



## HLR15 – HLR105 Hot Water Boiler Series



### Features

- Maximum pressure 100psi
- 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 1.5"
- Power range 15kW - 105kW with up to 8 heating stages, depending on model
- Heating stages controlled by Honeywell T775 series boiler controller

### Standard Equipment of Each Boiler Includes:

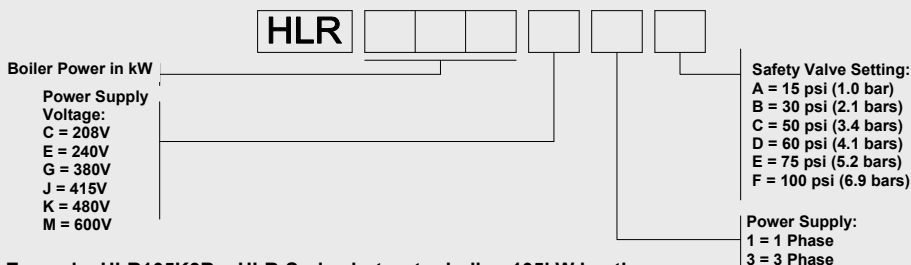
- A.S.M.E. pressure relief valve
- One (1) primary high temperature cutoff control with automatic reset and one (1) secondary high temperature cutoff control with manual reset
- One (1) low water cutoff control with manual reset
- PID-step controller with number of heating stages depending on the boiler 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>	PHASE	INLET & OUTLET SIZE	20° F RISE WATER FLOW G.P.M.	PRESSURE VESSEL CAPACITY GAL. (L)	OPERATING TEMPERATURE RANGE °F (°C)	APPROX. SHIPPING WEIGHT LBS. (kg)
	BTU/H	KW								
HLR-15	51,200	15	1	208/240 <sup>(2)</sup> /380/415/480/600	3	2" NPT	5.3 (20)	5.8 (22)	35 (1) – 225 (107)	255 (116)
HLR-30	102,000	30	2	208/240 <sup>(2)</sup> /380/415/480/600	3	2" NPT	10.7 (40)	5.8 (22)	35 (1) – 225 (107)	265 (120)
HLR-45	154,000	45	3	208/240/380/415/480/600	3	2" NPT	16 (60)	5.8 (22)	35 (1) – 225 (107)	270 (122)
HLR-60	205,000	60	4	208/240/380/415/480/600	3	2" NPT	21.3 (81)	5.8 (22)	35 (1) – 225 (107)	275 (125)
HLR-75	256,000	75	4	208/240/380/415/480/600	3	2" NPT	26.7 (101)	5.8 (22)	35 (1) – 225 (107)	285 (129)
HLR-90	307,000	90	4	208/240/380/415/480/600	3	2" NPT	32 (121)	5.8 (22)	35 (1) – 225 (107)	400 (181)
HLR-105	358,000	105	4	208/240/380/415/480/600	3	2" NPT	37.3 (141)	5.8 (22)	35 (1) – 225 (107)	410 (186)

