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RX36 – RX120 Steam Boiler Series

Features

- Miniature boiler max. vessel volume 5ft^3
- Maximum safety valve setting 100psi
- 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 "M".
- High quality saturated steam, operating pressure range 0 – 85psig
- Heavy duty carbon steel pressure vessel. Vessel jacket and electrical enclosure 304 stainless steel
- Large selection of optional equipment

Applications

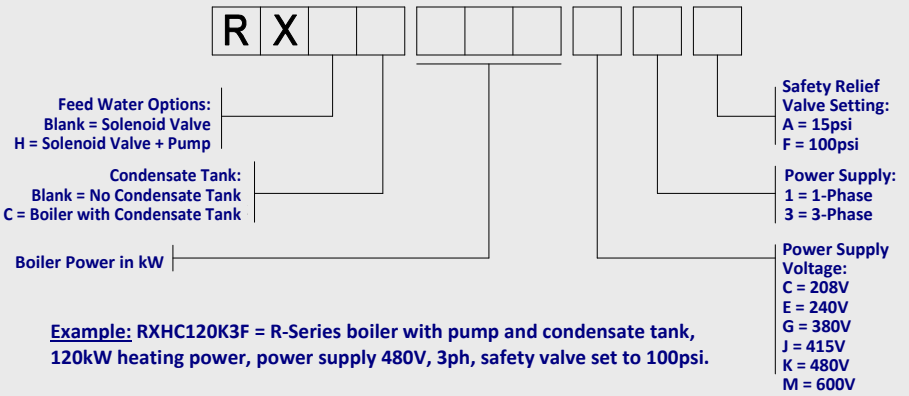
- Laboratories
- Breweries
- Process Heating
- Shrink Wrap Labels
- Dry Cleaning
- Food Service(*)

Standard Equipment of Each Boiler Includes:

- A.S.M.E. pressure relief valve
- High pressure cutoff control with manual reset
- One (1) operating pressure control for all models equipped with two heating elements or two (2) staged operating pressure controls for all models equipped with three or four heating elements
- Low water cutoff control with manual reset
- High water cut-off control with automatic or manual reset.
- Magnetic contactors
- Internal branch circuit fusing
- Enable/Disable switch for each heating element
- Main supply power distribution block
- Indicator lights for POWER, REFILLING, HEATING and ALARMS

HEATING POWER kW	STEAM CAPACITY lbs/hr (kg/hr) [4]	BHP	VOLTAGE[1]	PHASE	SHIP WT. [3] Lbs (kg)	OP. PRESS. RANGE psig (bar)	Steam Outlet (NPT) LP < 15psig	Steam Outlet (NPT) HP > 15psig
36 KW	123 (56)	3.6	208/240/480/600	3[2]	480 (218)	0-85 (0 – 5.9)	1	3/4
40 KW	137 (62)	4.0	208/240/380/415/480/600	3	480 (218)	0-85 (0 – 5.9)	1	3/4
45KW	154 (70)	4.5	208/240/380/415/480/600	3	530 (240)	0-85 (0 – 5.9)	1-1/4	3/4
54 KW	185 (84)	5.4	208/240/480/600	3	530 (240)	0-85 (0 – 5.9)	1-1/4	3/4
60 KW	205 (93)	6.0	208/240/380/415/480/600	3	530 (240)	0-85 (0 – 5.9)	1-1/4	1
72 KW	246 (111)	7.2	208/240/480/600	3	610 (276)	0-85 (0 – 5.9)	1-1/4	1
80 KW	273 (124)	8.0	208/240/380/415/480/600	3	610 (276)	0-85 (0 – 5.9)	1-1/4	1
100 KW	342 (155)	10.0	208[5]/240/380/415/480/600	3	795 (360)	0-85 (0 – 5.9)	2	1-1/4
120 KW	409 (185)	12.0	208/240/380/415/480/600	3	795 (360)	0-85 (0 – 5.9)	2	1-1/4

Model Number Key



Example: RXHC120K3F = R-Series boiler with pump and condensate tank, 120kW heating power, power supply 480V, 3ph, safety valve set to 100psi.

