWM signal is present, replace power control board c- Replace the fan

Error no.	Error	Common Errors	Causes	Solutions
6	FAN_ERROR_TOO_SLOW		Fan runs too slow for more than 60 seconds	
7	FAN_ERROR_TOO_FAST		Fan runs too fast for more than 60 seconds	
8	RAM_ERROR		Internal software error	Replace the power control board
9	WRONG_EEPROM_SIGNATURE		Contents of Eeprom is not up to date	Replace the power control board
10	E2PROM_ERROR		Wrong safety parameters in Eeprom	Replace the power control board
11	STATE_ERROR		Internal software error	Replace the power control board
12	ROM_ERROR		Internal software error	Replace the power control board
13	APS_NOT_OPEN		Air pressure switch not working	
14	APS_NOT_CLOSED		Air pressure switch not working	
15	MAX_TEMP_ERROR	✓	The external overheat protection is enabled or the T_Supply sensor measures a temperature of over 100°C (212°F). This is high limit	Check module water temp. Verify that pump is operating. Ensure all water valves are open. Check the supply temperature reading in the info menu
17	STACK_ERROR		Internal software error	Replace the power control board
18	INSTRUCTION_ERROR		Internal software error	Replace the power control board
19	ION_CHECK_FAILED		Internal software error	Replace the power control board
20	FLAME_OUT_TOO_LATE		Flame still present 10 seconds after closing the gas valve	Replace the gas valve
21	FLAME_BEFORE_IGNIT		Flame is detected before ignition	Replace the gas valve
22	TOO_MANY_FLAME_LOSS		Three flame failures during one demand cycle	a - Check the integrity of the wire connections of the spark and the earth on heat exchanger; If wires are damaged, replace them b- check ionization signal while running; check for proper combustion settings - if correct replace spark/ flamerod
23	CORRUPTED_ERROR_NR		Error code RAM byte was corrupt- ed to an unknown error code	
24	FLUE_SWITCH_NOT_CLOSING		The blocked flue sensor is not closed within 10 minutes	
25	TSUPPLY_DIFF_ERROR		The 2 supply sensors deviate too much for more than 60 seconds	
26	TFLUE_DIFF_ERROR		The 2 flue sensors deviate too much for more than 60 seconds	
27	FILLING_TOO_MUCH		Too many automated filling attempts in a short time period	
28	FILL_TIME_ERROR		Filling takes too long	
29	PSM_ERROR		Internal software error	
30	REGISTER_ERROR		Internal software error	
31	T_EXCHANGE_LOCK_ERROR		Exchange temperature exceeded the maximum temperature	
32	T_EXCHANGE_DIFF_ERROR		The 2 exchange sensors deviate too much for more than 60 seconds	
33	LWCO/AIR INLET BLOCK	✓	This is the boiler LWCO or cabinet air switch.	Check to ensure all valves are open, pump is running. Check the wiring between the controller and the LWCO probe. Ensure there is water in the boiler and free of air. Also verifythat fresh air intake to the boiler is open and free from blockage.
34	LWCO2	✓	This is module LWCO	Check to ensure water is in the module and free of air. Ensure pump is running. Check wiring between LWCO probe and module controller

Errors Codes and Trouble Shooting

Error no.	Error	Common Errors	Causes	Solutions
35	GAS_PRESSURE_ERROR	✓	Gas pressure switch is open. This can either be the high or low gas pressure switch.	
36	FAN_ERROR_TOO_FAST		Fan runs too fast for more than 60 seconds	
37	FLUE_PRESSURE_ LOCKING	✓	Flue pressure switch is open for the fourth time	Check for obstruction in the flue piping. Blocking errors should be recorded prior to the locking error to occur. Check for condensate in the hose towards the flue pressure switch to ensure it isn't blocked. Check to ensure proper operation of the flue check device (clapper valve). Make sure it is not stuck in the open or closed position and in functioning properly

