

HLR540 - HLR900 HOT WATER BOILERS



Features

- Maximum design 150psi, 250°F
- Maximum operating 135psi, 235°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 2".
- Power range 540kW - 900kW with up to 8 heating stages, depending on model.
- Heating stages controlled by Honeywell T776 series boiler controller.
- One sensor operation - sensor A controls boiler temperature
- One sensor operation with outdoors reset - sensor A in boiler, sensor B outdoor sensor
- Two sensor operation (differential temperature control) - sensor A in boiler, sensor C in return line
- Two sensor operation (differential temperature control) - sensor A in boiler, sensor B outdoors sensor, sensor C in return line
- Set point time scheduling with two events per day possible

Standard Equipment of Each Boiler Includes:

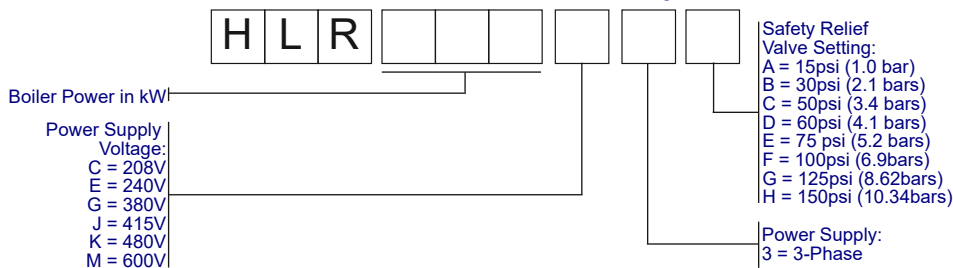
- A.S.M.E. pressure relief valve
- One (1) primary high temperature cutoff control with automatic reset and one (1) secondary high temperature cutoff control with manual reset
- One (1) low water cutoff control with manual reset
- PID-step controller with number of heating stages depending on the boiler 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 gauges

Applications

- Space Heating
- Water Source Heat Pumps
- Bio-Diesel Reactors
- Tank Heating
- Swimming Pools
- De-Icing

HEATING POWER KW	OUTPUT CAPACITY BTU/hr	NO. OF STEPS	VOLTAGE ⁽¹⁾	PHASE	SHIP WEIGHT ⁽²⁾ lbs (kg)	20° RISE WATER FLOW G.P.M. (L/min.)	PRESSURE VESSEL CAPACITY GAL. (L)	OPERATING TEMPERATURE RANGE °F (°C)	INLET/OUTLET SIZE (NPT)
540 KW	1,842,556.92	1	380/415/480/600	3	2600 (1179)	190.8 (722.3)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED
600 KW	2,047,285.47	2	380/415/480/600	3	2650 (1202)	212 (802.5)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED
660 KW	2,252,014.02	1	380/415/480/600	3	2675 (1213)	233.2 (882.8)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED
720 KW	2,456,742.56	2	380/415/480/600	3	2700 (1224)	254.4 (963.0)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED
780 KW	2,661,471.11	1	380/415/480/600	3	2750 (1247)	275.6 (1043.3)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED
840 KW	2,866,199.66	2	415/480/600	3	2775 (1259)	296.8 (1123.5)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED
900 KW	3,070,928.21	1	480/600	3	2800 (1270)	318 (1203.8)	124.00 (469.39)	35 (1) - 235 (113)	5" FLANGED

Model Number Key



Example: HLR900K3B = HLR-Series hot water boiler, 900kW heating power, power supply 480V, 3ph, safety valve set to 30psi

* 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.

