ofgem e-serve Making a positive difference for energy consumers

Renewable Heat Incentive

Non-domestic Renewable Heat Incentive Emissions Certificate

This certificate provides evidence that the tested boiler meets the air quality requirements of the non-domestic Renewable Heat Incentive (RHI). 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.

BLT 0798/13, Herz Energietechnik GmbH, firematic 20 to firematic 60, chipped wood

1. TEST HOUSE	
a) name and address of testing laboratory	**BLT Wieselburg** HBLFA Francisco Josephinum AT 3250 Wieselburg, Rottenhauser Straße 1 blt@josephinum.at, http://blt.josephinum.at Höhere Bundeslehr- u. Forschungsanstalt Francisco Josephinum Schloss Weinzierl - 3250 Wieselburg
b) name and signature of the person authorised by the testing laboratory to issue the certificate	For the accredited test institute: Dipl.-Ing. Heinrich Prankl For the factual correctness: Dipl.-HLFL-Ing. Leopold Lasselsberger
c) date of issue of the certificate together with certificate reference number	Date of issue: 10/12/2013 Reference number: 0798/13
Plant 1 – firematic 20	BLT Wieselburg test report, approval no: 018/13
Plant 2 – firematic 35	BLT Wieselburg test report, approval no: 019/13
Plant 3 – firematic 45	BLT Wieselburg test report, approval no: 020/13
Plant 4 – firematic 60	BLT Wieselburg test report, approval no: 021/13
d) if testing laboratory is accredited to ISO 17025, date of accreditation and accreditation number *(note: if testing conducted after 24 Sep. 2013, the testing laboratory must be ISO 17025 accredited)*	A 0112 Date of accreditation: October 19, 2009 Initial date of accreditation: September 1, 1998 Federal Ministry of Economy, Family and Youth Division I/12 – Accreditation Body

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2. a PLANT	Plant 1	Plant 2	Plant 3
a) name of the plant tested	firematic 20	firematic 35	firematic 45
b) model of the plant tested	Chipped wood heating boiler firematic 20	Chipped wood heating boiler firematic 35	Chipped wood heating boiler firematic 45
c) manufacturer of the plant tested	Herz Energietechnik GmbH Herzstraße 1 AT 7423 Pinkafeld, AUSTRIA		
d) installation capacity of the plant in kilowatts (kW)	7,3 – 25,0	7,3 – 35,0	13,1 – 45,0
e) is the plant a manually stoked, natural draught plant? (that is, without a fan providing forced or induced draught)	no	no	no
f) the date the plant was tested	05/07/2007	05/07/2007	21/11/2008
g) list of all the plants in the type-testing range of plants to which the certificate applies, if any[1]	Chipped wood heating boiler Herz firematic 20/35/45/60		

2. b PLANT	Plant 4	-	-
a) name of the plant tested	firematic 60	-	-
b) model of the plant tested	Chipped wood heating boiler firematic 60	-	-
c) manufacturer of the plant tested	Herz Energietechnik GmbH Herzstraße 1 AT 7423 Pinkafeld, AUSTRIA		
d) installation capacity of the plant in kilowatts (kW)	13,1 – 65,0	-	-
e) is the plant a manually stoked, natural draught plant? (that is, without a fan providing forced or induced draught)	no	-	-
f) the date the plant was tested	21/11/2008	-	-
g) list of all the plants in the type-testing range of plants to which the certificate applies, if any[1]	Chipped wood heating boiler Herz firematic 20/35/45/60		

[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.

3. FUELS	
a) types of fuels used when testing	Chipped wood B1 according to EN 303-5
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) *(based if relevant on classifications from EN 14961 or EN 303-5)*	Chipped wood B1 according to EN 303-5
c) moisture content of the fuel used during testing Plant 1 Plant 2 Plant 3 Plant 4	 23,9 – 25,7 % 23,7 – 25,7 % 24,7 – 25,3 % 32,6 – 35,3 %
d) maximum moisture content of the fuel which can be used so as to ensure that the emission limits are not exceeded	≤ 35 % according to EN 303-5

4. TESTS	
a) **if the plant is 500 kW or lower, and BS EN 303-5:1999 or EN 303-5:2012[2] applies to it,** please confirm: - tests were conducted to whichever standard was current at the time of testing. *(please circle the applicable standard)*	EN 303-5:1999
b) **if the plant is 500 kW or lower, and BS EN 303-5:1999 or BS EN 303-5:2012 <u>do not apply to it</u>,** please confirm: - emissions of PM represent the average of at least three measurements, each of at least 30 minutes duration and; - the value for NOx emissions is derived from the mean of measurements made throughout the PM tests.	 not applicable not applicable
c) **if the plant is 500 kW or higher**, please confirm: - emissions of PM represent the average of at least three measurements, each of at least 30 minutes duration and; - the value for NOx emissions is derived from the mean of PM measurements made throughout the PM tests.	 not applicable not applicable
d) please confirm the tests were conducted to: - EN 14792:2005 in respect of NOx, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM[3]	 yes yes
e) please confirm the plant tested at ≥ 85 % of its rated output	yes
f) please confirm the tests show that emissions were no greater than 30 g/GJ PM and 150 g/GJ NOx	yes

[2] BS EN303-5:1999 and 2012 explain what should be measured and when.
[3] These standards explain how to make the PM and NOx measurements.

