

MODEL:

SERIAL #:

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AR - Boiler Models



Instructions Manual

READ AND HEED FOR YOUR SAFETY

SHOCK AND BURN WARNINGS AR - BOILER MODELS

You have just purchased a quality steam boiler designed to the ASME Boiler Code and registered with the National Board of Boiler Inspectors. Treat this industrial equipment with care and respect. It is safe when installed, maintained, and used properly. Read the instruction carefully, refer to the enclosed identification photo and contact the factory if you have any questions.

1.) ADJUSTMENTS:

All controls have been set at the factory and should require no adjustments. However, the boiler must be level.

2.) BLOW OFF VALVE:

This valve is utilized to blow impurities from the boiler chamber. When opened, a large volume of hot water and steam is discharged. Ensure that this valve is properly piped for such discharge. State and local codes must be met as applicable.

3.) ELECTRICAL:

All wiring must be in accordance with the National Electric Code and any local codes that may apply. Wiring must be made by a competent certified electrician. Use copper wire only.

4.) GAUGE GLASS:

The gauge glass protector rods must be installed at all times. When replacing the gauge glass be sure that the unit is not under pressure and is cool to touch. To do otherwise could cause scalding.

GAUGE GLASSES SHOULD BE REPLACED ANNUALLY DUE TO INTERNAL WEAR!

HOT: The valves and piping on this unit are hot when under pressure or heating up. Don't touch.

5.) INSTRUCTIONS:

Read instructions before installing or operating this steam boiler. These are provided as general guidelines.

6.) MODIFICATION/MISUSE:

This boiler has been designed and constructed in accordance with the ASME Boiler Code. Any modification or misuse can result in a dangerous situation. Reimers Electra Steam, Inc. is not liable for any product that has been modified or improperly used.

7.) PRESSURE GAUGE: The pressure gauge indicates the internal pressure of the boiler. It can fail. Periodically have your boiler inspector compare the gauge with a known gauge utilizing the test valve arrangement provided. Ensure that the boiler is cold, not pressurized and electrically disconnected.

8.) REGISTRATION:

Most states and cities require boiler registration and inspection. Check with your government authorities.

9.) REPAIR

Repair of this unit must be attempted only by experienced personnel. Before commencing a repair, ensure that the boiler is cold, not pressurized and electrically disconnected. All standard electrical and steam safety precautions must be taken during testing.

10.) SAFETY VALVE:

The safety valve is designed to discharge hot steam when the set pressure is exceeded. Ensure that the discharge port is pointing toward the back of the unit away from the operator or any aisles. Test the safety valve periodically to ensure that it is operating properly. Test carefully at full pressure by lifting lever using pliers and "slapping" shut.

STEAM DISCHARGE CAN SCALD. ENSURE NO ONE IS EXPOSED!

11.) STEAM INSTALLATION:

Steam piping must be of black pipe, not galvanized. Work must be done by an experienced steam fitter. All state and local codes must be met as applicable.

12.) WATER:

Ensure that all electrical components are in a dry location, free from any possibility of water soaking. Electric foot switches must not be placed on a wet floor. They must be placed on dry surface not subject to steam or water.

Limited Warranty - Steam Boilers

Reimers Electra Steam, Inc. warrants the following products of its own manufacture against defects in materials and workmanship under normal use and service. This warranty is in lieu and excludes all other expressed or implied warranties or merchantability of fitness for any particular use. No person is authorized to extend the terms of this warranty or assume any other liability except by written statement signed by an officer of Reimers Electra Steam, Inc. Clear Brook, Virginia 22624.

Warranty Period:

The pressure vessel and electrical & mechanical components are warranted for one year from date of shipment from Reimers Electra Steam, Inc. in Clear Brook, VA 22624.

Limitations:

Products must be installed, used and maintained in accordance with our instructions, including reasonable & necessary maintenance by the user. Users are responsible for the suitability of the products to their application. There is no warranty damage resulting from improper installation, abuse, power failure, fire, flood, lightening, improper water, misuse, improper specification, misapplication or other operating conditions beyond our control or parts that are normally expendable in usual course of operation.

Claims against carriers for damage in transit must be filed by the buyer. Reimers liability, if any, will not exceed the price of Reimers products claimed to be defective.

