



**REGOLAMENTO (UE) n. 305/2011**  
*REGULATION (EU) n. 305/2011*

**REPORT TECNICO**  
*TECHNICAL REPORT*

<b>Fabbricante</b> <i>Manufacturer</i>	<b>Jøtul AS</b>
<b>Marchio commerciale</b> <i>Trade mark</i>	<b>Jøtul</b>
<b>Modello</b> <i>Model</i>	<b>PC 800</b>
<b>Apparecchio sotto analisi</b> <i>Appliance under test</i>	<b>Apparecchi per il riscaldamento domestico alimentati con pellet di legno</b> <i>Roomheaters fired by solid fuel</i>
<b>Norma di prodotto</b> <i>Standard product reference</i>	<b>EN 14785:2006</b>
<b>Numero del report tecnico</b> <i>Technical report number</i>	<b>3012260 Rev. 01</b>

**Sommario***Summary*

Il seguente report tecnico è composto dalle seguenti sezioni:

*The technical report is composed by the following sections:*

Intestazione <i>Heading sheets</i>	HS
Conformità dell'apparecchio <i>Conformity of appliance</i>	CA
Dati riassuntivi <i>Summary data</i>	SD
Storico del report tecnico <i>Technical report history</i>	RH
Note esplicative <i>Special remarks</i>	SR
Requisiti normativi <i>Standard requirements</i>	RN
Rapporto di prova <i>Test report</i>	RP
Dichiarazioni del fabbricante <i>Manufacturer declarations</i>	MD
Risultati delle prove <i>Test results</i>	TR
LVD e EMC <i>LVD and EMC</i>	LE
Fogli allegati <i>Enclosure sheets</i>	ES

Laboratorio notificato / *Notified Laboratory*

Kiwa Cermet Italia S.p.A.

Numero / *Number*

NB 0476

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Fabbricante / *Manufacturer*

Jøtul AS

Marchio commerciale / *Trade mark*

Jøtul

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www.jotul.no

San Vendemiano,

08.11.2023

L'apparecchio per il riscaldamento domestico alimentato a Pellet di legno

*The residential space heating appliance fired by Wood pellet*

Modello: PC 800  
*Model:*  
Marchio commerciale: Jøtul  
*Trade mark:*  
Imnesso sul mercato da: Jøtul AS  
*Placed on the market by:*  
Indirizzo: P.o. box 1411 - 1602 Fredrikstad - NO  
*Address:*

È stato sottoposto alle prove, in carico al laboratorio notificato e in accordo al Regolamento (UE) numero 305/2011 "Prodotti da costruzione", AVCP sistema 3, secondo le seguenti norme:

*Has been tested, in conformity to Regulation (EU) number 305/2011 "Construction Products", AVCP system 3, and the task for the notified laboratory, in accordance with:*

EN 14785:2006

I risultati delle prove, di competenza del laboratorio notificato, sono riportati nel presente Report tecnico.

*The results of testing, in charge of the notified laboratory, are reported in this Technical report.*

Nella Sez. SR sono elencati:

*In section SR are listed:*

- eventuali famiglie e/o gamme di apparecchi dichiarate dal fabbricante  
*- the possible families and/or ranges of appliance declared by the manufacturer*
- eventuali estensioni commerciali e/o commercializzatori (azienda terza che immette sul mercato i prodotti di cui sopra con il proprio nome) dichiarati dal fabbricante.  
*- any commercial extensions and / or marketers (third company that places the above products on the market with its own name) declared by the manufacturer*

Conclusioni / *Conclusion*

Sulla base degli esiti dei test effettuati e tenendo conto delle evidenze raccolte, si ritiene che le prestazioni degli apparecchi sopra menzionati soddisfino le caratteristiche essenziali delle norme applicabili armonizzate con il Regolamento CPR.

*Based upon the outcomes of the carried out test, and taking in to account the collected evidences, is considered the performance of the above-mentioned appliances, as complying with the essential characteristics of the applicable standards harmonized with the CPR Regulation.*

Il presente report annulla e sostituisce il precedente / *This report cancels and replaces the previous one*


