



Renewable Heat Incentive Emissions Certificate

for Particulate Matter and Oxides of Nitrogen

Issued by Kiwa Ltd t/a Kiwa Gastec

| | |
|----------------------------|--|
| Certificate number | RHI 30942-1 |
| Issue date | 03 October 2018 |
| Test report numbers | 6395-1, 60339 |
| Boiler models | Grant Spira 26 Wood Pellet Boiler Grant Spira 36 Wood Pellet Boiler |

Manufacturer name and address

Grant Engineering (Ireland) Ltd.
Crinkle
Birr
Co. Offaly
R42 D788
IRELAND

Kiwa Ltd declares that the solid fuel boiler(s) detailed above meet(s) the emission limits of 30g/GJ for particulate matter and 150g/GJ for NO_x as stated by Defra, and as such the emissions are within the acceptable limit for the appliance to be used in installations wishing to claim the Renewable Heat Incentive.

Signed on behalf of Kiwa Ltd

Mr A J Pittaway – Authorised Signatory
03 October 2018

GASTEC

Kiwa UK Group
Kiwa House
Malvern View Business Park
Cheltenham, GL52 7DQ

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CERTIFICATE

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This certificate provides evidence that the tested boiler meets the air quality requirements of the non-domestic Renewable Heat Incentive (RHI) – Reg 5A(3) and Schedule A1. It must be issued by a testing laboratory. Applicants applying for the RHI with biomass boilers must submit a certificate with their application, or alternatively, an environmental permit.

| 1. TEST HOUSE | |
|--|--|
| a) name and address of testing laboratory | Kiwa Ltd t/a Kiwa Gastec Kiwa House Malvern View Business Park Stella Way, Bishops Cleeve Cheltenham GL52 7DQ |
| b) name and signature of the person authorised by the testing laboratory to issue the certificate | Name: Mr A J Pittaway Signature: |
| c) date of issue of this certificate together with certificate reference number * Please see Note A | Date: 28 September 2018 Ref: RHI 30942-1 |
| d) if testing laboratory is accredited to BS EN ISO/IEC 17025:2005, date of accreditation and accreditation number (note: if testing conducted after 24 September 2013, the testing laboratory must be ISO 17025 accredited) | Date: 17 January 1991 Accreditation no: 0692 |

| 2. PLANT | | |
|---|----------------------------------|---------------------|
| <i>Please see Note B</i> | | |
| a) name of the plant tested | Grant Spira | |
| b) model of the plant tested | 26 | 36 |
| c) manufacturer of the plant tested | Grant Engineering (Ireland) Ltd. | |
| d) installation capacity* of the tested plant in kilowatts (kW) <small>* defined in the RHI Regulations as the total installed peak heat output capacity of the plant</small> | 26kW | 36kW |
| e) is the plant a manually stoked, natural draught plant? (that is, without a fan providing forced or induced draught) | No | No |
| f) (i) the date the plant was tested* (ii) please confirm that NOx and PM have been tested on the same occasion <small>* This is in reference to the emissions testing for PM and NOx, not any wider range of tests. A specific date is required.</small> | 12 November 2013 Yes | 15 July 2009 Yes |

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| <p>g) list of all the plants in the type-testing range* of plants to which the certificate applies, if any¹. Please include the installation capacity of each model.</p> <p>* This must follow the ratio rules: If the smallest plant in the range is 500kW or less, the largest plant in the range can't be more than double the smallest. If the smallest plant in the range is over 500kW, the largest plant in the range can't be more than 500kW greater than the smallest.</p> | N/A |
|--|-----|

| | | |
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| 3. FUELS | | |
| a) types of fuels used when testing <i>classification in accordance with ISO 17225</i> | Wood pellets ISO 17225-2:2014-A1-D06-M10 | |
| b) based on the testing, list the range of fuels that can be used in compliance with the emission limits of 30 grams per gigajoule (g/GJ) net heat input for particulate matter (PM), and 150 g/GJ net heat input for oxides of nitrogen (NOx) | Wood pellets ISO 17225-2:2014-A1-D06-M10 | |
| c) moisture content of the fuel used during testing | 7.8% | 7.9% |
| d) maximum moisture content of the fuel which can be used with the certified plant(s) so as to ensure that the RHI emission limits are not exceeded. | ≤10% | |

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| 4. TESTS | | |
| <p>Confirm which requirements the emissions of NOx and PM have been tested in accordance with. Either 4a or 4b should be confirmed, the other should be 'not applicable'</p> | | |
| <p>a) if the testing was carried out in accordance with the provisions relevant to emissions of PM and NOx in either BS EN 303-5:1999 or BS EN 303-5:2012², please confirm: - the test was conducted to whichever standard was current at the time of testing.</p> | BS EN 303-5:2012: Yes | BS EN 303-5:1999: Yes |
| <p>b) if the testing was carried out in accordance with the following requirements, please confirm:</p> <p>(i) testing was carried out in accordance with: - EN 14792:2005 in respect of NOx emissions, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM emissions³; and</p> <p>(ii) emissions of PM represent the average of at least three measurements of emissions of PM, each of at least 30 minutes duration; and</p> <p>(iii) the value for NOx emissions is derived from the average of measurements made throughout the PM emission tests.</p> | N/A | |
| c) please confirm the plant was tested at ≥85% of the installation capacity of the plant | Yes | |
| d) please confirm the test shows that emissions from the plant were no greater than 30 g/GJ PM and 150 g/GJ NOx | Yes | |

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| e) measured* emissions of PM in g/GJ net heat input * this value should be from the test confirmed in 4c. Results from partial load tests are not required. This value must be in the specified units. | 11g/GJ | 12g/GJ |
| f) measured* emissions of NOx in g/GJ net heat input * this value should be from the test confirmed in 4c. Results from partial load tests are not required. This value must be in the specified units. | 82g/GJ | 61g/GJ |

Notes

- Note 1 The type-testing approach enables testing laboratories to provide assurance that all boilers in a given range meet the air quality requirements, without needing to specifically test each boiler.
- Note 2 BS EN303-5:1999 and 2012 explain what should be measured and when.
- Note 3 These standards explain how to make the PM and NOx measurements.
- Note A If details from a previously issued certificate are being transferred to this RHI emission certificate template, please note that this document must be **issued by the testing laboratory** as a separate certificate. So the issue date and certificate reference number should be in relation to *this* certificate using the RHI template, not the issue date and reference number of the original certificate.
- Note B If you are including multiple tested plants on one certificate, please ensure that all sections are completed for each tested plant, and are laid out such that it is clear which details relate to which tested plant. If a type-testing range is included as well, please show clearly which type-testing range relates to which tested plant(s), following the type-testing range ratio rules outlined in 2g.