

RHP540 - RHP750 STEAM BOILERS



Features

- Maximum safety valve setting 150psi
- 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 "S".
- High quality saturated steam, operating pressure range 0 – 135psig
- Heavy duty carbon steel pressure vessel. Vessel jacket and electrical enclosure made from painted carbon steel
- Large selection of optional equipment

Standard Equipment of Each Boiler Includes:

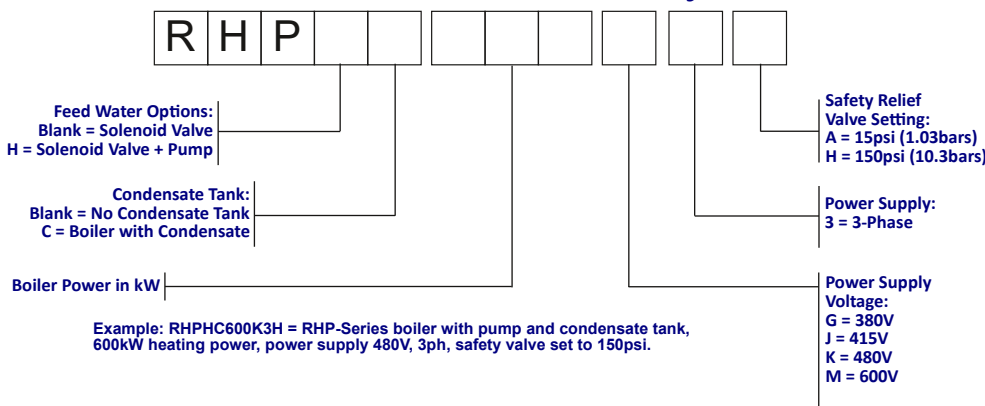
- A.S.M.E. pressure relief valve
- Two (2) boiler bottom blowoff valves (one quick-opening and one slow opening) as per A.S.M.E. Code B31.1
- 4" flanged class 150# carbon steel steam outlet valve
- High pressure feed pump in RHPH- and RHPHC-models
- One (1) primary high pressure cutoff control with automatic reset and one (1) secondary high pressure cutoff control with manual reset
- One (1) primary low water cutoff control with automatic reset and one (1) secondary low water cutoff with manual reset
- PID-step controller with number of heating stages depending on boiler model
- Digital readout of the operating pressure
- Magnetic contactors
- Internal branch circuit fusing
- Main supply power distribution block
- Indicator lights for POWER, REFILLING, HEATING, ALARMS and Automatic Boiler Blowoff Status
- Pressure and water level gauge

Applications

- Process Steam
- Industrial Autoclaves
- Air Humidification
- Dry Cleaning
- Food Service
- Laboratories
- Automotive Industry

HEATING POWER KW	STEAM CAPACITY lbs/hr (kg/hr) ⁽⁴⁾	BHP	VOLTAGE ⁽¹⁾	PHASE	SHIP WEIGHT. ⁽³⁾ lbs (kg)	PRESSURE VESSEL CAPACITY GAL. (L)	OPERATING PRESSURE RANGE psi (bar)	STEAM OUTLET (NPT)	
								LP <15psig	HP >15psig
540 KW	1842 (836)	54.0	380/415/480/600	3	2764 (1254)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
570 KW	1945 (882)	57.0	380/415/480/600	3	2772 (1257)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
600 KW	2047 (928)	60.0	380/415/480/600	3	2780 (1261)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
630 KW	2150 (975)	63.0	380/415/480/600	3	2788 (1264)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
660 KW	2252 (1021)	66.0	380/415/480/600	3	2796 (1268)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
690 KW	2354 (1068)	69.0	380/415/480/600	3	2804 (1272)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
720 KW	2457 (1114)	72.0	380/415/480/600	3	2812 (1275)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	
750 KW	2559 (1161)	75.0	380/415/480/600	3	2820 (1279)	179 (677.59)	0 - 135 (0 – 9.3)	4" FLANGED	

Model Number Key



⁽¹⁾ Each boiler model requires two (2) power supplies: Primary heating power and secondary control voltage. Nominal control voltage is 120V, 50/60Hz. 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.

