

PREMIX GAS BURNERS

RX Series

Product Overview

Operation with linear flame

The RX gas burner series with linear flame for light process applications has been designed and developed by Riello, based on the premix combustion technology.

The adopted technical solutions represent the best answer to obtain low pollutant emissions, high performance and wide modulating turn down ratio. The in-depth study of fluid dynamics and the use of innovative porous materials has allowed a flame to be distributed throughout the length of the combustion zone and stability even in environments characterized by turbulence and internal recirculations.

The sealed fans equipped with brushless motors allow speed variations. Moreover, the use of proportional valves guarantees a perfect control of the power output and reduced electrical consumption.

The complete autonomy of each burner allows the optimization of the temperature distribution inside the tunnel oven and simplifies the realization of the plant.

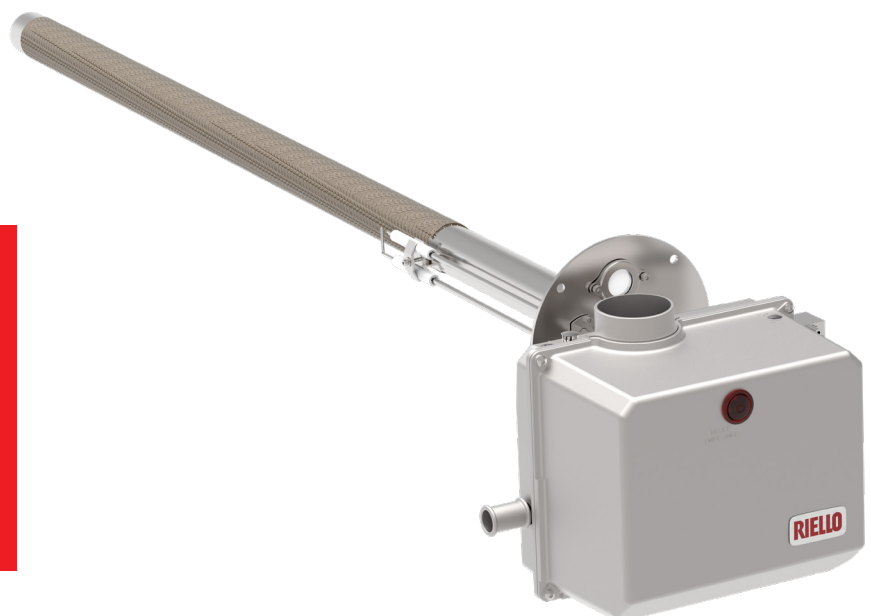
The use of certified components and the easy maintenance makes RX gas burner a highly reliable product.

The microprocessor control box, integrated with the valve, has been developed exclusively for RIELLO. This integrates the safety and the control of the fan and includes:

- Three-point or analog modulation input (0-10V; 4-20mA)
- Diagnostics via PC
- The burner is equipped with a very compact proportional gas valve of B+B class
- The external structure of the system is made of aluminum that allows an IP40 electrical protection level (IP54 with filter).

Applications

- ☐ Tunnel ovens for food industry
- ☐ Hot air generators
- ☐ Combustion flame sector
- ☐ Braze welding machinery



Technical data

The specific burner model for tunnel ovens is RX 35 S/PV T

Output: 5- 40 kW

Electrical supply: 230 Volt 50/60 Hz

Fuel: Natural gas, LPG

Combustion head length: Customized

Burner control box with microprocessor characterized by:

- Modulation signal input: 0-10 Volt
4-20 mA
3-point modulation or UP/DOWN
- Output: burner lock-out, operation hour counter

All parameters are programmable (Example: pre-purging, postpurging, safety time).