[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] Also available in 240V 1PH

[3] On boilers equipped with condensate tank, add 150lbs (68.0kg) to shipping weight

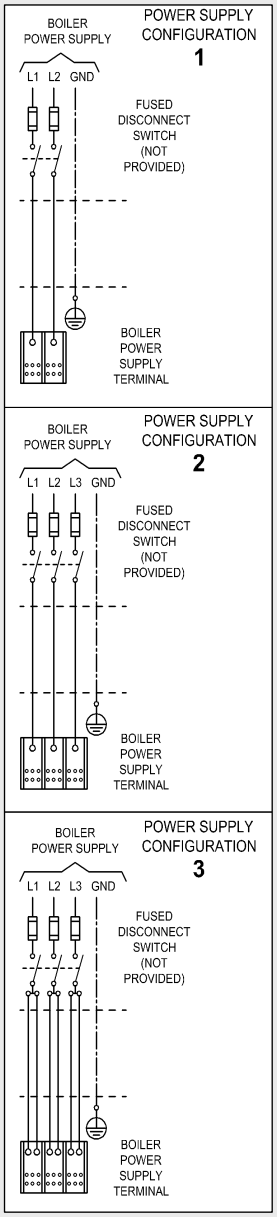
[4] The STEAM CAPACITY listed above is based on the evaporation rate from and at 212°F, at 0 psig. If the boiler feed water temperature is 50°F, then the STEAM CAPACITY for each model listed above is approximately 15% lower.