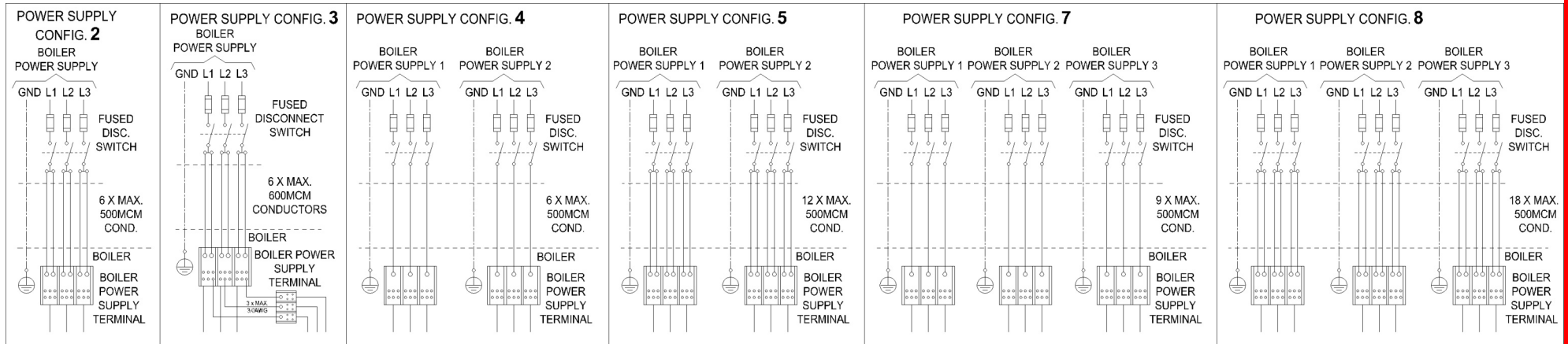
⁽²⁾ On boiler equipped with condensate tank, add 180lbs (82kg)

⁽³⁾ The STEAM CAPACITY listed above is based on the evaporation rate from and at 212°F, at 0psig. If the boiler feed water temperature is 50°F, then the STEAM CAPACITY for each model listed above is approximately 15% lower.