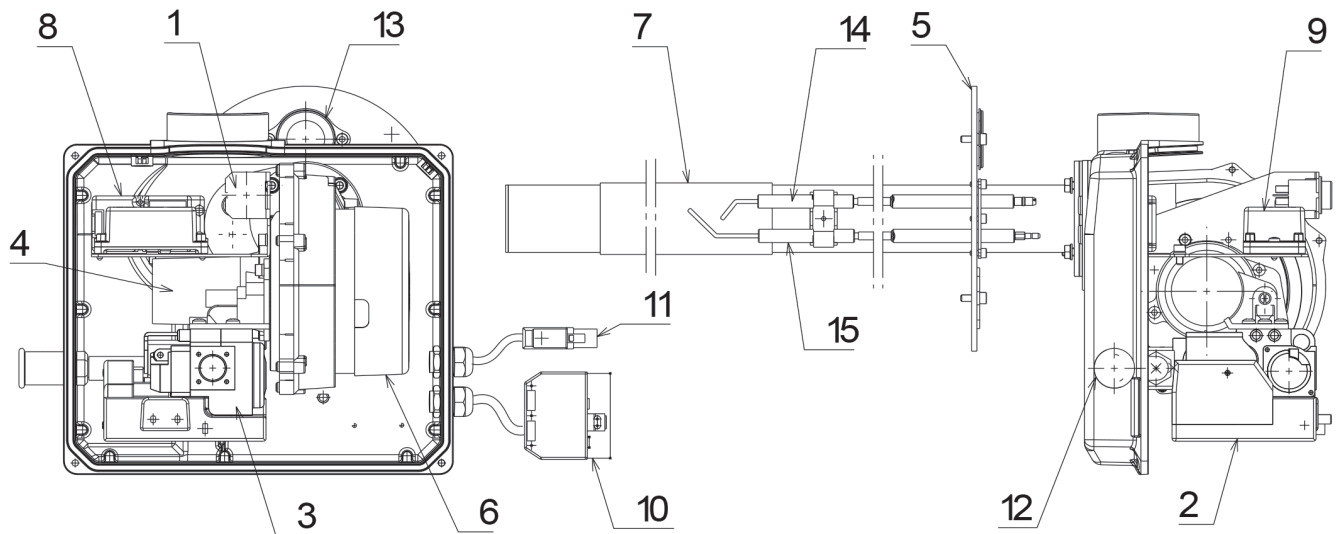
The air circuit can be canalized or equipped with filter.

An accessory is available for the BUS management BUS of each burners.

It is advantageous when there is a considerable number of burners installed on the tunnel oven.



