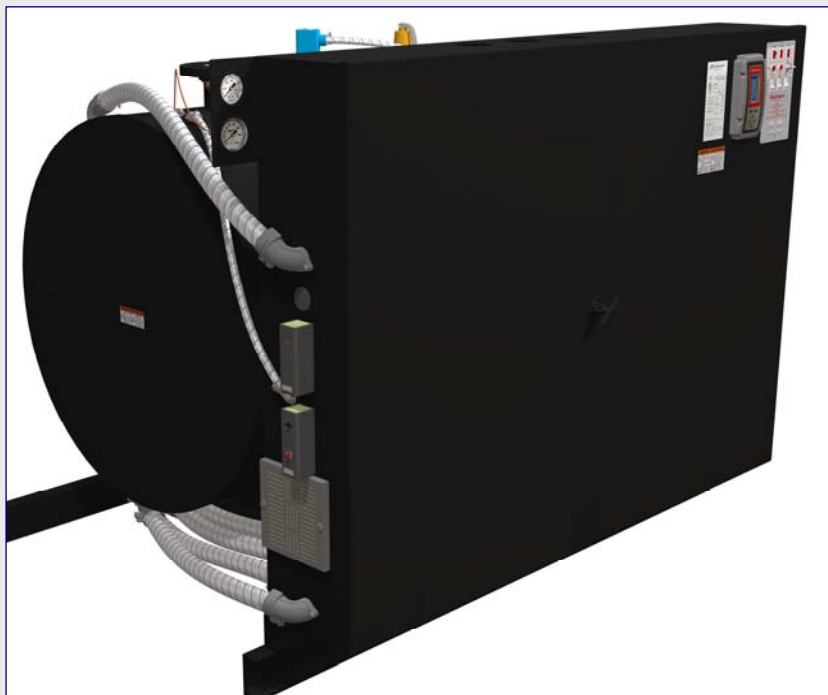




## HLR540 – HLR900 Hot Water Boiler Series



### Features

- Maximum pressure 150psi
- Maximum temperature 250°F
- All boilers are manufactured in accordance with the requirements of the A.S.M.E. Boiler and Pressure Vessel Code and A.S.M.E. CSD-1. Each boiler bears the National Board Stamp "H"
- Shell fiberglass insulation thickness minimum 4"
- Power range 540kW - 900kW with up to 12 heating stages, depending on model
- Heating stages controlled by Honeywell T775 series boiler controller

### Standard Equipment of Each Boiler Includes:

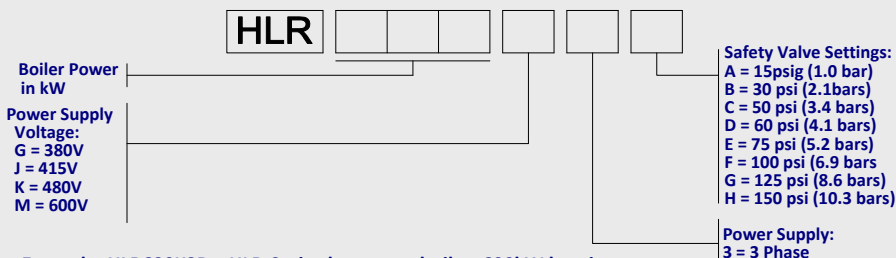
- A.S.M.E. pressure relief valve
- One (1) primary high temperature cutoff control with automatic reset and one (1) secondary high temperature cutoff control with manual reset
- One (1) low water cutoff control with manual reset
- PID-step controller with number of heating stages depending on the boiler heating power
- Digital readout of the operating temperature
- Magnetic contactors
- Internal branch circuit fusing
- Main supply power distribution block
- Indicator lights for POWER, HEATING, CIRCULATOR PUMP and ALARMS
- Pressure and temperature gauge

### Applications:

- Space heating
- Tank heating
- Heat pump backup
- Swimming pool heating
- Bio-Diesel reactors
- De-icing

