

Technical Report

central heating condensing boiler
MYNUTE X, LINEA, Vision

RIELLO S.p.A.
Via Ing. Pilade Riello, 7
37045 Legnago (VR)
Italy

Report number: 2003754/4
Project number: PKC0004734

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Kiwa

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The test results in this report are exclusively related to the samples offered and tested.

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Version: 025

GASTEC

1 SUMMARY

The central heating condensing boiler:

BERETTA: MYNUTE X 20R p, MYNUTE X 25C p, MYNUTE X 30C p, MYNUTE X 30R p, MYNUTE X 35C p

SYLBER: LINEA 25C p, LINEA 30C p, LINEA 35C p, LINEA 35R p

Vokera BY RIELLO: Vision PLUS 20S, Vision PLUS 25S, Vision PLUS 35C, Vision PLUS 30S, Vision PLUS 40C

manufactured by: **RIELLO S.p.A.**

and all the trade names listed on chapter 3

- have been evaluated according the requirements of Regulation (EU) 2016/426 of the European Parliament and of the Council of 9 March 2016 on appliances burning gaseous fuels and repealing Directive 2009/142/EC. In particular an EU type examination has been carried out to verify that the technical design of the appliances and/or fittings meets the applicable essential requirements step out in Annex I of Regulation 2016/426.
- have been evaluated according the Boiler Efficiency Directive (92/42/EEC) and Commission Regulation (EU) No. 813/2013

See chapter two for a detailed overview of all the references.

See chapter three for possible further conditions/remarks.

See chapter four for test plan of conformity assessment.

Conclusion:

On the basis of the results and the evidence relating to this document it is considered that the above-mentioned appliances meet the applicable essential requirements step out in Annex I of Regulation (EU) 2016/426 and Boiler Efficiency Directive (92/42/EEC).

Test Engineer

Kiwa Cermet Italia S.p.A

2 REFERENCES

GAS:

Standard	Description
EN 15502-1:2012+A1:2015	Gas-fired central heating boilers - Part 1: General requirements and tests
EN 15502-2-1:2012+A1:2016	Gas-fired central heating boilers - Part 2-1: Specific standard for type C appliances and type B2, B3 and B5 appliances of a nominal heat input not exceeding 1 000 kW

ELECTRICAL:

Standard	Description
EN 60335-1:2012 EN 60335-1/EC:2014 EN 60335-1/A11:2014 EN 60335-1/A13:2017	Household and similar electrical appliances -Safety - Part 1: General requirements
EN 60335-2-102:2016 EN 60335-2-102/EC:2017	Household and similar electrical appliances. Safety. Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections

3 DESCRIPTION OF THE PRODUCT

Name of the Manufacturer	:	RIELLO S.p.A.
Trade name	:	BERETTA, SYLBER
Appliance type	:	B _{23P} , B _{53P} , C ₁₃ , C ₃₃ , C ₄₃ , C ₅₃ , C ₆₃ , C ₈₃ , C ₉₃ , C ₍₁₀₎ , C ₍₁₁₎
		C _{13x} , C _{33x} , C _{43x} , C _{53x} , C _{63x} , C _{83x} , C _{93x}
Countries	:	AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MK, MT, NO, NL, PL, PT, RO, SE, SI, SK, TR
PIN:	:	0476CU3754

Appliance description
central heating condensing boiler

Models

BERETTA: MYNUTE X 30C p, MYNUTE X 30R p, MYNUTE X 35C p

SYLBER: LINEA 30C p, LINEA 35C p, LINEA 35R p

Vokera BY RIELLO: Vision PLUS 35C, Vision PLUS 40C, Vision PLUS 25S, Vision PLUS 30S

Are approved for following gas groups

Group	mbar	Group	mbar	Group	mbar
E	20	Lw	20	P	30;37;50
H	20;25	Ls	13		

Models

BERETTA: MYNUTE X 25C p, MYNUTE X 20R p

SYLBER: LINEA 25C p

Vokera BY RIELLO: Vision PLUS 20S

Are approved for following gas groups

Group	mbar	Group	mbar	Group	mbar
E	20	P	30;37;50	Lw	20
H	20;25	M	20	Ls	13

Note: The above gas groups can be combined according to the standard EN437:2018 and national situation of countries.