Components manufactured by any supplier other than Reimers shall bear only that warranty made by the manufacturer of that product and service for that warranty shall be the responsibility of that manufacturer and not Reimers.

Remedy:

Claims under this Limited Warranty must be made by obtaining a Return Authorization Number from our office (PHONE: 540-662-3811,FAX: 540-665-8101) & returning defective part, freight prepaid to: Reimers Electra Steam, Inc., 4407 Martinsburg Pike, Clear Brook, Virginia 22624

Defective items will be repaired or replaced as necessary within a reasonable time without charge, other than incidental charges such as freight prepayment. Such repair or replacement within a reasonable time is the exclusive remedy available from Reimers Electra Steam, Inc., under this Limited Warranty.

Consequential Damages:

Reimers Electra Steam, Inc., is not liable for labor costs incurred in the removal, reinstallation, or unauthorized repair of product, or for damages of any type whatsoever, including incidental and/or consequential damages.

This Warranty supersedes all previous warranties.

1. Installation

REIMERS ELECTRA STEAM, INC. boilers are heated by one or more immersion type heating elements. Automatic controls are provided to maintain pre-set operating pressure and proper water supply. Safety features include automatic low water cutoff, automatic pressure control, safety valve and visible water level gauge. Each boiler is manufactured in accordance with ASME I Power Boiler Code Standards and is individually inspected and stamped by an authorized National Board Insurance Inspector. All boilers are registered with the National Board of Boiler and Pressure Vessel Inspectors.

NOTE:

ASME DATA PLATE IS LOCATED ON THE FRONT HEAD OF THE PRESSURE VESSEL, ACCESSIBLE BY REMOVING THE LOUVERED LOWER FRONT COVER OF THE BOILER CABINET

When boiler is received, make sure it has not been damaged in shipment.

1.1 Location

Place the boiler in a level position, close to the equipment which it is to supply. This will insure minimum heat losses and allow more economical piping arrangements. All steam lines should be insulated. Review the overall dimensions of your boiler model on Page 6 and Page 7 to select proper boiler location.

a.) Working space:

Electric boiler spacing is dictated by NFPA-70, Table 110.26 as follows:

Nominal Voltage	Minimum Clear Distance		
To Ground (Volts)	Condition 1	Condition 2	Condition 3
0 – 150	3ft (914mm)	3ft (914mm)	3ft (914mm)
151 – 600	3ft (914mm)	3.5ft (1.07m)	4ft (1.22m)

Note: Where the conditions are as follows:

Condition 1 — Exposed live parts on one side of the working space and no live or grounded parts on the other side of the working space, or exposed live parts on both sides of the working space that are effectively guarded by insulating materials.

Condition 2 — Exposed live parts on one side of the working space and grounded parts on the other side of the working space. Concrete, brick, or tile walls shall be considered as grounded.

Condition 3 — Exposed live parts on both sides of the working space.

(a) Dead-Front Assemblies. Working space shall not be required in the back or sides of assemblies, such as dead-front switchboards or motor control centers, where all connections and all renewable or adjustable parts, such as fuses or switches, are accessible from locations other than the back or sides. Where rear access is required to work on non-electrical parts on the back of enclosed equipment, a minimum horizontal working space of 762 mm (30 in.) shall be provided.

<u>b.) Alcove or closet installation per UL834:</u> Proper location of this boiler model with regard to combustible and noncombustible surfaces and materials is coded on the boiler name plate. The following decoding sketch and description is provided for the user information:

AR- and ARH- Models				Dimension In.			
	А	В	D	EL	E _R	F	G
	10	C9	9	12	12	NC	-

Description of dimensions and symbols

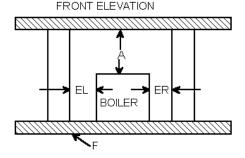
- A Clearance above top of boiler
- **B** Clearance from front of boiler

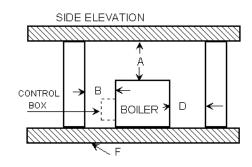
Prefix C to numeral indicates suitability for closet or alcove installation

Prefix A indicates suitability for alcove but not for closet installation

- D Clearance from back of boiler
- EL Clearance from left side of boiler
- ER Clearance from right side of boiler

