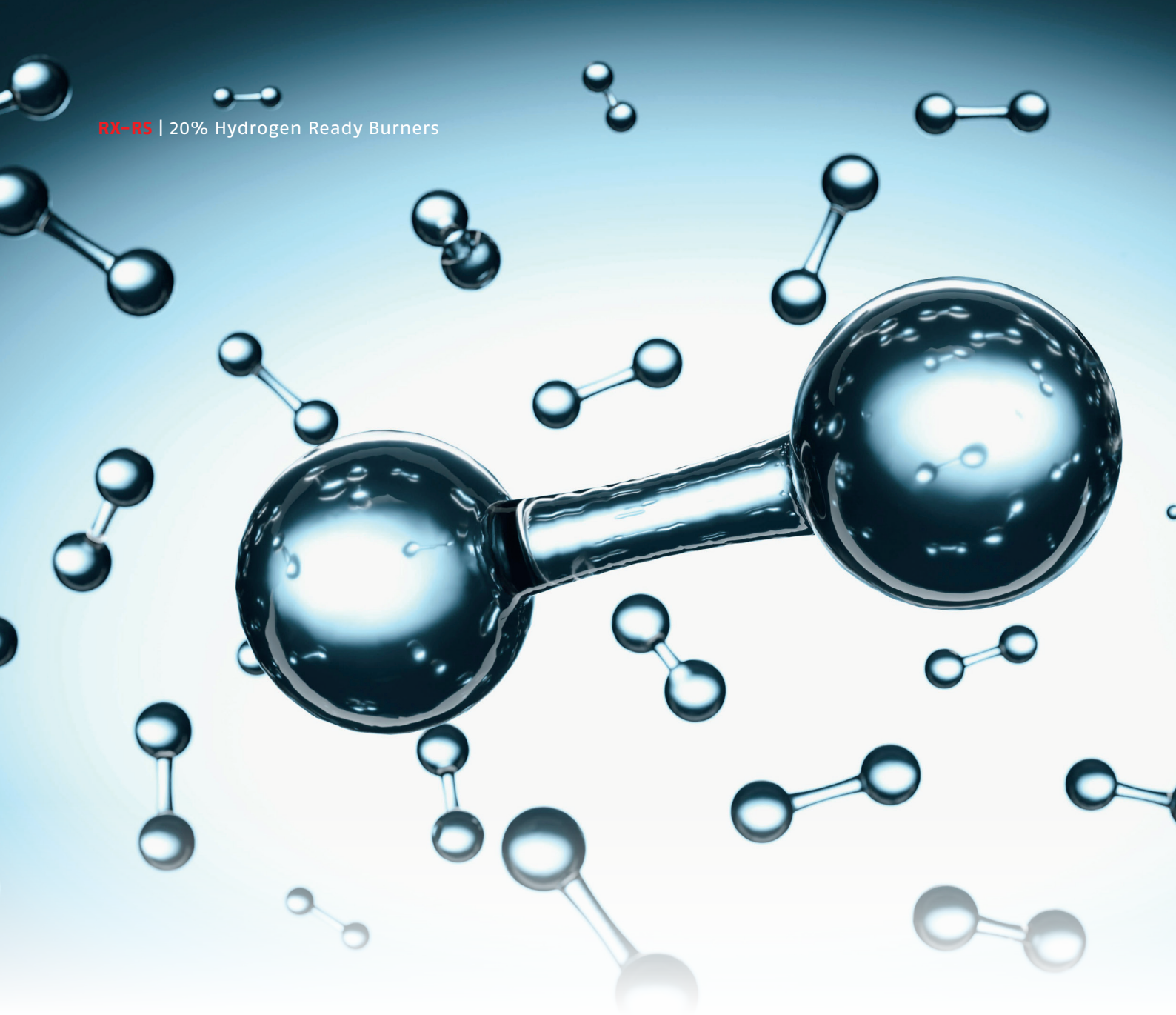


RX-RS 20% HYDROGEN READY BURNERS



Premixed and Forced Draught Burners for Natural Gas and Hydrogen Blends of up to 20%

RIELLO
Energy For Life



RX-RS 20% HYDROGEN READY

The general improvement of the energy efficiency of buildings and the use of renewable sources for power generation, heating and process applications contribute to achieving the European Union's decarbonization goal.