Burner description



1 - Reset button with lockout signal

2 - Control box

3 - Gas valve

4 - Air/gas mixer in intake circuit

5 - Flange

6 - Motor/Fan

7 - Combustion head with metal mesh

8 - Ignition transformer

9 - Adjustment of fan rpm

10 - 7-pole socket

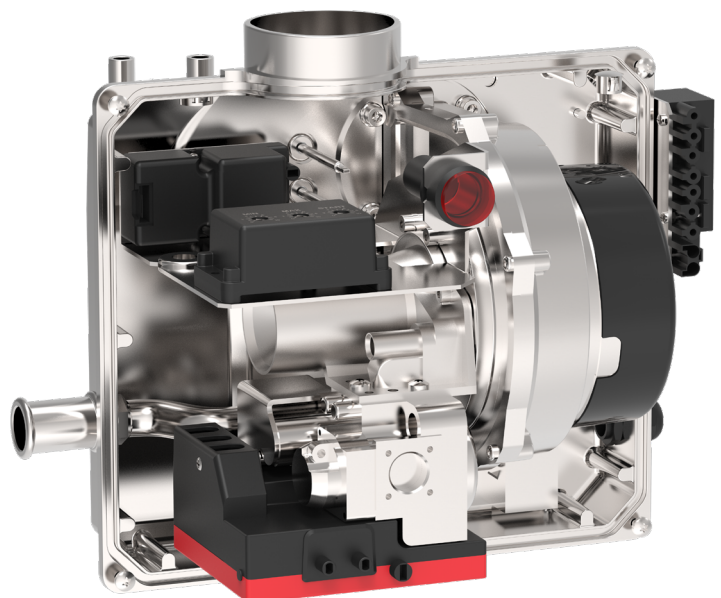
11 - 4-pole socket

12 - Gas inlet

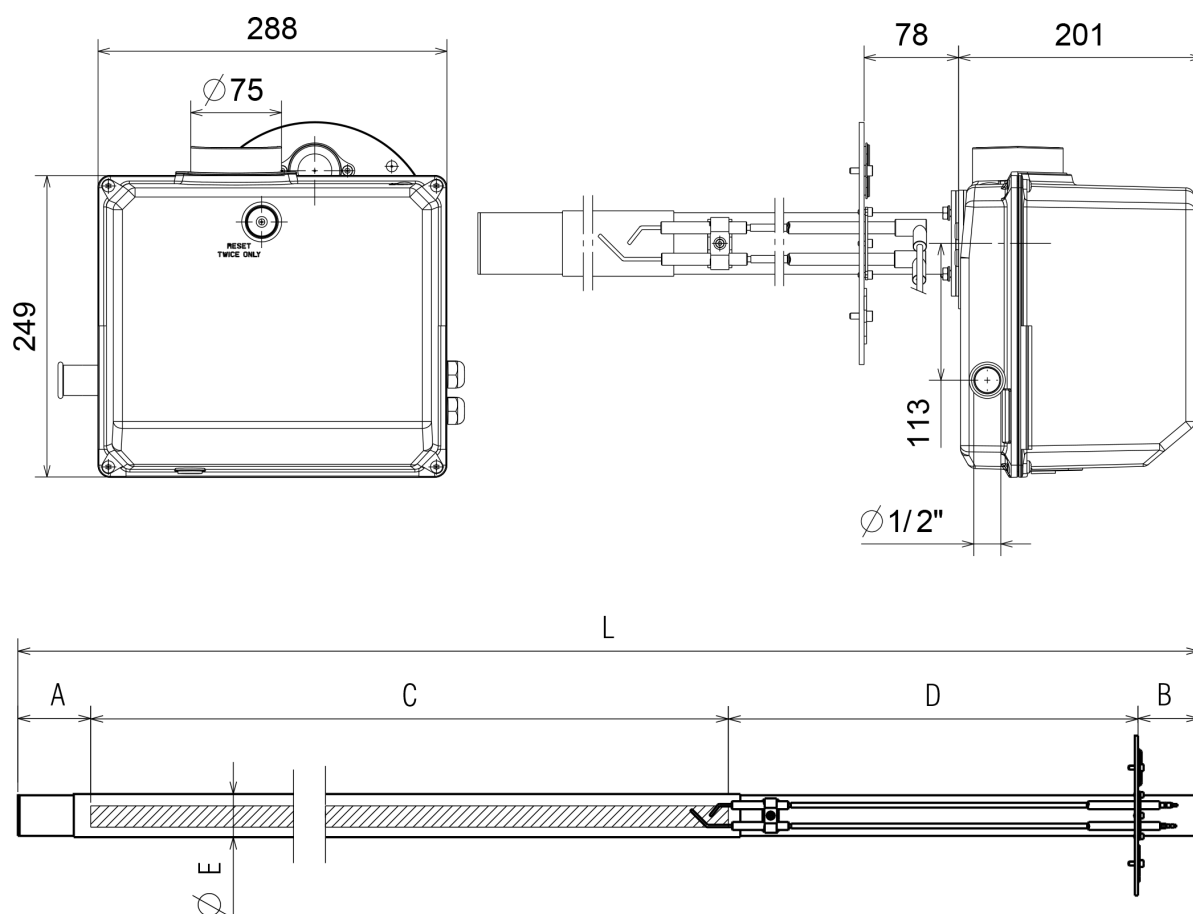
13 - Flame inspection window

14 - Electrode

15 - Probe



Burner dimensions



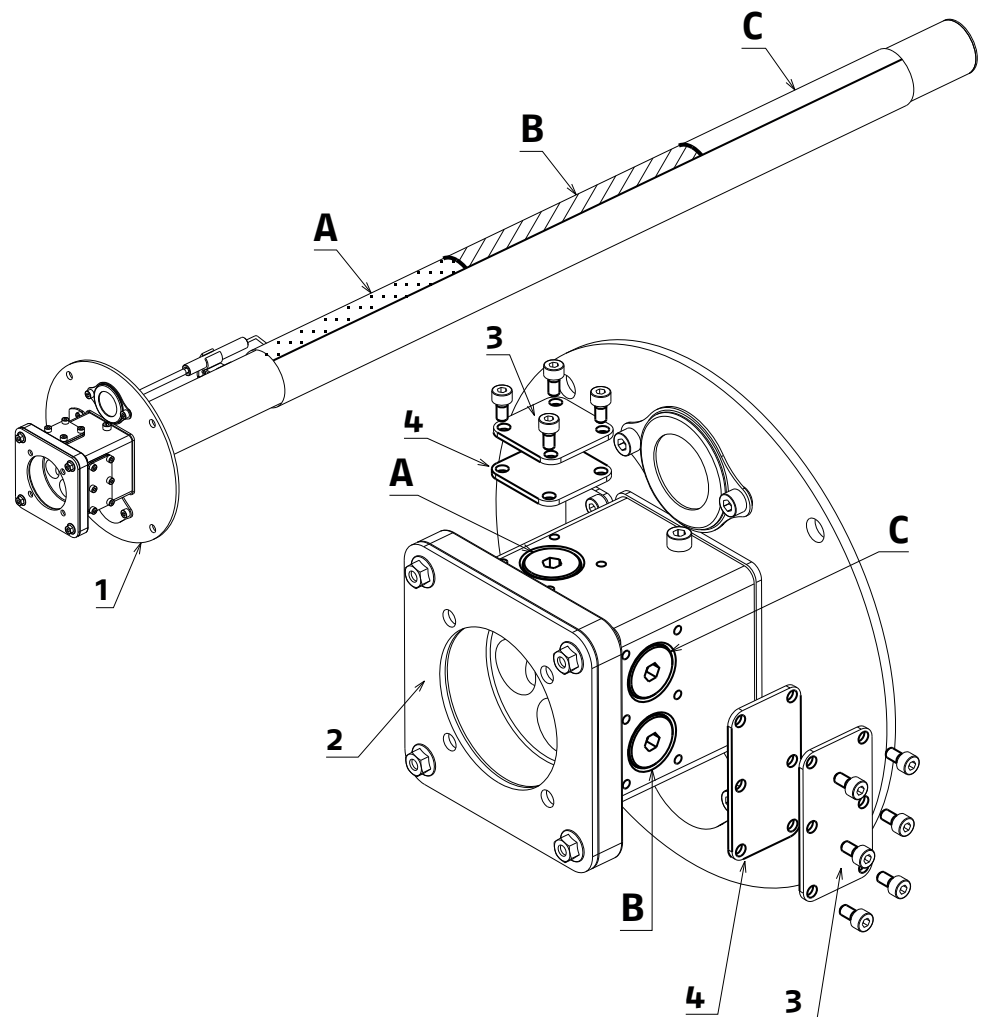
Code	A	B	C	D	E	L
20045263	106	85	1400	518	50	2110
20067338	22	76	600	324	50	1022
20095954	55	85	780	397	50	1317
20095286	106	85	1206	518	50	1915
20117147	106	85	995	415	50	1600
20115330	106	85	900	424	50	1515
20131416	106	85	1506	518	50	2215
20110452	106	85	1000	518	50	1709
20095407*	106	85	1206	518	60	1915
20110544*	106	85	1000	518	60	1709
20134436*	106	85	1400	518	60	2110
20131419*	106	85	1506	518	60	2215
20117203*	106	85	995	415	60	1600