Tecnico di prova / *Test Engineer*

Digitally signed by: GENISIO  
VINCENZO  
Date: 08/11/2023 16:50:37

Vincenzo Genisio

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3012260 Rev. 01	Dati riassuntivi Summary of data			
In accordo all'aggiornamento datato / According to update dated			20.10.2023	
Apparecchio <i>Appliance</i>	PC 800			
Configurazione scarico fumi <i>Flue gas configuration</i>	Verticale <i>Vertical</i>			
Tipo di apparecchio <i>Appliance kind</i>	A combustione intermittente <i>Intermittent burning</i>			
Tipo di combustibile <i>Combustible typology</i>	Pellet di legno <i>Wood pellet</i>			
L'apparecchio può operare a combustione ridotta <i>It is possible to maintain reduced combustion</i>	Sì <i>Yes</i>			
Potenza termica <i>Heat output</i>		Nominale <i>Nominal</i>	Ridotta <i>Reduced</i>	
Totale <i>Total</i>	kW	8,7	4,2	*
Allo spazio <i>To air</i>	kW	8,7	4,2	*
All'acqua <i>To water</i>	kW	-	-	
Rendimento <i>Efficiency</i>	%	92,2	93,0	*
Combustioni <i>Combustion</i>		Nominale <i>Nominal</i>	Ridotta <i>Reduced</i>	
CO al 13% O <sub>2</sub> <i>CO to 13% O<sub>2</sub></i>	mg/Nm <sup>3</sup>	70	160	*
NOx al 13% O <sub>2</sub> <i>NOx to 13% O<sub>2</sub></i>	mg/Nm <sup>3</sup>	98	153	*
OGC al 13% O <sub>2</sub> <i>OGC to 13% O<sub>2</sub></i>	mg/Nm <sup>3</sup>	8	2	*
Polveri al 13% O <sub>2</sub> <i>Dust to 13% O<sub>2</sub></i>	mg/Nm <sup>3</sup>	14	16	*
Temperatura media dei fumi <i>Flue gas temperature</i>	°C	118,0	90,3	*
Tiraggio del camino <i>Chimney draught</i>	Pa	9,3	10	*
Consumo orario <i>Hourly consumption</i>	kg/h	1,96	0,932	*
Durata del test <i>Test period</i>	min	180	360	*
Pressione di esercizio <i>Operative pressure</i>	bar	-	-	
Consumo elettrico <i>Power electrical consumption</i>	W	Acc. / Ign.	260*	P <sub>N</sub> 108,215
		Stand-by	2,9*	P <sub>R</sub> 50*
Minime distanze dai materiali combustibili <i>Minimum combustible material distance</i>	mm	lato / side (1)	150	retro / back 50
		lato / side (2)	-	fondo / ground 0

\* = desunto dal report nr. K31042021Z1 del 07.08.2021 emesso da TÜV Rheinland Energy GmbH (vedi sezione SR del presente report tecnico) / derived from test report nr. K31042021Z1 dated 07.08.2021 issued by TÜV Rheinland Energy GmbH (see section SR of this technical report)

Sez	SD	Pag	1/1
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**Storico***History*

<i>Data / Date</i>	<i>Num. Progetto / Num. Project</i>	<i>Num. Report / Num. Report</i>	<i>Tecnico di prova / Test Engineer</i>
19.05.2023	PKC0012260	3012260	Vincenzo Genisio
Report tecnico derivato, per immissione sul mercato di un prodotto con ulteriore marchio commerciale. <i>Derived technical report, for placing on the market of a product with another trademark.</i>			

<i>Data / Date</i>	<i>Num. Progetto / Num. Project</i>	<i>Num. Report / Num. Report</i>	<i>Tecnico di prova / Test Engineer</i>
08.11.2023	PKC0012260	3012260 Rev. 01	Vincenzo Genisio
Revisione per sostituzione dei valori di prestazione alla potenza termica ridotta. <i>Revision to replace of the performance values at reduced heat output.</i>			

### Osservazioni da parte del laboratorio in merito all'apparecchio

*Special remarks by the laboratory on the appliance*

In conformità alla norma EN 14785:2006, si precisa che il presente report tecnico riguarda la valutazione di conformità degli apparecchi limitatamente ai compiti assegnati al laboratorio notificato dal prospetto ZA.3.:

*According to standard EN 14785:2006, is specified that this technical report concerns the conformity evaluation of appliances only for the task for the notified body shown in table ZA.3.:*

- |   |                                     |
|---|-------------------------------------|
| • Sicurezza antincendio;                    | • Fire safety;                      |
| • Emissione dei prodotti della combustione; | • Emission of combustion products;  |
| • Temperatura superficiale;                 | • Surface temperature;              |
| • Potenza termica/Rendimento globale;       | • Thermal output/Energy efficiency; |
| • Rilascio di sostanze pericolose.          | • Release of dangerous substance.   |

I dati riportati nel presente report tecnico si riferiscono esclusivamente agli esemplari provati, incluse le eventuali integrazioni richieste dal fabbricante.

*The test results in this technical report are exclusively referred to the test samples, included possible integration requested by the manufacturer.*

La documentazione inerente le istruzioni d'uso, manutenzione ed installazione del prodotto, è stata allegata al report tecnico con il solo scopo di dare ulteriori informazioni circa le caratteristiche del prodotto e non per la validazione del contenuto della documentazione stessa.

*The documentation relating to the operating instructions, maintenance and installation of products, was annexed to the technical report for the sole purpose of giving more informations about the characteristics of the product and not to validate the contents of this documentation.*

Le incertezze sono espresse come incertezze estese corrispondenti ad un fattore di copertura  $k=2$ , corrispondente ad un livello di confidenza del 95% e:

*The uncertainties are expressed as expanded uncertainty corresponding to a coverage factor of  $k=2$ , corresponding to a confidence level of 95% and:*

(\*\*)= Incertezza espressa in valore assoluto (stessa unità di misura del misurando) / Uncertainty expressed in absolute value (same measurement unit of measurand)

(\*\*\*)= Incertezza espressa in valore relativo (percentuale del misurando) / Uncertainty expressed in relative value (measurand percentage)

Poiché non richiesto dal cliente o stabilito dalle norme di riferimento, assumiamo che nelle Dichiarazioni di Conformità non si tiene conto dell'incertezza estesa di misura, per cui, nel caso di valori che si approssimino ai limiti di accettabilità, si considera un livello di rischio fino al 50% di erronea accettazione (in caso di valore coincidente con il limite il livello di rischio è pari al 50%). Analogamente, nel caso di valore eccedente il limite di accettabilità, il livello di rischio di erroneo rifiuto può essere fino al 50%.