Blocking Errors

Error no.	Error	Common Errors	Causes	Solutions
100	WD_ERROR_RAM		Internal software error	Replace the power control board
101	WD_ERROR_ROM		Internal software error	Replace the power control board
102	WD_ERROR_STACK		Internal software error	Replace the power control board
103	WD_ERROR_REGISTER		Internal software error	Replace the power control board
104	WD_ERROR_XRL		Internal software error	Replace the power control board
105	HIGH_TEMP_ERROR		Supply temperature exceeds 110°C (230°F) with gas valve close	a- Check the pump to verify the flow circulation; Change the pump or restart it b- Check if the valves on hydraulic circuit are open; Open the valves on hydraulic circuit c- Check the supply temperature sensor; open the valves on hydraulic circuit
106	REFHI_TOO_HIGH		Internal software error	Replace the power control board
107	REFHI_TOO_LOW		Internal software error	Replace the power control board
108	REFLO_TOO_HIGH		Internal software error	Replace the power control board
109	REFLO_TOO_LOW		Internal software error	Replace the power control board
110	REFHI2_TOO_HIGH		Internal software error	Replace the power control board
111	REFHI2_TOO_LOW		Internal software error	Replace the power control board
112	REFLO2_TOO_HIGH		Internal software error	Replace the power control board
113	REFLO2_TOO_LOW		Internal software error	Replace the power control board
114	FALSE_FLAME		Flame is detected in a state in which no flame is allowed to be seen.	Replace the power control board
115	LOW_WATER_PRESSURE_ERROR	✓	System water pressure is below 7.5 PSI	Ensure system water pressure is above min recommended pressure (7.5PSI). Check pressure on mounted T&P gauges. If the value is not in line with the system pressure check the switch. Also on boiler models AR1500-2000-4000, check bottom condensate traps to ensure condensate is draining as needed. On these models the bottom condensate traps are tied in series with the water pressure switch and will cause this same alarm code to be displayed.
116	LOW_WATER_PRESSURE_SENSOR		Low water pressure	
117	BLOCKED_DRAIN		Blocked drain switch is active	
118	WD_COMM_ERROR		Watchdog communication error	Replace the power control board
119	RETURN_OPEN		Return sensor open	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the return temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.

Error no.	Error	Common Errors	Causes	Solutions
120	SUPPLY_OPEN		Supply sensor open	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the supply temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
121	SUPPLY2_OPEN		Supply2 sensor open	
122	DHW_OPEN		DHW sensor open	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the DHW temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
123	FLUE_OPEN		Flue sensor open	
124	FLUE2_OPEN		Flue2 sensor open	
125	OUTDOOR_OPEN		Outdoor sensor open	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the Outdoor temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
126	RETURN_SHORTED		Return sensor shorted	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
127	SUPPLY_SHORTED		Supply sensor shorted	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the supply temperature; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
128	SUPPLY2_SHORTED		Supply2 sensor shorted	
129	DHW_SHORTED		DHW sensor shorted	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the DHW temperature; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
130	FLUE_SHORTED		Flue sensor shorted	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the flue temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
131	FLUE2_SHORTED		Outdoor sensor shorted	
132	OUTDOOR_SHORTED		Internal software error	a- Check the integrity of the wire connections; If the wiring is damaged, replace it b- Check the flue temperature sensor; Verify that the temperature sensor has the correct resistance values. If values are incorrect sensor must be replaced.
133	RESET_BUTTON_ERROR		Too many resets in a short time period	
135	T_EXCHANGE_BLOCK_ERROR		Exchange temperature exceeded 90°C	
136	T_CHIMNEY_OPEN		Chimney sensor open	
137	T_EXCHANGE1_OPEN		Exchange 1 sensor open	
138	T_EXCHANGE2_OPEN		Exchange 2 sensor open	
139	T_SELECTION1_OPEN		Selection 1 sensor open	
140	T_SELECTION2_OPEN		Selection 2 sensor open	
141	T_SELECTION3_OPEN		Selection 3 sensor open	
142	T_OPTIONAL1_OPEN		Optional 1 sensor open	

