



# RIELLO RTC

High Efficiency Condensing Boiler 3000-10000 MBH

A Carrier Company

**RIELLO**  
Energy For Life

## POWER RANGE



RTC 3000 – RTC 6000



RTC 8000 – RTC 10000

Model	Input Power Min-Max MBH	AHRI Thermal Efficiency %	Working Pres- sure Max PSI	Working Tem- perature Max °F	NOx Emission ppm
RTC 3000	300-3000	94%	160	195	< 30
RTC 4000	400-4000	94%	160	195	< 30
RTC 5000	500-5000	94%	160	195	< 30
RTC 6000	600-6000	94%	160	195	< 30
RTC 8000	800-8000	94%	160	195	< 30
RTC 10000	1000-10000	94%	160	195	< 30



# DESIGNED FOR CONDENSATION

High-efficiency condensing boilers designed both for retrofit and new construction projects. Project costs are reduced thanks to the high water content heat exchanger, that requires no minimum flow rate and eliminates the need of a costly dedicated boiler circulator. Best quality materials used for all components guarantee high reliability and longer service life.

Condensing boiler technology is the most efficient and environmentally friendly form of fuel heating available today. Condensing technology recovers the condensation heat retained latently in flue gases, that is a part of energy that normally disappears up the chimney in other heating systems.

Thanks to lower fuel consumption and lower heating costs, condensing boilers usually pay for themselves in few years, reducing costs up to 20% in comparison with conventional heating. Additionally, a modern condensing heating system increases the value of the building as well as quality of life by reducing emissions. High efficiency condensing equipment achieves qualifying points for LEED certification of commercial buildings

Large heat-transfer surfaces, a counter-flow heat exchanger design and cold return water temperatures together optimize condensation opportunities.

The RTC Series Condensing Boilers could be equipped with two-stage or modulating forceddraft burners and premix, that achieve extremely low pollutant emissions meeting the most stringent NOx and CO requirements.

## FEATURES

### Fuel options

Natural Gas, Propane, or Dual Fuel  
(#2 fuel oil backup)

Full Condensing on natural gas/propane

Condensing capability on #2 fuel oil (<15 ppm sulfur content)

### Performance

Efficiency up to 98%

10:1 turndown Ratio (10%) when firing on natural gas or propane

Pressure rating up to 160 psi

Working temperature up to 195°F

NOx Emissions capable of 30 ppm or less at all firing rates when firing on natural gas

