

RIELLO RTC-80

High Efficiency Condensing Boiler 1000-5500 MBH

A Carrier Company

RIELLO
Energy For Life

CAPACITY RANGE



RTC-80 1000-5500

Model	Input Power Min - Max MBH	AHRI Thermal Efficiency %	Working Pressure Max PSI	Working Temperature Max ºF	NOx Emission ppm
RTC 1000-80	102 - 1022	94%	80	194	<30
RTC 1300-80	133 - 1325	94%	80	194	<30
RTC 1700-80	170 - 1703	94%	80	194	<30
RTC 2300-80	227 - 2271	94%	80	194	<30
RTC 3000-80	303 - 3028	94%	80	194	<30
RTC 3800-80	379 - 3785	94%	80	194	<30
RTC 4700-80	473 - 4731	94%	80	194	<30
RTC 5500-80	549 - 5488	94%	80	194	<30

ASME H

AHRI CERTIFIED www.ahridirectory.org
Commercial Boilers
AHRI Standard BTS-2000

INTERTEK ETL LISTED C US

DESIGNED FOR CONDENSING

Riello high-efficiency condensing boilers are designed both for retrofit and new construction projects. Project costs are reduced thanks to the high water content heat exchanger, which doesn't require a minimum flow rate and eliminates the need of an expensive dedicated boiler circulator. Best quality materials used for all components ensure high reliability and longer service life.

Condensing boiler technology is the most efficient and ecological form of fuel heating available today. In particular, this technology recovers the latent heat retained in flue gas condensation. This latent energy is normally discharged to the chimney and is wasted in other heating systems. Thanks to the lower fuel consumption combined with the lower heating costs, condensing boilers usually pay for themselves in few years, reducing costs up to 20% in comparison with conventional heating. Furthermore, 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 dual inlets for different return water temperatures together optimize condensation opportunities.

The RTC condensing boiler series could be equipped with two-stage, fully modulating or premix forced-draft burners that achieve extremely low pollutant emissions meeting the most stringent NOx and CO requirements.

FEATURES

Fuel options

Natural gas, propane gas, #2 fuel oil

Dual fuel options: gas/gas, gas/light oil

Performance

Efficiency up to 98%

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

80 psi ASME pressure rating

Working temperature up to 194 °F

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

Able to work with variable primary flow installations

Fully-condensing on natural gas/propane

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

Design: Structure and Materials

3-pass firetube counter-flow heat exchanger

High quality stainless steel heat exchanger with 316Ti upper combustion chamber and 316L lower tube bundle

Dual return water connections for optimized efficiency on multiple loop/ multiple temperature systems