Trade name **BERETTA**

Nominal heat input:	MYNUTE X 25C p	MYNUTE X 20R p	MYNUTE X 30C p	MYNUTE X 30R p	MYNUTE X 35C p
kW (Hi) – Heating (range rated values)	20,0 – 14,8	20,0 – 14,8	25,0 – 13,0	30,0 – 13,0	30,0 – 13,0
kW (Hi) - Heating	20,0 – 3,6 5,0 ⁽²⁾ ⁽³⁾	20,0 – 3,6 5,0 ⁽²⁾ ⁽³⁾	25,0 – 4,9 7,0 ⁽²⁾	30,0 – 4,9 7,0 ⁽²⁾	30,0 – 4,9 7,0 ⁽²⁾
kW (Hi) - DHW	25,0 – 3,6 5,0 ⁽²⁾ ⁽³⁾	20,0 – 3,6 5,0 ⁽²⁾ ⁽³⁾	30,0 – 4,9 7,0 ⁽²⁾	34,6 – 4,9 7,0 ⁽²⁾	34,6 – 4,9 7,0 ⁽²⁾
Other information: (Data meas. with G20 - NCV)					
Full load 80/60°C	97,3 %	97,3 %	97,5 %	97,5 %	97,5 %
Aver. load 80/60°C	96,7 %	96,7 %	97,3 %	97,3 %	97,3 %
Part load at 30°C	107,4 %	107,4 %	107,2 %	107,2 %	107,2 %
NOx Class	6	6	6	6	6
NOx based on NCV [mg/kWh]	28	28	28	47	47
NOx based on GCV [mg/kWh]	25	25	25	43	43
Min amb. temp.	- 15 °C	- 15 °C	- 15 °C	- 15 °C	- 15 °C
Data relating to Commission Regulation (EU) No. 813/2013 and EN15502-1					
η_{100}	96,7 %	96,7 %	97,3 %	97,3 %	97,3 %
η_{30}	107,4 %	107,4 %	107,2 %	107,2 %	107,2 %
η_4	87,1 %	87,1 %	87,6 %	87,6 %	87,6 %
η_1	96,7 %	96,7 %	96,5 %	96,5 %	96,5 %
P ₄	19,5 kW	19,5 kW	24,4 kW	29,3 kW	29,3 kW
P ₁	6,5 kW	6,5 kW	8,1 kW	9,7 kW	9,7 kW
C.Heater?	Yes	No ⁽¹⁾	Yes	No ⁽¹⁾	Yes
B ₁ Boiler?	No	No	No	No	No
Type of boiler:	"Condensing"	"Condensing"	"Condensing"	"Condensing"	"Condensing"
Range Rated?	Yes	Yes	Yes	Yes	Yes

⁽¹⁾ The boiler can be connected to an external tank for the domestic hot water production

⁽²⁾ minimum declared for the gas category P

⁽³⁾ minimum declared for the gas category M

Note: η_{100} = At rated heat output and high-temperature regime - NCV (*) - EN15502-1 clause 9.5.2.1: "the useful efficiency at nominal heat input Q_n or for range rated boilers at the arithmetic mean of the maximum and minimum heat input Q_a"
 η_{30} = At 30 % of rated heat output and low-temperature regime - NCV (**) - EN15502-1 clause 9.5.2.1: "the useful efficiency at 30 % of the nominal heat input Q_n or for range rated boilers at 30 % of the arithmetic mean of the maximum and minimum heat input Q_a"
 η_4 = At rated heat output and high-temperature regime (*)
 η_1 = At 30 % of rated heat output and low-temperature regime (**)
P₄ = At rated heat output and high-temperature regime (*)
P₁ = At 30 % of rated heat output and low-temperature regime (**)
C.Heater = Combination Heater (Yes = with domestic hot water production / No = Heating system only)
B₁ Boiler = B₁ according CEN/TR 1749:2014
Type of boiler: "Condensing Boiler" or "Low Temperature Boiler" or "Other Boiler"

(*) High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

(**) Low temp. means for condensing boilers 30 °C, for low-temp. boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

(n.t. = not tested; n.a. = not applicable)