Error no.	Error	Common Errors	Causes	Solutions
143	T_OPTIONAL2_OPEN		Optional 2 sensor open	
144	T_AMBIENT_OPEN		Ambient sensor open	
145	T_CHIMNEY_CLOSED		Chimney sensor shorted	
146	T_EXCHANGE1_CLOSED		Exchange 1 sensor shorted	
147	T_EXCHANGE2_CLOSED		Exchange 2 sensor shorted	
148	T_SELECTION1_CLOSED		Selection 1 sensor shorted	
149	T_SELECTION2_CLOSED		Selection 2 sensor shorted	
150	T_SELECTION3_CLOSED		Selection 3 sensor shorted	
151	T_OPTIONAL1_CLOSED		Optional 1 sensor shorted	
152	T_OPTIONAL2_CLOSED		Optional 2 sensor shorted	
153	T_AMBIENT_CLOSED		Ambient sensor shorted	
154	WD_CONFIG_ERROR		Watchdog fan configuration setting error	
155	FLUE_PRESSURE_ERROR	✓	Flue pressure switch open	a- Check for any obstruction in the exhaust system; Remove any obstructions from the exhaust system b- Check the condensate discharge; Remove any obstruction from condensate discharge and confirm if the condensate can flow freely.
156	AIR_DAMPER_ERROR		Air Damper feedback is not received when the relevant output is closed	
157	T_SECONDARY_SUPPLY_OPEN		Secondary circuit supply sensor open	
158	T_SECONDARY_RETURN_OPEN		Secondary circuit return sensor open	
159	T_SECONDARY_SUPPLY_CLOSED		Secondary circuit supply sensor shorted	
160	T_SECONDARY_RETURN_CLOSED		Secondary circuit return sensor shorted	
161	FILL_WARNING		Pressure is too low, demand has stopped but no error needed to be stored at this time	
162	FLUE_BLOCKED		Flue is blocked, demand needs to be stopped with fan at ignition speed but no error needed to be stored at this time	
163	LOWEXFLOW_PROTECTION		Flow is too low, demand needs to be stopped with fan at ignition speed but no error needed to be stored at this time	

Warnings Errors

Error no.	Error	Common Errors	Causes	Solutions
200	CC_LOSS_COMMUNICATION	✓	Cascade system: Leading burner lost communication with one of the depending burners.	Check wiring and connections on individual Modules. Make sure all controllers in the boiler are powered on. Make sure Parameter 147 set to correct number of modules in this boiler. Check the position of the S1 switches on the dependent modules to make sure it is off.
201	CC_LOSS_COMMUNICATION	✓	Cascade system: Leading boiler lost communication with one of the depending boilers	Check interconnecting wiring between boilers. Make sure all boilers are powered on. Make sure that Parameter 167 set to proper number of boilers. Whichever boiler(s) loses communication with the Master Boiler will enter boiler level emergency mode. Check the position of the S1 switches on the managing boiler (on) and on the dependent boiler (off) to make sure they are set properly
202	OUTDOOR_WRONG		Outdoor sensor is open of shorted	
203	T_SYSTEM_WRONG	✓	T_System sensor is open or shorted	Check connections of the primary mounted sensor. This will cause Module Emergency Mode to activate. Check the value of the reading of this sensor on the info screen.

Error no.	Error	Common Errors	Causes	Solutions
204	T_CASCADE_WRONG	✓	T_Cascade sensor is open or shorted	Check connections of the System sensor mounted in the header. This will cause Boiler level emergency mode to activate on all boilers in the cascade. Check the value of the reading of this sensor on the info screen.
205	HIGH_LIMIT_TEST_WAIT_ACTIVE	✓	Too many physical high limit test attempts within 24 hours.	
206	CH_SETPOINT_TOO_HIGH		Current setpoint is higher than 176°F (80°C)	
207	DHW_SENSOR_WRONG	✓	DHW sensor is open or shorted	
208	ZONE_SENSOR_WRONG		Zone sensor is open or shorted	
209	BOILER_DEMAND_DISABLED		All incoming demand is disabled	Boiler has been turned off via the Boiler On/Off function on the touchscreen. Activate boiler on Boiler Screen on touchscreen or via Module Cascade Setting Menu on the PB Service Display.