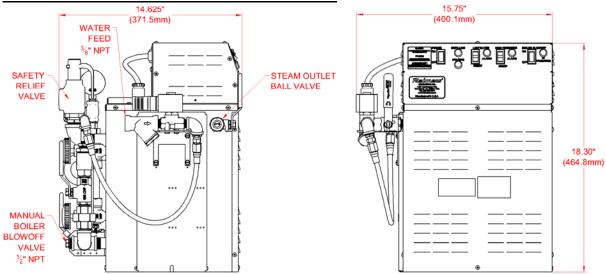
F – Indicates type of flooring: "**NC**" for noncombustible floor / "**C**" for combustible floor. Numeral indicates minimum clearance below suspended units to combustible floor



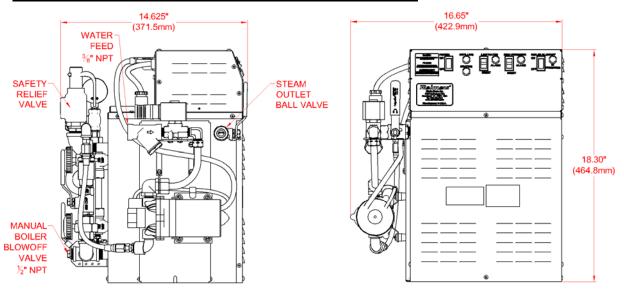


AR-Boiler Models Overall Dimensions

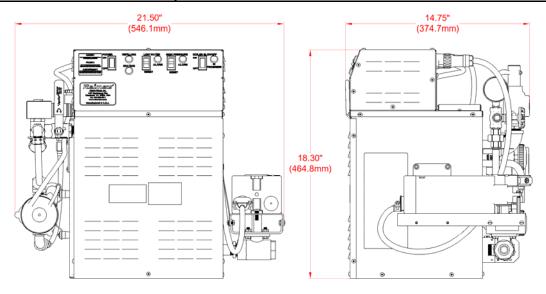
Low Pressure Model with Solenoid Valve Water Feed



High Pressure Model with Pump and Solenoid Valve Water Feed



High Pressure Model with Pump and Solenoid Valve Water Feed and Automatic Flush & Drain Valve



1.2 Water Supply

Install a 3/8" NPT Bronze strainer on the water inlet port of the water feed solenoid valve. Connect incoming water supply to the strainer. Lines should be of adequate size and meet local plumbing codes.

In order to ensure long term trouble-free boiler operation, we recommend that the water used as boiler feed water to be tested for hardness. If the water in your area is harder than 1grain (17mg/L), use a water softener. The main cause for premature heating element failure in electric steam boilers is water hardness. If severe corrosion during inspection of the pressure vessel as indicated in chapter 3.4 of this manual becomes evident, additional tests of your boiler feed water must be performed. A water analysis should be performed by a qualified and recognized water treatment company located in your area.

Recommended levels for boiler feed water:

WATER PROPERTY	MAX. LIMIT
Total hardness	17 mg/L
Dissolved Oxygen	0.04 mg/L
Total Iron	0.1 mg/L
Total Copper	0.05 mg/L
pH	> 8.5
Specific Resistivity	25kΩ * cm

Recommended levels for boiler water (water inside pressure vessel when boiler operating):

PROPERTIES	MAX. LIMIT
Total Alkalinity	350 mg/L
Total Dissolved Solids	3500 mg/L
Total Suspended Solids	300 mg/L
pН	10.5 - 12



NOTE:

Do not add any chemicals to the boiler feed water unless specifically recommended by a qualified and recognized water treatment company.

1.3 Steam Outlet

Connect steam line of sufficient size from steam line valve to the equipment. Steam piping must be black steel pipe, not galvanized. Work must be done by an experienced steamfitter. All state and local codes must be met.

1.4 Electrical

To hookup power and control voltage to the boiler, please proceed as indicated in FIGURE1. To ensure proper connection, please refer also to the attached wiring diagram and labels next to the field wiring terminals for proper conductor size and maximum torques that can be applied to the terminal contacts.



