Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 01/02/15

RIVA PLUS

High efficiency condensing
combination & system boiler

2 year GUARANTEE

WALL HUNG BOILERS

BIASI

RIVA PLUS

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The Biasi Riva Plus range has evolved from the already very successful Riva Compact HE MK2.
Extra efficiency is gained through the new recuperator heat exchanger designed by Biasi and the modulating fan that optimises the air/gas ratio.
The new recuperator has a coil inside that is covered by a multitude of fins, increasing the heat exchanging surface.
Riva Plus is available as a combination and system boiler in both 24kW and 28kW outputs.

RECUPERATOR HEAT EXCHANGER

The recuperator takes the heat which is normally lost through the boiler flue to the outside air and uses it to preheat the boiler system water before it is heated by the burner.
Because the recuperator extracts this heat from the products of combustion, condensation is produced which is removed via a condensate drain.
The result is a tried and tested product with extra efficiency without the pain of a radical redesign. For your Installer and Service Engineer, they are dealing with a product that is easy to install and easy maintain.

EFFICIENCY RATING

Changes to the UK Building Regulations in April 2005 made it compulsory for all new and replacement boilers installed to be high efficiency condensing boilers.
Riva Plus achieves 88% efficiency, giving it an A rating on the Sedbuk database, the efficiency rating scheme for all boilers available in the UK.

TWO YEAR GUARANTEE

Riva Plus carries a full manufacturer's warranty of TWO YEARS, covering parts and labour. Our nationwide service network provides a quick and efficient response should any problems arise.

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Advantages

CONTROL PANEL

Appliance operation light

Domestic hot water temperature control knob

Function selector and central heating temperature control knob

Lock-out reset button

Lock-out indicator

Time switch

Central heating circuit temperature and pressure gauge

WHY CHOOSE A BIASI COMBI OR SYSTEM BOILER?

Unlike a conventional domestic central heating and hot water system, a combi boiler heats water taken directly from the cold mains - but only as you use it.

It does not need a tank or a cylinder to store hot water.

The Riva Plus combi range is a compact boiler that:

- Saves space (it is a compact unit for central heating and domestic hot water).
- Saves on hot water costs.
- Delivers hot water through the taps or shower at mains pressure (a pump is not needed).
- Saves money on installation time and costs with quick and easy installation (tank not required).

Combination boilers are very popular in UK homes. In fact they account for around 75% of all boilers installed.

System boilers are more like traditional boilers, using a pipe work circuit to distribute heat to radiators for central heating, and a domestic hot water cylinder for all household hot water needs. They are therefore ideal for replacing existing boilers and perfect for use with an unvented hot water cylinder, where the property has two or more bathrooms.

Combi boiler

System boiler

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NEW RECUPERATOR

The new recuperator is made of aluminium and has an increased heat exchanging surface thanks to the coil with extra fins inside. In case of the condensate siphon being blocked, the boiler is locked by a safety device that checks to make sure that there is a clear air passage present for the flue gases.

MODULATING FAN

Boiler efficiency is dependent upon the ratio of air to gas available at the burner. The controls of Riva Plus constantly monitor demand and temperature, adjusting the fan speed and gas to maintain the best ratio for maximum efficiency.

TECHNICAL FEATURES

- Compliant with all current UK building regulations.
- Fully modulating burner in both central heating and hot water modes to maintain an output within +-1deg C.
- Simple built-in controls with instructions on fold down panel for ease of use.
- Advanced electronic control board providing:
  - Electronic flame ignition
  - Adjustable re-ignition sequence
  - Circulation pump control
  - Aerobic exercise sequence which prevents any seizure of motorised components by exercising them during any 24 hour period without a demand for heating or hot water
  - Fault self-diagnostic indication via 3 LED lights for ease of maintainance
  - Frost protection system to prevent freezing when installed in vulnerable areas e.g. garage or roof space
- Automatic by-pass built in to protect the boiler if a low flow rate is present in system (e.g. all radiator valves shut).
- Magnetic hot water demand switch for long and maintenance-free life.
- Heating circuit pressure switch preventing ignition if system lacks water.
- Easily accessible electrical connection point.