* 3-flame version, $\varnothing 64$ mm

3-flame version

The three-flame version can be used when it is necessary to adapt the temperature inside the tunnel oven.

- The combustion head assembly is characterized by three zones (A) (B) (C) that can deliver a different power output
- The adjustment of these zones is carried out using the screws on the modulator 2
- To reach the adjustment screws, remove the plates 3



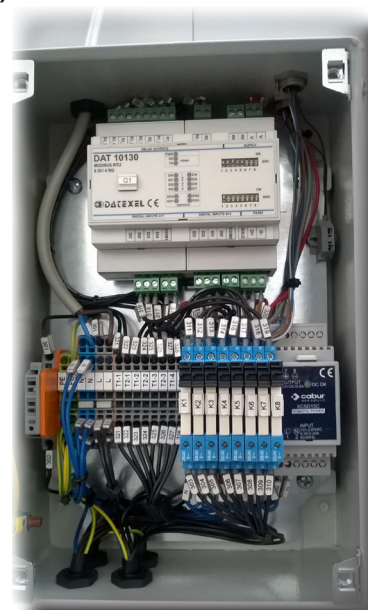
Accessory for the BUS control

It is used to simplify the wiring harness in the plants with a large number of installed burners. This accessory consists of an I/O module contained in an IP65 metal box (called sub-panel). The sub-panel can manage from 1 to 4 burners and can be connected in "sequence" using the bus connection cable for a maximum of 31 sub-panels (124 burners in all).

Through the bus system, the following functions can be managed for each burner connected: burner ON/OFF, signaling of burner operation or lock-out. The bus system does not manage the modulation control.

Thanks to the configuration parameters adjustable via dip-switches, the system is easy to set up both in case of new installation and replacement.

In order to guarantee the plant safety, the device is equipped with a Watch-Dog timer system; If the module does not receive commands for a longer time than the set time, the WatchDog Alarm will be triggered and the burners will be switched off (thermostat opening) to avoid system damages.