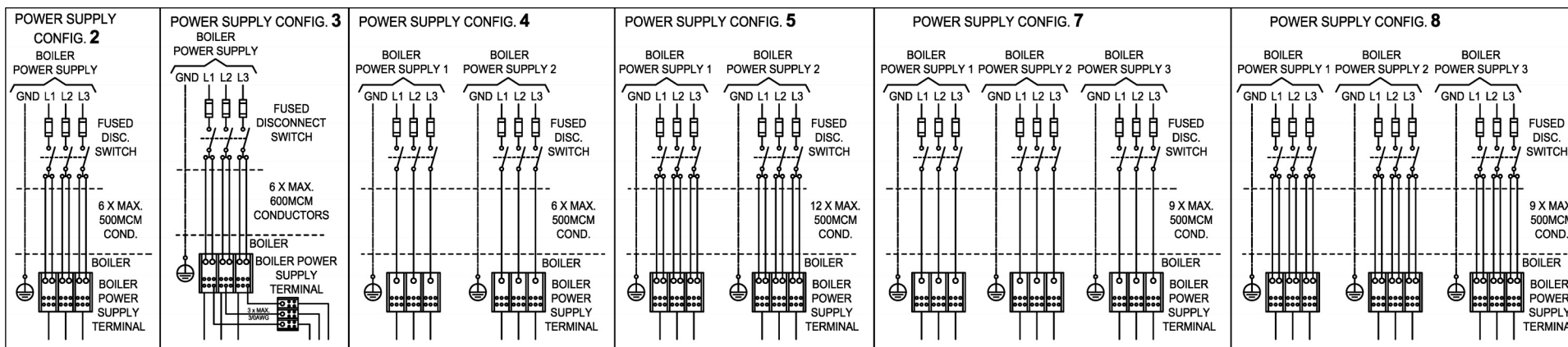
Please note that all information provided within this brochure is approximate and subject to change without notice. Please contact Reimers Electra Steam, Inc. with any questions regarding the specifications or dimensions detailed within.