[5] RX100 model, rated 208V, 3ph is limited to 307lbs/hr, 90kW, 9BHP

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 kW	PRIMARY VOLTAGE V	PHASE	AMP DRAW A	MIN REQ. N.E.C. SERVICE A	INTERNAL POWER FUSING	INTERNAL ELEMENT WIRING AWG (mm²)	NUMBER & SIZES OF CONTACTORS (RES. LOAD)	NUMBER & SIZE OF ELEMENTS	POWER SUPPLY	
									MINIMUM REQU. CONDUCTOR SIZE IN BOILER ELECTRICAL ENCLOSURE (*) AWG/MCM	CONFIGU-RATION
36	208	3	100.0	125.0	6 x 60A, 250V	8 (8.35)	2 x 75A	2 x 18kW, 208V, 3ph	1 AWG	2
	240	3	86.6	108.0	6 x 60A, 250V	8 (8.35)	2 x 50A	2 x 18Kw, 240V, 3ph	2 AWG	2
	240	1	150.0	188.0	6 x 60A, 250V	8 (8.35)	2 x 75A	2 x 18kW, 240V, 1ph	3/0 AWG	1
	480	3	43.3	55.0	6 x 30A, 600V	10 (5.27)	2 x 50A	2 x 18kW, 480V, 3ph	6 AWG	2
	600	3	34.6	44.0	6 x 30A, 600V	10 (5.27)	2 x 50A	2 x 18kW, 600V, 3ph	8 AWG	2
40	208	3	111.0	140.0	6 x 70A, 250V	8 (8.35)	2 x 75A	2 x 20kW, 208V, 3ph	1/0 AWG	2
	240	3	96.2	121.0	6 x 60A, 250V	8 (8.35)	2 x 75A	2 x 20kW, 240V, 3ph	1 AWG	2
	380	3	60.8	76.0	6 x 40A, 600V	8 (8.35)	2 x 50A	2 x 20kW, 380V, 3ph	4 AWG	2
	415	3	55.6	70.0	6 x 40A, 600V	10 (5.27)	2 x 50A	2 x 20kW, 415V, 3ph	4 AWG	2
	480	3	48.1	60.0	6 x 30A, 600V	10 (5.27)	2 x 50A	2 x 20kW, 480V, 3ph	6 AWG	2
	600	3	38.5	48.0	6 x 30A, 600V	10 (5.27)	2 x 50A	2 x 20kW, 600V, 3ph	8 AWG	2
45	208	3	124.9	156.0	9 x 50A, 250V	8 (8.35)	3 x 50A	3 x 15kW, 208V, 3ph	2/0 AWG	2
	240	3	108.3	136.0	9 x 50A, 250V	8 (8.35)	3 x 50A	3 x 15kW, 240V, 3ph	1/0 AWG	2
	380	3	68.4	86.0	9 x 30A, 600V	10 (5.27)	3 x 50A	3 x 15kW, 380V, 3ph	3 AWG	2
	415	3	62.6	79.0	9 x 30A, 600V	10 (5.27)	3 x 50A	3 x 15kW, 415V, 3ph	4 AWG	2
	480	3	54.1	68.0	9 x 30A, 600V	10 (5.27)	3 x 50A	3 x 15kW, 480V, 3ph	4 AWG	2
	600	3	43.3	55.0	9 x 30A, 600V	10 (5.27)	3 x 50A	3 x 15kW, 600V, 3ph	6 AWG	2
54	208	3	149.9	188.0	9 x 60A, 250V	8 (8.35)	3 x 75A	3 x 18kW, 208V, 3ph	3/0 AWG	2
	240	3	129.9	163.0	9 x 60A, 250V	8 (8.35)	3 x 50A	3 x 18Kw, 240V, 3ph	2/0 AWG	2
	480	3	65.0	82.0	9 x 30A, 600V	10 (5.27)	3 x 50A	3 x 18kW, 480V, 3ph	4 AWG	2
	600	3	52.0	65.0	9 x 30A, 600V	10 (5.27)	3 x 50A	3 x 18kW, 600V, 3ph	4 AWG	2
60	208	3	166.5	208.0	9 x 70A, 250V	8 (8.35)	3 x 75A	3 x 20kW, 208V, 3ph	4/0 AWG	2
	240	3	144.3	181.0	9 x 60A, 250V	8 (8.35)	3 x 75A	3 x 20kW, 240V, 3ph	3/0 AWG	2
