



FINAL REPORT ON INITIAL PRODUCT TYPE TESTING 30-13365

Product: Hot-water boilers for chipped wood – B1
and wood pellets – C1

Type designation: HAMONT xxx (USD, USV, USZI) – (S1)
(see Page 2 for specification)

Versions: see Page 2 for specification

Customer: CSTfire s.r.o.
Výstavní 2937/132a
703 00 Ostrava - Vítkovice
Czech Republic
Company ID No.: 28607520

Manufacturer: CSTfire s.r.o.
Výstavní 2937/132a
703 00 Ostrava - Vítkovice
Czech Republic

Manufacturing plant:

Report issue date: 2017-02-20

Report expiry date: 2019-02-28

Distribution list: 1 copy to the Customer
1 copy to the Engineering Test Institute



The assessment of product conformity has been conducted pursuant to Act 22/1997 Coll., on technical requirements for products and on amendments to certain Acts, as amended, and pursuant to Government Regulation 163/2002 Coll. that lays down technical requirements for selected construction products, as amended by Government Regulation 312/2005 Coll. and Government Regulation 215/2016 Coll.

The product falls within the group of products referred to in Annex 2 to the said Government Regulation, Product List 10, Group 5, with the specified conformity assessment procedure pursuant to Section 7.

The conformity assessment procedure pursuant to Section 7 of the said Government Regulation has been applied in assessing conformity.

Certification scheme applied: Government Regulation 163/2002 Coll., Section 7.

In view of the fact that the Manufacturer has not made any changes in the mechanical part design as compared to the already certified product (Certificate B-30-00920-15 of 2015-09-11) – the Manufacturer's letter of 2017-01-17, and as the standards and the test procedures have not changed in the meantime, the test results contained in the following SZU reports have partially been made use of in the certification proceeding:

Final Reports on Initial Product Type Testing 30-12828 of 2015-09-11 and 30-12702 of 2015-02-25.

I. Specification of the product (and its versions)

Hamont steel hot-water boilers are intended for central heating of houses, office and industrial buildings etc. The guarantee fuels are wood chips and 6 mm diameter wood pellets.

The boiler body comprises a combustion chamber and a vertical tubular exchanger. The combustion chamber is fitted with a circular burner with holes to let in primary combustion air. Two hollow rings with holes for supply of secondary combustion air are above the burner. Primary air is supplied by means of a radial-flow fan and secondary air is supplied by two radial-flow fans. The fuel is fed through the burner centre from intermediate fuel hopper by a feed screw, which is fitted with a quenching device to prevent ignition of the fuel in the intermediate fuel hopper. The ash falls over the burner edge into a collector, from which it is periodically removed by a pair of screws into a bin on the boiler side. The tubular exchanger is fitted with revolving turbulators, which, together with a motor drive, clean the exchanger. ODL 220 or ODL 300 cyclone separator forms part of the boiler and it is connected to flueways. On its outlet side, the separator is fitted with a radial-flow fan, the speed of which is electronically controlled to maintain negative pressure in combustion chamber at the required value. The feed screw from the intermediate fuel hopper is fitted with an in-built shutting flap to prevent back draught. The boiler body is insulated with double insulation: one layer is 80 mm Rotaflex mineral wool on the side of the body, and the other layer is 50 mm Orsil mineral wool inserted under the boiler steel casing.

The boiler is equipped with a HAREG (version S1) control unit, a safety device consisting of Caleffi 3/4 designation 543 (quenching function) – CE 1115 thermostatic valve, a TG 400 (90+110) °C temperature limiter (manual reset – CE 0497, and a XCKN2102G11 limit switch by Schneider Electric (prevents overflowing of the intermediate fuel hopper).

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HAMONT 100 (USD, USV, USZI) – (S1)
HAMONT 101 (USD, USV, USZI) – (S1)
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HAMONT 180 (USV, USZI) – (S1)
HAMONT 199 (USV, USZI) – (S1)
HAMONT 220 (USV, USZI) – (S1)
HAMONT 250 (USV, USZI) – (S1)



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 HAMONT 400 (USV, USZI) – (S1)
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 HAMONT 499 (USV, USZI) – (S1)
 HAMONT 500 (USV, USZI) – (S1)

Explanatory notes:

- U - Combustion with a bottom feed arrangement, describes combustion system
- S - Self-cleaning; refers to automatic cleaning of heat exchanger
- V - Equipment with a storage tank; the fuel comes into the boiler from the storage tank, the content of which is sufficient for several days of operation
- D - Direct spatial transport; the fuel comes directly from the bunker into the boiler
- ZI - Equipment with an intermediate storage tank with indirect transport; the fuel comes out of the bunker to intermediate storage tank and then into the boiler
- S1 - Boiler equipped with a Hareg control system

Detailed descriptions of component part assemblies of the boilers are included in the enclosed technical documentation to Task 30-13365.