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	PRIMARY VOLTAGE	PHASE	INTERNAL POWER FUSING	INTERNAL ELEMENT WIRING	NUMBER & SIZES OF CONTACTORS	POWER SUPPLY CONFIGURATIONS ⁽¹⁾																			
						OPTION 01						OPTION 02						OPTION 03							
						AMP DRAW POWER INCOME		MIN REQ. N.E.C. SERVICE				AMP DRAW			MIN REQ. N.E.C. SERVICE				AMP DRAW			MIN REQ. N.E.C.			
						1	2					1	2	3					1	2	3				
						A	A					A	MIN. REQUIRED CONDUCTOR SIZE IN	CONFIGURATION					A	A	A				
540	380	3	54 x 90A 600V	8 (8.4)	18 x 50A	410.2	410.2	2 x 512.8	12 x 300 MCM	5	273.5	273.5	273.5	3 x 341.9	9 x 500 MCM	7									
	415	3	54 x 60A 600V	8 (8.4)	18 x 50A	375.6	375.6	2 x 469.5	12 x 250 MCM	5	250.4	250.4	250.4	3 x 313.0	9 x 400 MCM	7									
	480	3	54 x 60A 600V	8 (8.4)	18 x 50A	649.5		1 x 811.9	6 x 600 MCM	3	324.8	324.8		2 x 405.9	12 x AWG 4/0	5	216.5	216.5	216.5	3 x 270.6	9 x 300 MCM	7			
	600	3	54 x 60A 600V	8 (8.4)	18 x 50A	519.6		1 x 649.5	6 x 400 MCM	2	259.8	259.8		2 x 324.8	6 x 400 MCM	4									
600	380	3	60 x 90A 600V	8 (8.4)	20 x 50A	455.8	455.8	2 x 569.8	12 x 300 MCM	5															
	415	3	60 x 60A 600V	8 (8.4)	20 x 50A	417.4	417.4	2 x 521.7	12 x 300 MCM	5	292.2	292.2	250.4	3 x 365.2	9 x 500 MCM	7									
	480	3	60 x 60A 600V	8 (8.4)	20 x 50A	360.8	360.8	2 x 451.1	12 x 250 MCM	5	252.6	252.6	216.5	3 x 315.7	9 x 400 MCM	7									
	600	3	60 x 60A 600V	8 (8.4)	20 x 50A	577.4		1 x 721.7	6 x 500 MCM	2	288.7	288.7		2 x 360.8	6 x 500 MCM	4									
660	380	3	66 x 90A 600V	8 (8.4)	22 x 50A	501.4	501.4	2 x 626.7	12 x 400 MCM	5															
	415	3	66 x 60A 600V	8 (8.4)	22 x 50A	459.1	459.1	2 x 573.9	12 x 350 MCM	5															
	480	3	66 x 60A 600V	8 (8.4)	22 x 50A	396.9	396.9	2 x 496.2	12 x 250 MCM	5	288.7	252.6	252.6	3 x 360.8	9 x 500 MCM	7									
	600	3	66 x 60A 600V	8 (8.4)	22 x 50A	635.1		1 x 793.9	6 x 600 MCM	3	317.5	317.5		2 x 396.9	12 x AWG 3/0	5	230.9	202.1	202.1	3 x 288.7	9 x 350 MCM	7			
720	380	3	72 x 90A 600V	8 (8.4)	24 x 50A	547.0	547.0	2 x 683.7	12 x 500 MCM	5	364.6	364.6	364.6	3 x 455.8	18 x AWG 4/0	8									
	415	3	72 x 60A 600V	8 (8.4)	24 x 50A	500.8	500.8	2 x 626.0	12 x 400 MCM	5	333.9	333.9	333.9	3 x 417.4	18 x AWG 4/0	8									
	480	3	72 x 60A 600V	8 (8.4)	24 x 50A	433.0	433.0	2 x 541.3	12 x 300 MCM	5	288.7	288.7	288.7	3 x 360.8	9 x 500 MCM	7									
	600	3	72 x 60A 600V	8 (8.4)	24 x 50A	346.4	346.4	2 x 433.0	12 x AWG 4/0	5	230.9	230.9	230.9	3 x 288.7	9 x 350 MCM	7									
750	380	3	75 x 90A 600V	8 (8.4)	25 x 50A	592.5	547.0	2 x 740.7	12 x 500 MCM	5	410.2	364.6	364.6	3 x 512.8	18 x 300 MCM	8									
	415	3	75 x 60A 600V	8 (8.4)	25 x 50A	542.6	500.8	2 x 678.2	12 x 500 MCM	5	375.6	333.9	333.9	3 x 469.5	18 x 250 MCM	8									
	480	3	75 x 60A 600V	8 (8.4)	25 x 50A	469.1	433.0	2 x 586.4	12 x 350 MCM	5	324.8	288.7	288.7	3 x 405.9	18 x AWG 4/0	8									
	600	3	75 x 60A 600V	8 (8.4)	25 x 50A	375.3	346.4	2 x 469.1	12 x 250 MCM	5	259.8	230.9	230.9	3 x 324.8	9 x 400 MCM	7									



Construction

STEAM STOP VALVE

10 HEATING STAGES STEP
CONTROLLER WITH FIRST ON –
FIRST OFF SWITCHING SEQUENCE
(FOFO)

PID – OPERATING PRESSURE
CONTROLLER HONEYWELL T775U

ELECTRONIC BOILER CONTROLLER:
- LOW WATER & HIGH PRESSURE
LOCKOUT
- AUTOMATIC REFILL
- AUTOMATIC FLUSH & DRAIN
FUNCTION
- BOILER MONITORING