Trade name **SYLBER**

Nominal heat input:	LINEA 25C p	LINEA 30C p	LINEA 35R p	LINEA 35C p	
kW (Hi) – Heating (range rated values)	20,0 – 14,8	25,0 – 13,0	30,0 – 13,0	30,0 – 13,0	
kW (Hi) - Heating	20,0 – 3,6 5,0 ⁽²⁾ ⁽³⁾	25,0 – 4,9 7,0 ⁽²⁾	30,0 – 4,9 7,0 ⁽²⁾	30,0 – 4,9 7,0 ⁽²⁾	
kW (Hi) - DHW	25,0 – 3,6 5,0 ⁽²⁾ ⁽³⁾	30,0 – 4,9 7,0 ⁽²⁾	34,6 – 4,9 7,0 ⁽²⁾	34,6 – 4,9 7,0 ⁽²⁾	
Other information: (Data meas. with G20 - NCV)					
Full load 80/60°C	97,3 %	97,5 %	97,5 %	97,5 %	
Aver. load 80/60°C	96,7 %	97,3 %	97,3 %	97,3 %	
Part load at 30°C	107,4 %	107,2 %	107,2 %	107,2 %	
NOx Class	6	6	6	6	
NOx based on NCV [mg/kWh]	28	28	47	47	
NOx based on GCV [mg/kWh]	25	25	43	43	
Min amb. temp.	- 15 °C	- 15 °C	- 15 °C	- 15 °C	
Data relating to Commission Regulation (EU) No. 813/2013 and EN15502-1					
η_{100}	96,7 %	97,3 %	97,3 %	97,3 %	
η_{30}	107,4 %	107,2 %	107,2 %	107,2 %	
η_4	87,1 %	87,6 %	87,6 %	87,6 %	
η_1	96,7 %	96,5 %	96,5 %	96,5 %	
P_4	19,5 kW	24,4 kW	29,3 kW	29,3 kW	
P_1	6,5 kW	8,1 kW	9,7 kW	9,7 kW	
C.Heater?	Yes	Yes	No ⁽¹⁾	Yes	
B ₁ Boiler?	No	No	No	No	
Type of boiler:	"Condensing"	"Condensing"	"Condensing"	"Condensing"	
Range Rated?	Yes	Yes	Yes	Yes	

(1) The boiler can be connected to an external tank for the domestic hot water production

(2) minimum declared for the gas category P

(3) minimum declared for the gas category M

Note: η_{100} = At rated heat output and high-temperature regime - NCV (*) - EN15502-1 clause 9.5.2.1: "the useful efficiency at nominal heat input Q_n or for range rated boilers at the arithmetic mean of the maximum and minimum heat input Q_a "

η_{30} = At 30 % of rated heat output and low-temperature regime - NCV (**) - EN15502-1 clause 9.5.2.1: "the useful efficiency at 30 % of the nominal heat input Q_n or for range rated boilers at 30 % of the arithmetic mean of the maximum and minimum heat input Q_a "

η_4 = At rated heat output and high-temperature regime (*)

η_1 = At 30 % of rated heat output and low-temperature regime (**)

P_4 = At rated heat output and high-temperature regime (*)

P_1 = At 30 % of rated heat output and low-temperature regime (**)

C.Heater = Combination Heater (Yes = with domestic hot water production / No = Heating system only)

B₁ Boiler = B₁ according CEN/TR 1749:2014

Type of boiler: "Condensing Boiler" or "Low Temperature Boiler" or Other Boiler"

(*) High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

(**) Low temp. means for condensing boilers 30 °C, for low-temp. boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

(n.t. = not tested; n.a. = not applicable)