Top connections for clean, simplified piping layout

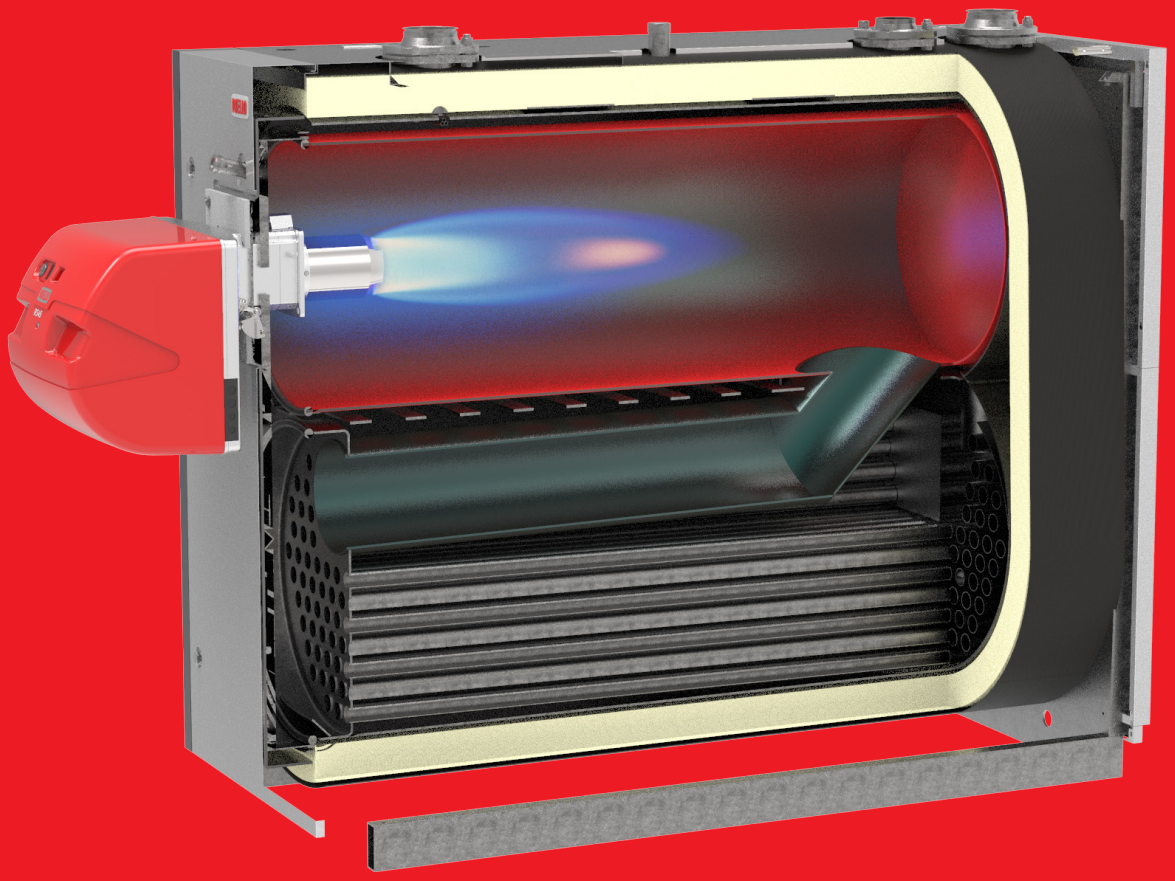
Jacket panels shipped separately for 'picture perfect' final installation