	380	3	91.2	114.0	9 x 40A, 600V	8 (8.35)	3 x 50A	3 x 20kW, 380V, 3ph	1 AWG	2
	415	3	83.5	105.0	9 x 40A, 600V	10 (5.27)	3 x 50A	3 x 20kW, 415V, 3ph	2 AWG	2
	480	3	72.2	90.0	9 x 30A, 250V	10 (5.27)	3 x 50A	3 x 20kW, 480V, 3ph	3 AWG	2
	600	3	57.7	72.0	9 x 30A, 250V	10 (5.27)	3 x 50A	3 x 20kW, 600V, 3ph	4 AWG	2
72	208	3	199.9	250.0	12 x 60A, 250V	8 (8.35)	4 x 75A	4 x 18kW, 208V, 3ph	250 MCM	2
	240	3	173.2	217.0	12 x 60A, 250V	8 (8.35)	4 x 50A	4 x 18Kw, 240V, 3ph	4/0 AWG	2
	480	3	86.6	108.0	12 x 30A, 600V	10 (5.27)	4 x 50A	4 x 18kW, 480V, 3ph	2 AWG	2
	600	3	69.3	87.0	12 x 30A, 600V	10 (5.27)	4 x 50A	4 x 18kW, 600V, 3ph	3 AWG	2
80	208	3	222.1	278.0	12 x 70A, 250V	8 (8.35)	4 x 75A	4 x 20kW, 208V, 3ph	350 MCM	2
	240	3	192.5	241.0	12 x 60A, 250V	8 (8.35)	4 x 75A	4 x 20kW, 240V, 3ph	250 MCM	2
	380	3	121.5	152.0	12 x 40A, 600V	8 (8.35)	4 x 50A	4 x 20kW, 380V, 3ph	2/0 AWG	2
	415	3	111.3	140.0	12 x 40A, 600V	10 (5.27)	4 x 50A	4 x 20kW, 415V, 3ph	1/0 AWG	2
	480	3	96.2	120.0	12 x 30A, 250V	10 (5.27)	4 x 50A	4 x 20kW, 480V, 3ph	1 AWG	2
	600	3	77.0	96.0	12 x 30A, 250V	10 (5.27)	4 x 50A	4 x 20kW, 600V, 3ph	3 AWG	2
90	208	3	250.2	313.0	12 x 80A, 250V	6 (13.3)	4 x 75A	4 x 30kW, 240V, 3ph	400 MCM	2
100	240	3	240.6	300.0	12 x 80A, 250V	8 (8.35)	4 x 75A	4 x 25kW, 240V, 3ph	350 MCM	2
	380	3	151.9	190.0	12 x 50A, 600V	8 (8.35)	4 x 50A	4 x 25kW, 380V, 3ph	3/0 AWG	2
	415	3	139.1	174.0	12 x 50A, 600V	8 (8.35)	4 x 50A	4 x 25kW, 415V, 3ph	2/0 AWG	2
	480	3	120.3	150.0	12 x 40A, 600V	10 (5.27)	4 x 50A	4 x 25kW, 480V, 3ph	2/0 AWG	2
	600	3	96.2	120.0	12 x 30A, 600V	10 (5.27)	4 x 50A	4 x 25kW, 600V, 3ph	1 AWG	2
120	208	3	333.1	417.0	12 x 100A,	6 (13.3)	4 x 93A	4 x 30kW, 208V, 3ph	6 x 4/0 AWG	3
	240	3	288.7	360.0	12 x 90A, 600V	6 (13.3)	4 x 75A	4 x 30kW, 240V, 3ph	500 MCM	2
	380	3	182.3	228.0	12 x 60A, 600V	8 (8.35)	4 x 50A	4 x 30kW, 380V, 3ph	4/0 AWG	2
	415	3	166.9	209.0	12 x 60A, 600V	8 (8.35)	4 x 50A	4 x 30kW, 415V, 3ph	4/0 AWG	2
	480	3	144.3	180.0	12 x 50A, 600V	8 (8.35)	4 x 50A	4 x 30kW, 480V, 3ph	3/0 AWG	2
	600	3	115.5	145.0	12 x 40A, 600V	10 (5.27)	4 x 50A	4 x 30kW, 600V, 3ph	1/0 AWG	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