Trade name **Vokera BY RIELLO**

Nominal heat input:	Vision PLUS 40C	Vision PLUS 20S	Vision PLUS 25S	Vision PLUS 30S	Vision PLUS 35C
kW (Hi) – Heating (range rated values)	30,0 – 13,0	20,0 – 14,8	25,0 – 13,0	30,0 – 13,0	30,0 – 13,0
kW (Hi) - Heating	30,0 – 4,9 7,0 ⁽²⁾	20,0 – 3,6 5,0 ^{(2) (3)}	25,0 – 4,9 7,0 ⁽²⁾	30,0 – 4,9 7,0 ⁽²⁾	30,0 – 4,9 7,0 ⁽²⁾
kW (Hi) - DHW	40,0 – 4,9 7,0 ⁽²⁾	--	--	--	34,6 – 4,9 7,0 ⁽²⁾
Other information: (Data meas. with G20 - NCV)					
Full load 80/60°C	97,5 %	97,3 %	97,5 %	97,5 %	97,5 %
Aver. load 80/60°C	97,3 %	96,7 %	97,3 %	97,3 %	97,3 %
Part load at 30°C	107,2 %	107,4 %	107,2 %	107,2 %	107,2 %
NOx Class	6	6	6	6	6
NOx based on NCV [mg/kWh]	47	28	28	47	47
NOx based on GCV [mg/kWh]	43	25	25	43	43
Min amb. temp.	- 15 °C	- 15 °C	- 15 °C	- 15 °C	- 15 °C
Data relating to Commission Regulation (EU) No. 813/2013 and EN15502-1					
η_{100}	97,3 %	96,7 %	97,3 %	97,3 %	97,3 %
η_{30}	107,2 %	107,4 %	107,2 %	107,2 %	107,2 %
η_4	87,6 %	87,1 %	87,6 %	87,6 %	87,6 %
η_1	96,5 %	96,7 %	96,5 %	96,5 %	96,5 %
P ₄	29,3 kW	19,5 kW	24,4 kW	29,3 kW	29,3 kW
P ₁	9,7 kW	6,5 kW	8,1 kW	9,7 kW	9,7 kW
C.Heater?	Yes	No	No	No	Yes
B ₁ Boiler?	No	No	No	No	No
Type of boiler:	"Condensing"	"Condensing"	"Condensing"	"Condensing"	"Condensing"
Range Rated?	Yes	Yes	Yes	Yes	Yes

⁽²⁾ minimum declared for the gas category P

⁽³⁾ minimum declared for the gas category M

Note: η_{100} = At rated heat output and high-temperature regime - NCV (*) - EN15502-1 clause 9.5.2.1: "the useful efficiency at nominal heat input Q_n or for range rated boilers at the arithmetic mean of the maximum and minimum heat input Q_a"
 η_{30} = At 30 % of rated heat output and low-temperature regime - NCV (**) - EN15502-1 clause 9.5.2.1: "the useful efficiency at 30 % of the nominal heat input Q_n or for range rated boilers at 30 % of the arithmetic mean of the maximum and minimum heat input Q_a"
 η_4 = At rated heat output and high-temperature regime (*)
 η_1 = At 30 % of rated heat output and low-temperature regime (**)
P₄ = At rated heat output and high-temperature regime (*)
P₁ = At 30 % of rated heat output and low-temperature regime (**)
C.Heater = Combination Heater (Yes = with domestic hot water production / No = Heating system only)
B₁ Boiler = B₁ according CEN/TR 1749:2014
Type of boiler: "Condensing Boiler" or "Low Temperature Boiler" or Other Boiler"

(*) High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

(**) Low temp. means for condensing boilers 30 °C, for low-temp. boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

(n.t. = not tested; n.a. = not applicable)

Model breakdown		
MYNUTE...C LINEA...C Vision...C	With instantaneous sanitary exchanger plate	possibility to install also in a partially protected place
MYNUTE...R LINEA...R	With external tank	possibility to install also in a partially protected place
Vision...S	Only heating	possibility to install also in a partially protected place

Appliances are placed on the market also by the following marketers:

Name	Trade name	Address
Riello S.p.A.	BERETTA	Via Ing. Pilade Riello, 7 37045 Legnago (VR) - Italy
Riello S.p.A.	SYLBER	Via Ing. Pilade Riello, 7 37045 Legnago (VR) - Italy
Vokera Ltd.	Vokera BY RIELLO	Borderlake House Unit 7 Riverside Industrial Estate - London Colney Great Britain

Available models and their cross reference:

RIELLO S.p.A. (Reference models)	RIELLO S.p.A.	Vokera Ltd.
BERETTA	SYLBER	Vokera BY RIELLO
MYNUTE X 25C p	LINEA 25C p	
MYNUTE X 20R p		Vision PLUS 20S
MYNUTE X 30C p	LINEA 30C p	Vision PLUS 25S
MYNUTE X 30R p		Vision PLUS 30S
MYNUTE X 35C p	LINEA 35C p LINEA 35R p	Vision PLUS 35 C * Vision PLUS 40C

* different DHW Heat input (40,0 kW instead 34,6 kW)

4 TEST PLAN

Object of activity

The purpose of this report is to assess the conformity to the applicable essential requirements listed on Annex I of Regulation (EU) 2016/426 GAR and Boiler Efficiency Directive (92/42/EEC) of the following modifications required by the manufacturer:

Introduction of new gas categories Lw and Ls on all boilers.

