

HLR210 - HLR510 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 210kW - 510kW with up to 8 heating stages, depending on model.
- Heating stages managed by digital step controller.

Standard Equipment of Each Boiler Includes:

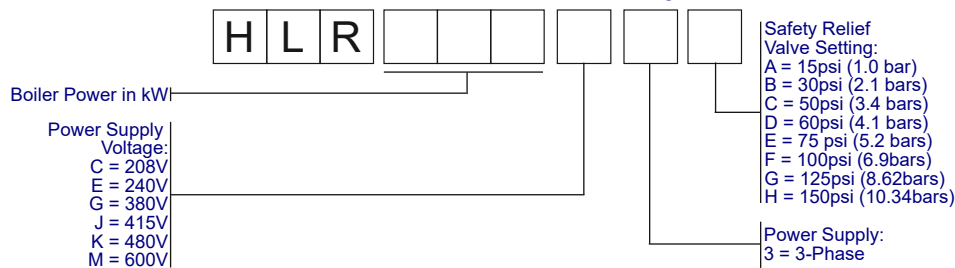
- A.S.M.E. pressure relief valve
- One (1) primary high temperature cutoff control with automatic reset and one (1) secondary high temperature cutoff control with manual reset
- One (1) low water cutoff control with manual reset
- PID-step controller with number of heating stages depending on the boiler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

Applications

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

HEATING POWER	OUTPUT CAPACITY	NO. OF STEPS	VOLTAGE ⁽¹⁾ 50/60Hz	PHASE	INLET & OUTLET SIZE	20°F RISE WATER FLOW	WATER CAPACITY	OPERATING TEMPERATURE RANGE	SHIP WT.
KW	BTU/HR					G.P.M. (L/min.)	GAL. (L)	°F (°C)	Lbs (kg)
210	717,000	7	240/380/415/480/600	3	3" NPT	75 (20)	78 (295)	35 (1) - 235 (113)	1440 (653)
240	819,000	8	380/415/480/600	3	3" NPT	85 (22)	78 (295)	35 (1) - 235 (113)	1510 (685)
300	1,023,000	8	380/415/480/600	3	3" NPT	107 (28)	78 (295)	35 (1) - 235 (113)	1560 (708)
360	1,228,000	8	380/415/480/600	3	4" FLANGED	128 (34)	78 (295)	35 (1) - 235 (113)	1720 (780)
420	1,433,000	8	380/415/480/600	3	4" FLANGED	149 (39)	78 (295)	35 (1) - 235 (113)	1780 (807)
510	1,740,000	8	380/415/480/600	3	4" FLANGED	181 (48)	78 (295)	35 (1) - 235 (113)	1830 (830)

Model Number Key



Example: HLR510K3B = HLR-Series hot water boiler, 510kW 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.

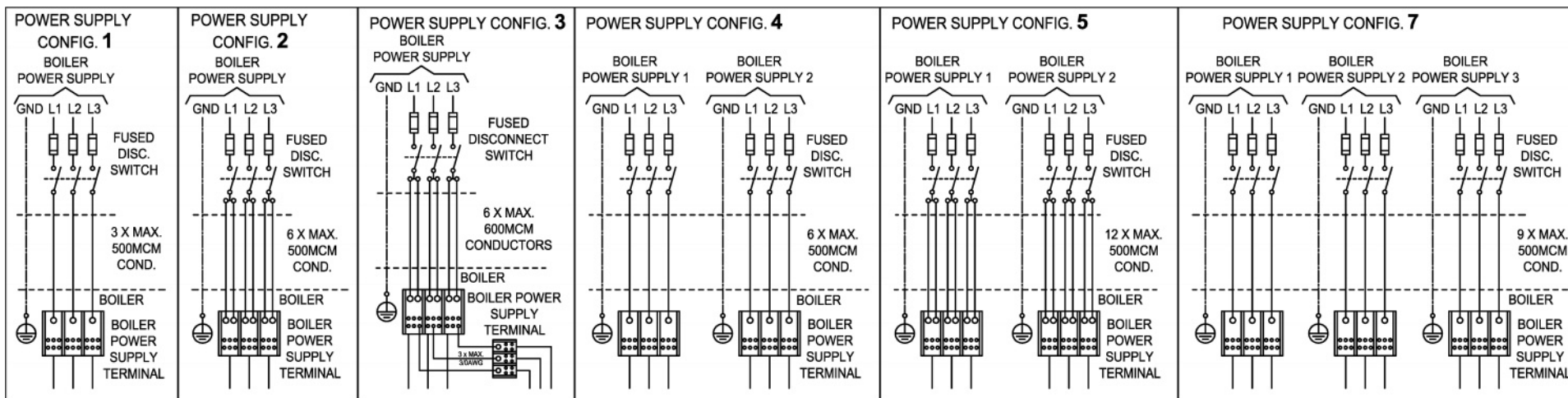
Please note that all information provided within this brochure is approximate and subject to change without notice. Please contact Reimers Electra Steam, Inc. with any questions regarding the specifications or dimensions detailed within.