Hinged access doors for easy serviceability

High performance and low installation costs

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

LOOKING INSIDE: DESIGN AND MATERIALS



RTC-80 1000-5500

Easy installation and access to boiler rooms

High heating surface area within a compact footprint

Hydraulic connections on top for easy installation and clean piping layout

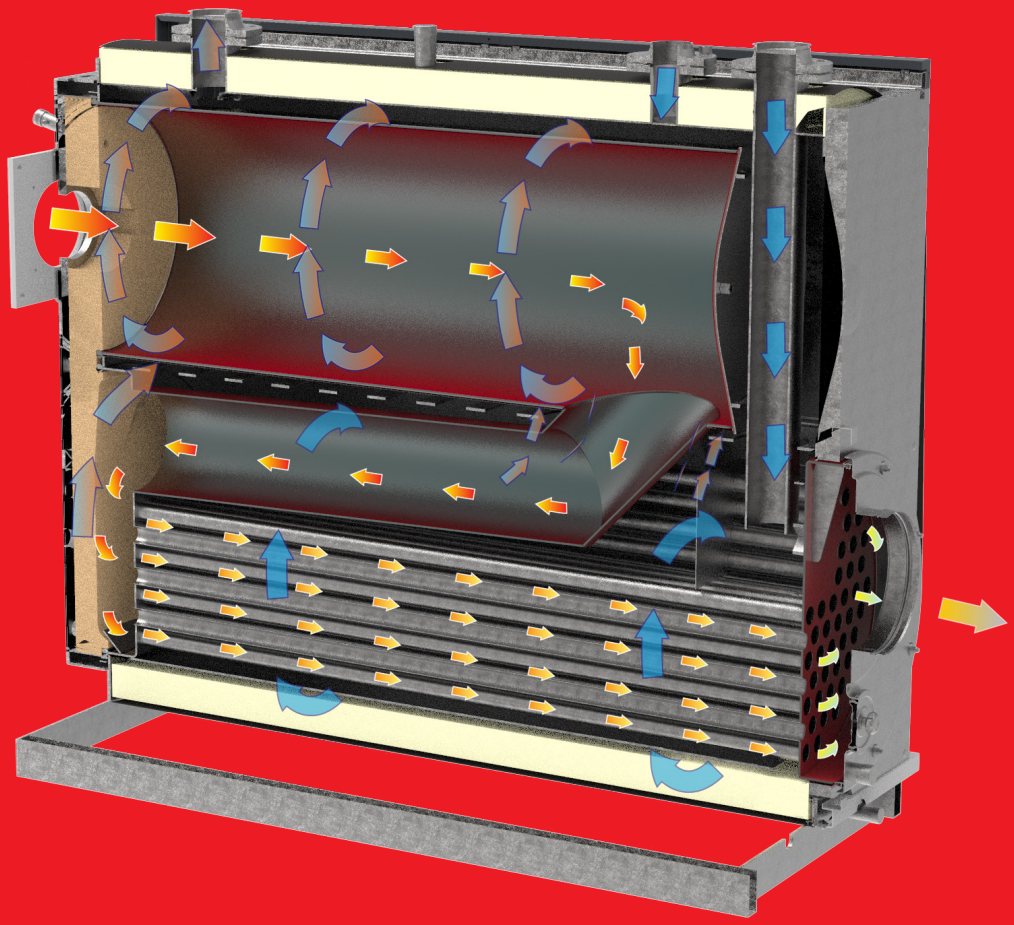
Double Return, low & medium temperature, to maximize condensing in multiple loop heating systems

3-pass, counterflow high-mass design

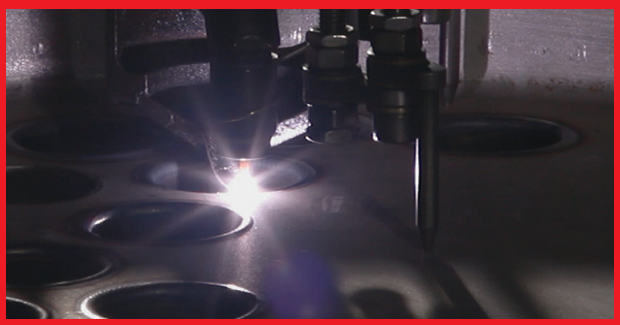
Designed for coupling with fully modulating, or premix forced-draft burners

Stainless steel 316Ti for:
- Combustion chamber
- Inversion tube
- Tube sheets

Stainless steel 316L for firetubes



The proprietary design allows natural convective circulation within the boiler to prevent overheating. This protects the boiler from damage in zero flow conditions.



Innovative Riello technology produced with the upmost attention to detail.

The production process takes place in modern state-of-art manufacturing facilities.