Electrical Specifications

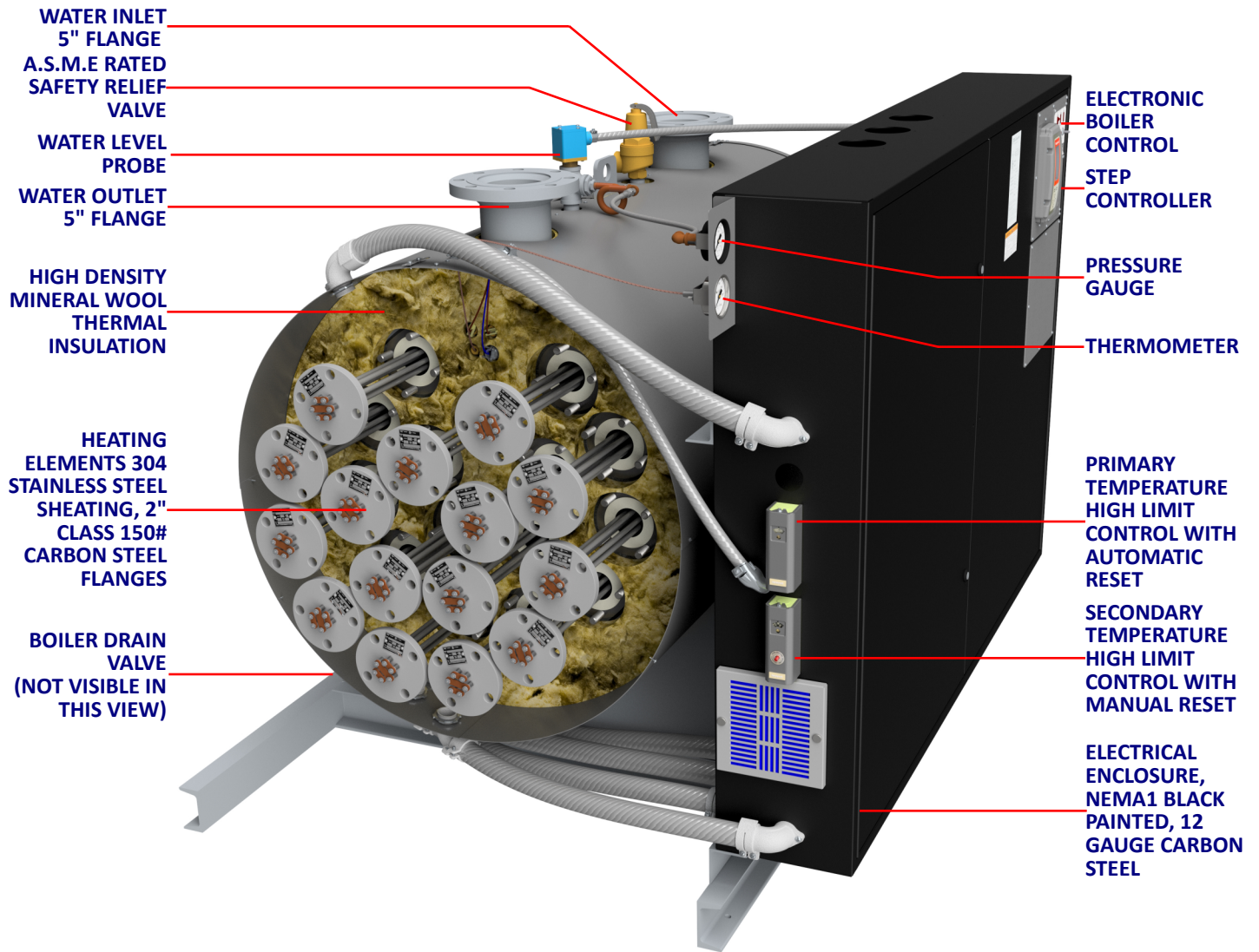
HEATING POWER	VOLTAGE	PH	INTERNAL ELEMENT WIRING	NUMBER & SIZES OF CONTACTORS	NUMBER & SIZE OF ELEMENTS	POWER SUPPLY																
						OPTION 1				OPTION 2				OPTION 3								
						AMP DRAW POWER INCOME		MIN. REQ. N.E.C. SERVICE	MIN. REQ. CONDUCTOR SIZE 75°C ⁽²⁾	CONFIG.	AMP DRAW POWER INCOME			MIN. REQ. N.E.C. SERVICE	MIN. REQ. CONDUCTOR SIZE 75°C ⁽²⁾	CONFIG.	AMP DRAW POWER INCOME			MIN. REQ. N.E.C. SERVICE	MIN. REQ. CONDUCTOR SIZE 75°C ⁽²⁾	CONFIG.
1 A	2 A	A	AWG (MCM)	1 A	2 A	3 A	A	AWG (MCM)	1 A		2 A	3 A	A	AWG (MCM)								
kW	V		AWG (mm ²)			1 A	2 A	A	AWG (MCM)		1 A	2 A	3 A	A	AWG (MCM)		1 A	2 A	3 A	A	AWG (MCM)	
540	380	3	8 (8.35)	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 (8.35)	18 x 50A	18 x 30kW, 415V, 3ph	375.6	375.9	2 x 469.5	10 x 250MCM	5	250.4	250.4	250.4	3 x 313.0	9 x 400MCM	7						
	480	3	8 (8.35)	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	216.6	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						
600	380	3	8 (8.35)	20 x 75A	20 x 30kW, 380V, 3ph	455.8	455.8	2 x 569.8	12 x 350MCM	5												
	415	3	8 (8.35)	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 (8.35)	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 (8.35)	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 (8.35)	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 (8.35)	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 (6.0)	24 x 50A	24 x 30kW, 600V, 3ph	346.4	346.4	2 x 433.0	12 x 4/0AWG	5	231.0	231	231	3 x 288.7	9 x 350MCM	7						
780	380	3	8 (8.35)	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 (8.35)	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 (8.35)	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 (6.0)	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	3 x 324.8	9 x 400MCM	7						
840	415	3	8 (8.35)	28 x 50A	26 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 (8.35)	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	8 (8.35)	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 (8.35)	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.