Due to the absence of carbon dioxide, dust, and unburned production, green hydrogen - obtained from processes powered by renewable sources - can be a cleaner solution when used at 100%.

A transition to the use of 100% hydrogen can only take place through some intermediate steps: production capacity and distribution limitations

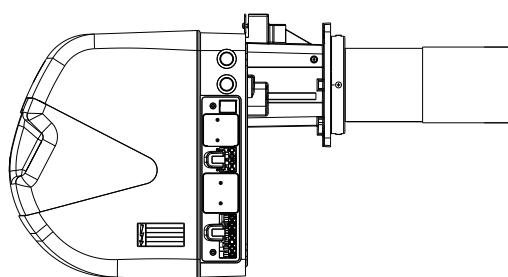
must be overcome, as well as technological adaptation must be addressed. Therefore, the first introduction step concerns the introduction of 20% hydrogen along with the methane gas used in distribution networks.

Riello is ready to play its role in the energy transition, thanks to a range of modulating burners, both premixed and forced draught, already compatible with hydrogen blends of up to 20% and CE approved.

PREMIXED BURNERS RANGE

ULTRA LOW NOX MODULATING BURNERS FOR APPLICATIONS UNDER RESTRICTIVE EMISSION LIMITS. PREMIX TECHNOLOGY CONSISTS OF FEEDING AIR AND GAS INTO THE INTAKE CIRCUIT FOR BETTER MIXING. EQUIPPED WITH BRUSHLESS MOTORS TO ACHIEVE WIDE MODULATION RATIOS, RX BURNERS ARE IDEAL FOR INDUSTRIAL PROCESS APPLICATIONS AND CONDENSING BOILERS.

RX 180-360 S/PV ULN



- Premix gas burners
- Ultra Low NOx emissions
- Compact flame with metal fiber mesh
- Modulation with variable rpm brushless motor
- N. 3 models, from 30 to 360 kW
- Turn-down ratio up to 1:6
- Firing with pilot flame
- Operation with natural gas

TECHNICAL DATA

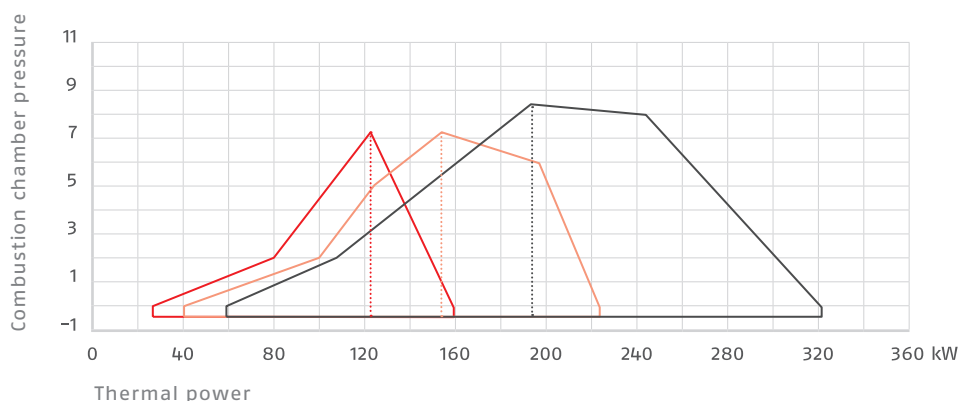
DESCRIPTION	Heat output natural gas		Total electrical power	Electric power supply		Certification
	kW (1)	kW (2)		V/Ph/Hz	V/Hz	
RX 180 S/PV	30-160	30-180	0.51	230/1/50-60	230/50-60	CE-0123CT1618
RX 250 S/PV	42-225	40-250	0.51	230/1/50-60	230/50-60	CE-0123CT1618
RX 360 S/PV	65-325	60-360	0.51	230/1/50-60	230/50-60	CE-0123CT1618

(1) Power range referred to an Ultra Low NOx performance of 30 mg/Nm³.