g) measured emissions of PM in g/GJ net heat input	
Plant 1 – firematic 20	14 g/GJ (nominal heat output) nm*) (minimum heat output)
Plant 2 – firematic 35	28 g/GJ (nominal heat output) nm*) (minimum heat output)
Plant 3 – firematic 45	19 g/GJ (nominal heat output) 6 g/GJ (minimum heat output)
Plant 4 – firematic 60	26 g/GJ (nominal heat output) 6 g/GJ (minimum heat output)
h) measured emissions of NOx in g/GJ net heat input	
Plant 1 – firematic 20	95 g/GJ (nominal heat output) nm*) (minimum heat output)
Plant 2 – firematic 35	107 g/GJ (nominal heat output) nm*) (minimum heat output)
Plant 3 – firematic 45	94 g/GJ (nominal heat output) 77 g/GJ (minimum heat output)
Plant 4 – firematic 60	99 g/GJ (nominal heat output) 77 g/GJ (minimum heat output)

*) nm ... not measured

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BLT 0793/13, Herz Energietechnik GmbH, firematic 35 to firematic 60, wood pellets

1. TEST HOUSE	
a) name and address of testing laboratory	**BLT Wieselburg** HBLFA Francisco Josephinum AT 3250 Wieselburg, Rottenhauser Straße 1 blt@josephinum.at, http://blt.josephinum.at Höhere Bundeslehr- u. Forschungsanstalt Francisco Josephinum Schloss Weinzierl - 3250 Wieselburg II
b) name and signature of the person authorised by the testing laboratory to issue the certificate	For the accredited test institute: Dipl.-Ing. Heinrich Prankl For the factual correctness: Dipl.-HLFL-Ing. Leopold Lasselsberger
c) date of issue of the certificate together with certificate reference number Plant 1 – firematic 35 Plant 2 – firematic 45 Plant 3 – firematic 60	Date of issue: 10/12/2013 Reference number: 0793/13 BLT Wieselburg test report, approval no: 006/13 BLT Wieselburg test report, approval no: 007/13 BLT Wieselburg test report, approval no: 008/13
d) if testing laboratory is accredited to ISO 17025, date of accreditation and accreditation number *(note: if testing conducted after 24 Sep. 2013, the testing laboratory must be ISO 17025 accredited)*	A 0112 Date of accreditation: October 19, 2009 Initial date of accreditation: September 1, 1998 Federal Ministry of Economy, Family and Youth Division I/12 – Accreditation Body

2. PLANT	Plant 1	Plant 2	Plant 3
a) name of the plant tested	firematic 35	firematic 45	firematic 60
b) model of the plant tested	Wood pellets heating boiler firematic 35	Wood pellets heating boiler firematic 45	Wood pellets heating boiler firematic 60
c) manufacturer of the plant tested	Herz Energietechnik GmbH Herzstraße 1 AT 7423 Pinkafeld, AUSTRIA		
d) installation capacity of the plant in kilowatts (kW)	10,2 – 40,0	13,9 – 48,0	13,9 – 70,0
e) is the plant a manually stoked, natural draught plant? (that is, without a fan providing forced or induced draught)	no	no	no
f) the date the plant was tested	05/07/2007	09/11/2010	11/05/2011
g) list of all the plants in the type-testing range of plants to which the certificate applies, if any[1]	Wood pellets heating boiler Herz firematic 35/45/60		

3. FUELS	
a) types of fuels used when testing	Wood pellets C1 according to EN 303-5
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) *(based if relevant on classifications from EN 14961 or EN 303-5)*	Wood pellets C1 according to EN 303-5
c) moisture content of the fuel used during testing Plant 1 Plant 2 Plant 3	 5,9 – 6,1 % 6,4 – 7,0 % 6,2 – 7,0 %
d) maximum moisture content of the fuel which can be used so as to ensure that the emission limits are not exceeded	≤ 12 % according to EN 303-5

[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.

4. TESTS	
a) **if the plant is 500 kW or lower, and BS EN 303-5:1999 or EN 303-5:2012[2] applies to it,** please confirm: - tests were conducted to whichever standard was current at the time of testing. *(please circle the applicable standard)*	EN 303-5:1999
b) **if the plant is 500 kW or lower, and BS EN 303-5:1999 or BS EN 303-5:2012 <u>do not apply to it</u>,** please confirm: - emissions of PM represent the average of at least three measurements, each of at least 30 minutes duration and; - the value for NOx emissions is derived from the mean of measurements made throughout the PM tests.	not applicable not applicable
c) **if the plant is 500 kW or higher**, please confirm: - emissions of PM represent the average of at least three measurements, each of at least 30 minutes duration and; - the value for NOx emissions is derived from the mean of PM measurements made throughout the PM tests.	not applicable not applicable
d) please confirm the tests were conducted to: - EN 14792:2005 in respect of NOx, and; - EN 13284-1:2002 or ISO 9096:2003 in respect of PM[3]	yes yes
e) please confirm the plant tested at ≥ 85 % of its rated output	yes
f) please confirm the tests show that emissions were no greater than 30 g/GJ PM and 150 g/GJ NOx	yes
g) measured emissions of PM in g/GJ net heat input	
Plant 1 – firematic 35	11 g/GJ (nominal heat output) nm*) (minimum heat output)
Plant 2 – firematic 45	7 g/GJ (nominal heat output) 7 g/GJ (minimum heat output)
Plant 3 – firematic 60	11 g/GJ (nominal heat output) 7 g/GJ (minimum heat output)
h) measured emissions of NOx in g/GJ net heat input	
Plant 1 – firematic 35	72 g/GJ (nominal heat output) nm*) (minimum heat output)
Plant 2 – firematic 45	62 g/GJ (nominal heat output) 59 g/GJ (minimum heat output)
Plant 3 – firematic 60	81 g/GJ (nominal heat output) 59 g/GJ (minimum heat output)

*) nm ... not measured

[2] BS EN303-5:1999 and 2012 explain what should be measured and when.
[3] These standards explain how to make the PM and NOx measurements.