WARNING

All wiring must be installed in accordance with the National Electric Code and any local codes that may apply. Wiring must be done by a competent, certified electrician. For this service, the N.E.C. requires supply wires rated at 125% of full load. Use only copper wire. Install a fused disconnect switch within sight of the boiler. Connect power supply to the terminals in control panel.

1.4.1 Boiler Models With Pre-Installed 240V Power Cord and NEMA 14-50 Plug

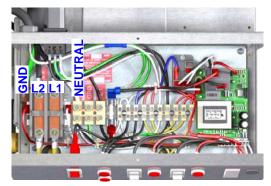
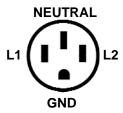


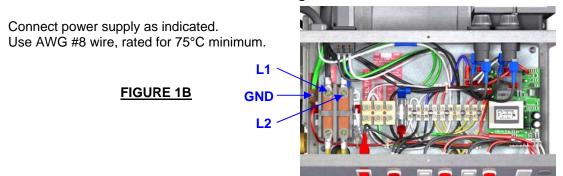
FIGURE 1A

Boiler models that are factory shipped with power cord and attached NEMA 14-50 plug don't require any additional power hookup.

However, before plugging the boiler power plug into the 240V receptacle, ensure that the voltage from each hot leg (L1 and L2) in your receptacle measures 120V AC to the Neutral contact.



1.4.2 Boiler Models with Pre-Installed Control Voltage Transformer



1.4.3 Boiler Models without Pre-Installed Power Cord and Control Voltage Transformer

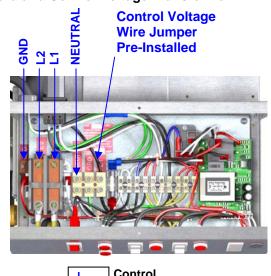
Connect power supply as indicated.
Use AWG #8 wire, rated for 75°C minimum.
Ensure that the voltage between the conductors
L1 and L2 to NEUTRAL is 120V AC

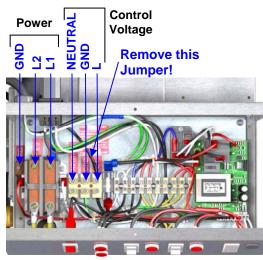
FIGURE 1C

If no 240V power source is available that measures 120V AC from the conductors L1 and L2 to NEUTRAL, then remove the "Control Voltage Wire Jumper" and hookup two separate power supplies:

- Power hookup, AWG #8 conductors, rated 75°C minimum
- Control voltage hookup, AWG #14 conductors, rated 75°C minimum

FIGURE 1D





1.5 Safety Valve

The safety valve is designed to discharge hot steam when the set pressure is exceeded. Ensure that the discharge port is pointing toward the back of the unit away from the operator and any isles. If it is required that discharge piping be installed from the safety valve, the pipe must never be smaller than the valve outlet and must be rigidly supported, placing no weight on the valve itself.

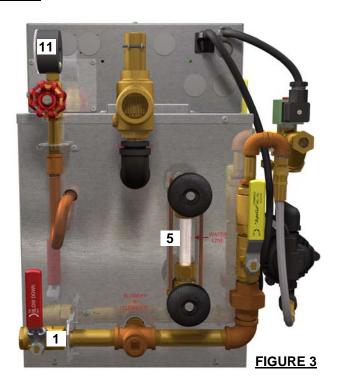
1.6 Blow-Off Valve



When the boiler blow-off valve is utilized, a large volume of hot water and steam is discharged. Ensure that this valve is properly piped for this discharge. State and local codes must be met as applicable.

2. Operation





2.1 First Startup

- 1. Ensure that all electrical connections to the boiler are made in accordance with paragraph 1.4
- 2. Close the boiler blow-off valve (1)
- 3. Release the air from the unit by opening the steam valve (2)
- 4. Ensure that the water line connected to the strainer of the boiler water intake is pressurized
- 5. Turn the POWER-switch (3) on the front panel of the unit to the ON-position.
- 6. 2 3 sec. after the POWER-switch is turned to its ON-position, the REFILLING-light (4) should turn on and fill the boiler with water until the water level reaches approximately half height in the gauge glass (5). As soon as the nominal water level is reached, the REFILLING-light (4) turns OFF
- 7. If any of the alarm lights LOW WATER (6) or HIGH PRESSURE (7) is lit, then press the corresponding RESET-switch (8) and/or (9). As soon as no alarm lights are lit, the HEATING-light (10) should turn ON
- 8. Close the steam outlet valve (2)
- 9. The boiler builds up pressure. Watch the pressure rising on the pressure gauge (11). The operating pressure of each boiler is factory pre-set to the pressure the boiler has been ordered.
- 10. As soon as the pre-set pressure is reached, the HEATING-light (10) should turn OFF