*Since it is not requested by the customer or established by the reference standards, we assume that on the Statement of Conformity the expanded measurement uncertainty is not taken into account, therefore, in the case of values approaching the acceptability limits, we consider a level of risk of up to 50% of erroneous accept (if the value coincides with the limit, the risk level is equal to 50%). Similarly, in the case of a value exceeding the acceptability limit, the risk level of erroneous reject can be up to 50%.*

L'emissione di particolato primario, OGC e NOx vengono determinati come descritto nella norma UNI CEN/TS 15883:2009.

*Emission of primary particles, OGC and NOx shall be determined using the standard UNI CEN/TS 15883:2009.*

Come richiesto dal fabbricante, non sono state effettuate le prove alla potenza termica ridotta. I valori di prestazione ed emissione alla potenza termica ridotta riportati nella sezione SD del presente report tecnico sono stati desunti dal rapporto di prova nr. K31042021Z1 del 07.08.2021 emesso da TÜV Rheinland Energy GmbH.

*As requested by the manufacturer, test at reduced heat output have not been conducted. Performance and emission values at reduced heat output reported in the SD section of this technical report were taken from test report no. K31042021Z1 dated 07.08.2021 issued by TÜV Rheinland Energy GmbH.*

**Apparecchiature estese in famiglia**
*Appliance in belonging family*

Il fabbricante ha dichiarato la seguente famiglia di apparecchi:

*Manufacturer declares the following belonging family:*

Modello rappresentativo / <i>Representative model</i>		
Commercializzatore <i>Marketer</i>	Marchio commerciale <i>Trade mark</i>	Modello <i>Model</i>
Jøtul AS	Jøtul	PC 800

Modelli estesi / <i>Extended models</i>		
Commercializzatore <i>Marketer</i>	Marchio commerciale <i>Trade mark</i>	Modello <i>Model</i>
Jøtul AS	Jøtul	PC 801

**Definizioni**

*Definitions*

Famiglia di apparecchi: gruppo di apparecchi con caratteristiche costruttive e prestazioni simili.

*Appliance family: group of appliances with similar construction and performance characteristics.*

Gamma di apparecchi: gruppo di apparecchi con caratteristiche costruttive simili e prestazioni diverse entro un intervallo definito.

*Range of appliance: group of appliances with similar construction characteristics and different performances within a defined range*



## Fogli di prova per requisiti essenziali in base alla normativa EN 14785:2006

*Essential requirements test sheets on standard EN 14785:2006*

### 4.1 Documentazione di produzione / *Production documentation*

The manufacturer shall state the type of appliance which he submits for type testing and the test laboratory shall test the appliance using the provisions appropriate to that claim.	Yes
The parameters and characteristics considered in making the decisions in relation to either the family or range of appliances to be submitted for initial type testing (see 9.2.1) or further type testing where changes are made to an appliance (see 9.2.2) shall be recorded. A copy of the parameters and characteristics considered in making the decisions shall be included in production documentation for each appliance.	Yes
To identify the appliance the manufacturer shall have available documents and/or scaled assembly drawings showing the basic design and construction of the appliance.	Yes
The documentation and/or the drawings shall include at least the following information:	Yes
- the specification of the materials used in the construction of the appliance;	Yes
- the nominal heat output in kW using fuels recommended by the manufacturer;	Yes
If the appliance is fitted with a boiler then the following additional details shall also be specified:	N.A.
- the welding process used in the manufacture of the boiler shell;	N.A.
- the permissible maximum operating water temperature in °C;	N.A.
- the permissible maximum operating pressure in bar;	N.A.
- the type test pressure in bar;	N.A.
- the water heating output in kW	N.A.
- the reduced heat output in kW	N.A.

### 4.2 Requisiti di struttura generale / *General Construction requirement*

The shape and dimensions of the components and equipment and the method of design and manufacture, and if assembled on site the method of assembly and installation, shall ensure that, that, when operated in accordance with the provisions of appropriate test(s) and exposed to the associated mechanical, chemical and thermal stresses, the appliance shall operate reliably and safely such that during normal operation no combustion gases posing a hazard can escape into the room in which the appliance is installed nor can embers fall out.	Yes
Component parts such as covers, operating controls, safety devices and electrical accessories arranged in such a way that their surface temperatures, under the test conditions described in do not exceed those specified either by the manufacturer or in the relevant component part standard.	Yes
No part of the appliance shall comprise of or contain asbestos.	1)
Hard solder, containing cadmium in its formulation, shall not be used.	1)
Where thermal insulation is used, it shall be made of non-combustible material and shall not be a known hazard to health in its applied position.	Yes
<i>NOTE The thermal insulation should withstand normal thermal and mechanical stresses.</i>	
Component parts which require periodic replacement and/or removal shall be either so designed or identified so as to ensure correct fitting.	Yes
Parts which act as a seal shall be located securely; for example by means of bolts or welding; to prevent the ingress or leakage of air, water or combustion products.	Yes
Where a seal is made with fire cement, the cement shall be supported by adjacent metal surf.	
If the appliance is fitted with a boiler it shall meet the requirements given in 4.13 as appropriate to the material of construction and intended usage.	N.A.
The boiler, if fitted, shall be capable of operating safely at the permissible maximum operating pressure declared by the manufacturer and shall meet the requirements of the type pressure test described in 5.9.	N.A.