### Model Number Key



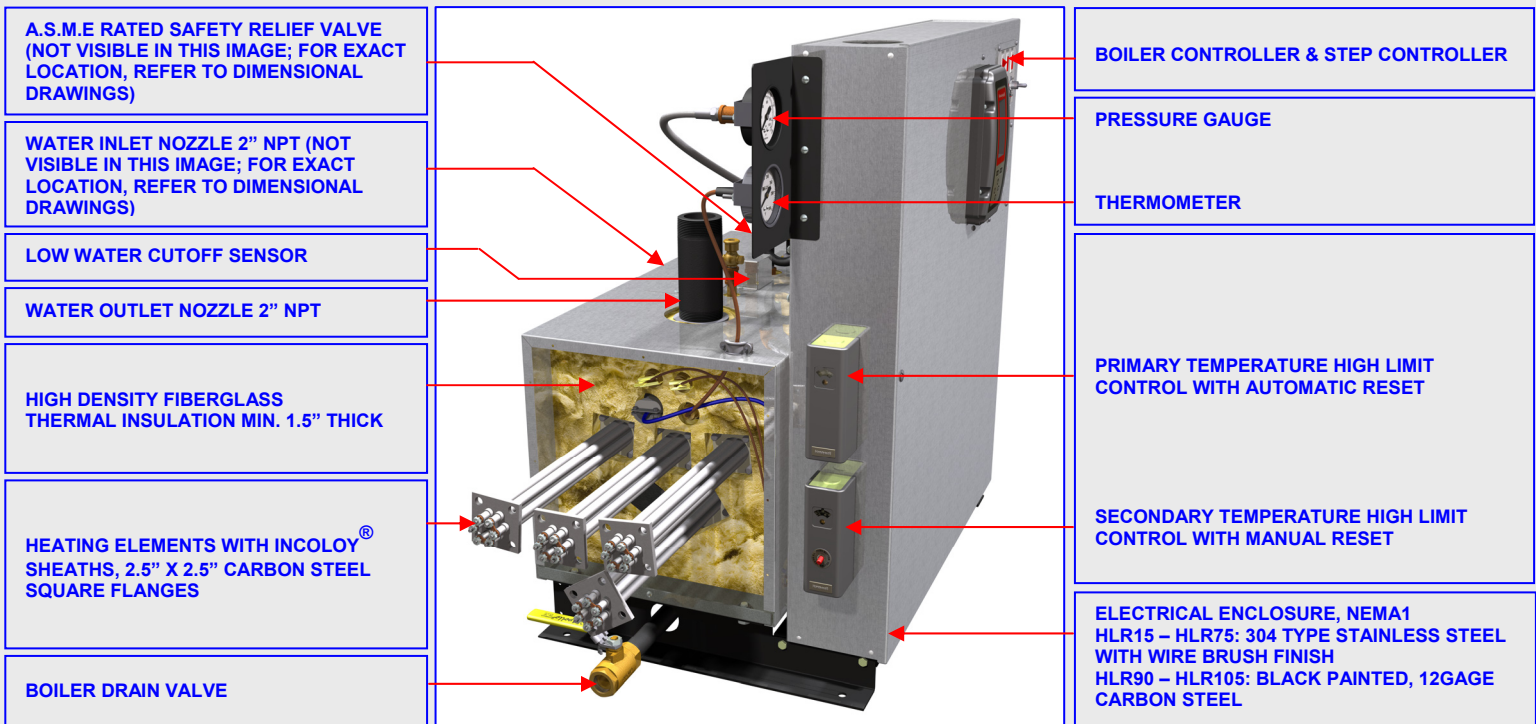
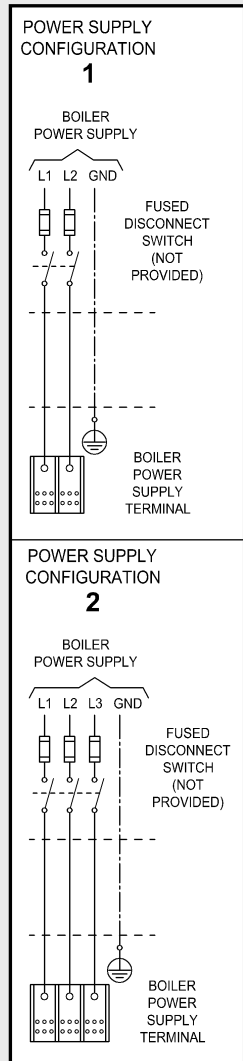
<sup>(1)</sup> Each boiler model requires two (2) power supplies: Heating power and control voltage. Nominal control voltage is 120V AC. Boiler models rated for 380V and 415V are equipped with control voltage transformers that require 220/240V applied to their primary side in order to provide the 120V 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.

<sup>(2)</sup> Also available in 240V 1PH

**Example:** HLR105K3B = HLR-Series hot water boiler, 105kW heating power, power supply 480V, 3ph, safety valve set to 30psi.