Maintenance / Inspection Schedule

A qualified and trained technician must perform the inspection as specified in these instructions before each heating season and at regular intervals.

Servicing, inspection and adjustment must be done by a trained technician in accordance with all applicable local, state and national codes. Improper servicing or adjustment of the boiler could result in equipment damage, injury, and/or dangerous conditions.

Maintenance / Inspection Table	
Time Interval	**Maintenance**
Annually	Verify the cleanliness of the area around the boiler
Annually	Check the pressure of the hydraulic system
Annually	Check vent piping and verify if leaks or obstructions are present
Annually	Check air piping and verify if leaks or obstructions are present
Annually	Check relief valves
Monthly (follow local, state, federal or local authority having jurisdiction guidelines)	Verify the condensate discharge system
Every two months	Test low water cut off
Every two months	Inspect and test the reset button of low water cut off
Every six months	Check all piping (gas and water) for leaks
End of heating season	Shut off the boiler
Annually *	Combustion test and analysis
Annually *	Verify condition of flue and air system (including Venturi and fan)
Annually *	Check ignition electrode
Annually *	Clean the combustion chamber (including the burner tube)
Annually *	Clean condensate discharge
Annually *	Safety block check, modulation range check, gas valve closing after burner stop
Annually *	Check control parameters
Annually *	Check for gas piping leak
Annually *	Check wiring and connections
Annually *	Verify startup
Annually *	Verify the flame stability and signal strength
Annually *	Check relief valve

*Annually or every 2000 hours, whichever occurs first.

Refer to page 44 to learn about cleaning

Gas Leak Inspection

Inspect all gas piping to confirm there are no leaks, including the pressure ports of the gas valves

⚠ DANGER: To verify the gas leaks use a soap solution or a gas leak detector. Do not use matches, candles, or other methods that can cause a fire or explosion!

Check Exhaust and Combustion Air Pipe System

Clear vent systems of any obstructions, corrosion, physical damage, water stains and rust. Verify the connection between the individual components.

Verify the outside terminations are clear. Clean the screens and the louvers if there is any debris

Inspection of Ignition Electrode / Ionization Rod

Verify that the electrode is clean of deposits and use an emery cloth or other material to remove deposits as required.

Check Wiring and Connections

Check that all wiring is securely fastened and in good condition without any cracking or alteration of the insulation or corrosion on the metallic contacts.

Burner Gasket Inspection

When taking the fan off the heat exchanger it is crucial to inspect the Burner Gaskets for damage.

It is mandatory to replace the burner gasket when servicing and if there are any signs of wear, deformity or discoloration of the gasket and in any case not later than every two years.

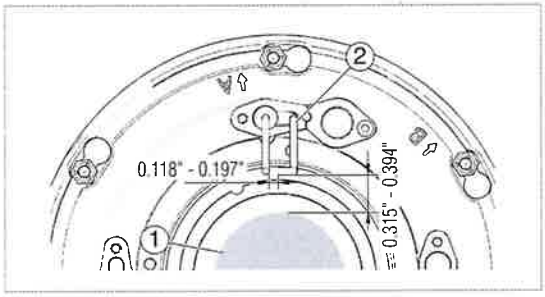
The objective of this test is to determine whether the heat exchange is dirty or blocked. Indicating potential need for a cleaning or further inspections to diagnose the issue.