ELECTRONIC BOILER CONTROLLER

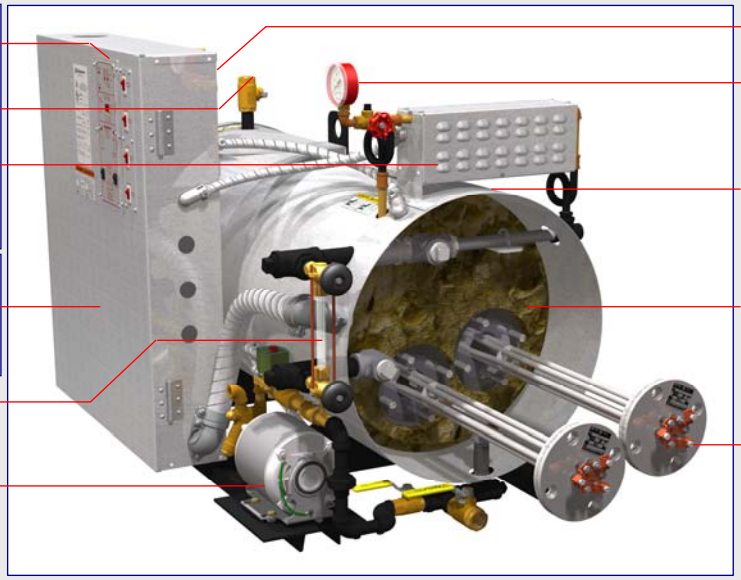
STEAM OUTLET VALVE

PRESSURE CONTROLS

STAINLESS STEEL ELECTRICAL ENCLOSURE & SHELL WRAPPER

WATER LEVEL GAUGE

HIGH PRESSURE FEED PUMP



SAFETY RELIEF VALVE

PRESSURE GAUGE

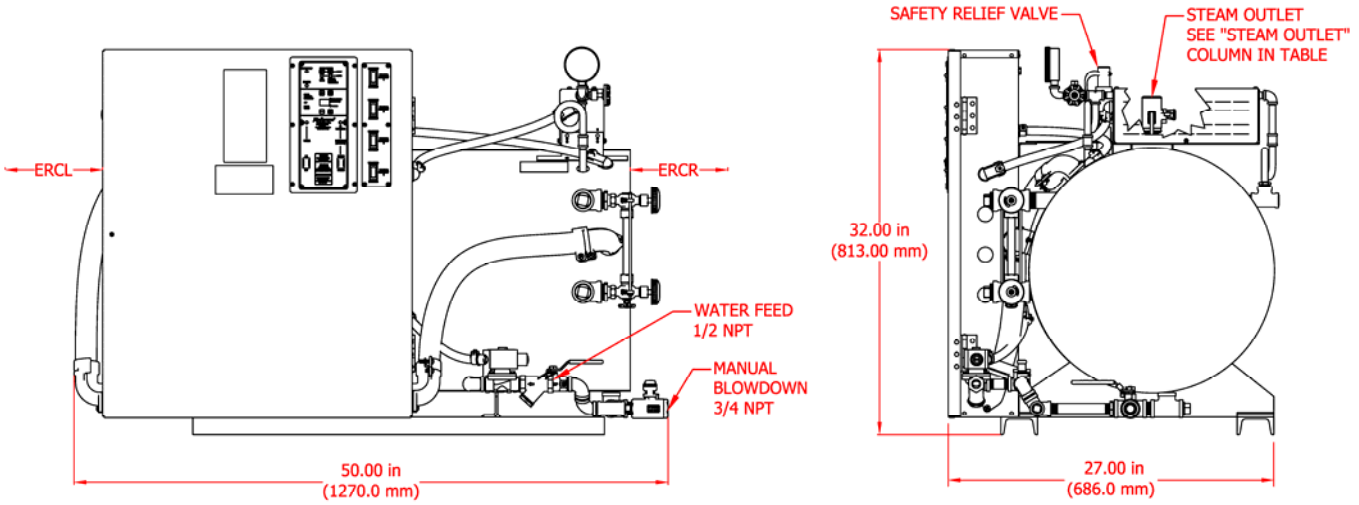
WATER LEVEL PROBES:
- HIGH WATER LEVEL
- AUTOMATIC REFILL
- LOW WATER CUT-OFF

HIGH DENSITY FIBERGLASS THERMAL INSULATION 2" THICK

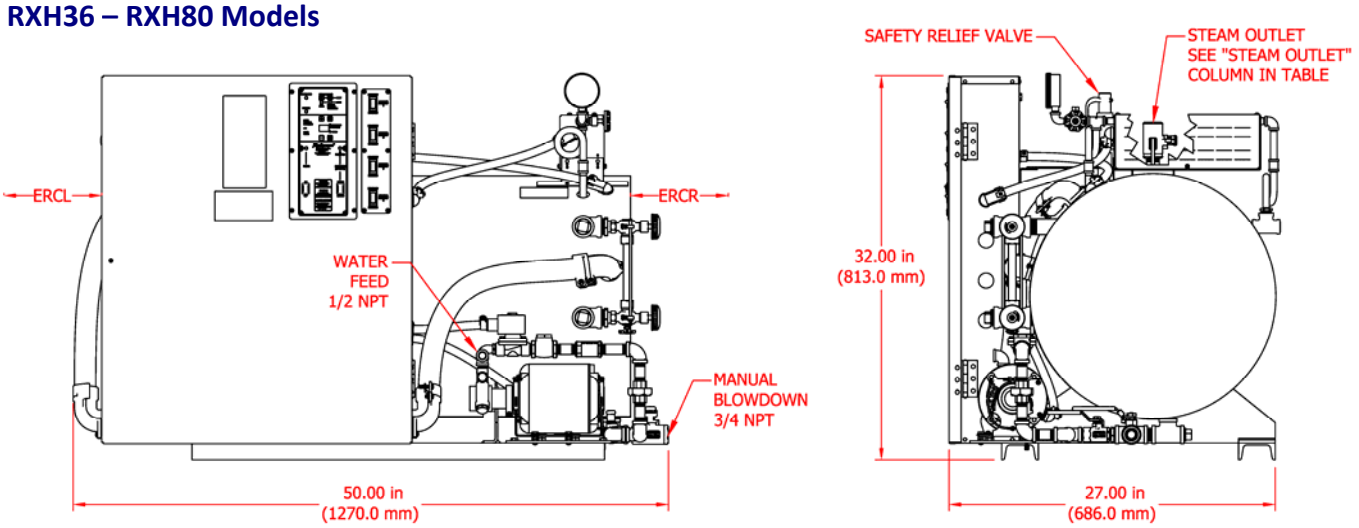
HEATING ELEMENTS 304 STAINLESS STEEL SHEATHING STANDARD; INCOLOY® OPTIONAL (SEE PAGE 5); 2" CLASS 150# CARBON STEEL FLANGES

Dimensional Drawings (approximate)