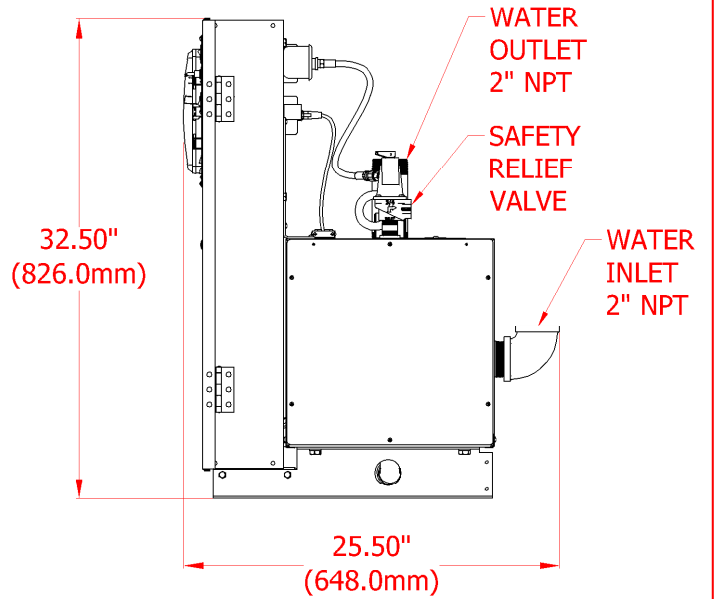
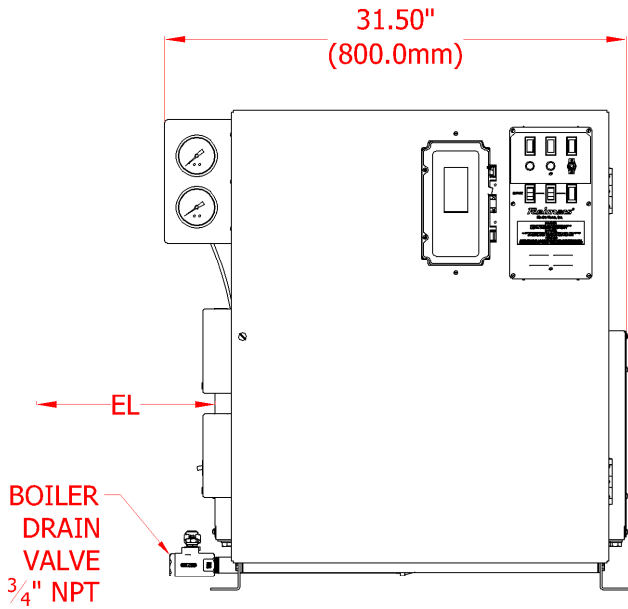
# Electrical Specifications