**4.3 Scarico fumi o riduzione / Flue spigot or socket**

The flue spigot or socket where required for installation purposes shall be designed to enable a suitable gastight connection to be made between the flue gas connector and the appliance. The spigot or socket shall provide a good fit for the size of pipe recommended by the manufacturer. Where the flue gas connector fits over an outlet spigot the overlap shall be a length of at least 25 mm for a pipe diameter of 160 mm or less, and at least 40 mm for a pipe diameter greater than 160 mm. Where the flue gas connector fits into a socket, the insertion depth shall be a minimum of 25 mm.	Yes
Adapters for increasing the flue spigot/socket diameter are permitted when they are part of the pellet stove. They shall be tightly connected and fit any chimney flue connection. <i>NOTE It is recommended that provision is made for sealing internal connections with heat resistant sealing compound and/or sealing rope if required.</i>	N.A.

**4.4 Dispositivo di controllo della combustione / Combustion control device**

The device shall be easily accessible and shall be permanently marked.	Yes
Their position in relation to their function shall be clearly recognizable.	Yes

**4.5 Percorso fumi / Flueways**

For appliances without automatic cleaning systems, it shall be possible to clean the flueways of the appliance completely using commercially available tools or brushes, unless provided by the manufacturer. The size of the flueway in its minimum dimension shall not be less than 40 mm. It shall be permissible to reduce it to not less than 15 mm provided an access door(s) is provided for cleaning the flueway.	Yes
When an automatic cleaning system is installed, it shall clean the flueways such that there is no risk of blockage within the flueways due to build-up of soot.	N.A.

**4.6 Utensili per pulizia / Cleaning tools**

The appliance manufacturer shall make available purpose designed brushes and scrapers where ordinary household brushes cannot be used effectively for cleaning internal flueways.	N.A.
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**4.7 Porta della camera di combustione / Firedoors**

Where the appliance is fitted with a fire door, the door shall be designed to prevent accidental opening and to facilitate positive closure.	Yes
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**4.8 Passaggio aria di combustione / Combustion air supply**

<b>4.8.1 Primary air inlet control</b> The appliance shall be fitted with either a thermostatically, electronically controlled primary air inlet control or a manual primary air inlet control. The adjusting control shall be clearly visible or permanently marked so that its operation is readily understandable.	Yes
Where an appliance is designed for multi-fuel use a means shall be provided for the user to identify the correct set position of the primary air inlet control for each fuel type. Means of identification of the thermostat shall also be provided by the appliance manufacturer.	N.A.
Appliances fitted with a boiler shall be fitted with a water temperature actuated, thermostatically controlled fuel and air supply. <i>NOTE The design should be such that during operation of the appliance, neither ash nor un-burnt fuel can prevent the movement or the closure of the air inlet control.</i>	N.A.
<b>4.8.2 Secondary air inlet control</b> Where a secondary air inlet control is provided the position of air entry shall be so designed that the passage of this air is not restricted when the firebox is filled to the manufacturer's recommended capacity. <i>Sez</i> <i>the risk of condensation and the accumulation of combustion gases.</i>	N.A.

**4.9 Deflettore interno fumi / Internal flue gas diverter**

Any internal flue gas diverter shall be capable of maintaining any position in which it is intended to be set and shall not isolate the firebox from the flue outlet. If a diverter is intended to be removable then it shall either be permanently and legibly marked or so designed and/or identified as to ensure correct assembly.	Yes
Any diverter control shall be permanently and legibly marked to identify its set position to the user. the user.	N.A.

**4.10 Griglia di combustione / Retort**

<p>Where the retort is removable it shall be designed or marked to ensure correct assembly.          If a de-ashing mechanism is fitted it shall be capable of de-ashing the fuel bed in the area of the</p> <p><i>NOTE The preferred design should allow de-ashing to be carried out with the ashpit door closed.          The de-ashing operation should be possible without undue effort. If it is necessary to remove the ashpit door to de-ash the fire, the appliance should be designed such that there is no undue spillage of ash or fuel from the appliance during the de-ashing operation.</i></p>	Yes
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**4.11 Cenerario e rimozione cenere / Ashpan and ash removal**

<p>A means of removing the residue from the appliance shall be provided. Where an ashpan is provided, for appliances with internal hoppers, it shall be capable of containing the residue from two full charges of fuel in the hopper whilst retaining sufficient space above to allow adequate primary air flow through the bottom grate or fire bed.</p>	N.A.
<p>For appliances with external hoppers, the size of ashpan shall be able to contain at least the ash from 12 h running the appliance at nominal heat output. If the manufacturer states a value for the possible running time greater than 12 h, it has to be verified by calculation if the value is correct.</p>	N.A.
<p>If the ashpan resides in the appliance it shall locate in the ashpit in such a way that it allows the free passage of primary air and in such a position that does not obstruct any primary inlet control.</p> <p><i>NOTE 1 An ashpan should be designed and constructed to ensure that:</i>  <i>a) it effectively collects the residue material from beneath the bottomgrate</i>  <i>b) it can be easily and safely withdrawn, carried and emptied when hot, using the tool(s) provided, without undue spillage of residue material.</i>  <i>NOTE 2 The ashpan can be shovel shaped.</i></p>	Yes