MODEL	Capacity		NO. OF STEPS	VOLTS <sup>(1)</sup> 50/60Hz	PHASE	INLET & OUTLET SIZE	20°F (11°C) TEMP. RISE WATER FLOW G.P.M. ( L/min)	PRESSURE VESSEL CAPACITY GAL. (L)	OPERATING TEMPERATURE RANGE °F (°C)	APPROX. SHIPPING WEIGHT LBS. (kg)
	BTU/H	KW								
HLR-540	1,842,480	540	10	380/415/480/600	3	5" FLANGED	192 (51)	124 (469)	35 (1) – 225 (107)	2,600 (1178)
HLR-600	2,047,200	600	10	380/415/480/600	3	5" FLANGED	213 (806)	124 (469)	35 (1) – 225 (107)	2,650 (1201)
HLR-720	2,456,640	720	12	380/415/480/600	3	5" FLANGED	256 (967)	124 (469)	35 (1) – 225 (107)	2,700 (1223)
HLR-780	2,661,360	780	12	380/415/480/600	3	5" FLANGED	277 (1048)	124 (469)	35 (1) – 225 (107)	2,750 (1246)
HLR-840	2,866,080	840	12	415/480/600	3	5" FLANGED	299 (1129)	124 (469)	35 (1) – 225 (107)	2,775 (1257)
HLR-900	3,070,800	900	12	480/600	3	5" FLANGED	320 (1210)	124 (469)	35 (1) – 225 (107)	2,800 (1269)

## Model Number Key



**Example:** HLR600K3B = HLR-Series hot water boiler, 600kW heating power, power supply 480V, 3ph, safety valve set to 30psi.

<sup>(1)</sup> Each boiler model requires two (2) power supplies: Heating power and control voltage. Nominal control voltage is 120V AC. Boiler models rated for 380V and 415V are equipped with control voltage transformers that require 220/240V applied to their primary side in order to provide the 120V AC control voltage to the boiler. As an option, all boiler models can be equipped with control voltage transformers so that only the heating power supply needs to be connected to the boiler.

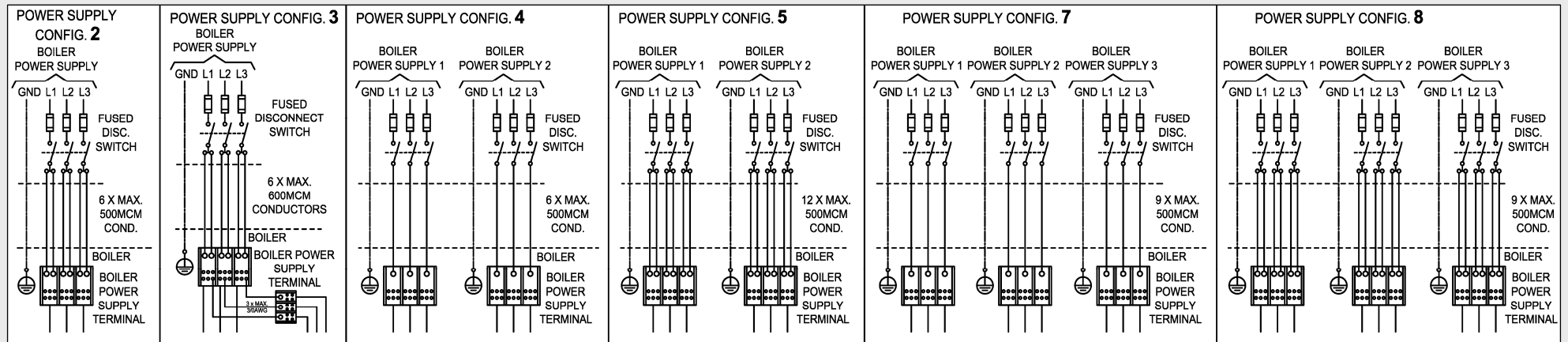
Please note that all information provided within this brochure is approximate and subject to change without notice. Please contact Reimers Electra Steam, Inc. with any questions regarding the specifications or dimensions detailed within.