II. A list of submitted technical documentation

- Pursuant to Section 4 (3) of the Government Regulation

			Tab. 1
Technical documentation			
pursuant to Section 4 (3), Government Regulation 163/2002 Coll., laying down technical requirements for selected construction products, as amended by Government Regulation 312/2005 Coll. and Government Regulation 215/2016 Coll.			
Requirement:		Submitted documentation:	Evaluation*
a)	Detailed product description and definition of its use within a building,	Original operating instructions	+
b)	Manufacturer identification data for imported products,	These are not imported products.	x
c)	Reference to specified standards, technical regulations or construction technical certificates to be used for the assessment of conformity prior to placing the product on the market,	A list of technical standards and technical regulations	+
d)	Design and manufacturing drawings or other documentation specifying the characteristics of the product with respect to its use, technological procedure for its manufacture and use within a building, and the data concerning the technical characteristics of the product with respect to the essential requirements,	The product drawing documentation.	+
e)	Descriptions and explanations necessary for comprehensibility of the drawings and functions of the product, instructions for use within a building, warnings, danger warnings or warnings concerning restrictions of use, and instructions for safe use (must be in Czech),	Original operating instructions	+



Tab. 1

Technical documentation			
pursuant to Section 4 (3), Government Regulation 163/2002 Coll., laying down technical requirements for selected construction products, as amended by Government Regulation 312/2005 Coll. and Government Regulation 215/2016 Coll.			
Requirement:	Submitted documentation:	Evaluation*	
f) Results of design and structural calculations and results of any tests performed,	Not submitted	x	
g) Test reports or certificates if issued prior to assessment of conformity according to Sections 5 to 9.	Certificate B-30-00920-15 of 2015-09-11; Final Reports on Initial Product Type Testing 30-12828 of 2015-09-11 and 30-12702 of 2015-02-25		
*) Evaluation: + Documentation complete and adequate - Documentation incomplete or unsatisfactory x Documentation not required for the activities ordered N Not applicable			

The technical documentation has been compiled to the extent that allows assessment of the product conformity to the technical requirements contained in the specified standards.

III. Initial product type testing

- Pursuant to Section 7 (2) of the said Government Regulation

Table 2

Essential requirement:	Standard, technical regulation applied:	Report	Evaluation *)
The products must be suitable for buildings; they must be (in their entirety as well as in their individual components) suitable for their intended use while respecting the cost-effectiveness and while fulfilling the essential requirements applicable to buildings, stated below.			
1. Mechanical resistance and stability The building must be designed and erected so that the loads likely to be applied on it in the course of the building activity and use shall not result in: a) Collapse of the entire building or its part; b) Higher degree of inadmissible deformation; c) Damage to other parts of the building, technical facilities or installed equipment as a result of deformation of the load-bearing structure; d) Damage inadequate to the original cause, resulting from a certain event.			
1.1 - Construction requirements	ČSN EN 303-5:2013 Art. 4.2, 4.2.1, 4.2.1.1, 4.2.1.2, 4.2.2, 4.2.2.1, 4.2.2.2, 4.2.4, 4.2.4.1, 4.2.4.2, 4.2.4.3, 4.2.4.4, 4.2.4.5, 4.2.4.6, 4.2.4.7, 4.2.4.8, 4.2.4.9, 4.2.4.10, 4.2.4.11, 4.2.4.12	30-13365/TH	+
1.2 - Strength and tightness of pressurized parts	ČSN EN 303-5:2013 Art. 5.4, 5.4.1, 5.4.2	30-13365/TH	+
1.3 - Material, surface treatment	ČSN EN 303-5:2013 Art. 4.2.2, 4.2.2.1, 4.2.2.2.	30-13365/TH	+
2. Fire safety The building must be designed and erected so that the following shall be observed in the event of a fire: a) The load-bearing capacity and stability of the structure shall be preserved for a certain period; b) Appearance and propagation of fire within the civil unit shall be restricted; c) Propagation of fire onto neighbouring buildings shall be confined; d) Persons and animals shall be able to leave the building or be rescued using other means;			