**4.12 Caldaia integrata / Integral boiler**

<p><b>4.12.1.1 General construction</b></p> <p>The boiler shall be constructed from steel or cast iron and shall be capable of operating at the maximum water operating pressure stated by the manufacturer. This requirement shall be verified by the type pressure test in accordance with A.4.9.2.</p>	N.A.
<p>The materials and dimensions for the boiler construction shall be in accordance with the specifications given in Tables 2 to 7.</p>	N.A.
<p>One or more of the steel materials complying at least with the specifications given in Table 1 shall be used for the manufacture of those parts of the appliance subject to water pressure.</p> <p><i>NOTE Materials and wall thicknesses other than those specified may only be used on production of appropriate evidence as regards at least their equivalent corrosion resistance, heat resistance and strength to non-alloy steel at the material thicknesses specified in 4.13.2 for the particular application/usage.</i></p>	N.A.
<p><b>4.12.2 Nominal minimum wall thickness (steels)</b></p> <p>The nominal minimum wall thickness of steel sheets and tubes subject to water pressure shall be in accordance with Table 2.</p>	N.A.
<p>The tolerances on the nominal minimum wall thicknesses for carbon steels given in Table 1 shall be as specified in EN 10029.</p> <p><i>NOTE 1 The nominal minimum wall thicknesses apply to pressure loaded sheets and tubes, being part of the boiler construction.</i>  <i>NOTE 2 The nominal minimum wall thicknesses listed have been specified taking into consideration the following parameters:</i>  <i>- the permissible maximum water operating pressure (as stated by the manufacturer);</i>  <i>- the material properties;</i>  <i>- the heat transfer location.</i></p>	N.A.
<p><b>4.12.3 Welding seams and welding fillers</b></p> <p>The materials shall be suitable for welding. The materials in Table 1 are suitable for welding and do not require additional heat treatment after welding.</p>	N.A.
<p><b>4.12.4 Minimum wall thicknesses (cast iron)</b></p> <p>The wall thicknesses given in the production drawing shall not be less than the minimum thickness listed in Table 3.</p>	N.A.
<p><b>4.12.5 Cast iron parts subject to water pressure</b></p> <p>The minimum mechanical properties of cast irons used for parts subject to water pressure shall meet the requirements given in Table 4.</p>	N.A.

<b>4.12.6 Venting of the water sections</b> The water sections of the boiler shall be vented. The boiler shall be so designed that under normal operation in accordance with the manufacturer's instructions, no undue boiling occurs.	N.A.
<b>4.12.7 Water tightness</b> Holes, for screws and components which are used for the attachment or removal of parts shall not open into waterways or spaces through which water flows. <i>NOTE This does not apply to pockets for measuring, control and safety equipment</i>	N.A.
<b>4.12.8 Water side connections</b> The thread size of the flow and return tappings shall be not less than the minimum thread size designation given in Table 5. Where tapered threads are used, they shall be in accordance with the requirements of ISO 7-1 and EN 10226-3. Where parallel threads are used, they shall be in accordance with EN ISO 228-1 and EN ISO 228-2. The design and position of flow tappings shall be such that air will not be retained within the boiler shell. If boilers are supplied with reducing bushes in horizontal flow tappings, these shall be eccentric and fixed so that the reduced outlet is uppermost. The minimum depth of tapping or length of thread shall conform to Table 6. Where a drain socket is provided in the boiler shell, it shall be a minimum thread size designation of ½ and shall be in accordance with ISO 7-1 and EN 10226-3 or EN ISO 228-1 and EN ISO 228-2.	N.A.
<b>4.12.9.1 Design of all boiler waterways</b> The design of the boiler shall ensure a free flow of water through all parts.	N.A.
To minimise the build up of sediment, designed sharp or wedge shaped waterways with a taper towards the bottom shall be avoided.	N.A.
Where inspection holes are provided in the boiler to give access for inspection and cleaning of the waterways, they shall be of minimum size 70mm x 40mm or have a minimum diameter of 70mm and be sealed with a gasket and cap.	N.A.
<b>4.12.9.2 Boiler waterways used with indirect water systems</b> The minimum internal dimension of waterways throughout the main body of the appliance shall not be less than 20mm, except where waterways have to be reduced locally to facilitate manufacture or are in areas not in direct contact with burning fuel: in these cases the width of the waterways shall not be less than 14 mm.	N.A.
<b>4.12.9.3 Boiler waterways used with direct water systems</b> The minimum internal dimension of waterways in boilers designed for direct water systems shall not be less than 25mm if there is a possible contact with burning fuel, and not less than 12mm if there is no possible contact with burning fuel.	N.A.

#### 4.13 Controllo dei gas di scarico / Control of flue gas

If a flue damper is fitted, it shall be a type which does not block the flue totally by accumulation of combustion residue. The damper shall be easy to operate and incorporate an aperture within the blade which, in a continuous area, occupies at least 20 cm <sup>2</sup> or 3% of the cross-sectional area of the blade if this is greater.	N.A.
The position of the damper shall be recognisable to the user from the setting of the device.	N.A.
If a draught regulator is fitted, the minimum cross sectional area requirement shall not be applicable but the device shall be easily accessible for cleaning.	N.A.
A flue damper shall not be fitted to an appliance having a forced fan air supply.	Yes

#### 4.14 Pulizia delle superfici riscaldanti / Cleaning of heating surfaces

All heating surfaces shall be accessible from the flue gas side for inspection and cleaning. A sufficient number and appropriate arrangement of cleaning openings shall be provided.	Yes
Where cleaning and servicing of the boiler and its components require special tools (e.g. special brushes) these shall be supplied by the manufacturer.	N.A.