BOILER HEATING POWER KW	PRIMARY VOLTAGE V	PHASE	AMP DRAW A	MIN REQ. N.E.C. SERVICE A	INTERNAL POWER FUSING	INTERNAL ELEMENT WIRING AWG (mm <sup>2</sup> )	NUMBER & SIZES OF CONTACTORS (RES. LOAD)	NUMBER & SIZE OF ELEMENTS	POWER SUPPLY	
									TERMINAL MAX. CONDUCTOR SIZE	CONFIGURATION
15	208	3	41.4	52.0	3 x 50A, 250V	AWG 8	1 x 50A	1 x 15kW, 208V, 3ph	3 x AWG 2/0	2
	240	3	36.1	46.0	3 x 50A, 250V	AWG 8	1 x 50A	1 x 15kW, 240V, 3ph	3 x AWG 2/0	2
	240	1	62.5	79.0	6 x 30A, 250V	AWG 8	2 x 50A	1 x 15kW, 240V, 1ph	2 x AWG 2/0	1
	380	3	22.8	29.0	3 x 30A, 600V	AWG 10	1 x 50A	1 x 15kW, 380V, 3ph	3 x AWG 2/0	2
	415	3	20.9	27.0	3 x 30A, 600V	AWG 10	1 x 50A	1 x 15kW, 415V, 3ph	3 x AWG 2/0	2
	480	3	18.0	23.0	3 x 30A, 600V	AWG 10	1 x 50A	1 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	14.4	18.0	3 x 20A, 600V	AWG 10	1 x 50A	1 x 15kW, 600V, 3ph	3 x AWG 2/0	2
30	208	3	83.3	105.0	6 x 50A, 250V	AWG 8	2 x 50A	2 x 15kW, 208V, 3ph	3 x AWG 2/0	2
	240	3	72.2	91.0	6 x 50A, 250V	AWG 8	2 x 50A	2 x 15kW, 240V, 3ph	3 x AWG 2/0	2
	240	1	125.0	157.0	6 x 60A, 250V	AWG 8	4 x 50A	2 x 15kW, 240V, 1ph	2 x 2/0AWG	1
	380	3	45.6	57.0	6 x 30A, 600V	AWG 10	2 x 50A	2 x 15kW, 380V, 3ph	3 x AWG 2/0	2
	415	3	41.7	53.0	6 x 30A, 600V	AWG 10	2 x 50A	2 x 15kW, 415V, 3ph	3 x AWG 2/0	2
	480	3	36.1	46.0	6 x 30A, 600V	AWG 10	2 x 50A	2 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	28.9	37.0	6 x 20A, 600V	AWG 10	2 x 50A	2 x 15kW, 600V, 3ph	3 x AWG 2/0	2
45	208	3	124.9	157.0	9 x 50A, 250V	AWG 8	3 x 50A	3 x 15kW, 208V, 3ph	3 x AWG 2/0	2
	240	3	108.3	136.0	9 x 50A, 250V	AWG 8	3 x 50A	3 x 15kW, 240V, 3ph	3 x AWG 2/0	2
	380	3	68.4	86.0	9 x 30A, 600V	AWG 10	3 x 50A	3 x 15kW, 380V, 3ph	3 x AWG 2/0	2
	415	3	62.6	79.0	9 x 30A, 600V	AWG 10	3 x 50A	3 x 15kW, 415V, 3ph	3 x AWG 2/0	2
	480	3	54.1	68.0	9 x 30A, 600V	AWG 10	3 x 50A	3 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	43.3	55.0	9 x 20A, 600V	AWG 10	3 x 50A	3 x 15kW, 600V, 3ph	3 x AWG 2/0	2
60	208	3	166.5	209.0	12 x 50A, 250V	AWG 8	4 x 50A	4 x 15kW, 208V, 3ph	3 x 500MCM	2
	240	3	144.3	181.0	12 x 30A, 600V	AWG 8	4 x 50A	4 x 15kW, 240V, 3ph	3 x 500MCM	2
	380	3	91.2	114.0	12 x 30A, 600V	AWG 10	4 x 50A	4 x 15kW, 380V, 3ph	3 x AWG 2/0	2
	415	3	83.5	105.0	12 x 30A, 600V	AWG 10	4 x 50A	4 x 15kW, 415V, 3ph	3 x AWG 2/0	2
	480	3	72.2	91.0	12 x 30A, 600V	AWG 10	4 x 50A	4 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	57.7	73.0	12 x 20A, 600V	AWG 10	4 x 50A	4 x 15kW, 600V, 3ph	3 x AWG 2/0	2
75	208	3	208.2	261.0	15 x 50A, 250V	AWG 8	5 x 50A	5 x 15kW, 208V, 3ph	3 x 500MCM	2
	240	3	180.4	226.0	15 x 30A, 600V	AWG 8	5 x 50A	5 x 15kW, 240V, 3ph	3 x 500MCM	2
	380	3	114.0	143.0	15 x 30A, 600V	AWG 10	5 x 50A	5 x 15kW, 380V, 3ph	3 x AWG 2/0	2
	415	3	104.3	131.0	15 x 30A, 600V	AWG 10	5 x 50A	5 x 15kW, 415V, 3ph	3 x AWG 2/0	2
	480	3	90.2	113.0	15 x 30A, 600V	AWG 10	5 x 50A	5 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	72.2	91.0	15 x 20A, 600V	AWG 10	5 x 50A	5 x 15kW, 600V, 3ph	3 x AWG 2/0	2
90	208	3	249.8	313.0	18 x 50A, 250V	AWG 8	6 x 50A	6 x 15kW, 208V, 3ph	3 x 500MCM	2
	240	3	216.5	271.0	18 x 30A, 600V	AWG 8	6 x 50A	6 x 15kW, 240V, 3ph	3 x 500MCM	2
	380	3	136.7	171.0	18 x 30A, 600V	AWG 10	6 x 50A	6 x 15kW, 380V, 3ph	3 x AWG 2/0	2
	415	3	125.2	157.0	18 x 30A, 600V	AWG 10	6 x 50A	6 x 15kW, 415V, 3ph	3 x AWG 2/0	2
	480	3	108.3	136.0	18 x 30A, 600V	AWG 10	6 x 50A	6 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	86.6	109.0	18 x 20A, 600V	AWG 10	6 x 50A	6 x 15kW, 600V, 3ph	3 x AWG 2/0	2
105	208	3	291.5	365.0	21 x 50A, 250V	AWG 8	7 x 50A	7 x 15kW, 208V, 3ph	3 x 500MCM	2
	240	3	252.6	316.0	21 x 30A, 600V	AWG 8	7 x 50A	7 x 15kW, 240V, 3ph	3 x 500MCM	2
	380	3	159.5	200.0	21 x 30A, 600V	AWG 10	7 x 50A	7 x 15kW, 380V, 3ph	3 x 500MCM	2
	415	3	146.1	183.0	21 x 30A, 600V	AWG 10	7 x 50A	7 x 15kW, 415V, 3ph	3 x 500MCM	2
	480	3	126.3	158.0	21 x 30A, 600V	AWG 10	7 x 50A	7 x 15kW, 480V, 3ph	3 x AWG 2/0	2
	600	3	101.0	127.0	21 x 20A, 600V	AWG 10	7 x 50A	7 x 15kW, 600V, 3ph	3 x AWG 2/0	2