(2) Power range referred to a Low NOx performance conforming to the Class 3 of EN676 European Standard.

FIRING RATES

Please note: it is important to be aware that in order to achieve an Ultra Low NOx emission performance, it is required to work with a high excess air; as consequence the combustion chamber back pressure could increase up to roughly 30% more.

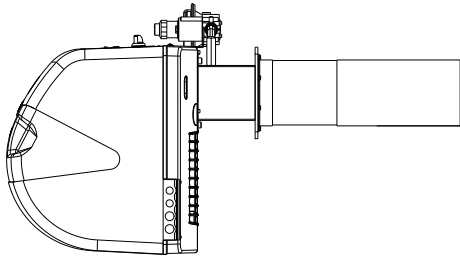


Useful firing rates for choosing the burner

Test conditions conforming to EN676
 Temperature: 20 °C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

- RX 180 S/PV
- RX 250 S/PV
- RX 360 S/PV

RX 500-850 S/PV ULN



- Premix gas burners
- Ultra Low NOx emissions
- Compact flame
- Modulation with variable rpm brushless motor
- N. 3 models, from 80 to 880 kW
- Turn-down ratio up to 1:6
- Firing with pilot flame
- Operation with natural gas

TECHNICAL DATA

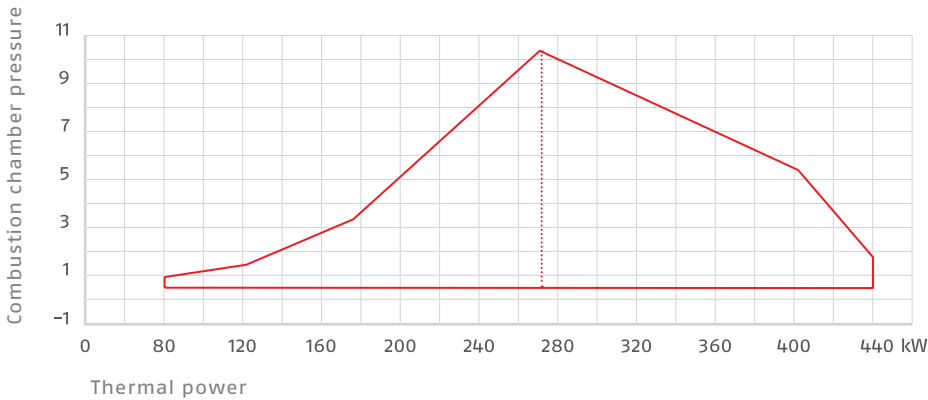
DESCRIPTION	Heat output natural gas		Total electrical power	Electric power supply		Certification
	kW (1)	kW (2)		kW	V/Ph/Hz	
RX 500 S/PV	82-440	80-490	1.0	230/1/50-60	230/50-60	CE-0123CT1618
RX 700 S/PV	140-630	140-700	1.2	230/1/50-60	230/50-60	CE-0123CT1618
RX 850 S/PV	170-790	170-880	1.2	230/1/50-60	230/50-60	CE-0123CT1618

(1) Power range referred to an Ultra Low NOx performance of 30 mg/Nm³

(2) Power range referred to a Low NOx performance conforming to the Class 3 of EN676 European Standard.