# Electrical Specifications

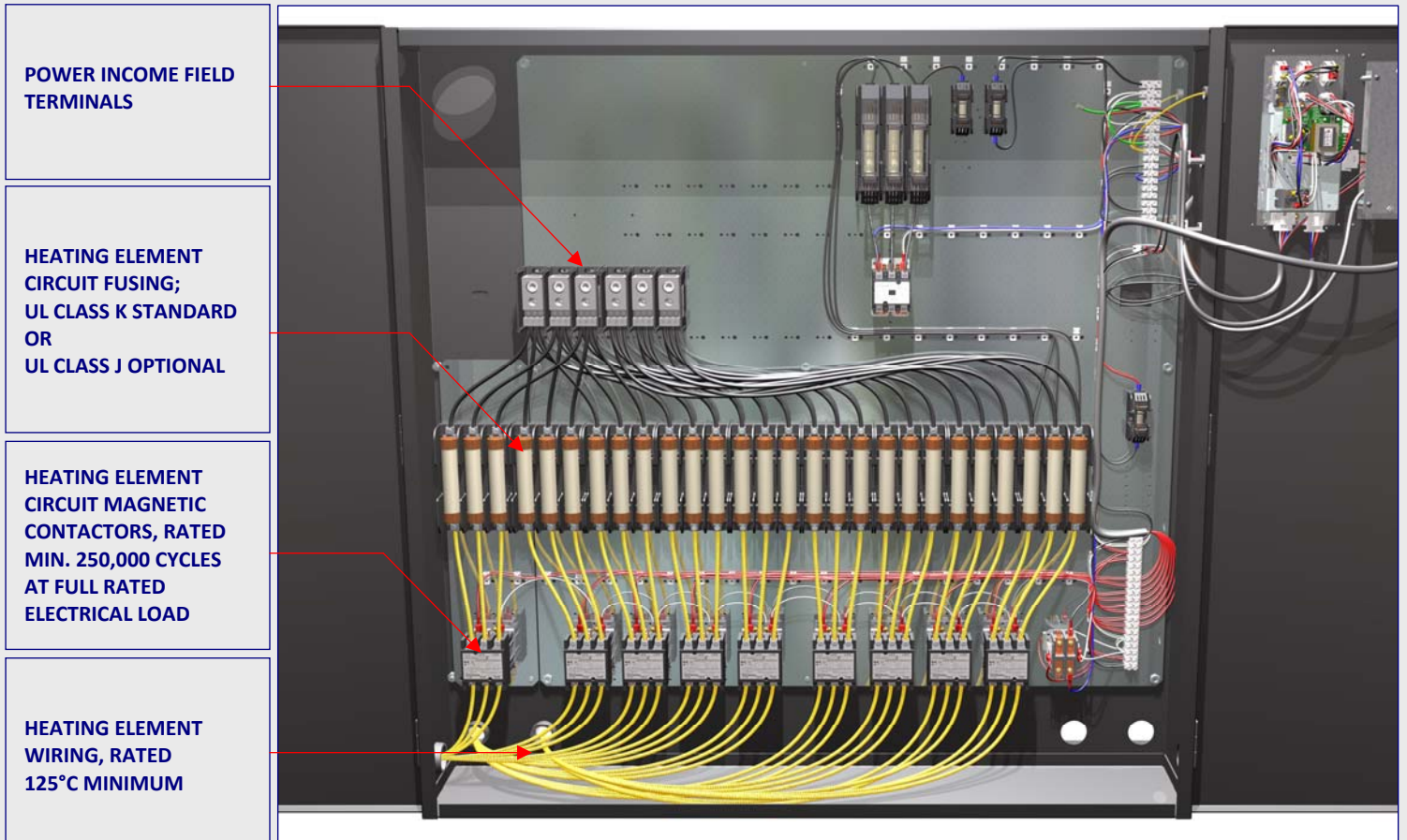
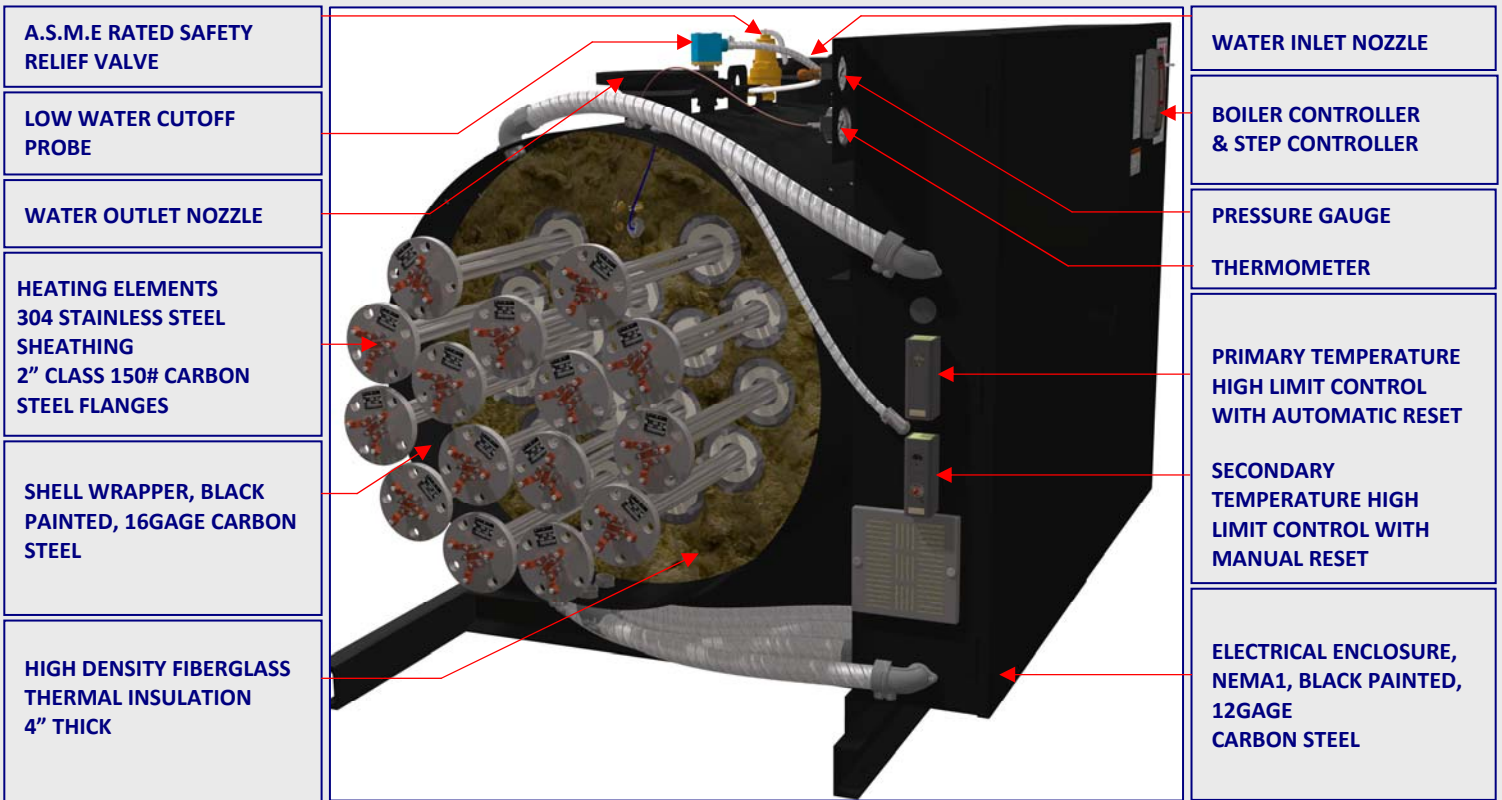
BOILER HEATING POWER	VOLTAGE	PHASE	INTERNAL ELEMENT WIRING  AWG (mm <sup>2</sup> )	NUMBER & SIZES OF CONTACTORS (RES. LOAD)	NUMBER & SIZE OF ELEMENTS	POWER SUPPLY CONFIGURATIONS <sup>(1)</sup>																			
						OPTION 1					OPTION 2					OPTION 3									
						NOM. AMP DRAW  POWER INCOME		MIN. REQU. N.E.C. SERVICE	MIN. REQU. CONDUCTOR SIZE 75°C <sup>(2)</sup>	CONFIG.	NOM. AMP DRAW			MIN. REQU. N.E.C. SERVICE	MIN. REQU. CONDUCTOR SIZE 75°C <sup>(2)</sup>	CONFIG.	NOM. AMP DRAW			MIN. REQU. N.E.C. SERVICE	MIN. REQU. CONDUCTOR SIZE 75°C <sup>(2)</sup>	CONFIG.			
						1	2				1	2	3				1	2	3						
A	A	A	AWG/MCM	1	2	3	A	AWG/MCM	1	2	3	A	AWG/MCM												
540	380	3	8 (8.4)	18 X 75A	18 x 30kW, 380V, 3ph	410.2	410.2	2 x 512.8	12 x 300MCM	5	273.5	273.5	273.5	3 x 341.9	9 x 500MCM	7									
	415	3	8 (8.4)	18 x 50A	18 x 30kW, 415V, 3ph	375.6	375.6	2 x 469.5	12 x 250MCM	5	250.4	250.4	250.4	3 x 313.0	9 x 400MCM	7									
	480	3	8 (8.4)	18 x 50A	18 x 30kW, 480V, 3ph	324.8	324.8	2 x 406.0	6 x 600MCM	3	216.5	216.5	216.5	3 x 270.6	12 x 4/0AWG	5	216.5	216.5	216.5	3 x 270.6	9 x 300MCM	7			