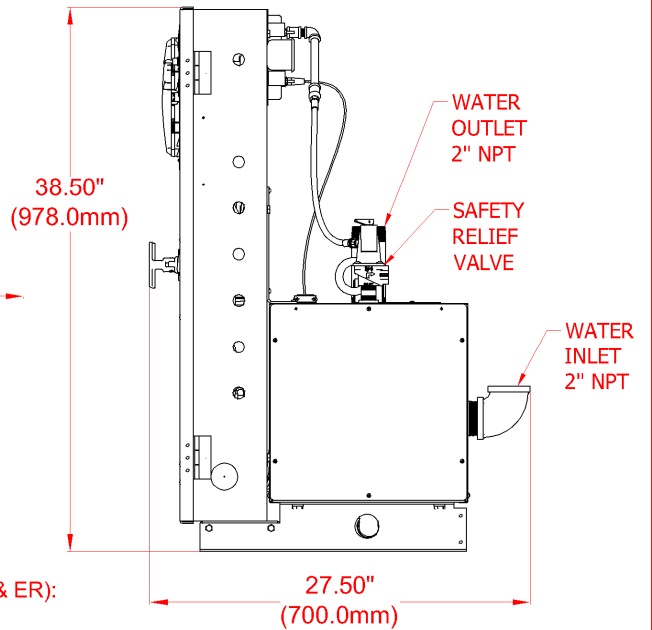
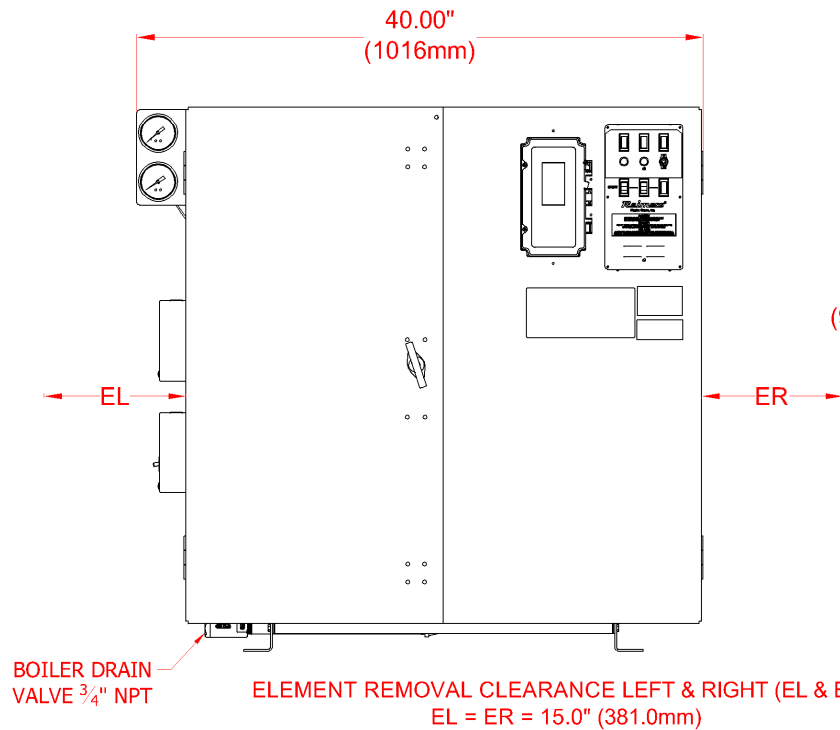


## Dimensional Drawings (approximate)

### HLR15 – HLR75 Models



### HLR90 – HLR105 Models



# 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
208V	OPT1010 – 208R
240V	OPT1010 – 240R
380V	OPT1010 – 380
415V	OPT1010 – 380
480V	OPT1010 – 480R
600V	OPT1010 – 600R

## 2. 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.

Boiler Model	Flow Switch Part #
HLR15	OPT1033-15
HLR30	OPT1033-30
HLR45 – HLR75	OPT1033-75
HLR90 – HLR105	OPT1033-105

## 3. Timer Controlled Boiler On/Off, #OPT1017



Programmable timer for turning boiler on/off automatically