Technical features

- ☐ MODBUS RTU/ MODBUS ASCII
- ☐ 8-digital input channels
- ☐ 4-digital output channels with relau (2 SPDT format + 2 SPST format)
- ☐ Communication parameters set via dip-switch
- ☐ Watch-Dog alarm
- ☐ Remote configuration
- ☐ Remote configuration
- ☐ LED signaling on the front side for power supply and communication
- ☐ LED signaling on the front side for digital inputs and outputs
- ☐ Connection to extractable terminals

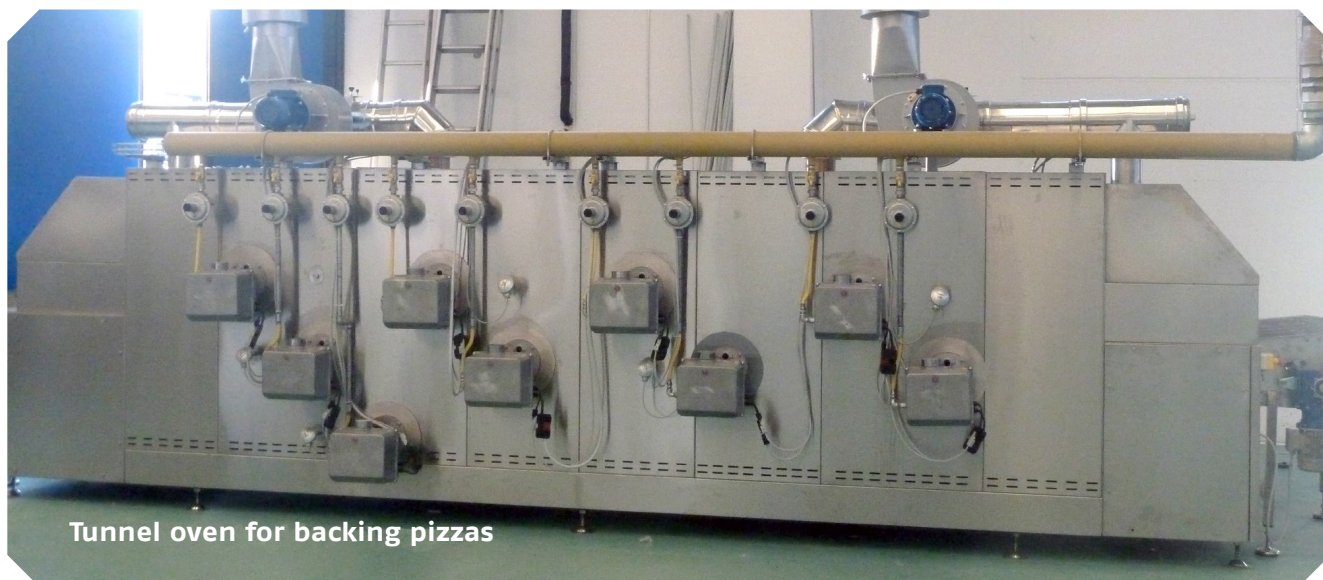
Applications with RIELLO burners



**Tunnel oven for
baking cookies**



**Tunnel oven for
baking wraps**



Tunnel oven for baking pizzas

Applications with RIELLO burners

- ☐ Costs reduction of installation and reduction of tunnel oven components
- ☐ Less installation time and less components to be transported
- ☐ Excellent temperature distribution with very uniform cookings
- ☐ Low pollutant emissions
- ☐ Use of high-quality components for maximum reliability
- ☐ No system stop for possible burner lock-out
- ☐ Easy maintenance and cleaning (possible use of a filter or air duct)
- ☐ Wide modulating turn down ratio up to 1:8 with shutdowns/starts-up
- ☐ Higher system efficiency
- ☐ Consequent consumptions reduction
- ☐ Control with BUS system to simplify the wiring harness and to make easy burners monitoring
- ☐ Natural gas and LPG operation
- ☐ Good operation with lower gas supply pressures.

NOTES

[illegible]

Riello Burners a world of experience in every burner we sell.



[1]



[2]

[1] BURNERS PRODUCTION PLANT
S. PIETRO, LEGNAGO (VERONA) - ITALIA

[2] HEADQUARTER BURNERS DIVISION
S. PIETRO, LEGNAGO (VERONA) - ITALIA

Across the world, Riello sets the standard in reliable and high efficiency burner technology.

With burner capacity from 5 kW to 48 MW, Riello gas, oil, dual fuel and Low NOx burners deliver unbeatable performance across the full range of residential and commercial heating applications, as well as in industrial processes.

With headquarter in Legnago, Italy, Riello has been manufacturing premium quality burners for over 90 year. The manufacturing plant is equipped with the most innovative systems of assembling lines and modern manufacturing cells for a quick and flexible response to the market.

Besides, the Riello Combustion Research Centre, located in Angiari, Italy, represents one of the most modern facility in Europe and one of the most advanced in the world for the development of the combustion technology.

Today, the company's presence on worldwide markets is distinguished by a well-constructed and efficient sales network, alongside many important Training Centres located in various countries to meet its customers' needs. Riello has 13 operational branches abroad (in Europe, America and Asia), with customers in over 60 countries.

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09/2017

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