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HOT WATER HEAT EXCHANGER IN STAINLESS STEEL

A high performance plate heat exchanger that rapidly responds to hot water demand, providing up to 11.6 litres per minute (RIVA PLUS 28kW). Constructed in corrosion resistant stainless steel to ensure long life and reliability. By monitoring the temperature of the boilers system water, the Riva Plus will help reduce any build up of scale.

ON BOARD SIPHON PROTECTION

Water produced by condensation during the combustion process is drained from the boiler through a siphonic safety trap. This device prevents any possible leakage of flue products by locking the boiler should a fault occur. Further protection is provided by a special ball which blocks the drain should no liquid be present.

If the condensate waste pipe is exposed to the weather, care must be taken to ensure the condensate waste pipe does not freeze during cold spells, as this will affect the operation of the boiler. Your heating engineer can advise you how to minimise the risks.

FLUE CLEARANCE REQUIREMENTS

CLEARANCE REQUIREMENTS		mm
A	Directly below a window or other opening	300
B	Below gutters, soil pipes or drainpipes	75
C	Below eaves	200
D	Below balconies*	600
E	Below carport roof	NO
F	From vertical drainpipes and soil pipes	150
G	From internal corners**	450
H	From external corners	300
I	Above ground or balcony level	300
J	From a surface facing a terminal	600
K	From a terminal facing a terminal	1200
L	From an opening in the carport (e.g. door, window) into dwelling	NO
M	Vertically from a terminal in the same wall	1500
N	Horizontally from a terminal in the same wall	300
O	Above the roof pitch with roof slope less than or equal to 30°	350
	Above the roof pitch with roof slope more than 30°	600
P	From wall face	600
Q	From, above or to side of an opening	300

* Wherever practical, the flue should be extended beyond the perimeter of the balcony.

** Consideration should be given to adding protection against condensate to the adjacent structure.

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HYDRAULIC SCHEME

1. Condensate drainpipe
2. Fan
3. Flue temperature probe NTC
4. Condensing heat exchanger
5. Pump
6. C.H. pressure relief valve
7. D.H.W. flow switch (not system model)
8. Modulation gas valve
9. Three-way diverter valve (not system model)
10. D.H.W. heat exchanger (not system model)
11. Primary circuit pressure switch
12. Flame-detecting electrode
13. Burner
14. Ignition electrodes
15. Primary heat exchanger
16. C.H. expansion tank
17. By-pass valve

Combi model

FIXING HOLES & CONNECTION PIPES POSITION

A - Air intake / flue outlet pipe (co-axial)
B - Flue outlet pipe ø 80 mm (twin kit)
C - Air intake pipe ø 80 mm (twin kit)
S - Condensate drain connection area
MR - C.H. flow
US - D.H.W. outlet
ES - Cold water inlet
RR - C.H. return

A siphon is fitted within the boiler to collect condensate liquid from the condensing heat exchanger.

OPTIONALS

Pipe space frame

Prefixing kit

RIVA PLUS		Combi/System 24	Combi/System 28
Height	mm	803	803
Width	mm	400	400
Depth	mm	350	350
Weight	kg	42.5	44.5
C/H Flow & Return connections	mm	22	22
Gas inlet connections	mm	22	22
DHW Inlet & Outlet connections	mm	15	15
Condensate drain (plastic)	mm	25	25

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HORIZONTAL KITS

KIT 1

Horizontal coaxial flue kit
Ø 60 / 100 mm
Code 10999.0387.1

KIT 2

Coaxial flue kit with vertical extension
Code 10999.0389.1

Coaxial 90° elbow
Ø 60 / 100 mm
Code 10999.0390.1

Coaxial 45° elbow
Ø 60 / 100 mm
Code 10999.0391.1

Extension
Ø 60 / 100 mm
1m length
Code 10999.0388.1
2m length
Code 10999.0928.0

Max flue length	2.7 m*
Min flue length	0.5 m*
90° bend is equivalent to	1.0 m
45° bend is equivalent to	0.5 m