	600	3	10 (5.3)	18 x 50A	18 x 30kW, 600V, 3ph	259.8	259.8	2 x 324.8	6 x 400MCM	2	173.2	173.2	173.2	3 x 216.5	6 x 400MCM	4									
	380	3	8 (8.4)	20 x 75A	20 x 30kW, 380V, 3ph	455.8	455.8	2 x 569.8	12 x 350MCM	5															
	415	3	8 (8.4)	20 x 50A	20 x 30kW, 415V, 3ph	417.4	417.4	2 x 521.7	12 x 300MCM	5	292.2	292.2	250.4	3 x 365.3	9 x 500MCM	7									
	480	3	8 (8.4)	20 x 50A	20 x 30kW, 480V, 3ph	360.8	360.8	2 x 451.1	12 x 250MCM	5	252.6	252.6	216.5	3 x 315.8	9 x 400MCM	7									
	600	3	10 (5.3)	20 x 50A	20 x 30kW, 600V, 3ph	288.7	288.7	2 x 360.8	12 x 250MCM	5	202.1	202.1	173.2	3 x 252.6	6 x 500MCM	4									
	720	380	3	8 (8.4)	24 X 75A	24 x 30kW, 380V, 3ph	547.0	547.0	2 x 683.7	12 x 500MCM	5	364.6	364.6	364.6	3 x 455.8	18 x 4/0AWG	8								
	415	3	8 (8.4)	24 x 50A	24 x 30kW, 415V, 3ph	500.8	500.8	2 x 626.0	12 x 400MCM	5	333.9	333.9	333.9	3 x 417.4	18 x 4/0AWG	8									
	480	3	8 (8.4)	24 x 50A	24 x 30kW, 480V, 3ph	433.0	433.0	2 x 541.3	12 x 300MCM	5	288.7	288.7	288.7	3 x 360.8	9 x 500MCM	7									
	600	3	10 (5.3)	24 x 50A	24 x 30kW, 600V, 3ph	346.4	346.4	2 x 433.0	12 x 4/0AWG	5	231.0	231.0	231.0	3 x 288.7	9 x 350MCM	7									