Motivation test plan

The conformity of the appliances to the applicable essential requirements on Annex I of Regulation (EU) 2016/426 GAR and Boiler Efficiency Directive (92/42/EEC) have been evaluated according the requirement of the standards listed in chapter two.

Based on the product(s) information, for the assessment have been used the following test reports:

- Test results supplied by the manufacturer
- Test results of the witness test performed by Kiwa Cermet Italia

The manufacturer's laboratory has already been recognized by Kiwa Cermet Italia according EN 17025 requirements (see certificate n° KIP-16246/G).

The manufacturer performed all the tests required by the standards EN 15502 to cover combustion and safety aspects.

Kiwa Cermet Italia repeated some of these tests at manufacturer's laboratory.

Based on the product(s) information the test plan is not subject to any special interpretations or modifications.

5 INDEX OF ANNEXES

MANUFACTURER INFORMATION

Description

	File name	Date
Declarations	PKC0004734-letter-1256-2020	07-09-2020
drawings	Dis. tabellare codici diaframmi gas_E00000656	--
Component list	PKC0004734_Gas component List_Mynute Xp_Linea Cp	30-09-2020
	PKC0004734_Gas component List_Vision PLUS	30-09-2020
Test report (supplied by the manufacturer)	200804_SN_LAB_10.5 spire	04-08-2020
	200804_SN_LAB_15.5 spire	04-08-2020

DETAILED TEST RESULTS

Description

	File name	Date
Gas technical aspects	PKC0004734-992329-267-cmb-VisionPlus40C	23-09-2020

NOTE: Any manufacturer information, drawings, manuals as well technical documentation used for the conformity assessment of product which have not included in this report, are stored in Kiwa project folders.

6 REPORT HISTORY SHEET

Date: 26-06-2019 Author: Sandro Armellin Report No.: 2003754 Project No.: PKC0003754	Description: NEW.
Date: 12-07-2019 Author: Sandro Armellin Report No.: 2003754/1 Project No.: PKC0003805	Description: MOD 1: - new gas category I2M for the appliances mod. MYNUTE X 25C p, MYNUTE X 20R p, LINEA 25C p. - Errata corrige: re-issue the BED certificate for the brand BERETTA.
Date: 13-05-2020 Author: Sandro Armellin Report No.: 2003754/2 Project No.: PKC0004253	Description: MOD 2: <ul style="list-style-type: none"> • New appliances mod. Vision PLUS 20S, Vision PLUS 25S, Vision PLUS 30S, Vision PLUS 35C, Vision PLUS 40C trade mark Vokera BY RIELLO (letter 1231-2019 rev.01). • new configuration C(10) and C(11) letter 1241-2020. • alternatives heat exchanger codes 20171905 and 20171908 (letter 1240-2020). • alternative condensate discharge Riello/Groppalli cod. 20179601 (letter 1242-2020). • alternative codification AKL07N1GAR 20172372 for BCU series AKL07 made by Idea S.p.A. (letter 1239-2020).
Date: 15-07-2020 Author: Sandro Armellin Report No.: 2003754/3 Project No.: PKC0004550	Description: MOD 3: The CO2 value (at the nominal heat input for reference gas G20) change from 9,0 % to 9,1 % on the boilers mod. MYNUTE X 25C p, MYNUTE X 20R p, MYNUTE X 30R p, MYNUTE X 35C p brand BERETTA and also for its extended models: LINEA 25C p, LINEA 35R p, LINEA 35C p brand SYLBER, Vision PLUS 40C, Vision PLUS 20S, Vision PLUS 30S, Vision PLUS 35C brand Vokera BY RIELLO.
Date: 03-11-2020 Author: Sandro Armellin Report No.: 2003754/4 Project No.: PKC0004734	Description: MOD 4: new gas categories Lw and Ls for all appliances.