SHELL WRAPPER, POWDER
COATED, 16 GAUGE CARBON
STEEL

ELECTRICAL ENCLOSURE, NEMA1,
POWDER COATED, 12 GAUGE
CARBON STEEL

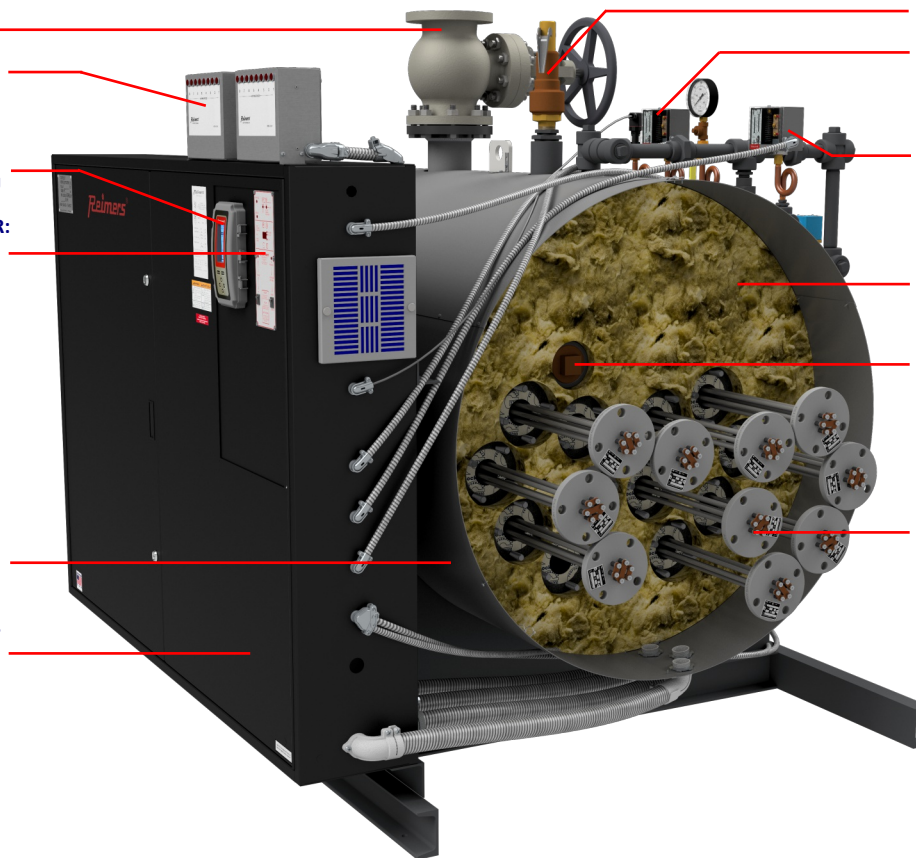
SAFETY RELIEF VALVE
PRIMARY PRESSURE
SAFETY LIMIT CONTROL
WITH AUTOMATIC RESET
FUNCTION

SECONDARY PRESSURE
SAFETY LIMIT CONTROL
WITH MANUAL RESET
FUNCTION

SHELL INSULATION:
FIBERGLASS, 4" THICK

TWO (2) INSPECTION &
CLEANOUT OPENINGS 3"
NPT AS PER A.S.M.E.
CODE

HEATING ELEMENTS,
30kW, 304 STAINLESS
STEEL SHEATHING
STANDARD; INCOLOY®
SHEATHING OPTIONAL
(SEE PAGE 6)
2" CARBON STEEL
FLANGES CLASS 150#



PRESSURE GAUGE WITH
INSPECTION PORT

SECONDARY LOW
WATER CUT-OFF SENSOR
FOR BOILER
CONTROLLER

WATER LEVEL GAUGE

EXTERNAL WATER
COLUMN DRAIN BALL
VALVE 3/4" NPT

BOILER BOTTOM
BLOWOFF VALVE: 1.25"
NPT QUICK OPENING
BALL VALVE & 1.25" NPT
SLOW OPENING Y-VALVE
OR MOTORIZED BALL
VALVE IF BOILER IS
EQUIPPED WITH AN
AUTOMATIC BOILER
BLOWOFF OPTION.