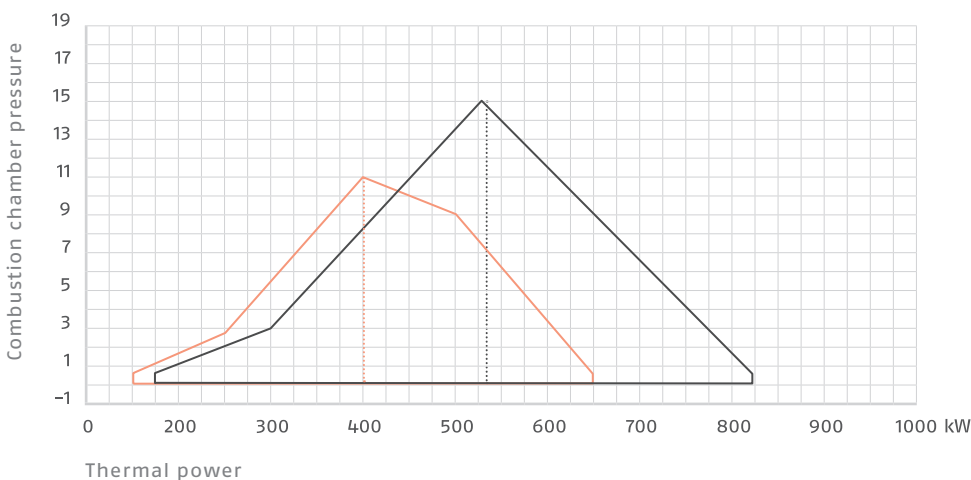
FIRING RATES

Please note: it is important to be aware that in order to achieve an Ultra Low NOx emission performance, it is required to work with a high excess air; as consequence the combustion chamber back pressure could increase up to roughly 30% more.



Useful firing rates for choosing the burner

Test conditions conforming to EN676
 Temperature: 20 °C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

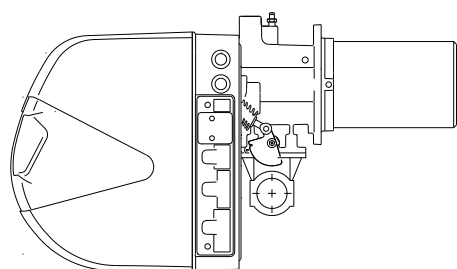


- RX 500 S/PV
- RX 700 S/PV
- RX 850 S/PV

FORCED DRAUGHT BURNERS RANGE

**LOW-EMISSION "LOW NOx" MODULATED BURNERS WITH ELECTRONIC CAM.
AIR AND GAS INPUT REGULATED BY INDEPENDENT SERVOMOTORS TO ENSURE PROPER COMBUSTION
THROUGHOUT THE MODULATION RANGE.**

RS 25-35/E C05



- Progressive two-stage or modulating gas burners with electronic cam, with low NOx emissions according to Class 5 of European standard EN 676 (NOx lower than 56 mg/kWh)