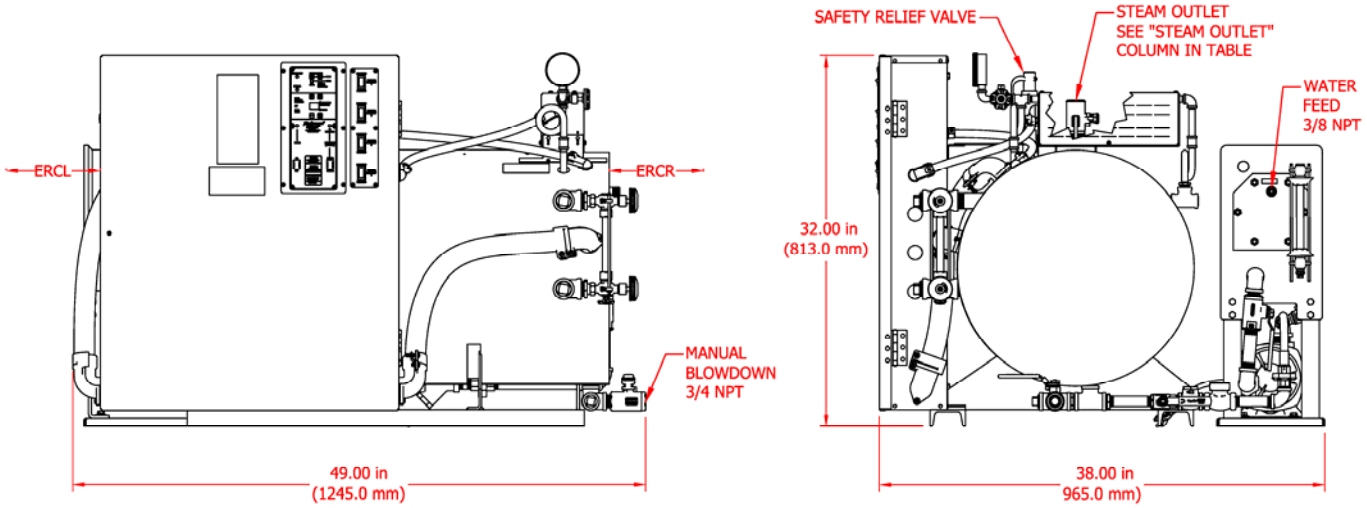
RX36 – RX80 Models



RXH36 – RXH80 Models



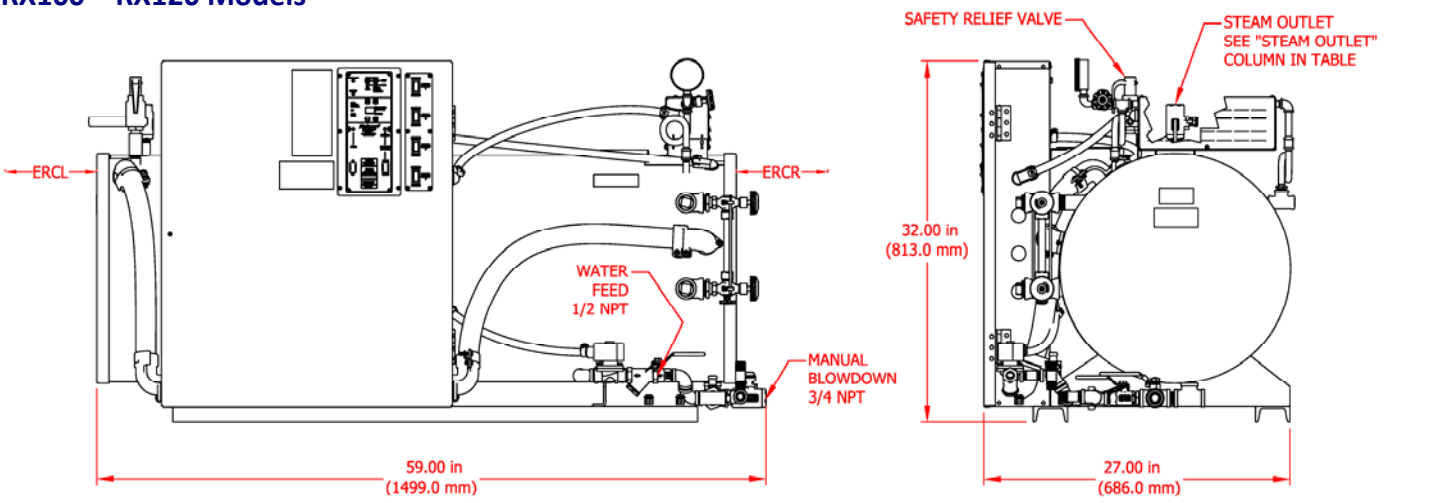
RXHC36 – RXHC80 Models



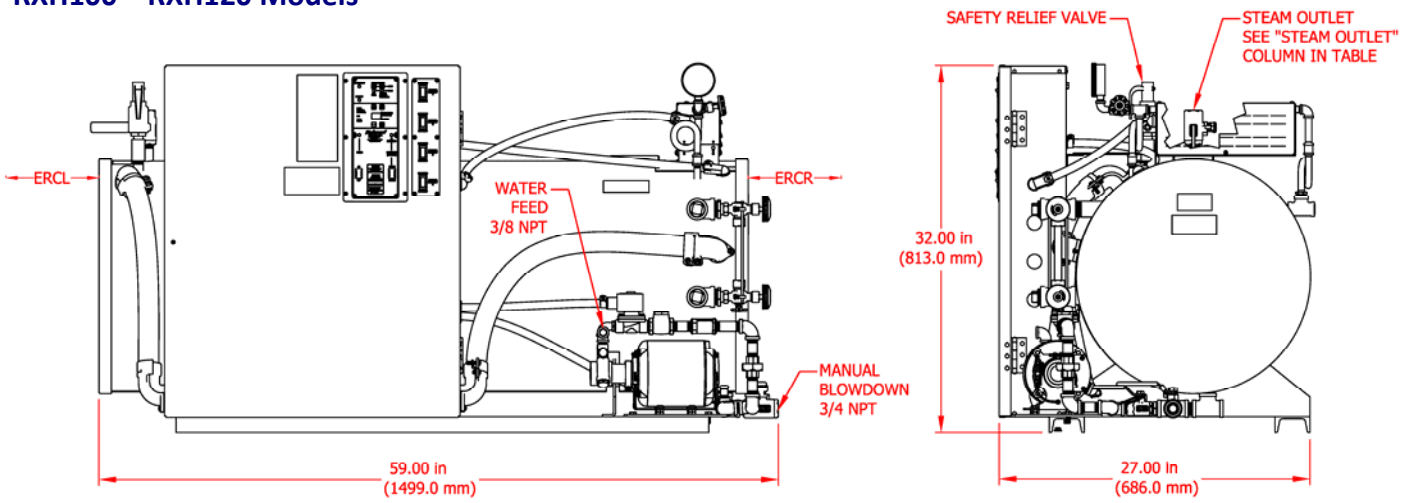
Element Removal Clearance Left & Right (ERCL & ERCR)