### 5 Sicurezza / Safety

#### 5.1 Temperature dei materiali combustibili / Temperatures of adjacent combustible material

The appliance manufacturer shall provide in his installation instructions the necessary information for either insulating the walls and/or the floor and/or the ceiling or indicating the required clearance distances to ensure that the temperature of any adjacent walls, floor or ceiling or other structure constructed of combustible materials do not exceed the ambient temperature by more than 65 K.	Yes
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3012260 Rev. 01	<b>Requisiti normativi</b> <i>Standard requirements</i>	
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<p>When tested during the performance test at nominal heat output in accordance with A.4.7, and the temperature safety test in accordance with A.4.9, and when the appliance is installed in accordance with the clearance distances specified in the manufacturer's installation instructions, the temperature of the test hearth and walls and/or ceiling or any other structure surrounding the appliance comprising combustible material shall not exceed the ambient temperature by more than 65 K.</p>	Yes
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### 5.2 Attrezzi di funzionamento / *Operating tools*

<p>An operating tool shall be provided where it would otherwise be necessary to touch any surface having a temperature above ambient by more than the following values:  35 K for metal;  45 K for porcelain, vitreous enamel or similar materials;  60 K for plastics, rubber or wood.  These temperature requirements shall be assessed during the nominal heat output test in accordance with A.4.7.  NOTE A suitable glove is regarded as a tool.</p>	Vedi rapporto di prova See test report
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### 5.3 Prova di sicurezza relativa alla fuoriuscita di gas di combustione e caduta di braci

*Safety test for spillage of combustion gas and discharge of embers*

<p>When operated under the test conditions described in A.4.7 to A.4.9 there shall not be any potentially harmful spillage of flue gases from the appliance into the room and embers shall not fall out.</p>	Yes
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### 5.4 Temperatura nel serbatoio del combustibile / *Temperature in the fuel hopper*

<p>When tested during the temperature safety test in accordance with A.4.9.1 the temperature in any integral fuel storage container shall not exceed the ambient temperature by more than 65 K.</p>	Yes
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### 5.5 Sicurezza al ritorno di fiamma nel sistema di adduzione del combustibile

*Safety against back burning through the fuel conveyor system*

<p>The appliance shall have a safety system to ensure that back burning from the retort to the fuel hopper shall not occur.</p>	Yes
<p>When tested during the temperature safety test in accordance with A.4.9.1 the temperature in the hopper shall not exceed the ambient temperature by more than 65 K.</p>	Yes
<p>In case of electrical power failure the appliance shall remain safe. The temperature in the hopper shall not exceed the ambient temperature by more than 65 K.</p>	Yes
<p>Operation of any of the safety systems shall stop the supply of fuel from the fuel hopper.  NOTE Safety systems can be one (fail-safe) or more devices such as drop chutes, an enclosed cell feeder or a water sprinkler system, operated by temperature, pressure and/or temperature switches. If the stove has a bottom-fed fuel supply, the fuel container needs to have a tight-fitting lid in combination with a device that interrupts the fuel supply if the cover is not closed as a safety system.</p>	Yes

### 5.6 Sicurezza al sovrariscaldamento della caldaia / *Safety against overheating the boiler water*

<p>The appliance shall include a function which stops the operation of the burner if the temperature of the boiler water exceeds either 105 °C or such lesser value specified by the</p>	N.A.
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### 5.7 Valvola di scarico termico / *Thermal discharge control*

<p>For appliances fitted with a boiler designed to operate on a sealed system and where a thermal discharge control is fitted as part of the appliance, when tested in accordance with A.4.9.3, the control shall operate when the water flow temperature exceeds either 105 °C or the manufacturer's declared operating temperature, whichever is the lower.</p>	N.A.
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### 5.8 Resistenza e tenuta del corpo caldaia / *Strength and leaktightness of boiler shells*

<p>The boiler shell and its water carrying components shall not leak or become permanently deformed when subjected to the type pressure test described in A.4.9.2 or during the nominal heat output test described in A.4.7.</p>	N.A.
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3012260 Rev. 01	<b>Requisiti normativi</b> Standard requirements	
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### 5.9 Sicurezza elettrica / Electrical safety

<p>The appliance shall comply with the electrical safety requirements of EN 50165 if mains operated electrical equipment is fitted as part of the appliance.</p> <p><i>NOTE Some clauses of EN 50165 may not apply to the different types of appliances within the scope of this European Standard.</i></p>	2)
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### 6 Prestazioni / Performance

#### 6.1 Tiraggio del camino / Flue draught

<p>Appliances having a nominal heat output greater than 25 kW shall be tested during the nominal heat output test at such flue draught given by the manufacturer in the appliance instructions.</p>	N.A.
<p>For the partial load test all appliances shall be tested either at a flue draught of <math>(10 \pm 2)</math> Pa or at such draught as declared by the appliance manufacturer in the appliance instructions.</p>	Yes
<p>Appliances with a nominal heat output less than or equal to 25 kW shall be tested at a flue draught of <math>(12 \pm 2)</math> Pa or at the draught given by the manufacturer during the nominal heat output test. The temperature safety test shall be carried out at the same draught.</p>	Yes

#### 6.2 Temperatura dei fumi / Flue gas temperature

<p>During the performance test at nominal heat output and at reduced heat output test in accordance with A.4.7 or A.4.8 the mean flue gas temperature in the test measurement section shall be measured and recorded.</p>	Yes
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#### 6.3 Emissione di monossido di carbonio per le stufe a pellet

*Carbon monoxide emission for pellet stoves*

<p>When measured in accordance with A.4.7 and A.4.8, the mean carbon monoxide concentration calculated to 13% oxygen (O<sub>2</sub>) content in the flue gas from the mean of at least two results shall not exceed 0,04% (500 mg/m<sup>3</sup>) at nominal heat output and 0,06% (750 mg/m<sup>3</sup>) at reduced heat output.</p> <p><i>NOTE In some countries national laws also set limits for particulate and organic compound emissions, emissions under slow and reduced combustion conditions and for weighted values for emissions to be used. In some countries clean air legislation is based upon the use of authorised fuels.</i></p>	Yes
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#### 6.4 Utilizzo efficiente dell'energia / Efficient energy utilization