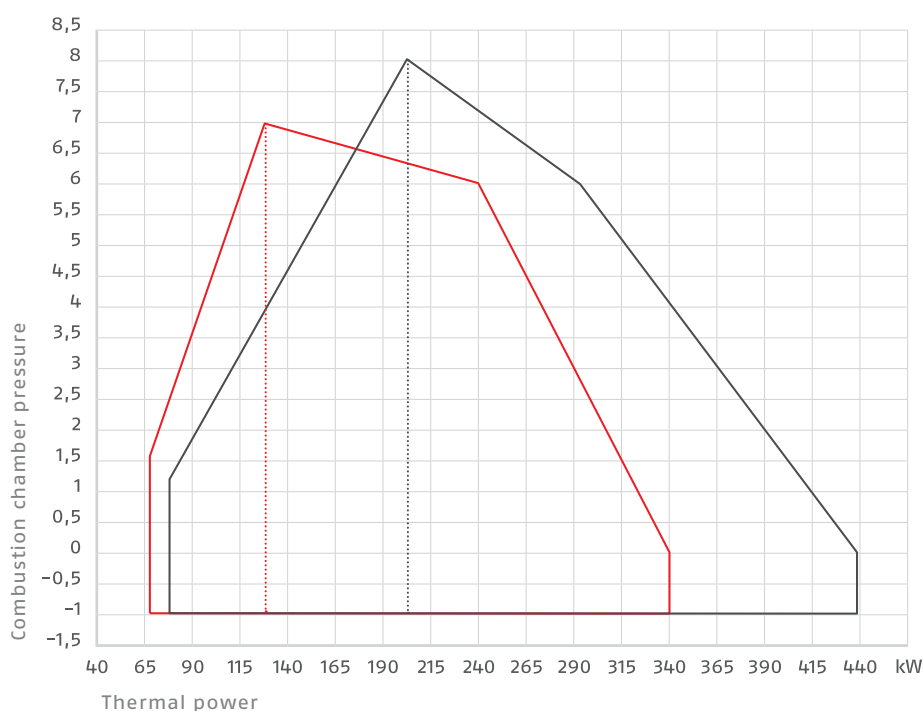
TECHNICAL DATA

DESCRIPTION	Heat output natural gas	Total electrical power	Electric power supply		Certification	Note
MODELS FOR STANDARD OPERATION (FS1: ONE STOP EVERY 24 HOURS) - WITH ELECTRONIC CAM (REC 27)						
	kW	kW	V/Ph/Hz	V/Hz		
RS 25/E C05	70/125-340	0.6	1/220-230/50-60	220-230/50-60	CE-0123CT1607	(1)(2)
RS 35/E C05	82/200-440	0.7	1/220-230/50-60	220-230/50-60	CE-0123CT1607	(1)(2)

(1) Model with plug and socket.

(2) Seal control function is included on Burner Digital Management System; it is necessary to add the PVP kit (included as burner standard equipment) on the gas train. In case of matching with VGD 50/1 gas train, additional flange kit code 20185515 is needed.

FIRING RATES



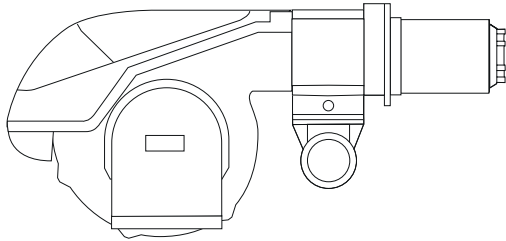
Useful firing rates for choosing the burner

Modulation range

Test conditions conforming to EN676
Temperature: 20 °C
Pressure: 1013,5 mbar
Altitude: 0 m a.s.l.