2.2 Continuous Operation

- 1. Open the steam outlet valve (2) slowly to pressurize the steam line
- 2. During boiler operation with steam discharge, the boiler refills automatically
- 3. To shut down the boiler, turn the POWER-switch (3) to the OFF-position and close the steam outlet valve (2)

3. Maintenance



Repair must be performed by experienced personnel. Ensure that the boiler is cold, drained and has no pressure or electricity. All electrical and steam safety precautions must be taken.

3.1 Blowoff

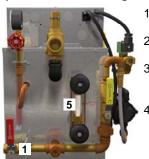


Stand clear of scalding water and steam. Ensure that the boiler blow-off valve is safely piped.

All boilers must be blown off periodically to remove minerals, scale and other foreign matter, which accumulate inside the pressure vessel. The concentration of this deposit depends in part upon the condition of the water in the area. When water is naturally soft, or has been softened chemically, boiler blow-offs are required less often than in areas where hard water is found. Water softeners are suggested in hard water areas to minimize the formation of hard scale on heating elements. Another factor affecting water condition is the amount of condensate, if any, that is being returned to the boiler. Since condensate is essentially clean distilled water, it contains very few impurities. If a large part of the condensate is being returned and little make-up water is used, the boiler need not be blown down as often as when little or no condensate is returned to the boiler. We recommend to blowoff newly installed steam boilers once per day until the first heating element and pressure vessel inspection is performed (refer to chapter 3.4). If no significant amount of sediment is found on the bottom of the pressure vessel and on the heating element sheaths, then the boiler blowoff frequency can be reduced accordingly.

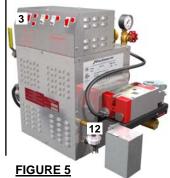
The safest method to blowoff AR-series steam boilers is to install a Reimers Electra Steam properly sized and fully trimmed blow-down tank, model BTANK-10. Reimers Electra Steam, Inc. blow-down tanks are designed and constructed to Section VIII of the A.S.M.E. Code and inspected by a commissioned National Board Boiler inspector.

To blow-off the AR-boiler manually, perform the following steps:



Ensure that the boiler blow-off line is safely piped
Turn the POWER-switch (3) to the OFF – position
Wait until the steam pressure in the boiler drops below 15psig
Open the boiler blow-off valve (1) until no water is visible anymore in the gauge glass (5)

To blow-off the AR-boiler automatically (Automatic Flush & Drain Package), perform the following steps:



- Ensure that the boiler blow-off line is safely piped
- Turn the POWER-switch
 (3) to the OFF-position

As soon as the steam pressure in the boiler falls below the setting of the boiler blow-off switch (12), the motorized blow-off valve opens for a preset time and then closes automatically.

3.2 Pressure Adjustment



FIGURE 4

When replacing pressure switches, the boiler must be disconnected from electricity and no pressure in boiler.



To change the setting of the operating pressure:

- 1. Remove the lower front cabinet panel from the boiler
- 2. Turn the black hand wheel of the pressure switch (13) to increase or decrease the steam pressure
- 3. Do not attempt to change the setting of the pressure high limit control (14)

3.3 Safety Valve Test

Perform this procedure minimum once per month. Safety valve should be tested at nominal operating pressure.



Stand clear of safety valve and scalding steam.

Hold trip lever open for five seconds in order to flush off valve seat. Permit valve to "slap" shut. If a leak occurs, repeat this test or replace the valve.

3.4 Inspecting the Heating Elements and Pressure Vessel



Ensure that the boiler is cold, drained and has no pressure or electricity



FIGURE 7

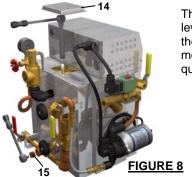
Inspect the heating elements and inner walls of the pressure vessel every six months. If element rods are covered with scale or other foreign matter, check feed water quality. Clean the element rods with stiff wire brush.