STEAM OUTLET VALVE:
4" FLANGE CLASS 150#

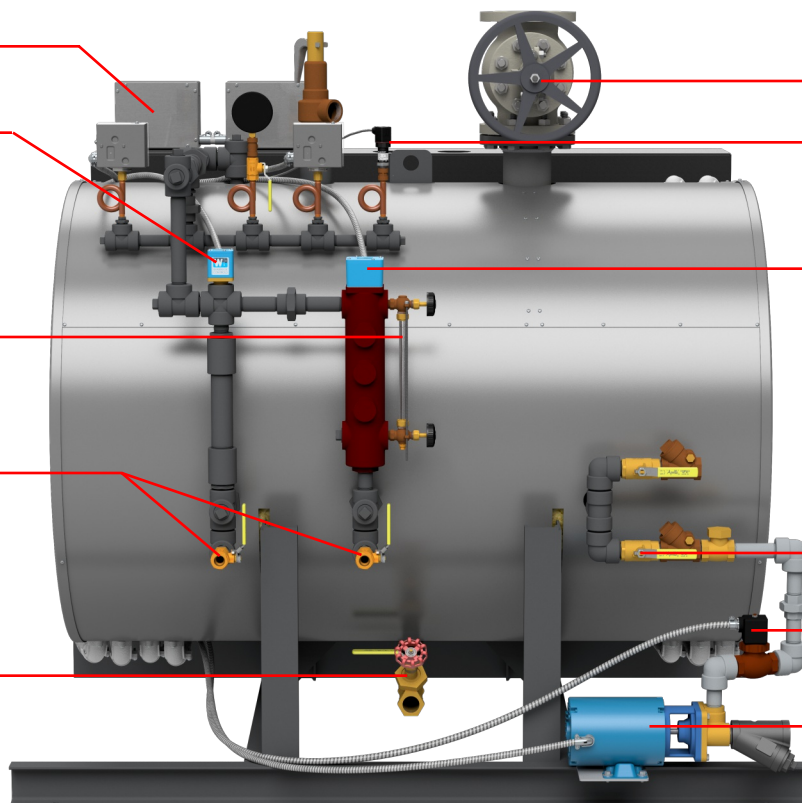
PRESSURE TRANSDUCER
FOR PID-OPERATING
PRESSURE CONTROLLER

AUTOMATIC WATER
REFILL & PRIMARY LOW
WATER CUT OFF
CONTROLLER WITH
AUTOMATIC RESET
FUNCTION

BOILER FEED WATER
SHUTOFF VALVE

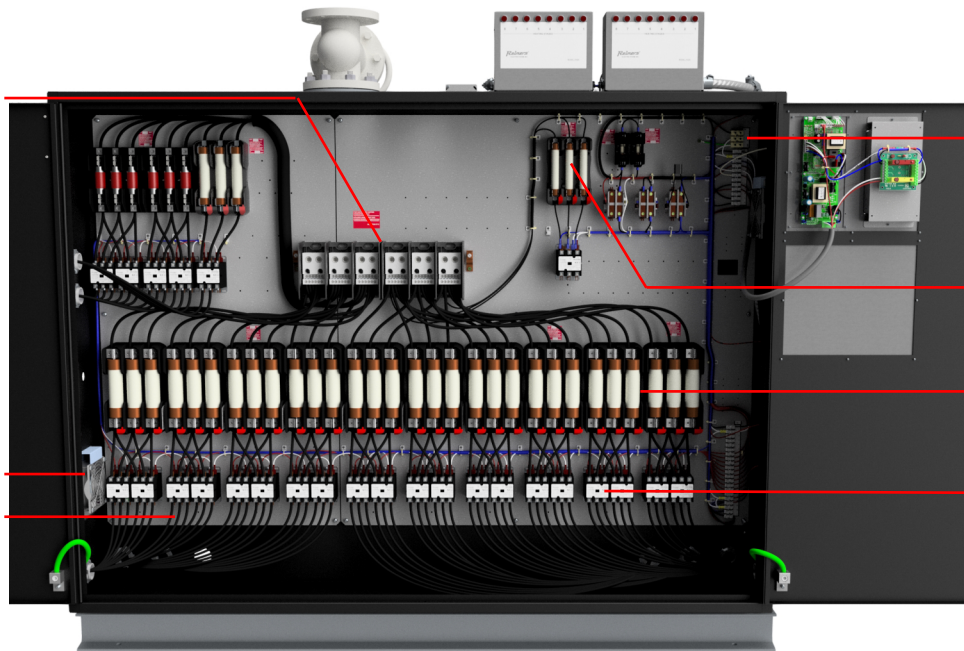
BOILER FEED WATER
SOLENOID VALVE ON
RHP & RHPH MODELS

HIGH PRESSURE BOILER
FEED WATER PUMP



FIELD TERMINAL FOR
POWER CIRCUITS;
NUMBER AND SIZE OF
TERMINALS PROVIDED
PER CIRCUIT AND PHASE
DEPENDS ON BOILER
MODEL (REFER TO
ELECTRICAL
SPECIFICATION TABLE
ON PAGE 2)