Electrical Specifications

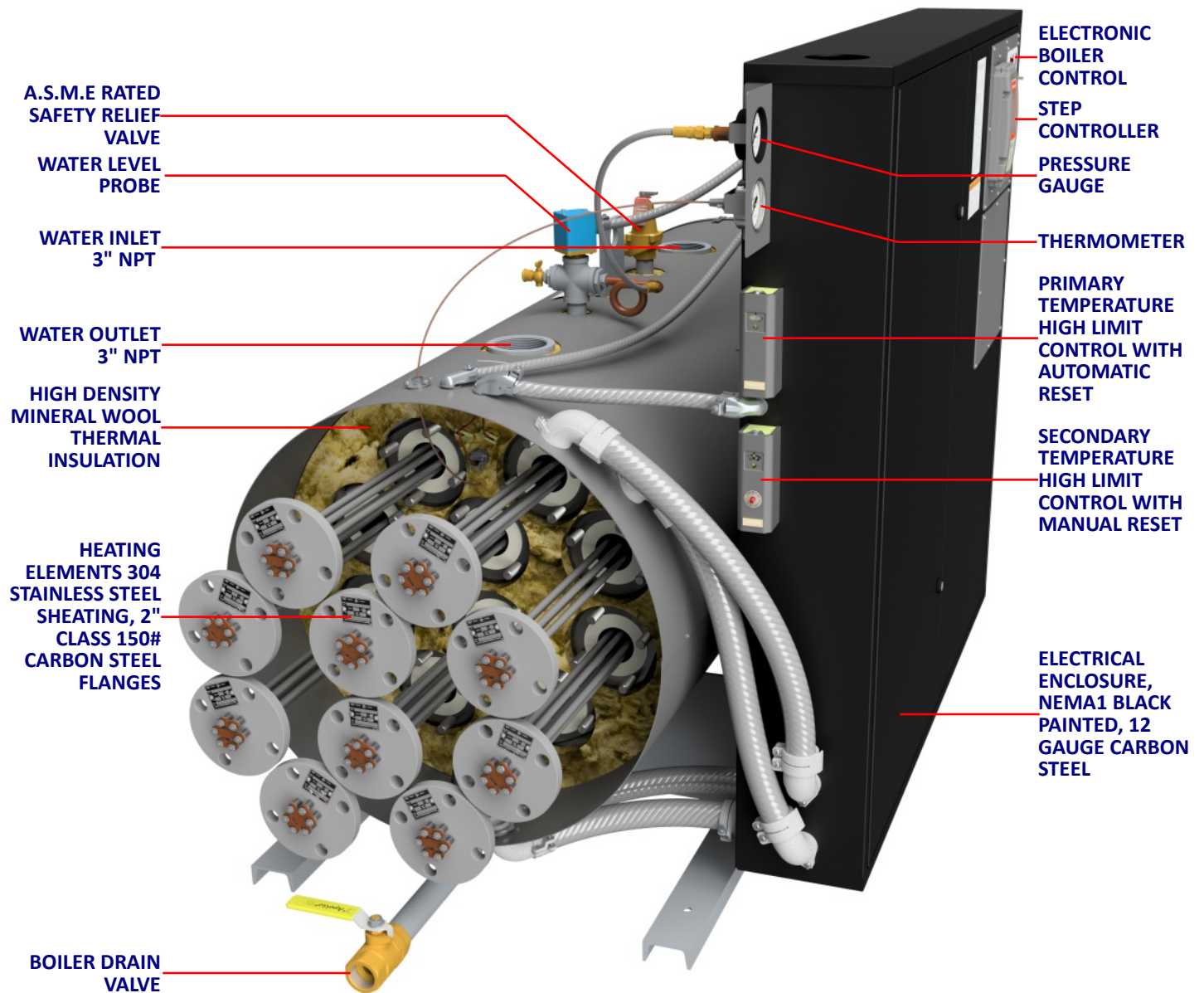
HEATING POWER	VOLTAGE	PH	INTERNAL ELEMENT WIRING	NUMBER & SIZES OF CONTACTORS	NUMBER & SIZE OF ELEMENTS	POWER SUPPLY																
						OPTION 1					OPTION 2					OPTION 3						
						AMP DRAW POWER INCOME		MIN. REQ. N.E.C. SERVICE	MIN. REQ. CONDUCTOR SIZE 75°C ⁽²⁾	CONFIG.	AMP DRAW POWER INCOME			MIN. 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)								
210	240	3	6 (13.3)	7 x 93A	7 x 30kW, 240V, 3ph	505.2		631.5	6 x 400MCM	2	288.7	216.5		2 x 360.9	6 x 500MCM	4						
	380	3	8 (8.35)	7 x 75A	7 x 30kW, 380V, 3ph	319.1		399.0	6 x 4/0 AWG	2	182.3	136.7		2 x 227.9	6 x 4/0 AWG	4						
	415	3	8 (8.35)	7 x 50A	7 x 30kW, 415V, 3ph	292.2		366.0	3 x 500MCM	1												
	480	3	8 (8.35)	7 x 50A	7 x 30kW, 480V, 3ph	252.6		316.0	3 x 400MCM	1												
	600	3	10 (6.0)	7 x 50A	7 x 30kW, 600V, 3ph	202.1		253.0	3 x 300MCM	1												
240	380	3	8 (8.35)	8 x 75A	8 x 30kW, 380V, 3ph	364.7		456.0	6 x 250MCM	2	182.3	182.3		2 x 227.9	6 x 250MCM	4						
	415	3	8 (8.35)	8 x 50A	8 x 30kW, 415V, 3ph	333.9		418.0	6 x 4/0 AWG	2	166.9	166.9		2 x 208.6	6 x 4/0 AWG	4						
	480	3	8 (8.35)	8 x 50A	8 x 30kW, 480V, 3ph	288.7		361.0	3 x 500MCM	1												
	600	3	10 (6.0)	8 x 50A	8 x 30kW, 600V, 3ph	230.9		289.0	3 x 350MCM	1												
300	380	3	8 (8.35)	10 x 75A	10 x 30kW, 380V, 3ph	455.8		570.0	6 x 350MCM	2	227.9	227.9		2 x 284.9	6 x 350MCM	4						
	415	3	8 (8.35)	10 x 50A	10 x 30kW, 415V, 3ph	417.4		522.0	6 x 300MCM	2	208.7	208.7		2 x 260.9	6 x 300MCM	4						
	480	3	8 (8.35)	10 x 50A	10 x 30kW, 480V, 3ph	360.9		452.0	6 x 250MCM	2	180.4	180.4		2 x 225.5	6 x 250MCM	4						