Average pressure for New Heat Exchanger
2.2 wc" for 500,000 BTU [Array 1000-4000, 500SE]
2.9 wc" for 400,000 BTU [Array 800, 399SE]

1. Shut Off Gas Valve to Module

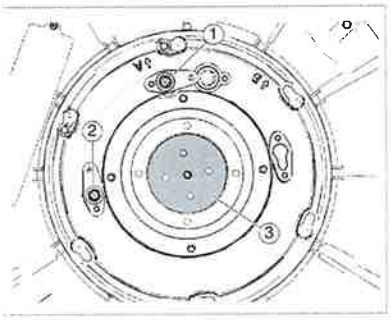
2. Remove Ignition Electrode

Array 800-4000



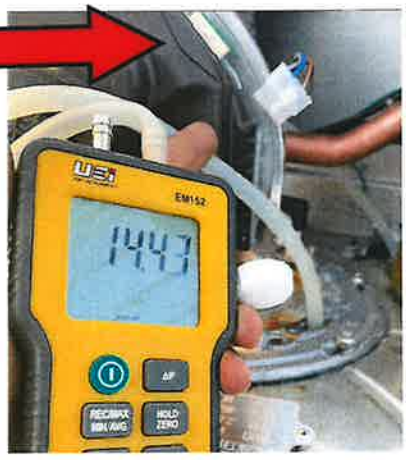
No.	Description
1	Burner Tube
2	Ignition Electrode

Array 399-500 SE



No.	Description
1	Ignition Electrode
2	Ionization Electrode
3	Burner Tube

3. Remove This Control Wire Plug, which will allow the fan to go to full speed.



4. Measure the pressure produced at the ignition electrode opening.

If near or above 5" w.c., the heat exchanger may need cleaning.

Make sure spacing between tubes and flue is clear of any particles and any obstructions

Cleaning Heat Exchanger

To ensure the longevity and consistent optimal performance, it's crucial to clean and maintain the heat exchanger annually or after every 2000 operation hours.

Prior to the maintenance it is required to have following

- Fireside Cleaning Solution 1L w/Spray Wand
  Part # 20187028
  (Chemical solution to cleaning the heat exchange)
- Fireside Cleaning Kit (without chemicals)
  Part # 20188858

(This will include spray pump, brush to clean heat exchanger and disc to protect the back of refractory)

- Annual Maintenance Kit (refer to page 6)

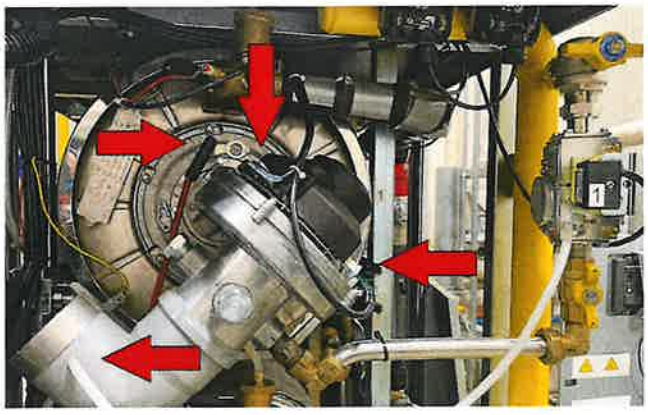
Service Kits are ordered depending on the boiler and version. This will included parts such as seals, o-rings, electrodes and leads that may need to be replaced at the time of servicing.

Step 1: Turn off the power and gas to the module that you are working on. Recommended to turn power and gas off to entire unit if possible