- a) Remove the lower louvered front panel of the boiler cabinet
- b) Disconnect and label the terminal wires
- Remove all 4 nuts from the flange of each element that has to be removed and pull out the heating element(s)
- d) Clean the flange surface before installing new element(s) and gasket

If the bottom of the pressure vessel is covered with a significant amount of sludge then remove same from pressure vessel, increase the boiler blow-off frequency and check boiler feed water quality (see chapter 1.2)

It is normal that the inner walls of the pressure vessel be covered by a layer of red or brown or black layer of rust. However, rough pressure vessel surface and layers of rust peeling off the surface are an indication for severe corrosion. In such case, contact a water treatment company to check your boiler feed water chemistry (see also chapter 1.2).

3.5 Cleaning the Water Level Probes and Water Level Probe Baffle



The water level probe baffle is located inside the pressure vessel. It protects the water level probes from being contaminated by foam and other foreign matter that may float on the surface of the boiler water. The water level probe baffle should be inspected after 3 months of operation and then once per ear or more frequently, depending on the water quality (refer to chapter 1.2 of this manual to determine the proper water quality):

- a.) Remove the water level probe cover (14) and remove the probe(s).

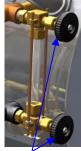
 Caution: If probe E1 is installed: The water level probes have different lengths.

 Remove one probe at a time to avoid the installation of the probes in the wrong place. The probe E3 is longer than probe E1 and is installed towards to rear edge of the boiler cabinet.
 - Inspect the probe rods and the PTFE insulations for rust and calcium deposits and clean if necessary. Leave probe E3 removed from shell until the below cleaning procedure is completed.
- b.) Remove this pipe plug (15) from the boiler blowoff line
- c.) Insert an approximately 2ft. long ¼" OD copper tubing (16) through the shell opening of the probe E3 until it reaches the bottom of the pressure vessel.
- d.) Pull the copper tubing out of the pressure vessel and insert it again through the boiler blowoff line
- e.) Repeat items c.) and d.) several times to ensure that the bottom portion of the probe baffle is cleared of sediments.
- Install all components, bring boiler up to pressure and perform a boiler blowoff





Ensure that the boiler is cold, drained and has no pressure or electricity. Be careful not to break the glass.



Close gauge glass valves (top and bottom).



FIGURE 9

Remove gauge glass protector rods



Open drain valve on bottom fixture to drain glass



Loosen nuts at top and bottom of glass



Slide glass up, pull out on bottom of glass and remove.

Install glass by reversing above procedure. Always install new rubber washers.

4. Trouble Shooting



Repair must be attempted only by experienced personnel. A certified electrician must perform electrical work. All standard electrical and steam safety precautions must be taken.

Boiler Status	Quick Fix
POWER switch on boiler controller turned on, but no lights lit on the front pane	Check circuit breaker or fuse of the wall outlet where the boiler control voltage circuit is hooked up to. If the circuit breaker is tripped or the fuse blown, check whether other appliances are plugged into outlets that are fed by the same circuit breaker/fuse. If that is the case, then plug those other appliances into outlets that are protected by other circuit breakers or fuses.
LOW WATER alarm light on boiler controller panel lit:	 Press the LOW WATER reset button Check Water Level. Water level must be visible in gauge glass. Ensure that the boiler is filled with tap water and not distilled or demineralized water. Check the probe wire(s) for continuity
HIGH PRESSURE alarm light on boiler controller panel lit:	Press the HIGH PRESSURE reset switch If the pressure gauge indicates steam pressure above the preset value, reduce pressure and press the HIGH PRESSURE reset switch again.
Unit won't build up pressure when POWER switch is on, boiler filled to nominal water level with water and HEATING light on the boiler controller is lit.	 Voltage Test: Read voltage across each element. If no voltage reading, check the voltage before and after the element contactor. If no voltage before the contactor, check fuses in fused disconnect switch. If no voltage reading after the contactor and contactor pulled in, replace contactor. If voltage reading after the contactor, go to Amperage Test. Amperage Test: Read amperage on each element wire. If no amperage reading on one or more element wires, replace heating elements.
Pump and/or solenoid valve energized, but no water enters the boiler	Check water inlet strainer Check whether the water feed shutoff valve is open
Boiler overfills or floods	Check water feed solenoid valve for sticking Check the probe wires to the boiler controller for continuity Check feed water. Boiler won't operate with distilled or demineralized water Remove the probe cover. Remove probe(s) from shell. If probe rod is covered with mineral deposits, clean probe using emery cloth.
Fuse blown	 Short circuit or overload has occurred. Before replacing fuse, locate the short circuit or overload. Poor contact between fuse and fuse clips can cause fuse to blow. If surface that makes contact with the fuse clips is discolored, fuse has been making poor contact with the clips. Installing a larger fuse will not help. Replace the fuse holder.
Contactor(s) don't pull in	Ensure that the contactor coil is receiving proper voltage If contactor pulls in but chatters, clean magnetic core of contactor Further problems would indicate mechanical difficulties within the contactor. Complete contactor replacement is usually the least expensive solution