	600	3	10 (6.0)	10 x 50A	10 x 30kW, 600V, 3ph	288.7		361.0	3 x 500MCM	1												
360	380	3	8 (8.35)	12 x 75A	12 x 30kW, 380V, 3ph	547.0		684.0	6 x 500MCM	2	273.5	273.5		2 x 341.9	6 x 500MCM	4						
	415	3	8 (8.35)	12 x 50A	12 x 30kW, 415V, 3ph	500.8		627.0	6 x 400MCM	2	250.4	250.4		2 x 313.0	6 x 400MCM	4						
	480	3	8 (8.35)	12 x 50A	12 x 30kW, 480V, 3ph	433.0		542.0	6 x 300MCM	2	216.5	216.5		2 x 270.6	6 x 300MCM	4						
	600	3	10 (6.0)	12 x 50A	12 x 30kW, 600V, 3ph	346.4		434.0	6 x 4/0 AWG	2	173.2	173.2		2 x 216.5	6 x 4/0 AWG	4						
420	380	3	8 (8.35)	14 x 75A	14 x 30kW, 380V, 3ph	638.1		798.0	6 x 600MCM	3	319.1	319.1		2 x 398.8	12 x 4/0 AWG	5	227.9	227.9	182.3	3 x 284.9	9 x 300MCM	7
	415	3	8 (8.35)	14 x 50A	14 x 30kW, 415V, 3ph	584.3		731.0	6 x 500MCM	2	292.2	292.2		2 x 365.2	6 x 500MCM	4						
	480	3	8 (8.35)	14 x 50A	14 x 30kW, 480V, 3ph	505.2		632.0	6 x 400MCM	2	252.6	252.6		2 x 315.7	6 x 400MCM	4						
	600	3	10 (6.0)	14 x 50A	14 x 30kW, 600V, 3ph	404.2		506.0	6 x 300MCM	2	202.1	202.1		2 x 252.6	6 x 300MCM	4						
510	380	3	8 (8.35)	17 x 75A	17 x 30kW, 380V, 3ph	410.2	364.6	2 x 513	12 x 300MCM	5	273.5	273.5	227.9	3 x 341.9	9 x 500MCM	7						
	415	3	8 (8.35)	17 x 50A	17 x 30kW, 415V, 3ph	375.6	333.9	2 x 470	12 x 250MCM	5	250.4	250.4	227.9	3 x 313.0	9 x 400MCM	7						
	480	3	8 (8.35)	17 x 50A	17 x 30kW, 480V, 3ph	613.5		767.0	6 x 600MCM	3	324.8	288.7		3 x 405.9	12 x 4/0 AWG	5	216.5	216.5	180.4	3 x 270.6	9 x 300MCM	7
	600	3	10 (6.0)	17 x 50A	17 x 30kW, 600V, 3ph	490.8		614.0	6 x 400MCM	2	259.8	230.9		2 x 324.8	6 x 400MCM	4						