MODEL	RX/RXH/RXHC-36	RX/RXH/RXHC-40	RX/RXH/RXHC-45	RX/RXH/RXHC-54	RX/RXH/RXHC-60	RX/RXH/RXHC-72	RX/RXH/RXHC-80
ERCL in (mm)	0	0	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)
ERCR in (mm)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)	24 (610)

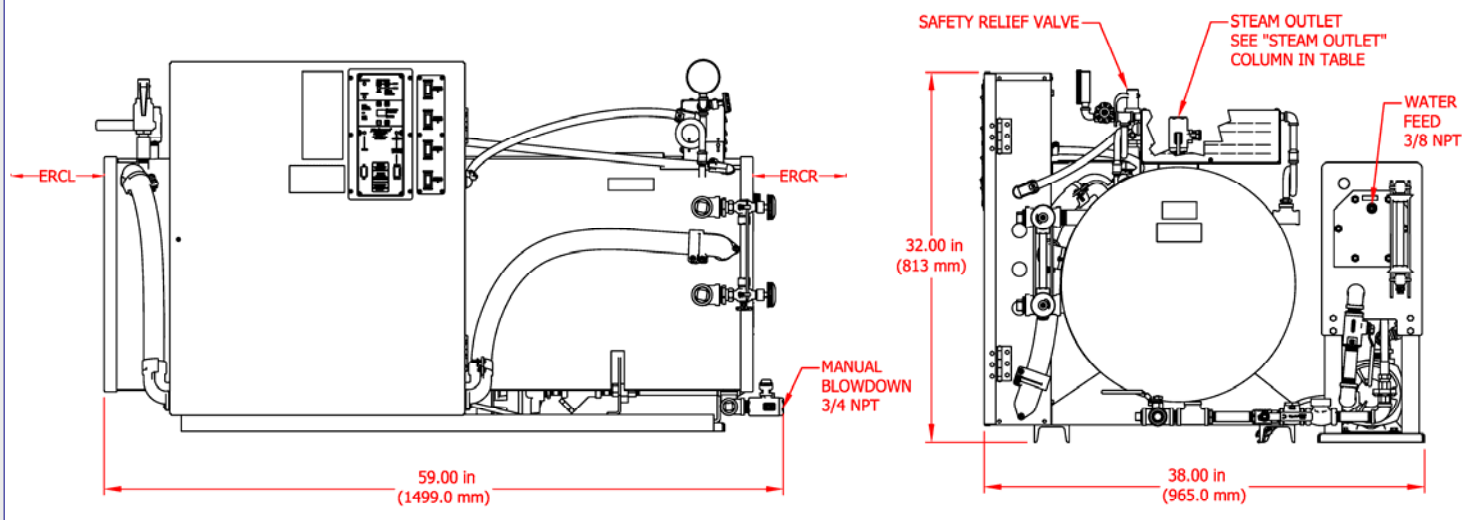
RX100 – RX120 Models



RXH100 – RXH120 Models



RXHC100 – RXHC120 Models

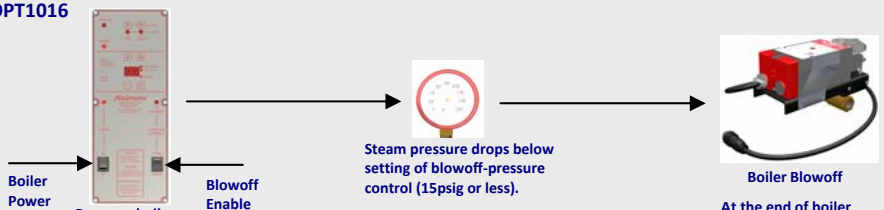


Element Removal Clearance Left & Right (ERCL & ERCR)

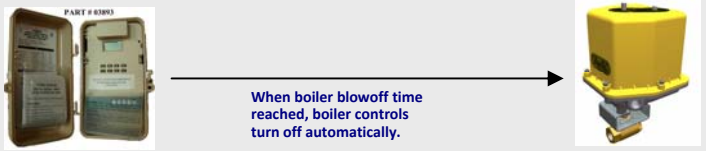
MODEL	RX/RXH/RXHC-100	RX/RXH/RXHC-120
ERCL in (mm)	36 (915)	36 (915)
ERCR in (mm)	36 (915)	36 (915)