Capable of variable primary flow installations

### Design: Structure and Materials

3-pass Fire Tube heat exchanger

High quality 316Ti stainless steel heat exchanger

Dual return water connections

Top connections for easy access to piping

One package for the jacket pack

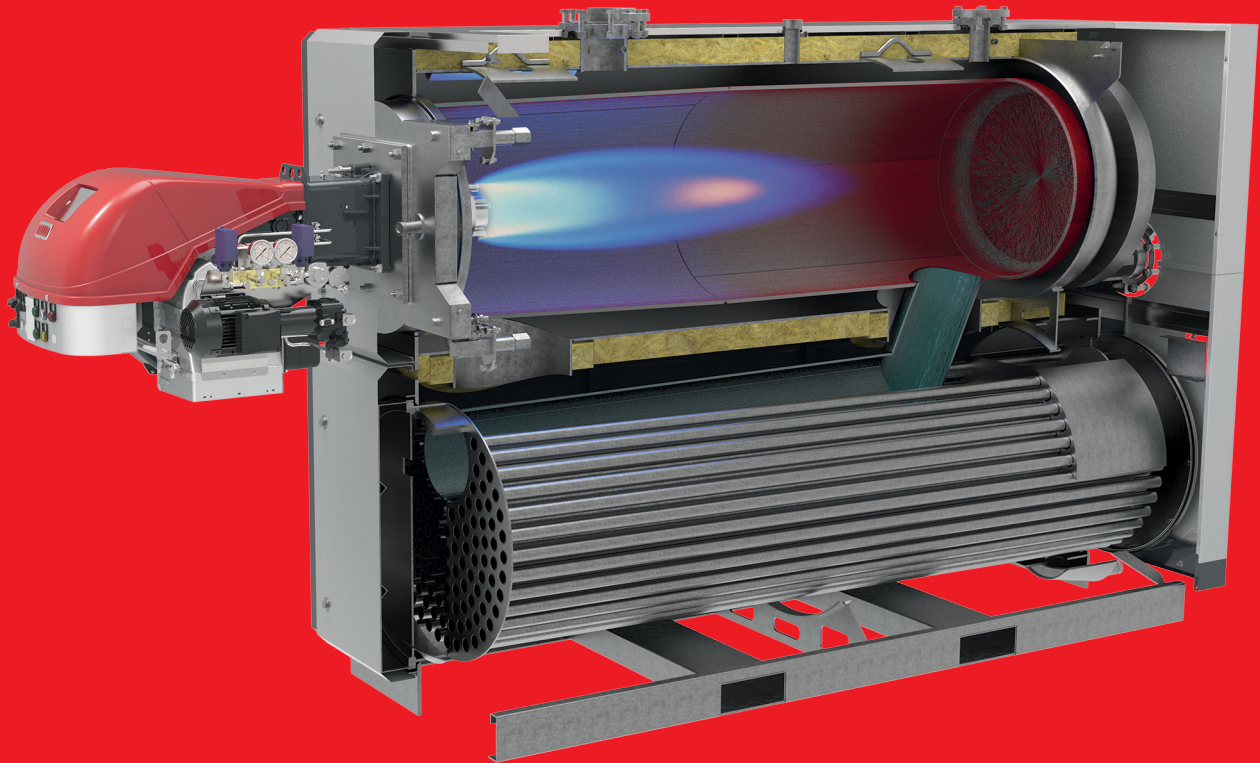
Easy Serviceability

### High performance and low installation costs

Simple piping, no primary/secondary piping with extra circulator needed



## LOOKING INSIDE: SHAPE AND MATERIALS



### RTC 3000 – 6000

Easy installation and access to plant rooms

Top connections for easy access to piping

Double Return, low & medium temperature, to maximize condensation in all working conditions

3-pass flue high mass design

Stainless steel 316Ti for:

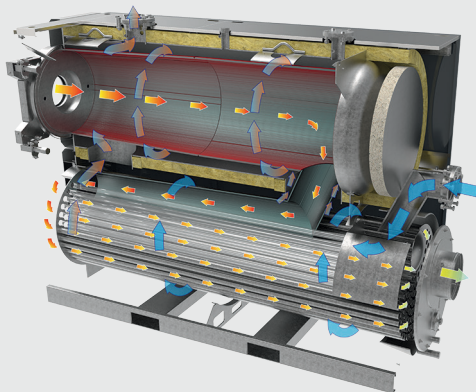
Combustion chamber

Inversion tube

Tube sheets

Stainless steel 316L for:

Fire Tubes



Zero flow conditions without overheating thanks to the two large diameter connections between the two cylindrical shells.

This solution allows to operate without overheating with the burner turned on and circulators turned off.



## RTC 8000 – 10000

Easy installation and access to plant rooms

Top connections for easy access to piping

Double Return, low & medium temperature, to maximize condensation in all working conditions

3-pass flue high mass design

Stainless steel 316Ti for:

Combustion chamber

Inversion tube

Tube sheets

Stainless steel 316L for:

Fire Tubes



Technology made in Riello with utmost care to each detail.

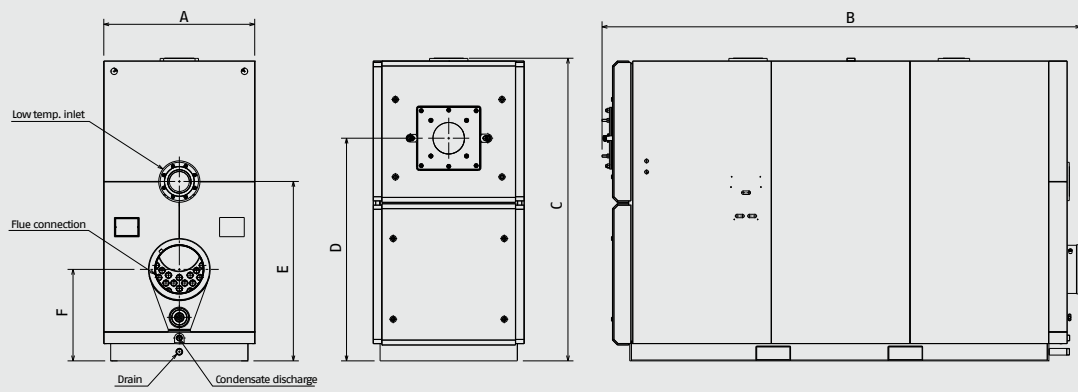
The production process takes place in our centers of excellence.