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

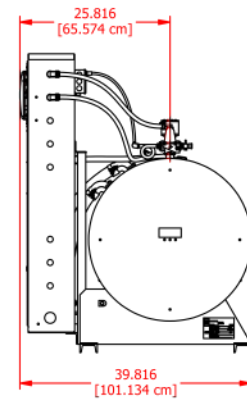
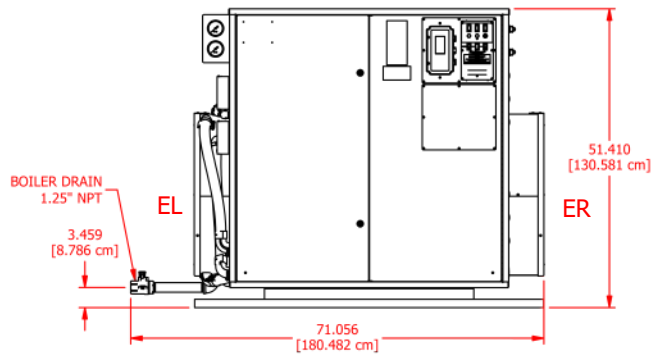
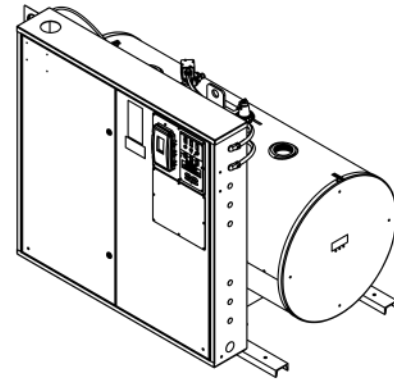
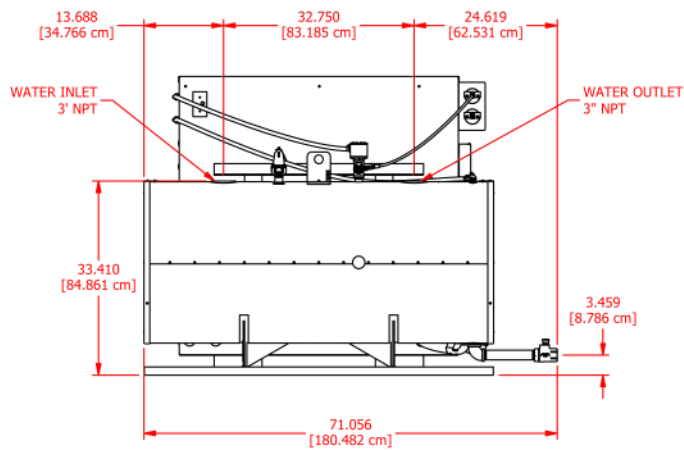
(2) The sizes shown in the above tabulation are the minimum required conductor sizes to be installed inside the boiler electrical enclosure as per the UL-File in which these boiler models are listed. The conductors must be rated at minimum 75°C. If the National Electrical Code (N.E.C.) or any other local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