— RS 25/E C05
— RS 35/E C05

RS 68/E BLU

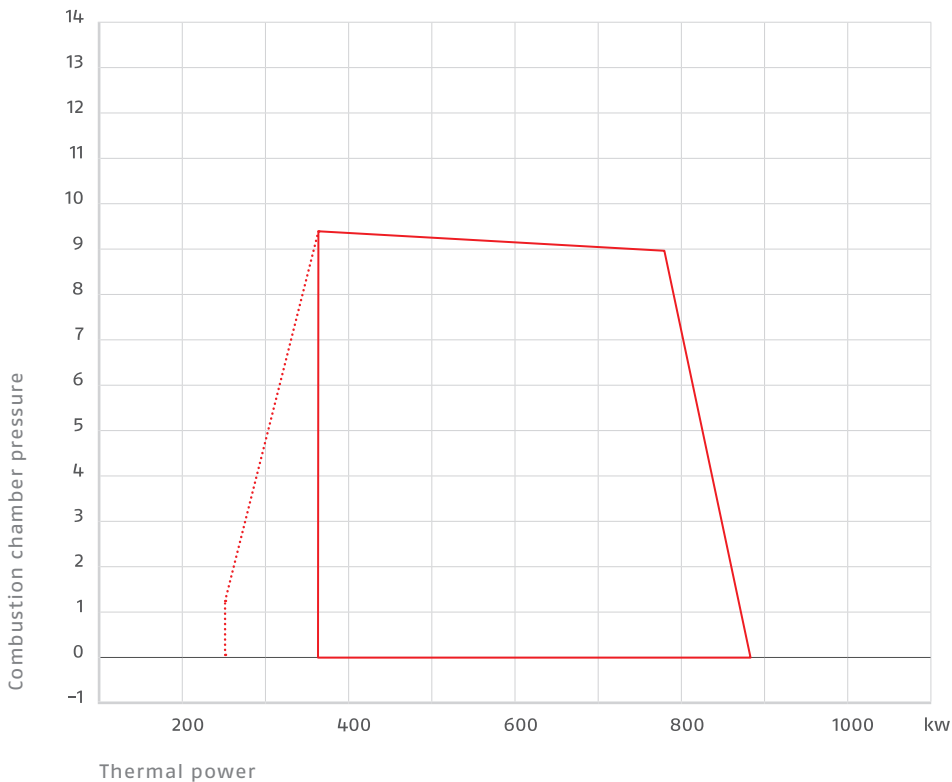


- Progressive two-stage or modulating gas burners with electronic cam, with low NOx emissions according to Class 3 of European standard EN 676 (NOx lower than 80 mg/kWh)

TECHNICAL DATA

Heat output natural gas	Total electrical power	Electric power supply		Certification
MODELS FOR STANDARD OPERATION (FS1: ONE STOP EVERY 24 HOURS) – WITH ELECTRONIC CAM (REC 27)				
kW	kW	V/Ph/Hz	V/Hz	
150/350-860	2.0	3/230-400/50	230/50-60	CE-0085BS0267

FIRING RATES



Useful firing rates for choosing the burner

Modulation range

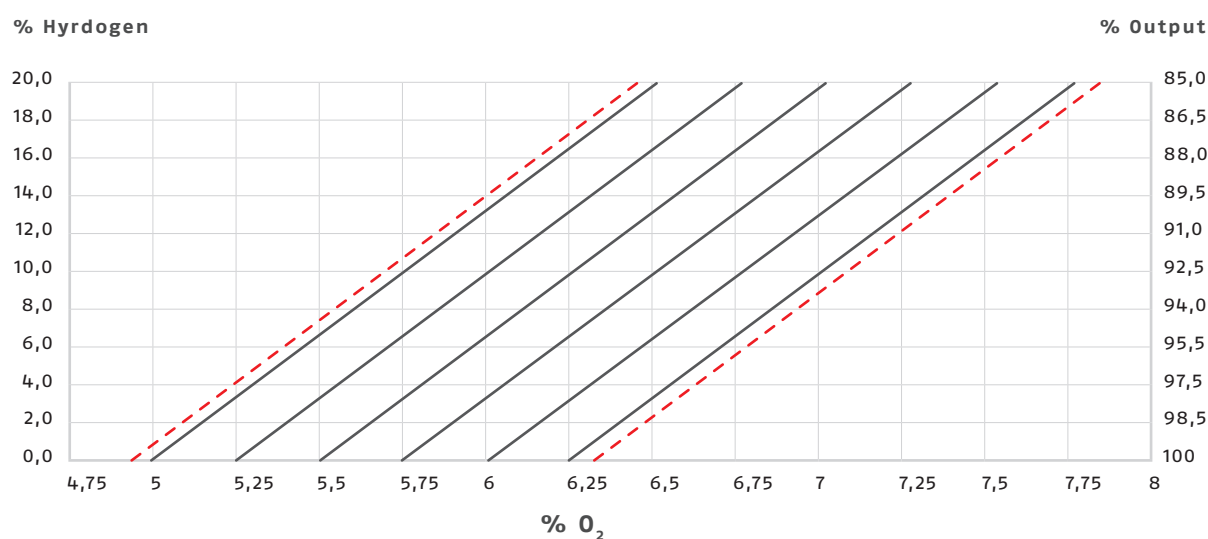
Test conditions conforming to EN676
 Temperature: 20 °C
 Pressure: 1013,5 mbar
 Altitude: 0 m a.s.l.

