



Energy For Life

STATEMENT OF TEST RESULTS

This form is to be completed for all boiler models submitted for inclusion on the UK Boiler efficiency database. All boxes of sections 1 to 7 must be completed (in yellow) except those marked optional (in pink).

The information will be used in a comprehensive procedure (energy balance validation) to help authenticate the results, thereby improving their consistency and reliability.

Section 1 Reference Data	
Notified Body	Kiwa Cermet Italia S.p.A.
Manufacturer	Riello S.p.A.
Original Boiler Name	
UK market Name	Vokera BY RIELLO - Easi-Heat Plus 29Ci
Is it a condensing boiler (yes or no)	yes

Section 2 Declared BED Efficiency test data				
Test Standard used (mark box with x)		EN 15502-1		
		x		
Part-load mode of operation (mark box with x)	Direct mode	No 1	No 2	Indirect
		x		
Part-load condition operation number from EN 15502-1			(enter 1, 2, 3, 4, 5 or 6)	
			1	
Test fuel used (mark box with x)	gas G20	gas G31	oil class C2	oil class D
	x			
For fuels C2 or D only, enter calorific values from fuel analysis, if available (MJ/kg)			net	
			gross	
Declared full load efficiency %	97,8%	Declared part-load efficiency %	108,6%	

Section 3 Efficiency test data set				
Quantity		Full-load	Part-load	Part-load
		100%	30%	Minimum rate
			(direct method)	(Indirect method)
Net input	kW	24,538	6,241	
Heat output	kW	23,991	6,778	
Flow temperature	°C	79,72	36,69	
Return temperature	°C	60,14	30,24	
Flue gas temperature #	°C	63,54	30,8	
CO ₂ in flue gas #	%	9,05	9,36	
Ambient air temperature	°C	22,01	21,77	
Condensate flow rate *	Kg/hour		0,53	
Ambient air humidity *	%	28,8	35	
Circulating pump power **	Watts	69		
Fan power (gas boilers only) *	Watts	38		
Oil pump power including fan*	Watts			

Leave blank if firing is cyclic - only required for continuous firing

+ See note 10

* Optional

Section 4 Case/standby loss (enter one of case or standby loss)			
Case loss (optional). Surface temperature method (e.g EN304)	Power	Watts	
	Mean water temperature above ambient	°C	
Standby loss (optional). Electrical method – used in indirect part-load efficiency method	Power	Watts	35
	Mean water temperature above ambient	°C	20,63

Section 5 Supplementary questions	
	yes, no, or as instructed
Confirm that gas condensing boilers tested for part load using direct operating mode No 2 were undertaken at a constant return temperature of 30 ± 0.5 °C. (If not condensing nor gas enter n/a)	yes
Confirm that boilers with a modulating fuel supply were tested as such and not as an on/off boiler. (If on/off boiler enter n/a)	yes
If the boiler was tested at part-load using the direct method, was it fired continuously at 30% load? If the indirect method was used insert n/a.	yes
Is the boiler is fitted with two or more internal circulating pumps that were used during the test? (yes or no) See note 11.	no
If the boiler is fitted with one internal circulating pumps was it operated during the test? (If no internal pump or more one enter n/a)	yes
Has the electrical power from the water circulating pump referred to above been accounted for in the declared boiler efficiency results (see Note 10)? (If none or more one pump enter n/a)	no
Is a combustion fan fitted upstream of boiler heat exchanger?	yes
Has the efficiency data, based on “heat to water” been checked against the flue/case loss to ensure reasonable agreement and consistency of results e.g using recommendations of Labnet?	no
What quality monitoring organisation has checked the test rig and procedure used for the tests?	Kiwa Cermet Italia S.p.A.

Section 6 Supplementary efficiency test results .				
<i>Required only where the direct part-load efficiency results are based on cyclic tests. Complete one column only</i>				
Parameters (* optional entries)	On/off - full load		Modulating - minimum load	
	condensing	non condensing	condensing	non condensing
	flow/return of 50/30°C (gas) or mean of 40°C (oil)	flow/return of 60/40°C (oil or gas)	return of 30°C (gas)	mean of 50°C (oil or gas)
Net input kW				
Heat output KW				
Flow temperature °C				
Return temperature °C				
Flue gas temperature °C				
CO ₂ in flue gas (%) dry by v/v				
Ambient air temperature °C				
Condensate flow rate* kg/hour				
Ambient air humidity * (%)				

Section 7 Declaration	
<i>We declare that the full and part load efficiency test results and other information detailed above have been obtained by following the relevant requirements given in EN 15502-1.</i>	
Signed on behalf of	
[Insert name of Notified Body]:	<i>Kiwa Cermet Italia S.p.A.</i>
Notified Body Number	<i>0476</i>
Date:	<i>28/01/2019</i>
Print Name:	<i>Maurizio Lorenzon</i>
Position:	<i>Industry Division Manager</i>



NOTES

- 1.Data requested will be used to test the consistency between efficiency data based on heat-to-water with those from estimates of flue loss using an energy balance validation method. Absolute agreement is not expected due to measurement uncertainties.
- 2.Please indicate the test fuel used ie G20 or G31 for gas or C2 or D for oil. Provide gross/net calorific values where certified analysis of test fuel used is available
- 3.The declared full-load and part-load data should refer to those used to determine the SEDBUK.
- 4.Part-load operation: tick box to indicate which method was used (from BS EN 15502-1) to determine efficiency.
- 5.Part-load conditions of operation: Indicate 1, 2, 3, 4, 5 or 6 as given in BS EN 15502-1. Where the boiler control includes a number of reduced heat input rates, the results at minimum continuous firing rate should be included in section 3.
- 6.Where boilers are tested using the indirect method, section 3 should include results at minimum continuous firing rate.
- 7.Where boilers are tested at part-load using the direct method (Operating mode 1 or 2), supplementary data may be required. Complete one column of section 6, if either the boiler operates with on/off control or with modulating control and not capable of continuous firing at 30% of full-load. These supplementary efficiency test results should be carried out using the procedures given in BS EN 15502-1 but taking account of the stated temperature requirements.
- 8.Where available condensate rate and ambient air humidity should be provided. Provision of this data is optional but where it is not provided, estimated values will be used in any assessment.
- 9.Where available an estimate of the boiler standing heat losses should be provided using a surface temperature method (e.g. BS EN 304). Boilers tested at part-load using the indirect method should include a standby loss data (electrical method as required by BS EN 15502-1).
- 10.If the boiler is fitted with one and only one internal water circulating pump the electric power (in watts) should be given. If the internal pump was in operation during the efficiency tests and was not accounted for in the measurements, an estimate of its effect will be included in the energy balance validation. Similar estimates will be made for fan and oil pump power.
- 11.Some boilers may contain *additional* internal circulating pumps, for example some but not all combined primary storage units have extra pumps to circulate the water between the boiler and store or to mix the stored water, as well as a circulator to push the water around the radiators. If *two or more* pumps are fitted and used enter "yes", otherwise enter "no". If there two pumps or more, the applicant is referred to the database manager.

EBV Results

Full load results

Full load efficiency (net)			Residual % gross
BED minimum	Declared	Estimate	
92,4%	97,8%	97,8%	0,1%

Part Load results

Part load efficiency (net)			Residual % gross
BED minimum	Declared	Estimate	
98,4%	108,6%	108,6%	-2,2%