Construction

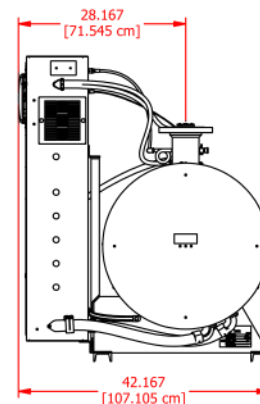
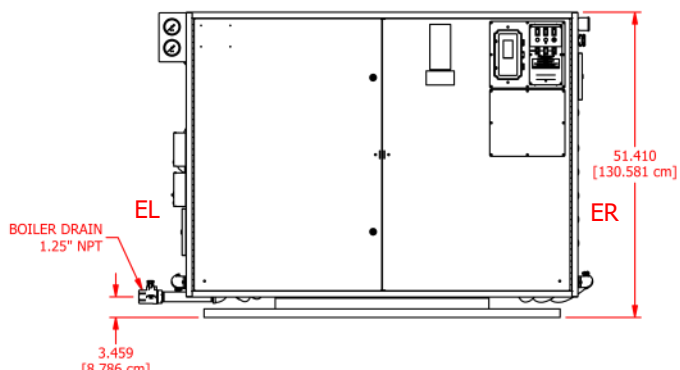
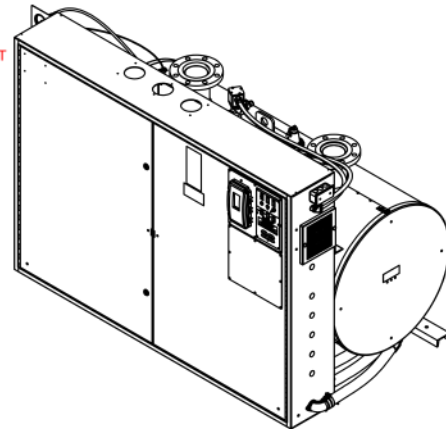
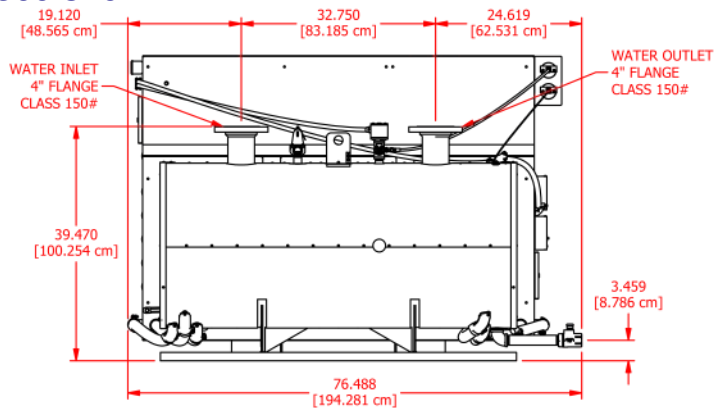


HLR 210-300



REQUIRED CLEARANCE FOR ELEMENT REMOVAL (EL & ER)
HLR210 - 300: EL = 36"

HLR 360-510



REQUIRED CLEARANCE FOR ELEMENT REMOVAL (EL & ER)
HLR360 - 510: 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**