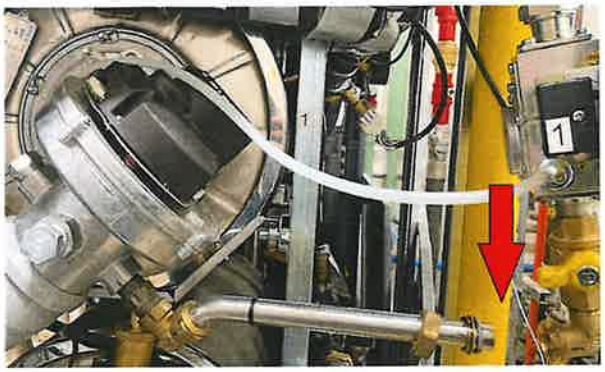
Power for Entire Unit

Power for Module

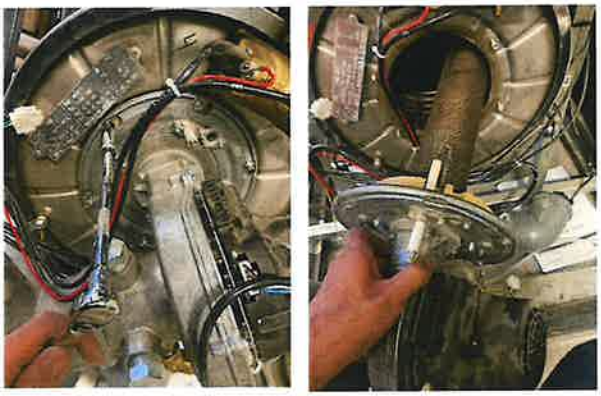
Step 2: Disconnect the power wires, speed sensor wires, electrode lead and the hose connect to the module.



Step 3: Making sure the gas is off and loosen the nut connecting the gas valve, and pull the gas valve to the side.

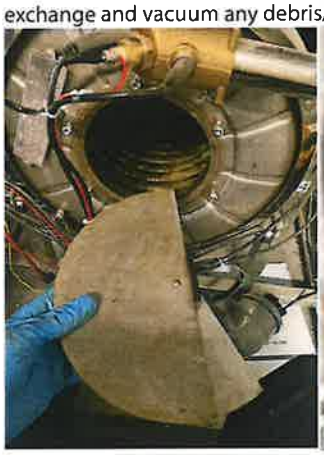


Step 4: Loosen the nuts around the fan the using a 10mm socket and wrench (will need both). Twist the fan to a line the nuts with the openings and put back the fan.



Step 5: Inspect the refractory is free of any cracks and moisture both front and back. If there is damaged replace refectory. (Please refer Refectory section for more information) Also check that the electrode/flame rod is clean, and the seal is free of any defects.

Step 6: Place refractory protector at the back of the heat exchange, to protect the refractory from the clean solution and water . Once in place, using the nylon brush, brush the heat exchange and vacuum any debris/dirt.



Step 7: To mitigate the risk of dirt and debris entering the condensation trap, it is advisable to disconnect and attach a hose leading to a bucket, allowing the water to drain directly into it. A 22mm wide hose can be attached to condensation trap hose directly. Once the cleaning is done flush the condensation traps.

Step 8: (wear appropriate PPE) Using the cleaning solution part # 20187028, spray the heat exchange all round. Then using the nylon brush work the solution into the grooves allowing it to break down any built on products of combustion.

Step 8: Before rinsing the heat exchanger, disconnect the condensation trap and attach a hose to a bucket. This will prevent the solution and debris from clogging the trap. Rinsing until the water runs clean and is free of any particulates. The previous steps may need to be repeated depend on how dirty the heat exchanger is.

Step 9: Once the cleaning is done remove the refractory protector. Re-attach the fan and gas valves to the heat exchange and clean the condensation traps.

Before

After

23.1 Replacing Back of Heat Exchange Refractory

It is advisable to inspect the back of the heat exchanger refractory, when performing the cleaning on the heat exchanger. If you notice any signs of unusual wear, or frequent flue temperature alarms, its recommended to replace the refactory from potential damage to the heat exhanger and to maintain optimal performance.

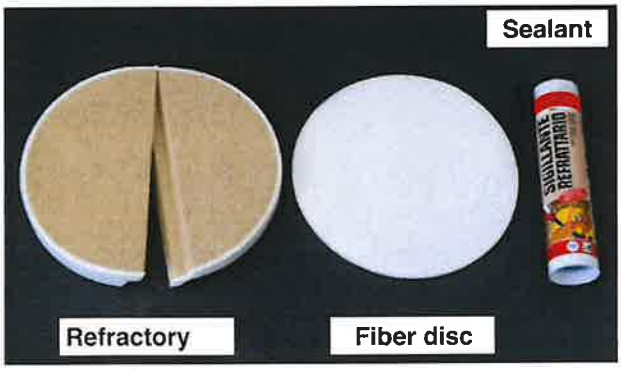
Below are explain, of what the refactory can look like. Also inspect around the refactory if the insulation is intacted which can be another cause of high flue temperature alarms.