Optional Equipment

1. Pressure Controlled Boiler Blowoff System Automatic Flush & Drain (Not suitable for 24/7 operation), #OPT1016

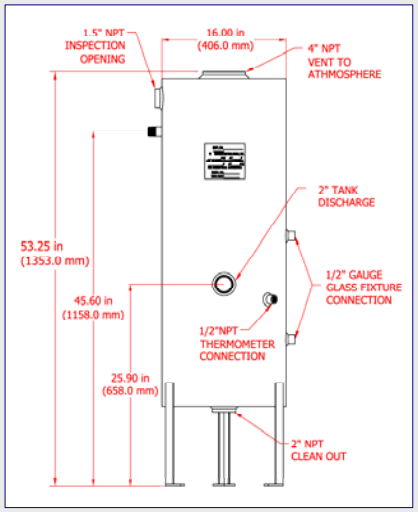


2. Timer Controlled Boiler Blowoff System, (Suitable for 24/7 operation), #OPT1001



3. Boiler Blowoff Tank, #BTANK-16 (#BTANK-16CAN for Canada)

- 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 as per NB-27 is 50psig.



3A. Boiler Blowoff Tank After-Cooler #OPT1027

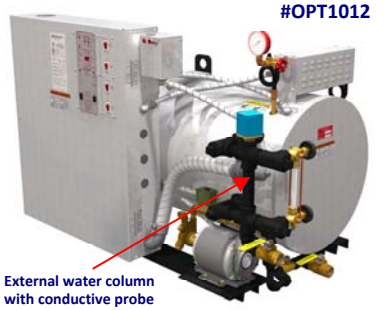
Most States and Local Municipalities require that fluids drained to the sewer shall have a maximum temperature of not more than 140°F.
Install this after-cooler to the blowoff thank discharge line when boiler operates with one of the above automatic blowoff options.

4. Control Voltage Transformer. Use this option for single point boiler power supply.

Main Boiler Supply Voltage	Transformer Option Part Number	
	Boiler Model	
	R-	RH- and RHC-
208V	OPT1010 - 208R	OPT1011 - 208RH
240V	OPT1010 - 240R	OPT1011 - 240RH
380V	OPT1010 - 380	OPT1011 - 380RH
415V	OPT1010 - 380	OPT1011 - 380RH
480V	OPT1010 - 480R	OPT1011 - 480RH
600V	OPT1010 - 600R	OPT1011 - 600RH

5. Auxiliary Low Water Cut-Off in External Water Column:

#OPT1012

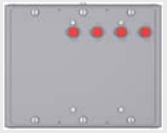


#OPTMM150

6. Proportional Step Control, #21025

Proportional Pressure Control

4-Stage Step Control



- Increased accuracy of boiler operating steam pressure
- Decreased electrical load switching surges
- Increase life expectancy of heating element contactors

7. Timer Controlled Boiler On/Off, #OPT1017

8. Boiler Stacking:

Boiler Model	Stacking Frame Part No.
RX, RXH, RXHC36-80	20562
RX, RXH, RXHC100-120	20570

9. Heating Elements with INCOLOY® Sheathing

#OPT-INCOLOY®

NOTE: Only available for 120kW models

10. Brass/Bronze – Free Boiler Trim:

Boiler Model	Brass/Bronze – Free Boiler Trim Option Part Number
RX36 – RX54	OPT1030-RH54
RX60 – RX80	OPT1030-RH80
RX100 – RX120	OPT1030-RH120

RX-series boilers in which standard brass/bronze boiler trim is replaced with carbon steel and stainless steel trim. This option reduces the lead concentration in the boiler water and discharged steam to significantly lower levels. Use this option in applications in which steam comes in direct contact with food and all other applications where lead concentrations are a concern.

11. Steam Filter for Culinary Steam Applications, #OPT1032:

Use this filter with FDA listed materials in food processing applications where the steam comes in direct contact with food. The 3 or 5 micron cartridges employed in this steam filter meet or exceed the 3-A guidelines for the production of Culinary Steam under Accepted Practice T609.
NOTE: The installation of this filter alone does not guarantee that the steam produced by your system meets all applicable culinary steam standards.

12. Un-Fused Disconnect Switch, #OPT1030:

Un-Fused disconnect switch installed in the boiler electrical enclosure energizes/de-energizes all electrical circuits of the boiler and provides mechanical safety interlock.
NOTE: When ordering this option, the boiler must be equipped with a control voltage transformer (OPT1010 or OPT1011) for single point power supply.

Additional options are available to meet your specific steam application needs. Please contact the factory for further details.