All welding processes are fully automated.

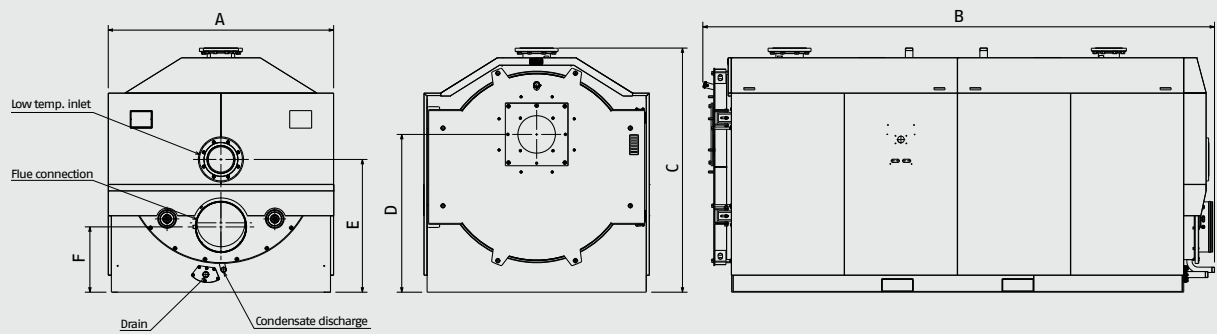
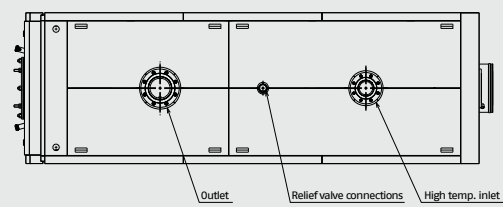
# BURNER OPTIONS

Type	Model	RTC 3000	RTC 4000	RTC 5000	RTC 6000	RTC 8000	RTC 10000
GAS	RS100/M	● ●	●				
	RS130/M		●	●			
	RS190/M		●	●	● ●		
	RS100/E	● ●	●				
	RS130/E		●	●			
	RS190/E			●	● ●		
	RS280/E				●	● ●	●
	RS300/E				●	● ●	●
	RS310/E						●
	RS400/E						●
	RS100/EV	● ●	●				
	RS130/EV		●	●			
	RS190/EV			●	● ●		
	RS280/EV	●			●	● ●	●
	RS300/EV	●	●		●	● ●	●
	RS310/EV						●
	RS400/EV						●
	RS68/E	●					
	RS120/E	● ●	●				
	RS160/E		● ●	● ●	●		
	RS68/EV	●					
	RS120/EV	● ●	●				
	RS160/EV		● ●	● ●	●		
DUAL FUEL	RLS100	● ●	●				
	RLS130		●	●			
	RLS100/M	● ●	●				
	RLS130/M		●	●			
	RLS190/M			● ●			
	RLS100/E	● ●	●				
	RLS130/E		●	●			
	RLS190/E			● ●	●		
	RLS280/E				●	● ●	●
	RLS300/E				●	● ●	●
	RLS310/E						●
	RLS400/E						●
	RLS100/EV	● ●	●				
	RLS130/EV		●	●			
	RLS190/EV			● ●	●		
	RLS280/EV				●	● ●	●
	RLS300/EV				●	● ●	●
	RLS310/EV						●
	RLS400/EV						●
	RLS120/E	●					
	RLS160/E	●	● ●	● ●	●		
	RLS120/EV	●					
	RLS160/EV	●	● ●	● ●	●		
PREMIX	RX850	●					
	RX1000	● ●	●				
	RX1500		● ●	●			
	RX1800			● ●	●		
	RX2500				●	●	
	RX3000					● ●	●