	780	380	3	8 (8.4)	26 x 75A	26 x 30kW, 380V, 3ph	592.5	592.5	2 x 740.7	12 x 500MCM	5	410.2	410.2	364.6	3 x 512.8	18 x 300MCM	8								
	415	3	8 (8.4)	26 x 50A	26 x 30kW, 415V, 3ph	542.6	542.6	2 x 678.2	12 x 500MCM	5	375.7	375.7	333.9	3 x 469.6	18 x 250MCM	8									
	480	3	8 (8.4)	26 x 50A	26 x 30kW, 480V, 3ph	469.1	469.1	2 x 586.4	12 x 350MCM	5	324.8	324.8	288.7	3 x 406.0	18 x 4/0AWG	8									
	600	3	10 (5.3)	26 x 50A	26 x 30kW, 600V, 3ph	375.3	375.3	2 x 469.1	12 x 250MCM	5	259.8	259.8	231.0	3 x 324.8	9 x 400MCM	7									
	840	415	3	8 (8.4)	28 x 50A	28 x 30kW, 415V, 3ph	584.3	584.3	2 x 730.4	12 x 500MCM	5	417.4	375.6	375.6	3 x 521.7	18 x 300MCM	8								
	480	3	8 (8.4)	28 x 50A	28 x 30kW, 480V, 3ph	505.2	505.2	2 x 631.5	12 x 400MCM	5	360.8	288.7	288.7	3 x 451.1	18 x 4/0AWG	8									
	600	3	10 (5.3)	28 x 50A	28 x 30kW, 600V, 3ph	404.1	404.1	2 x 505.2	12 x 300MCM	5	288.7	230.9	230.9	3 x 360.8	9 x 500MCM	7									
	900	480	3	8 (8.4)	30 x 50A	30 x 30kW, 480V, 3ph	541.3	541.3	2 x 676.6	12 x 500MCM	5	360.8	360.8	360.8	3 x 451.0	18 x 4/0AWG	8								
	600	3	10 (5.3)	30 x 50A	30 x 30kW, 600V, 3ph	433.0	433.0	2 x 541.3	12 x 300MCM	5	288.7	288.7	288.7	3 x 360.8	9 x 500MCM	7									