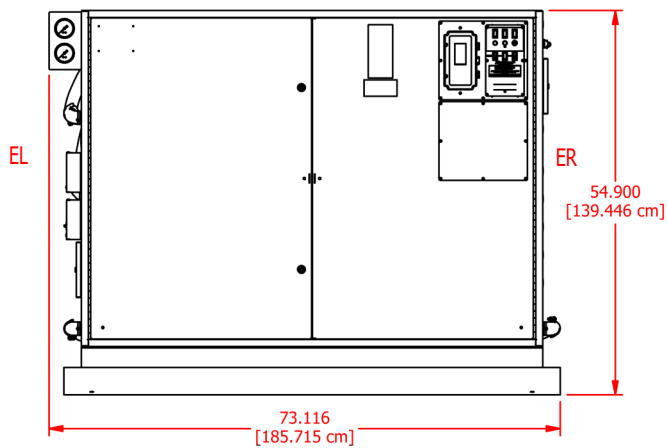
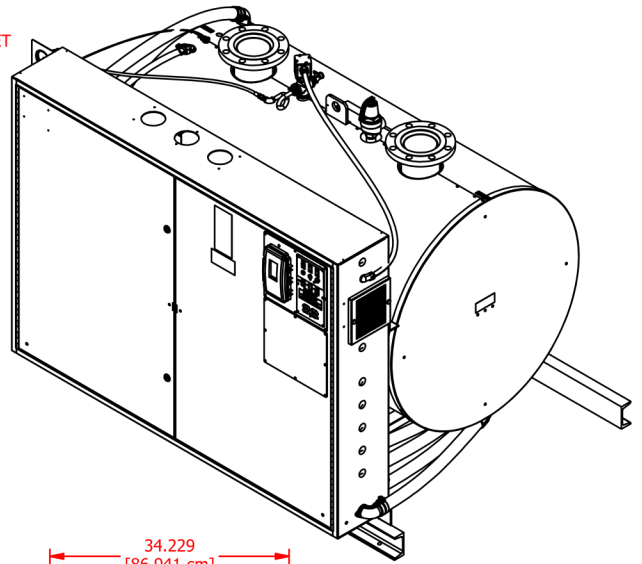
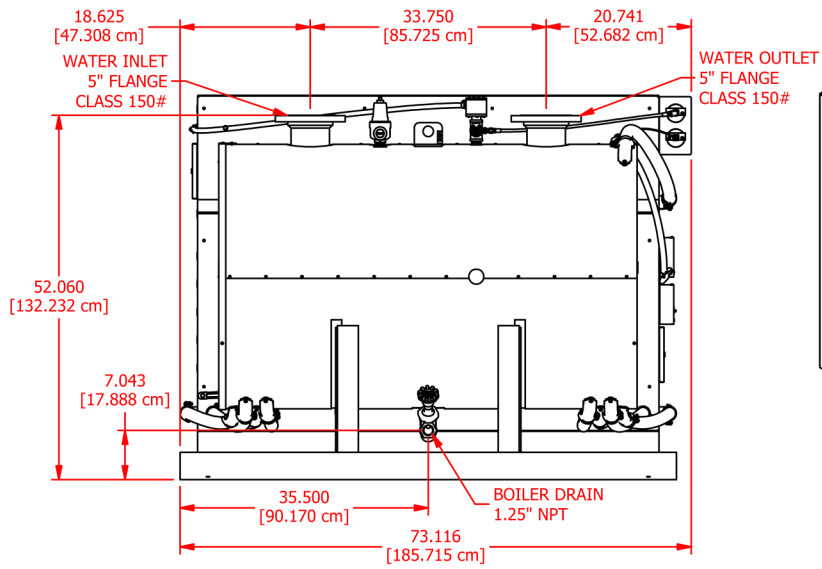
(2) The sizes shown in the above tabulation are the minimum required conductor sizes to be installed inside the boiler electrical enclosure as per the UL-File in which these boiler models are listed. The conductors must be rated at minimum 75°C. If the National Electrical Code (N.E.C.) or any other local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



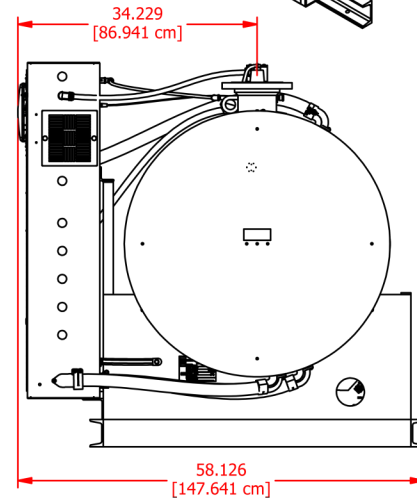
Construction



HLR 540-900

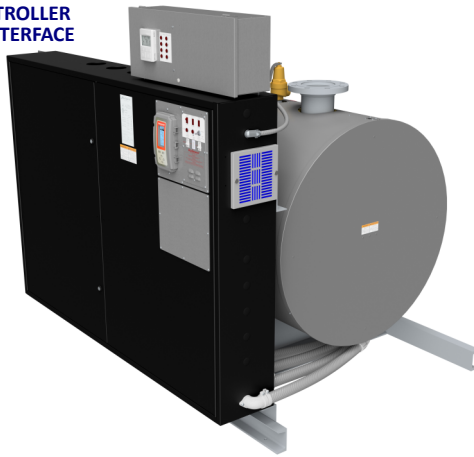


REQUIRED CLEARANCE FOR ELEMENT REMOVAL (EL & ER)
HLR540 - 900: EL = ER = 36"