If trouble shooting did not resolve problem, please contact our service technicians at:

Phone: 540-662-3811 Email: <u>sales@reimersinc.com</u> LIVECHAT <u>www.reimersinc.com</u>

PARTS LIST FOR MODEL AR-STEAM GENERATOR

ITEM	PART#	PART DESCRIPTION
1	03346	BALL VALVE WITH LATCH (BLOWOFF)
2	02472	BALL VALVE 1/4" FOR HIGH PRESSURE BOILERS
	02490	BALL VALVE ½" FOR LOW PRESSURE BOILERS
3	04213	POWER SWITCH 120V, 15A
4, 10	04396	LIGHT SOLICO NEON LIGHT 125V
5	02396	GAUGE GLASS FIXTURE SET
	02006	GAUGE GLASS WASHER (RUBBER)
	02448	GAUGE GLASS WASHER (BRASS)
	04180	GAUGE GLASS 5/8" x 3"
	04245	GAUGE VALVE REPAIR KIT
6,7	20720	LIGHT ALARM ASSEMBLY
8, 9	20592	RESET SWITCH & WIRE TO RELAY
11	02451	PRESSURE GAUGE 2.5", 30PSI
	04661	PRESSURE GAUGE 2", 160PSI
12	04163	HIGH PRESSURE CONTROL OPERATING
	04162	LOW PRESSURE CONTROL OPERATING
13	04163	AUTOMATIC FLUSH & DRAIN PRESSURE CONTROL
14	04163	HIGH PRESSURE HIGH LIMIT PRESSURE CONTROL
	04162	LOW PRESSURE HIGH LIMIT PRESSURE CONTROL
18	04761	SOLENOID VALVE 3/8" 120V WATER
19	03693	PUMP 120V 1PH 50/60Hz
20	02692	CHECK VALVE 1/2" BALL-CONE SPRING TYPE
21	02010	SAFETY VALVE ¾", 15PSI
	02637	SAFETY VALVE ½", 100PSI
22	04316	RELAY SOLID STATE 120/240 30A
23	MBJ-38	ELECTRODE FITTING LOW WATER CUT OFF 5 13/16"
24	03445	CONTACTOR 35A 2POLE 120V COIL
25	04313	HEATING ELEMENT 4000W 240V
	02281	GASKET FOR ELEMENT
	03084	STUDS FOR ELEMENT FLANGE
	01314	NUTS FOR ELEMENT FLANGE

STEAM SOLENOID VALVE OPTION:

26	04667	SOLENOID VALVE 1/4" 120V STEAM
27	20058	JET, BRASS #53
28	20708	FOOTSWITCH ASSEMBLY

STEAM WAND WITH ADJUSTABLE STEAM MOISTURE OPTION:

29	03553-DENT	STEAM GUN ASSEMBLY W/NOZZLE & 201T-7 HOSE
	03557	STEAM GUN REPAIR KIT
30	02480	FILTER ASSEMBLY
	02481	FILTER CARTRIDGE
	02482	FILTER GASKET (SMALL)
31	04140	BALL CHECK VALVE 1/8"
32	04386	VALVE NEEDLE .125"
33	04446	CHECK VALVE .25" STEAM OUTLET