Essential requirement:	Standard, technical regulation applied:	Report	Evaluation *)
e) Safety of the rescue units shall be taken into consideration.			
2.1 - Data in technical documentation related to fire safety	ČSN 06 1008:1997 Art. 12.2	30-13365/TH	+
2.2 - Boiler design with regard to fire safety	ČSN EN 303-5:2013 Art. 4.3, 4.3.1, 4.3.3, 4.3.3.1, 4.3.3.2, 4.3.3.3, 4.3.3.4, 4.3.4, 4.3.5, 4.3.6, 4.3.7, 4.3.8, 4.3.8.1, 4.3.8.2, 4.3.8.3, 4.3.9, 4.3.9.1, 4.3.9.2, 4.3.9.3	30-13365/TH	+
3. Hygiene, health and environmental protection The building must be designed and erected so as not to endanger the hygiene or health of its users or neighbours, especially as a result of: <ul style="list-style-type: none"> a) Release of toxic gases; b) Presence of dangerous particles or gases in the atmosphere; c) Emission of dangerous radiation; d) Pollution or contamination of water or soil; e) Insufficient elimination of waste water, smoke and solid or liquid waste; f) Presence of humidity within the building structures or on the surfaces inside the building. 			
3.1 - Monitoring of the course of combustion gases flow	ČSN EN 303-5:2013 Art. 4.3.7, 4.4.4	30-13365/TH	+
3.2 - Combustion efficiency – emissions	ČSN EN 303-5:2013 Art. 4.4.7, 5.7.3, 5.7.4, 5.9, 5.10.4	30-13365/TH	+
	ČSN EN 303-5:2013 Annex C, Deviations from Austria, C.2.3	30-13365/TH	+
	ČSN EN 303-5:2013 Annex C, C.3 Deviations from Croatia	30-13365/TH	+
	ČSN EN 303-5:2013 Annex C, Deviations from Denmark, C.4.2	30-13365/TH	+
	ČSN EN 303-5:2013 Annex C, Deviation from Germany, C.5.1, C.5.2	30-13365/TH	-
	ČSN EN 303-5:2013 Annex C C.6 Deviations from Switzerland	30-13365/TH	-
	ČSN EN 303-5:2013 Annex C C.8 Deviations for Italy	30-13365/TH	+
3.3 - Surface temperatures	ČSN EN 303-5:2013 Art. 5.12, 5.16.4, 4.3.6	30-13365/TH	+
3.4 - Electromagnetic field	ČSN EN 62233:2008	30-13365/H/E	+
4. Safety in use The building must be designed and erected so that unacceptable danger of injury, e.g. as a result of slipping, skidding, falling, impact, burning, electric shock and injury caused by an explosion, shall not arise during its use or operation.			



Essential requirement:	Standard, technical regulation applied:	Report	Evaluation *)
4.1 - Control, regulating and safety elements	ČSN EN 303-5:2013 Art. 4.3.8, 4.3.8.1, 4.3.8.3	30-13365/TH	+
4.2 - Hazard of electric shock	ČSN EN 60335-1 ed.3:2012; ČSN EN 60335-2-102:2007	30-13365/H/E	+
4.3 - Technical documentation, marking	ČSN EN 303-5:2013 Art. 7, 7.1, 7.2, 8, 8.1, 8.2, 8.3; ČSN 06 1008:1997 Art. 12.2; Act 34/1996 Coll., Sections 9 to 11, 13; Act 185/2001 Coll., on waste, Section 10; Act 477/2001 Coll., on packaging, Section 6	30-13365/TH	+
5. Noise protection The building must be designed and erected so that the noise perceived by its inhabitants and persons in the proximity of the building shall be at the level which will not endanger their health and will allow them to sleep, relax and work in satisfactory conditions.			
5.1 The noise level ascertained as being propagated from the product must comply with the condition for fulfilment of the provisions of Government Regulation 272/2011 Coll.	ČSN EN ISO 11202:2010 ČSN EN ISO 3746:2011 ČSN EN 15036-1:2007	30-12828 30-12702	+
6. Heat and energy conservation The building and its facilities for heating, cooling and ventilation must be designed and erected so that the consumption of energy by the building during its service shall be low with regard to climatic conditions, its location, and requirements of the users.			
6.1 - Heat output, calorific efficiency, flue gas temperature, draught	ČSN EN 303-5:2013 Art. 4.4.2, 4.4.3, 4.4.6, 5.7, 5.8, 5.10	30-13365/TH	+
	ČSN EN 303-5:2013 Annex C, Deviation from Austria, C.2.2	30-13365/TH	+
	ČSN EN 303-5:2013 Annex C, Deviations from Denmark, C.4.1	30-13365/TH	+
7. Sustainable use of natural resources The construction work must be designed, built and demolished in such a way that the use of natural resources is sustainable and in particular ensure the following:			
7.1 reuse or recyclability of the construction works, their materials and parts after demolition;			0
7.2 durability of the construction works;			0
7.3 use of the environmentally compatible raw and secondary materials in the construction works.			0