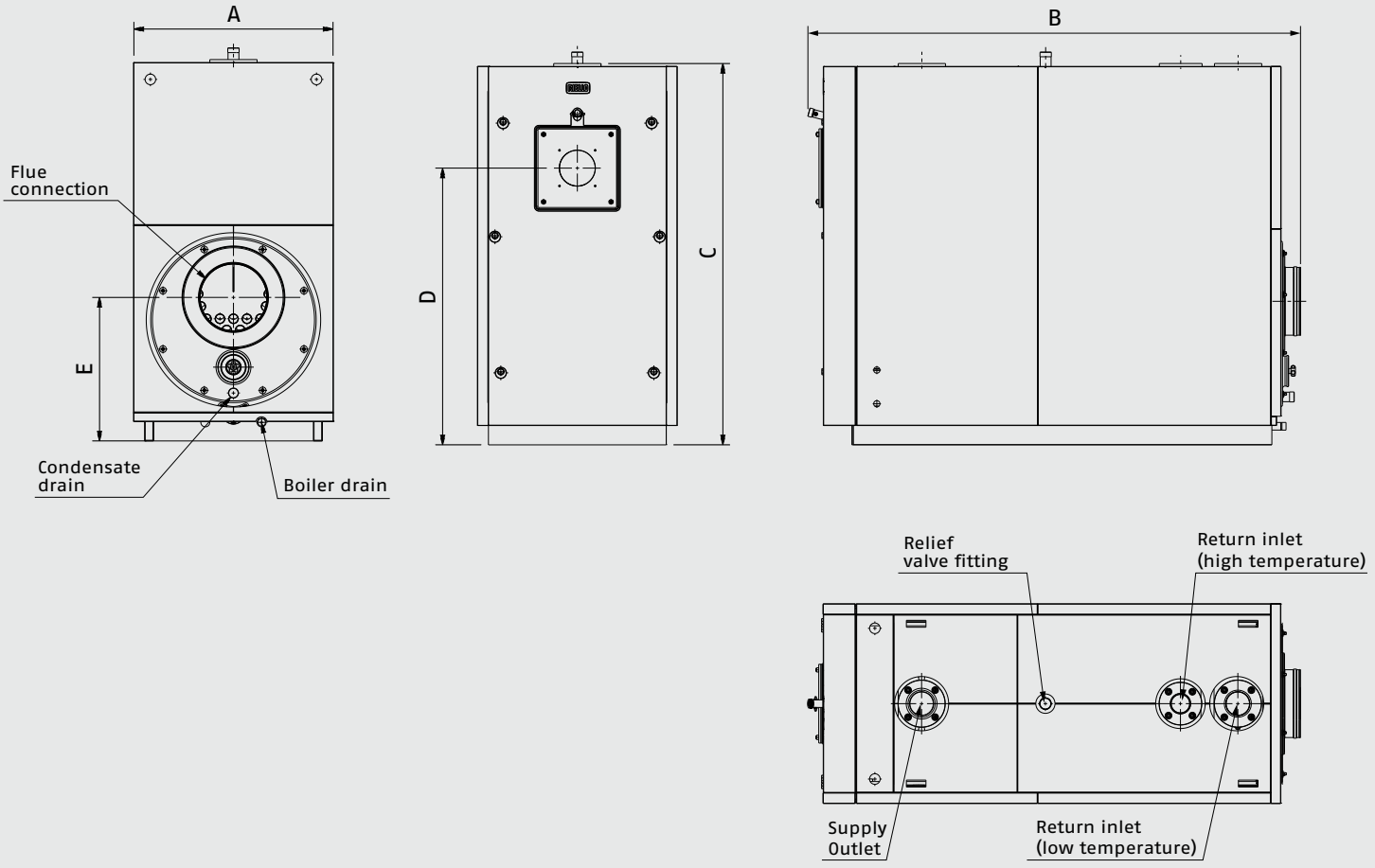
Automated robotic welding ensures consistent, impeccable quality welds.

BURNER OPTIONS

Type	Model	RTC 1000-80	RTC 1300-80	RTC 1700-80	RTC 2300-80	RTC 3000-80	RTC 3800-80	RTC 4700-80	RTC 5500-80
GAS	RS 28/M	●							
	RS 28/E	●							
	RS 38/M	●●	●●						
	RS 38/E	●●	●●						
	RS 45/M LN	●●	●●	●					
	RS 45/E LN	●●	●●	●					
	RS 50/M			●					
	RS 50/E			●					
	RS 68/M LN			●●	●●				
	RS 68/E LN			●●	●●				
	RS 70/M			●●	●●				
	RS 70/E			●●	●●				
	RS 100/M					●●	●		
	RS 100/E					●●	●		
	RS 120/M LN					●●	●		
	RS 120/E LN					●●	●		
	RS 130/M						●●	●●	
	RS 130/E						●●	●●	
	RS 160/M LN						●●	●●	●●
	RS 160/E LN						●●	●●	●●
	RS 190/M							●●	●●
	RS 190/E							●●	●●
DUAL FUEL	RLS 28	●							
	RLS 28/E	●							
	RLS 38	●●	●						
	RLS 38/E	●●	●						
	RLS 50		●●	●					
	RLS 50/E		●●	●					
	RLS 70			●●	●●				
	RLS 68/E			●●	●●				
	RLS 100					●●	●		
	RLS 120/E					●●	●		
	RLS 130						●●	●	
	RLS 160/E						●●	●	●●
	RLS 190							●●	●●
	RLS 190/E							●●	●●
PREMIX	RX 400	●●							
	RX 500		●●	●●					
	RX 700			●●	●●				
	RX 850				●●	●●			
	RX 1000					●●	●●		