VERTICAL KIT

KIT 3

Coaxial roof kit
Ø 80 / 125 mm
Code 10999.0392.1

Coaxial 90° elbow
Ø 80 / 125 mm
Code 10999.0408.1

Coaxial 45° elbow
Ø 80 / 125 mm
Code 10999.0409.1

Pitched roof flashing plate
for roof kit Ø 80 / 125 mm
Code 10999.0252.1

Flat roof flashing plate for
roof kit Ø 80 / 125 mm
Code 10999.0280.1

Extension
Ø 80 / 125 mm
1m length
Code 10999.0407.1

Max flue length	8.5 m*
Min flue length	0.5 m*
90° bend is equivalent to	1.0 m
45° bend is equivalent to	0.5 m

TWIN FLUE KIT

KIT 4

Twin kit Ø 80 mm
Code 10999.0393.1

Extension
Ø 80 mm
Code 10999.0394.1

90° elbow FM Ø 80 mm
Code 10999.0395.1

45° elbow FM Ø 80 mm
Code 10999.0396.1

Max flue length	30.0m*
Min flue length	0.5 m*
90° bend is equivalent to	1.65 m
45° bend is equivalent to	0.90 m

PLUMING KIT

KIT 5

Pluming kit
Code 10999.0556.0

Standard kit size;
960mm Horizontal
1130mm Vertical

90° elbow FM Ø 60 mm
Code 10999.0558.0

45° elbow FM Ø 60 mm
Code 10999.0559.0

Extension
Ø 60 mm
Code 10999.0557.0

Max pluming kit length	Refer to manual
90° bend is equivalent to	0.85 m (Ø 60 mm)
45° bend is equivalent to	0.65 m (Ø 60 mm)
90° bend is equivalent to	1.00 m (Ø 60/100 mm)
45° bend is equivalent to	0.50 m (Ø 60/100 mm)

*Subject to clearances

TECHNICAL DATA

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RIVA PLUS		24 Combi	28 Combi	24 System	28 System
CENTRAL HEATING					
Heat Input gross	KW	27.8	32.2	27.8	32.2
Maximum Heat Output	BTU/KW	83256/24.4	96564/28.3	83256/24.4	96564/28.3
Seasonal Efficiency Rating (SAP 2009)	%	88	88	88.1	88.1
Part L Compliant		√	√	√	√
Minimum/Maximum heating temperature	C	50-85	50-85	50-85	50-85
Minimum/Maximum heating pressure	Bar	0.3-2.5	0.3-2.5	0.3-2.5	0.3-2.5
DOMESTIC HOT WATER					
Flow rate at 35C deg rise	L/min	10	11.6	n/a	n/a
Minimum/maximum DHW Temp	C	35-55	35-55	n/a	n/a
Minimum/maximum DHW Pressure	Bar	0.3-10	0.3-10	n/a	n/a
OTHER DATA					
NOX class		2	2	2	2
Nox emmions	ppm	94	90	94	90
Electric protection	IP	IPX4D	IPX4D	IPX4D	IPX4D
Nominal Voltage/Power Consumption	V/W	230/140	230/150	230/140	230/150
Integral 24 hour time control		√	√	n/a	n/a
Self diagnostic LED indicators		√	√	√	√
Full flame modulation		√	√	√	√
Built in frost protection		√	√	√	√
Ventilation free compartment installation		√	√	√	√
Multi directional flueing options		√	√	√	√
Electronic flame ignition		√	√	√	√
Buit-in system by-pass		√	√	√	√
Anti seize component protection		√	√	√	√
Anti cycling control		√	√	√	√
LPG Conversion kit Part no. KI1064 506		Optional	Optional	Optional	Optional
Plume management Kit		Optional	Optional	Optional	Optional
Pipe space frame option for rear piping		Optional	Optional	Optional	Optional
Pre-piping kit		Optional	Optional	Optional	Optional
Weight	Kg	42.5	44.5	42.5	44.5
Power consumption on standby	W	3	3	3	3

Riva Plus carries a full manufacturers warranty of TWO YEARS covering parts and labour.

Biasi boilers are manufactured in one of Europe's most advanced facilities and over many years have earned a deserved reputation for quality and reliability.

Each boiler and its components are individually tested to exacting performance standards before leaving the factory.

Biasi UK provides nationwide customer service for fast and efficient response to after sales requests. Several extended warranty and servicing options are available. Genuine replacement parts are readily available from a network of country wide stockists.

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