Essential requirement:	Standard, technical regulation applied:	Report	Evaluation *)
These requirements must be fulfilled for the period of economically reasonable service life of the products if these undergo regular maintenance and provided the building will be influenced by regular predictable environmental conditions. The product must retain its technical characteristics throughout its economically reasonable service life, i.e. for a period in which the indicators of the building characteristics are at the level compliant with the fulfilment of the requirements stated that are applicable to buildings.			

*) Evaluation:

+ Requirement fulfilled - Requirement not fulfilled 0 Not applicable x Not assessed

The product meets the laid down requirements contained in the specified standards, related to the essential requirements of the said Government Regulation.

Detailed results are stated in Evaluation Report 30-13365/TH.

IV. Conclusion

The Authorized Body has carried out the initial product type testing on sample in accordance with the provisions of Section 7 (2) of Government Regulation 163/2002 Coll. that lays down technical requirements for selected construction products, as amended by Government Regulation 312/2005 Coll. and Government Regulation 215/2016 Coll., and it confirms that the type of the product

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types:

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complies with the specified standards, as indicated in Table 2 in Chapter III of this Report.

V. A list of referenced documents

- Order B-57893 of 2016-11-24 (Order reg. no. B-57893, received on 2016-11-28)
- Contract B-57893/30
- Act 22/1997 Coll., on technical requirements for products and on amendments to certain Acts
- Government Regulation 163/2002 Coll. that lays down technical requirements for selected construction products
- Act 34/1996 Coll., on consumer protection, as amended
- Act 185/2001 Coll., on waste



- Act 477/2001 Coll., on packaging
- Government Regulation 272/2011 Coll., on the protection of health from the adverse effects of noise and vibration
- ČSN EN 303-5:2013 – Heating boilers – Part 5: Heating boilers for solid fuels, manually and automatically stoked, nominal heat output of up to 500 kW – Terminology, requirements, testing and marking
- ČSN 06 1008:1997 – Fire protection of heating appliances
- ČSN EN ISO 11202:2010 – Acoustics – Noise emitted by machinery and equipment – Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections
- ČSN EN ISO 3746:2011 – Acoustics – Determination of sound power levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane
- ČSN EN 15036-1:2007 – Heating boilers. Test regulations for airborne noise emissions from heat generators. Part 1: Airborne noise emissions from heat generators
- ČSN EN 60335-1 ed.3:2012 – Electrical appliances for domestic use and similar purposes – Safety – Part 1: General requirements
- ČSN EN 60335-2-102:2007 – Household and similar electrical appliances – Safety – Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections
- ČSN EN 62233:2008 – Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure
- ČSN ISO 80000-1:2011 – Quantities and units – Part 1: General
- Final Reports on Initial Product Type Testing 30-12828 of 2015-09-11 and 30-12702 of 2015-02-25
- Evaluation Report 30-13365/TH of 2017-02-07
- Evaluation Report 30-13365/H/E of 2017-02-07
- Manufacturer's Declaration of 2017-01-17
- A list of technical documentation:
- Original operating instructions
- A set of the required drawing documentation as per ČSN EN 303-5:2013
- A set of the required technical documentation as per ČSN EN 303-5:2013

Document compiled by:

Bc. Petr Matoušek

Person accountable for correctness and completeness
of the evaluations carried out:

Ing. Stanislav Buchta

Person accountable for review:

Ing. Dušan Šarlej

Employee responsible:



Ing. Aleš Onderek
Head of Product Certification Department