ELECTRICAL ENCLOSURE
COOLING FAN
HEATING ELEMENT
WIRING, RATED 125°C
MINIMUM



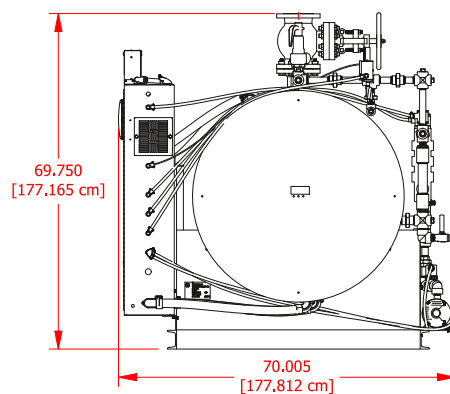
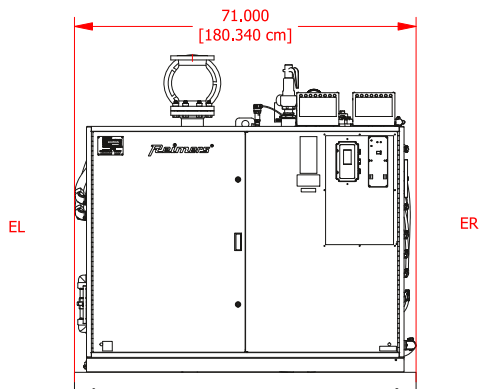
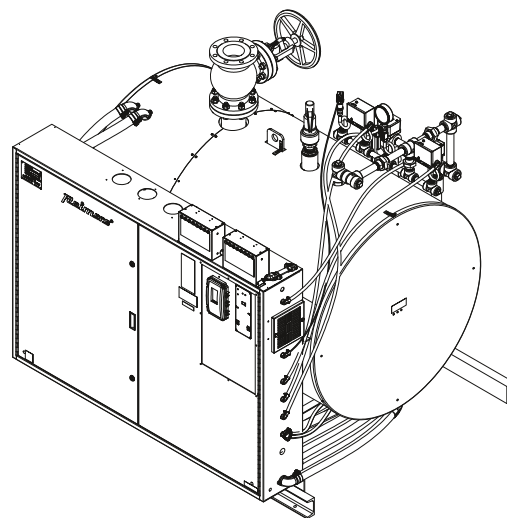
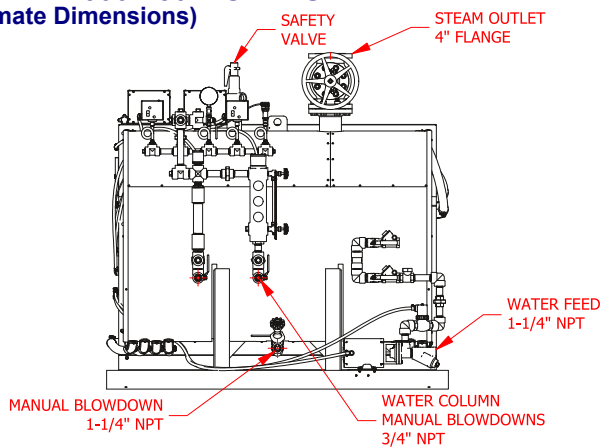
FIELD TERMINAL FOR
CONTROL VOLTAGE
HOOKUP;
NOT NEEDED WHEN A
CONTROL VOLTAGE
TRANSFORMER
(OPT1011) IS INSTALLED