A	B	C
		
GOOD	NOT GOOD	BROKEN

Prior to commencing work on replacing the factory, the following part(20091244) should be ordered.

The replacement kit consists of #2 refractory half-discs,

#1 sealant cartridge and #1 fiber disc

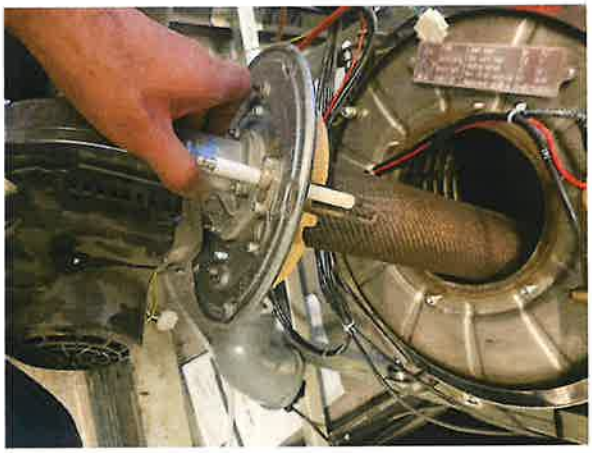


Step 1: Turn off the power and gas to the module that you are working on. Recommended to turn power and gas off to entire unit if possible. Allow the heat exhanger to cool down.

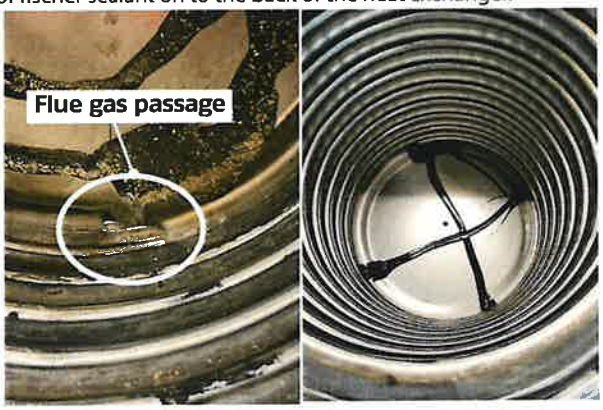
Power for Entire Unit

Power for Module

Step 2: turn off the gas to the module and disconnect the electrical components from the fan and loosen the nuts around the fan the using a 10mm stocket and wrench (will need both). Twist the fan to align the nuts with the openings and pull back

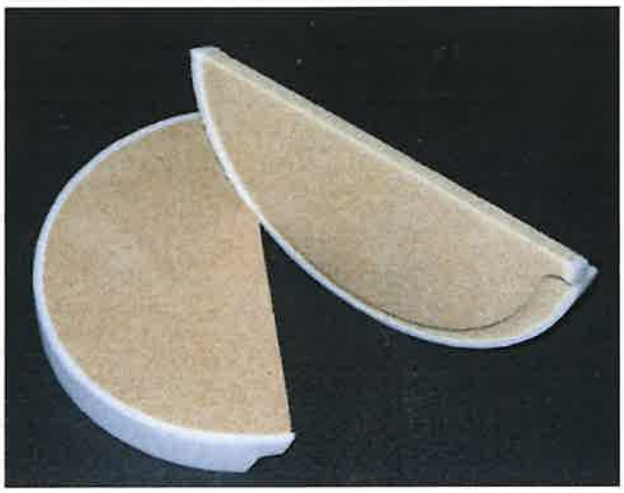


Step 3: Carefully remove the old damaged refractory and any debris. Find the flue gas passage, seal it using the refactory sealant contained in the kit. Keep In mind the dent in the heat exchange as the new refactory will align with that. Apply a layer of fischer sealant on to the back of the heat exchanger.



Step 4: Apply the fiber disc on the metallic surface of the heat exchange and press it into place. Then apply a second layer of sealant on to the fiber disc.