(1) Specify Power Supply Configuration Option when ordering. If not specified, boiler will be ship configured with Option 1.

(2) The sizes shown in the above tabulation are the minimum required conductor sizes to be installed inside the boiler electrical enclosure as per the UL-File in which these boiler models are listed. The conductors must be rated at minimum 75°C. If the National Electrical Code (N.E.C.) or any other local code requires larger supply conductors at the boiler installation site then those conductor sizes shall be used.

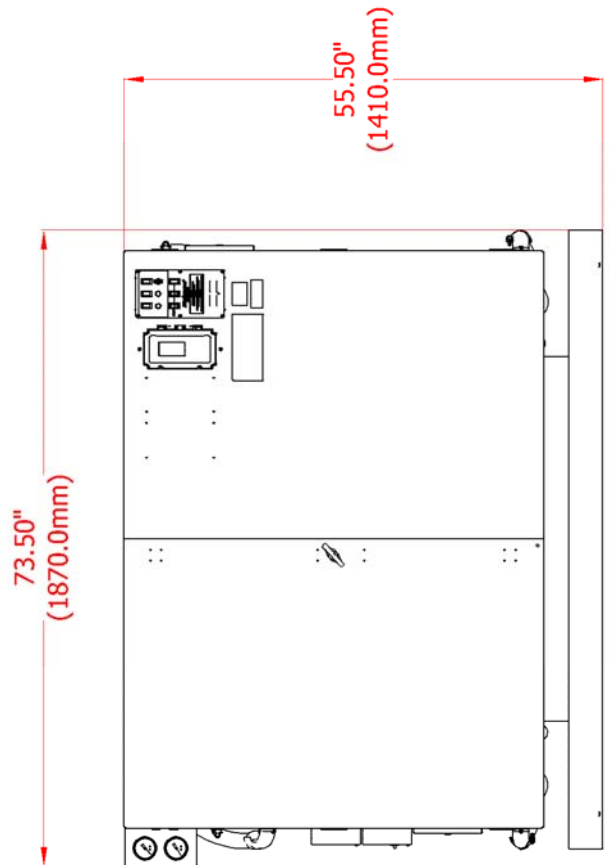
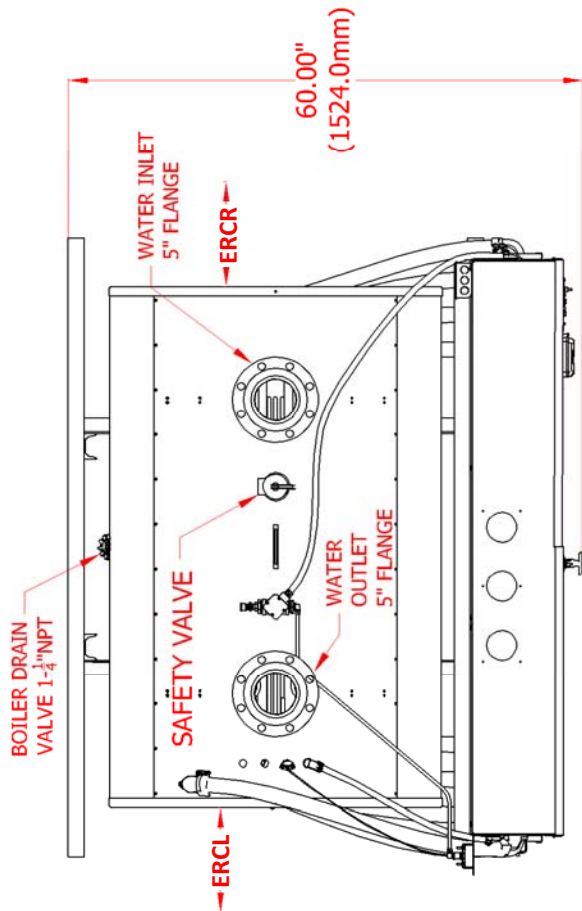
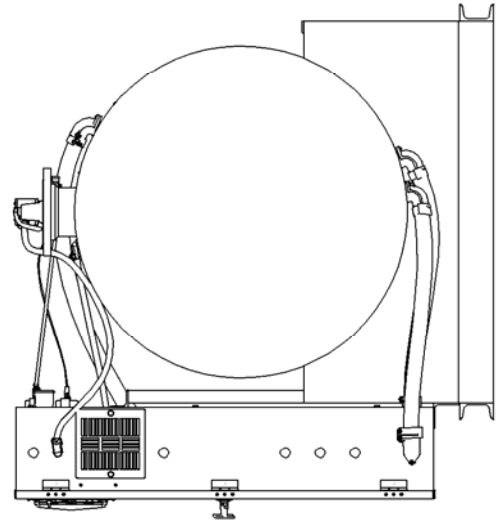
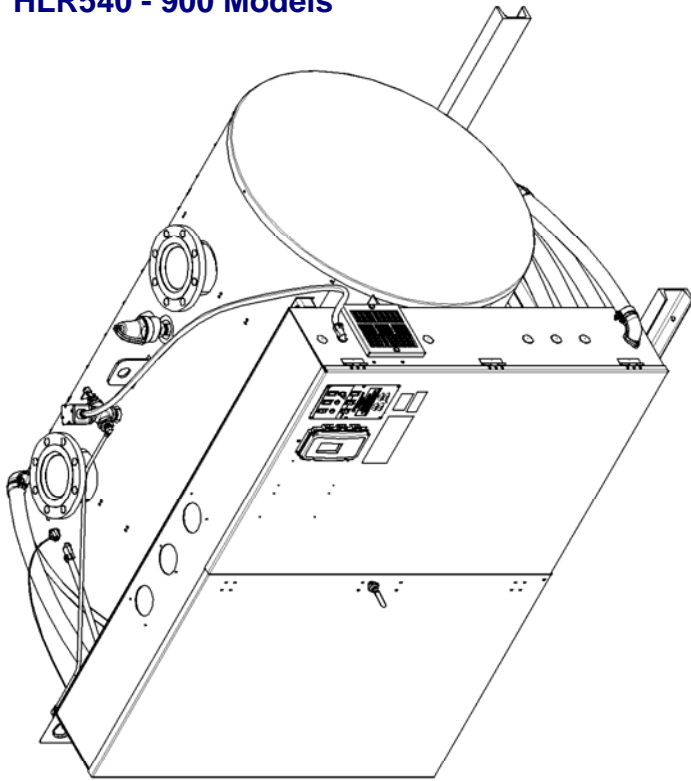


# Construction



# Dimensional Drawings (approximate\*)

## HLR540 - 900 Models



REQUIRED CLEARANCE FOR ELEMENT REMOVAL ERCL = ERRCR  
 HLR540-900: ERCL = ERRCR 36" (915.0mm)

\* Dimensions are approximate. Reimers Electra Steam, Inc. reserves the right to change dimensions without notice.



# Optional Equipment

1. Control Voltage Transformer. When using this option, only the main power supply is required to operate the boiler.

Boiler Main Power Supply Voltage	Transformer Option Part Number
380V	OPT1011 - 380RH
415V	OPT1011 - 380RH
480V	OPT1011 - 480RH
600V	OPT1011 - 600RH

3. Flow Switch  
(Must be installed in the field)

Each boiler is equipped with field terminals for the connection of a flow switch. A flow switch installed in the boiler return line prevents the energizing of the boiler heating elements when it detects no water flow in the heating loop.