##### 6.4.1 General

<p>When the appliance is operated as specified by the manufacturer, burning the specified test fuels representing the recommended fuels listed in the appliance operating instructions, it shall meet the requirements of 6.4.2.</p>	Yes
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##### 6.4.2 Efficiency at nominal heat output and at reduced heat output

<p>When tested in accordance with A.4.7 and A.4.8, the measured total efficiency from the mean of at least two test results at nominal heat output and at reduced heat output shall be at least 75% at nominal heat output and 70% at reduced heat output</p> <p><i>NOTE In some countries national laws set limits for minimum efficiency under slow and/or reduced combustion conditions and for weighted values for efficiency to be used.</i></p>	Yes
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#### 6.5 Potenza termica nominale / Nominal heat output

<p>The mean value of the measured heat output obtained during the test in accordance with A.4.7 shall equal or exceed the nominal heat outputs declared by the manufacturer.</p>	Yes
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#### 6.6 Potenza termica ridotta / Reduced heat output

<p>The mean value of the measured heat output obtained during the test in accordance with A.4.8 shall be less than or equal to the reduced heat output declared by the manufacturer.</p>	Yes
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#### 6.7 Potenza termica resa all'acqua / Water heating output

<p>The water heating output declared by the manufacturer shall not exceed the boilers output measured under the test conditions described in A.4.7.</p>	N.A.
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#### 6.8 Potenza termica resa all'ambiente / Space heating output

<p>When tested in accordance with A.4.7, the space heating output declared by the manufacturer shall not exceed the test space heating output.</p>	Yes
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### 6.9 Capacità del serbatoio / Hopper capacity

For appliances with internal hoppers only, the hopper capacity shall be such as to maintain reduced heat output over at least 6 h and nominal heat output over at least 3 h without refilling.	Yes
If the manufacturer claims a longer period of time that can be maintained at nominal heat output without refilling this shall be verified.	N.A.
For appliances with external hoppers, it shall be checked that the minimum size stated by the manufacturer fulfils the above requirements. <i>NOTE See calculation of fuel load in A.4.2.</i>	N.A.

### 6.10 Interventi dell'utilizzatore / User operations

All operations which the user carries out, including loading and emptying of the appliance, adjusting controls and de-ashing, shall be easy, safe and efficient.	Yes
These requirements shall be assessed during all the performance tests.	Yes

## 7 Istruzioni dell'apparecchio / Appliance instructions

### 7.1 Generalità / General

Instructions written in the language of the country of intended destination of the appliance shall accompany the appliance and shall describe the installation, operation, maintenance and, if assembled on site, the assembly of the appliance. The instructions shall not be in contradiction to the requirements or test results specified in this European Standard.	1)
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### 7.2 Istruzioni per l'installazione / Installation instructions

<p>The installation instructions shall contain at least the following information:</p> <ul style="list-style-type: none"> <li>- statement to the fact that "all national and local regulations and European Standards shall be complied with when installing the appliance";</li> <li>- full assembly instructions for the appliance, especially if supplied in parts;</li> <li>- appliance model, number or type;</li> <li>- nominal heat output in kilowatts or watts for each type of recommended fuel;</li> <li>- water heating output in kilowatts or watts for each type of recommended fuel if appropriate;</li> <li>- requirements for the electrical power supply;</li> <li>- indication of the heat released to the room in which the appliance is installed for</li> <li>- maximum operating water pressure in bar, where applicable;</li> <li>- mass of the appliance in kilograms;</li> <li>- any necessary safety clearance distances from combustible materials and/or any and/or any other recommendations for protective measures to protect the building construction against the risk of fire;</li> <li>- requirements for the supply of combustion air and where necessary the ventilation and air supply requirements for simultaneous operation with other heating appliances;</li> </ul> <p><i>NOTE Extractor fans when operating in the same room or space as the appliance may cause problems.</i></p> <ul style="list-style-type: none"> <li>- need for any air inlet grilles to be so positioned that they are not liable to blockage;</li> <li>- minimum chimney draught requirements (in Pa) for safe operation, nominal heat output and reduced heat output;</li> <li>- flue gas mass flow in grams per second at nominal heat output and reduced heat output where required by national/local regulation (or alternatively the nominal heat output and the appliance efficiency and mean CO<sub>2</sub> concentration when operating at nominal mean CO<sub>2</sub> concentration when operating at nominal);</li> <li>- mean flue gas temperature directly downstream of the flue spigot/socket in °C for nominal heat output and reduced heat output;</li> <li>- advice on the need to provide access for cleaning the appliance and the flue gas connector and the chimney flue;</li> <li>- whether or not the appliance is suitable for installation in a shared flue;</li> <li>- installation of cut-off and damper devices, as well as all safety devices where applicable;</li> <li>- requirements for the installation space within the surround and outside the surround in the radiation area, taking outcoming convective hot air into consideration as well as the surface temperature of the surround;</li> <li>- for the installation of the appliance its mass shall be taken into account;</li> <li>- for inset appliances, in all cases the minimum dimension of the required builder's opening and/or firefront opening in the surround;</li> </ul>	1)
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<ul style="list-style-type: none"> <li>- water capacity of any boiler and instructions for fitting a drain-cock in the lowest part of the system (where applicable);</li> <li>- setting of the temperature controller and method of adjusting the “cold” setting distance;</li> <li>- advice on a means of dissipating excess heat from the boiler, such as using a radiator;</li> <li>- any commissioning instructions, as appropriate;</li> <li>- installation and operation of any control and safety equipment;</li> <li>- advice on the installation of any air grilles, especially in relation to the temperature of surrounding walls, floor, ceiling or other structure around the appliance.</li> </ul>	1)
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### 7.3 Istruzioni di funzionamento per l'utente / *User operating instructions*