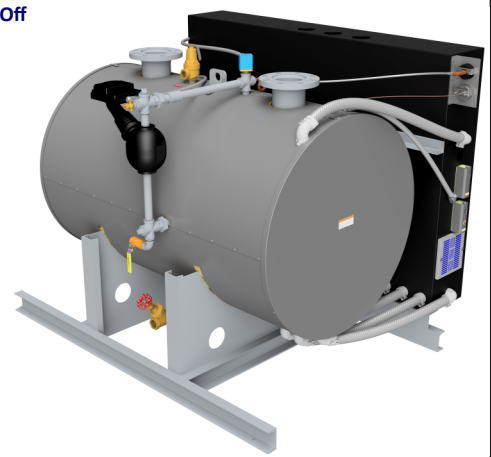


Optional Equipment and Accessories

**HOT WATER BOILER CONTROLLER
W/ BACnet PROTOCOL INTERFACE
OPT-BMS-HLR:**



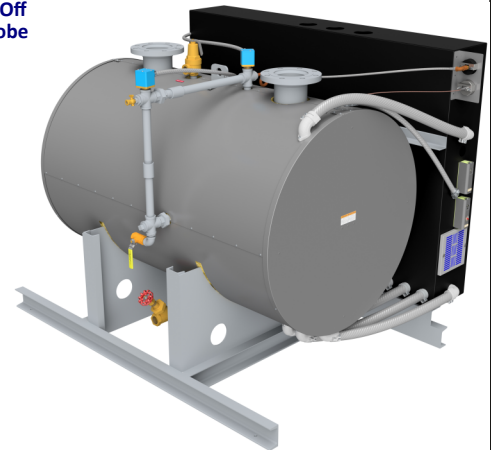
**Auxiliary Low Water Cut-Off
with McDonnell & Miller
Model MM150
OPTMM150:**



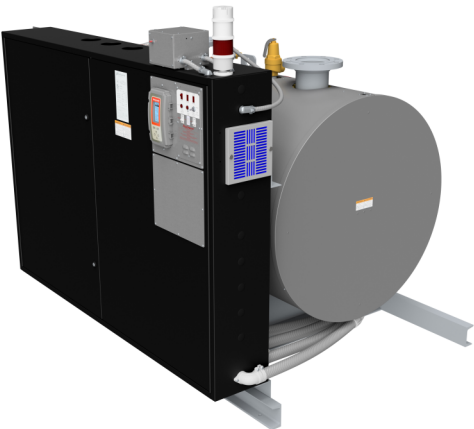
**REMOTE ALARM
MONITOR BASIC
OPT1034:**



**Auxiliary Low Water Cut-Off
with Conductive Type Probe
Fitting in External Water
Column
OPT1012:**



**REMOTE ALARM
MONITOR BASIC W/
HORN & LIGHT
OPT1037:**



HEATING ELEMENT OPTIONS

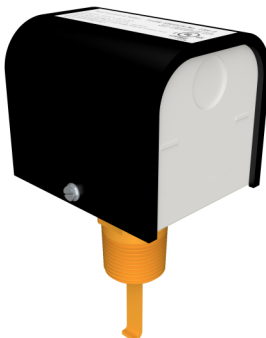
**OPT-316SH: SS 316 SHEATHING HEATING ELEMENT OPTION
OPT-INCOLOY: INCOLOY SHEATHING HEATING ELEMENT OPTION**

Control Voltage Transformer Options:

Use one of these options for single point boiler power supply.

Transformer Options	
Part Number	Description
OPT1010	OPTIONAL INSTALL TRANS .5KVA PRIMARY
OPT1011	OPTIONAL INSTALL TRANS 1.5KVA PRIMARY

**FLOW SWITCH MM FS4-3
02512:**



**Timer Controlled Boiler
On/Off, #OPT1017**

PART # 03893



MISC. OPTIONS

**OPT1036: UNFUSED DISCONNECT SWITCH OPTION
OPT-HLR-WEB: HOT WATER BOILER BACNET GATEWAY**