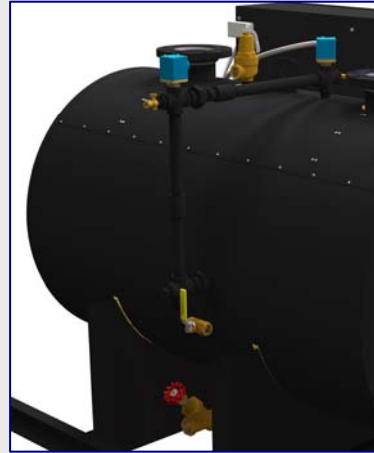
FLOW SWITCH: #02512

4. Timer Controlled Boiler On/Off, #OPT1017



Programmable timer for turning boiler on/off automatically

2. Auxiliary Low Water Cut-Off Options:



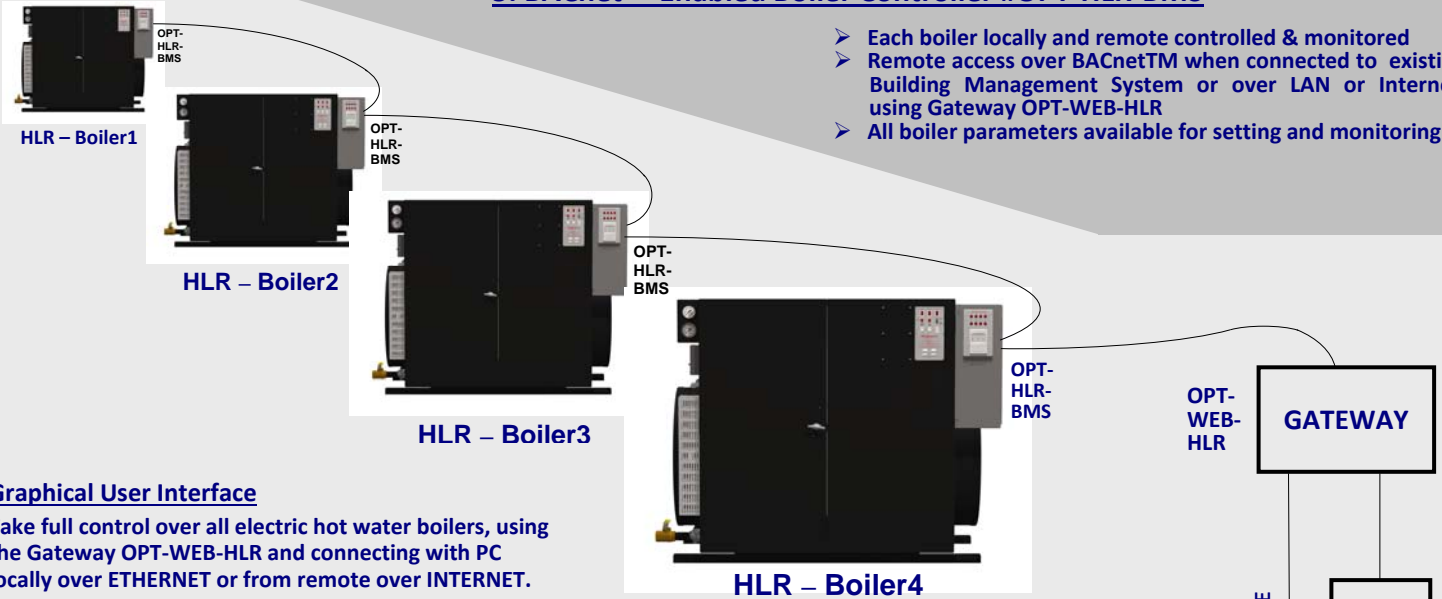
Auxiliary Low Water Cut-Off in external water column with conductive type probe: #OPT1034-PR



Auxiliary Low Water Cut-Off in external water column with float control: #OPT1034-FL

## 5. BACnet™ Enabled Boiler Controller #OPT-HLR-BMS

- Each boiler locally and remote controlled & monitored
- Remote access over BACnet™ when connected to existing Building Management System or over LAN or Internet, using Gateway OPT-WEB-HLR
- All boiler parameters available for setting and monitoring



### Graphical User Interface

Take full control over all electric hot water boilers, using the Gateway OPT-WEB-HLR and connecting with PC locally over ETHERNET or from remote over INTERNET.