— RS 68/E BLU

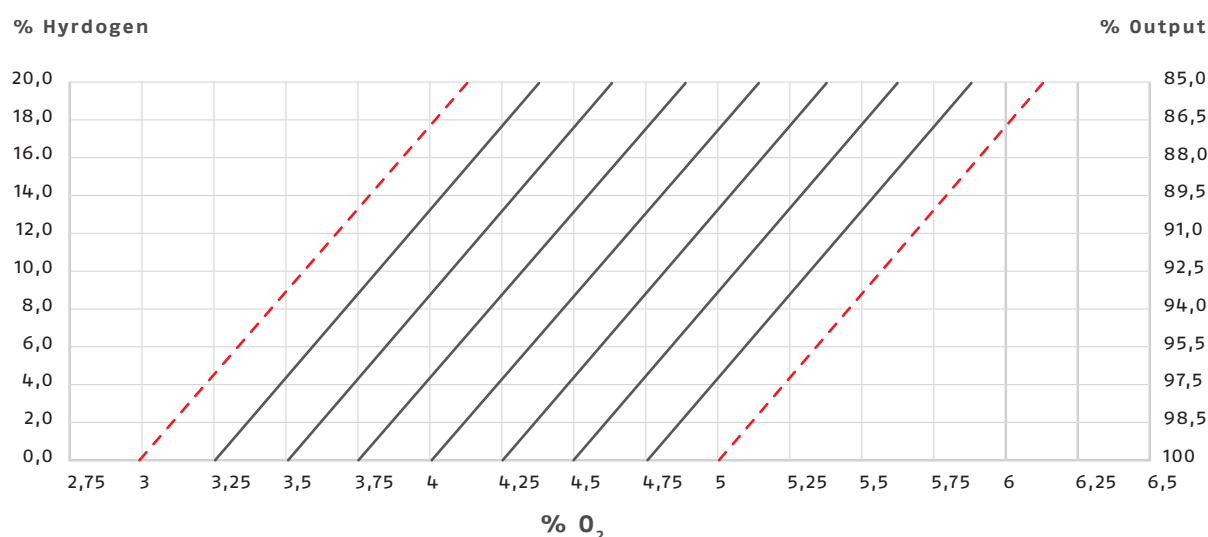
USE OF HYDROGEN UP TO 20%

When the application requires the use of fuel containing a variable blend of natural gas and hydrogen up to 20%, a proper adjustment of the system is recommended to obtain safe and reliable combustion despite possible future variations in the mix. To perform a proper burner adjustment, it is necessary to know the percentage of hydrogen in the network and set the oxygen content in the flue gasses inside the ranges indicated in the graphs below:

IN PREMIXED BURNERS



IN FORCED DRAUGHT BURNERS



Adjusting the burners as suggested makes them ready for injections of hydrogen into the natural gas grid without the need for further settings, up to the maximum hydrogen value of 20%, as certified according to the boundary conditions defined in DVGW CERT ZP 3502 edition 01.12.2022.

The use of 20% hydrogen in the fuel leads to a reduction of the rated power output up to 15%, this is a consequence of the lower volumetric calorific value of hydrogen compared to natural gas. While NO_x emissions will not be affected thanks to the lower power output and the higher excess of air.

MORE THAN 100 YEARS EXPERIENCE


Each RIELLO burner is the result of a long experience in design and manufacture, coupled with leading technology and flexible burner design. RIELLO has always believed and invested in the search for new materials and in the development of more advanced combustion technology.

OUR PRESENCE

RIELLO, World Leader in the production of gas, oil, dual fuel and Low NOx burners delivers outstanding performance across the full range of residential and commercial heating applications, as well as in industrial processes.

The RIELLO Combustion Research Centre represents one of the most modern facilities 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-structured and efficient sales network, alongside many important Training Centres located in various countries to meet its customers' needs.



With headquarters in Legnago (Northern Italy), RIELLO has been manufacturing premium quality burners for more than 100 years. 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.

RIELLO

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Since the Company is constantly engaged in the production improvement,
the aesthetic and dimensional features, the technical data, the equipment and the accessories can be changed.