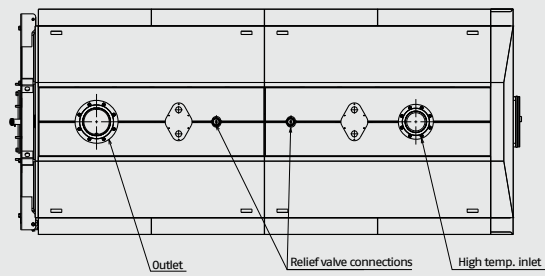
# DIMENSIONS



Description		RTC 3000	RTC 4000	RTC 5000	RTC 6000
A - Width	inch	39.4	41.3	43.3	46.1
	mm	1000	1050	1100	1170
B- Length	inch	119.3	127.8	137.4	145.3
	mm	3030	3245	3490	3690
C - Height	inch	79.1	82.9	86.8	92.3
	mm	2010	2106	2205	2345
D	inch	58.1	60.9	63.9	68.3
	mm	1477	1548	1622	1735
E	inch	46.9	48.7	51.5	54.7
	mm	1192	1238	1307	1390
F	inch	25.1	25.8	26.3	28.5
	mm	637	655	667	723



Description		RTC 8000	RTC 10000
A - Width	inch	70.9	74.8
	mm	1800	1900
B- Length	inch	161.0	178.3
	mm	4090	4530
C - Height	inch	76.8	81.7
	mm	1950	2075
D	inch	49.6	53.1
	mm	1260	1350
E	inch	41.7	45.3
	mm	1060	1150
F	inch	20.5	21.7
	mm	521	550



# TECHNICAL SPECIFICATIONS

Model	RTC 3000	RTC 4000	RTC 5000	RTC 6000	RTC 8000	RTC 10000
Boiler category	ASME Section IV					
Max allowable working pressure	160 psi					
Max allowable working temperature	194 °F					
Water Connections Outlet & Low Temp. Inlet (Flanged)	4"	6"	6"	6"	8"	8"
High Temp. Inlet Water Connection	3"	3"	4"	4"	6"	6"
Min. Water Flow (GPM)	0	0	0	0	0	0
Max. Water Flow (GPM)	360	550	650	750	1150	1250
Water Volume (gal)	354	420	489	597	951	1255
Water Pressure Drop	0.7 psi at 300GPM	0.7 psi at 400GPM	0.6 psi at 500GPM	1.3 psi at 600GPM	1.1 at 800GPM	0.8 at 1000GPM
Turndown Ratio (Nat.Gas)	10:1	10:1	10:1	10:1	10:1	10:1
Venting/Air Intake Connection	10"	12"	14"	14"	16"	18"
Venting Materials	AISI 316L - AL29-4C (29% Cr - 4% Mo)					
Type of Fuel*	Natural Gas Propane Dual Fuel (#2 fuel oil backup)	Natural Gas Propane Dual Fuel (#2 fuel oil backup)	Natural Gas Propane Dual Fuel (#2 fuel oil backup)	Natural Gas Propane Dual Fuel (#2 fuel oil backup)	Natural Gas Propane Dual Fuel (#2 fuel oil backup)	Natural Gas Propane Dual Fuel (#2 fuel oil backup)
NOx Emissions < 30ppm Capability on Nat. Gas	yes	yes	yes	yes	yes	yes
Temperature Control Range	80°F to 210°F					
Ambient Room Temperature Range	32°F to 140°F					
Standard Listings & Approvals	ASME, ETL, AHRI					
Weight (dry) lbs.	5,578	6,702	7,485	9,087	12,747	16,149
Weight (wet) lbs.	8,532	10,207	11,563	14,070	20,684	27,172
Shipping Weight lbs.	5,578	6,702	7,485	9,087	12,747	16,149

(\*) Digester Gas (H<sub>2</sub>S content < 15 ppm)  
Oil (Sulphur content < 15 ppm)

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The manufacturer strives to continuously improve all products. Appearance, dimensions, technical specifications, standard equipment and accessories are therefore liable to modification without notice.

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