BOILER FEED WATER
PUMP FUSING;
UL CLASS RK5

HEATING ELEMENT
CIRCUIT FUSING;
UL CLASS K STANDARD
OR
UL CLASS J OPTIONAL

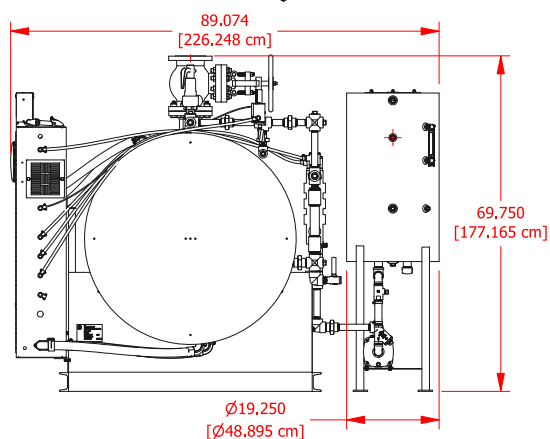
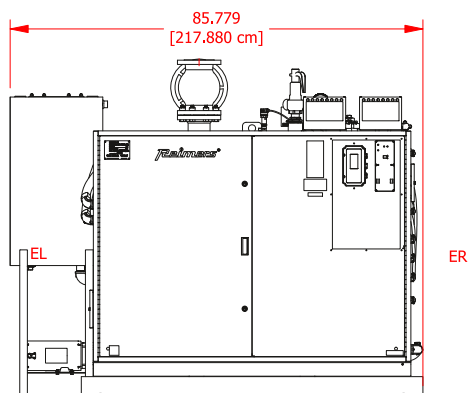
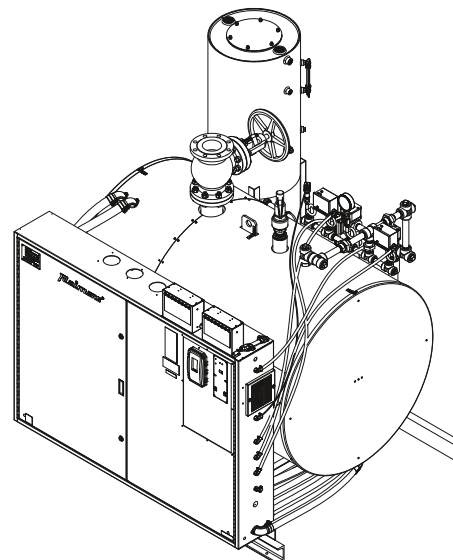
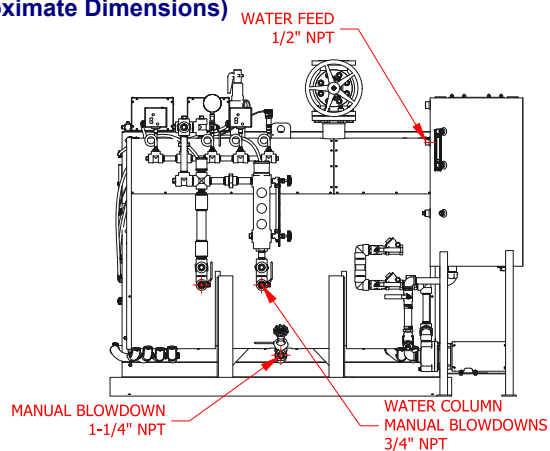
HEATING ELEMENT
CIRCUIT MAGNETIC
CONTACTORS, RATED
MIN. 250,000 CYCLES AT
FULL RATED ELECTRICAL
LOAD

RHP & RHPH 600-750 MODELS (Approximate Dimensions)



CLEARANCE FOR ELEMENT REMOVAL
RHP & RHPH 540-750: EL = ER = 36" (915.0 mm)

RHPHC 600-750 MODELS (Approximate Dimensions)