● 0' Altitude
● 6000' Altitude

DIMENSIONS



Description		RTC 1000-80	RTC 1300-80	RTC 1700-80	RTC 2300-80	RTC 3000-80	RTC 3800-80	RTC 4700-80	RTC 5500-80
A - Width	inch	32.3	32.3	35.1	35.1	42.5	42.5	46.1	48.3
	mm	820	820	890	890	1080	1080	1170	1225
B- Length	inch	67.6	75.4	83.3	91.1	106.7	116.6	123.8	124.4
	mm	1715	1915	2115	2315	2710	2960	3145	3160
C - Height	inch	57.1	57.1	66.8	66.8	75.0	75.0	80.3	85.8
	mm	1450	1450	1695	1695	1905	1905	2040	2180
D	inch	40.6	40.6	48.6	48.6	54.8	54.8	58.9	62.6
	mm	1030	1030	1235	1235	1390	1390	1495	1590
E	inch	21.1	21.1	25.0	25.0	26.8	26.8	28.4	31.7
	mm	535	535	635	635	680	680	720	805

TECHNICAL SPECIFICATIONS

Model	RTC 1000-80	RTC 1300-80	RTC 1700-80	RTC 2300-80	RTC 3000-80	RTC 3800-80	RTC 4700-80	RTC 5500-80
Boiler category	ASME Section IV							
Max allowable working pressure	80 psi							
Max allowable working temperature	194°F							
Water Connections Outlet & Low Temp. Inlet (Flanged)	2-1/2"	3"	4"	4"	5"	5"	6"	6"
High Temp. Inlet Water Connection	2"	2-1/2"	3"	3"	3"	3"	4"	4"
Min. Water Flow (GPM)	0	0	0	0	0	0	0	0
Max. Water Flow (GPM)	130.0	160.0	200.0	290.0	370.0	480.0	580.0	690.0
Water Volume (gal)	130.7	146.6	196.2	203.4	348.7	368.5	482.1	501.9
Water Pressure Drop	0.67 psi at 95GPM	0.49 psi at 124 GPM	0.44 psi at 162 GPM	1.86 psi at 219 GPM	1.76 psi at 285 GPM	1.36 psi at 361 GPM	1.45 psi at 447 GPM	2.18 psi at 523 GPM
Turndown Ratio (Nat. Gas)	10:1	10:1	10:1	10:1	10:1	10:1	10:1	10:1
Venting/Air Intake Connection	10"	10"	12"	12"	14"	14"	16"	18"
Venting Materials	AISI 316L - AL29-4C (29% Cr - 4% Mo)							
Type of Fuel*	Natural, Propane and Digester gas #2 fuel oil Dual fuel							
NOx Emissions <30ppm Capability on Nat. Gas	yes							
Temperature Control Range	80°F to 194°F							
Ambient Room Temperature Range	32°F to 140°F							
Standard Listings & Approvals	ASME, ETL, AHRI							
Weight (dry) lbs.	1,676	1,786	2,679	2,965	4,167	4,777	5,908	6,834
Weight (wet) lbs.	2,899	3,164	4,515	4,927	7,385	8,206	10,406	11,530
Shipping Weight lbs.	1,720	1,841	2,756	3,097	4,334	4,956	6,085	7,028

(*) Digester Gas (H_2S content <15 ppm)
#2 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 subject to change without notice.

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