Refactory



Step 5: Apply the sealant on the refractory. Then place the dented refractory on the fiber disc. Make sure it perfectly matches to the disc holder and dent in the coil. Prior to placing this piece you can mark were the dent is in the heat exchanger.

Placement of the refractory

Step 6: Take the second half-disk and place a strip of sealant at the inner edge as shown

Step 7: Place the second half-disk matching the first one and press carefully by hands without using any tools in order to avoid any possible breakage

Step 8: Reassemble the flange, burner head, fan and gas system. Connect back gas and electrical main supply.

⚠ Wait at least 12 hours before switching on the boiler again.

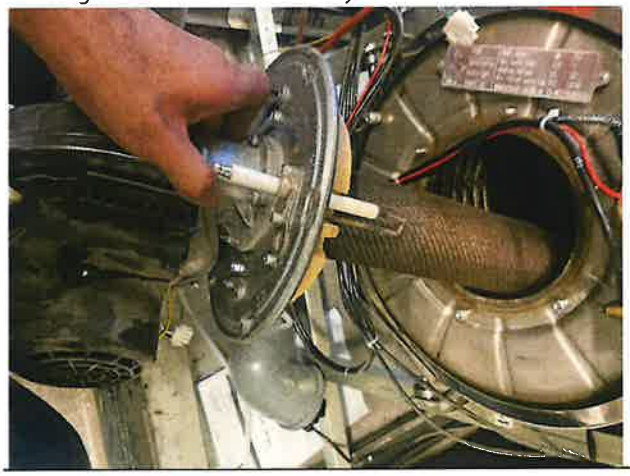
After the service operations check:
a) The flue circuit is tight (verify if there is any leakage)
b) The gas circuit is tight (verify if there is any leakage)
c) The condensate circuit is tight (verify if there is any leakage)
d) Check if all the water gaskets are in good condition to prevent any leakage.

23.2 Replacing Fan Side of Refractory

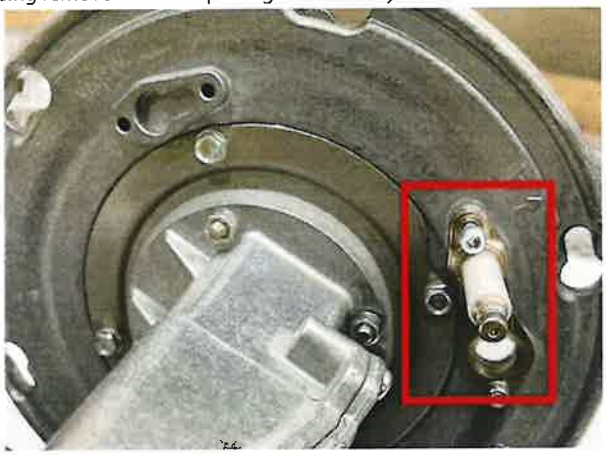
If you observe signs of breakage, cracking or water damage on the fan side of the refractory. It is advisable to replace it. Below is an example of a damaged refactory

Replacing the fan side of the refractory is a relatively simple procedure. Before starting, ensure you have the following part for the refactory Array 800-4000 (20145779) and Array 399-500 (20153692).

Step 1: Turn of the power and gas to the module that you are working on. Recommended to turn power and gas off to entire unit if possible. Disconnect the electrical component and gas piping from the fan. Loosen the nuts around the fan using a 10mm stocket and wrench (will need both). Twist the fan to align the nuts with the openings and pull back the fan. Allow the heat exchanger to cool down if necessary.



Step 2: Inpect the flame rod to see if it is in good condition. For time being remove it when replacing the refactory



Step 3: Using a flat head screwdriver gently pry the refactory, then carefully remove the clips with a needle nose plier.

Step 5: Align the refactory with the grooves on the fan plate, ensuring the electrode opening is positioned correctly, then firmly press into place. After reassemble the flange, burner head, fan and gas system. Connect back gas and electrical main supply.