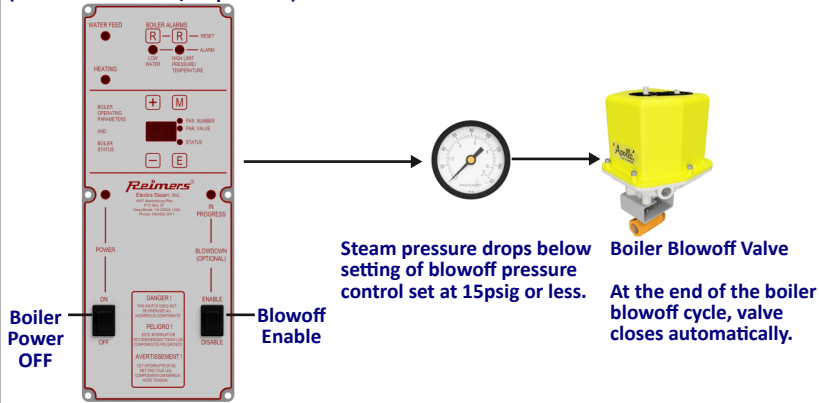


CLEARANCE FOR ELEMENT REMOVAL
RHPHC 540-750: EL = ER = 36" (915.0 mm)

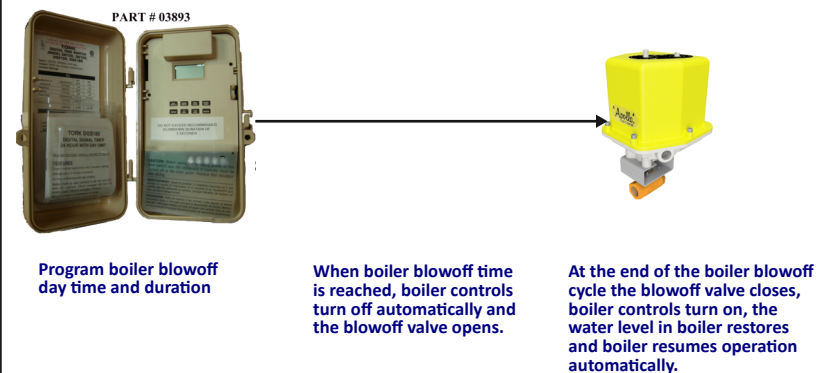
Optional Equipment and Accessories

Pressure Controlled Boiler Blowoff System Automatic Flush & Drain # OPT1016

(Not suitable for 24/7 operation):

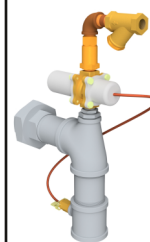
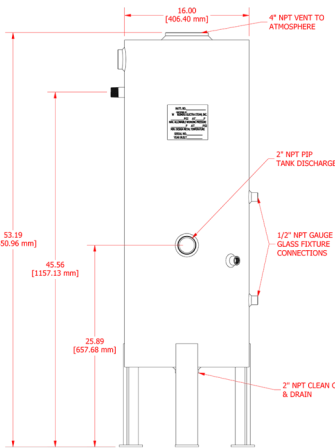
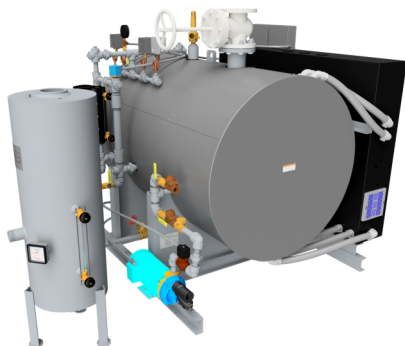


Timer Controlled Boiler Blowoff System (Suitable for 24/7 operation), # OPT1001:



Boiler Blowoff Tank, #BTANK16:

- Designed in accordance with the National Board Guide for Blowoff Vessels NB-27
 - Designed and manufactured in accordance with the requirements of the A.S.M.E. Boiler and Pressure Vessel Code Section VIII, Division 1.
- Each tank bears the National Board Stamp "U". The design pressure is 100psig.



Boiler Blowoff Tank After-Cooler #OPT1027:

Most States and Local Municipalities require that fluids drained to the sewer shall have a maximum temperature of not more than 140°F. Install this after-cooler to the blowoff tank discharge line when boiler operates with one of the above automatic blowoff options.

Control Voltage Transformer Options: Use one of these options for point boiler power supply.

Boiler Voltage	Transformer Option Part Number
380V	OPT1011-380RHP
415V	OPT1011-415RHP
480V	OPT1011-480RHP
600V	OPT1011-600RHP

Timer Controlled Boiler On/Off, #OPT1017



INCOLOY® HEATING ELEMENT SHEATHING, #OPT-INCOLOY®