<p>The user operating instructions shall contain at least the following information:</p> <ul style="list-style-type: none"> <li>- statement to the fact that “all national and local regulations and European Standards shall be complied with when operating the appliance”;</li> <li>- list of the types and sizes of recommended fuels in accordance with the requirements of this European</li> <li>- any modifications necessary to the appliance and/or to the operation of the appliance when using different fuels (e.g. diameter);</li> <li>- instructions for refuelling the hopper;</li> <li>- instructions for the safe and efficient operation of the appliance including the ignition procedure;</li> <li>- advice that the appliance shall not be used as an incinerator and that no other fuels than pellets shall be used;</li> <li>- advice on the correct operation of any adjusting devices and controls;</li> <li>- correct operation for seasonal use and for adverse flue draught or weather conditions particularly where there is the potential for freezing;</li> <li>- warning that the firebox shall always be closed when the appliance is in operation;</li> <li>- advice on the correct operation of any thermal discharge control or other control or safety equipment, where applicable;</li> <li>- ventilation requirements for simultaneous operation with other heating appliances;</li> <li>- advice on the regular cleaning of the appliance, flue gas connector and chimney flue and highlight the need to check for blockage prior to lighting after a prolonged shutdown period;</li> <li>- instructions on ensuring the adequate provision of combustion air and ventilation air and safe removal of flue gases;</li> <li>- instructions on simple fault finding and the procedure for the safe shut down of the appliance in event of malfunction e.g. overheating, interruption of water supply;</li> <li>- warning that the appliance, especially the external surfaces, will be hot to touch when in operation and that due care will need to be taken;</li> <li>- need to adhere to any necessary safety clearances from combustible materials and guidance on protecting against the risk of fire in and outside the radiation area;</li> <li>- warning against any unauthorized modification of the appliance;</li> <li>- recommendation to use only replacement parts recommended by the manufacturer;</li> <li>- advice about action in the event of a chimney fire;</li> <li>- appliance efficiency and CO values;</li> <li>- advice on the adjustment of any air grilles, where fitted.</li> </ul>	1)
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### 8 Marcatura / *Marking*

<p>Each appliance shall be permanently and legibly marked in a place where it is accessible so that the information can be read when the appliance is in its final location, with the following minimum information:</p> <ul style="list-style-type: none"> <li>- manufacturer's name or registered trademark;</li> <li>- type and model number or designation to enable the appliance to be identified;</li> <li>- nominal boiler (where relevant) and space heating output in kilowatts, or a range of outputs (dependent on fuel types, as applicable), reduced heat output in kW;</li> <li>- number of this European Standard, i.e. EN 14785;</li> </ul>	1)
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<ul style="list-style-type: none"> <li>- measured CO concentration at 13% oxygen content and the determined appliance efficiency at nominal heat output and reduced heat output, as defined in 6.3 and 6.4</li> <li>- permissible maximum water operating pressure [in bar], if applicable;</li> <li>- “read and follow the operating instructions”;</li> <li>- “use only recommended fuels”;</li> <li>- minimum safety clearance distances from combustible materials if applicable;</li> <li>- consumption of electrical auxiliary energy.</li> </ul>	
<p>If a label is used it shall be durable and abrasion proof. Under normal operating conditions, the label shall not discolour, thus making the information difficult to read.  Self-adhesive labels shall not become detached as a result of moisture or temperature.</p>	1)

**Legenda:** / *Caption:*

**Yes Conforme** / *In accordance with*

**No Non conforme** / *Not in accordance with*

**N.A. Non applicabile** / *Not applicable*

**N.T. Non testato** / *Not tested*

**1) In accordo all'auto dichiarazione del fabbricante** / *According to the manufacturers's declaration.*

**2) A carico del fabbricante** / *Task by manufacturer*

**Rapporto di prova***Test report*

In accordo all'autorizzazione concessa da AICO S.p.A., questo report tecnico è originato dal report tecnico n. 2012260 del 19.05.2023, emesso da Kiwa Cermet Italia S.p.A a nome di AICO S.p.A., inerentemente lo stesso apparecchio, denominato R 1000 Pro immesso sul mercato con diverso marchio commerciale. Per questo motivo possono essere utilizzati gli stessi dati ottenuti dai test riportati nel sopracitato report tecnico

*According to AICO S.p.A.'s authorization, this technical report is originated from technical report n. 2012260 of 19.05.2023, issued by Kiwa Cermet Italia S.p.A., concernig the same appliance, named R 1000 Pro place on the market with a different trade mark. For this reasons could be used the same data obtained and reported in the technical report quoted above.*

**Dichiarazioni del fabbricante***Manufacturer declarations*

Dichiarazioni finalizzate alla prova di tipo  
*Declarations for type testing*

Pag. 3

**DICHIARAZIONE FINALIZZATA ALLA PROVA DI TIPO: COMMERCIALIZZATORE**  
*DECLARATION FOR TYPE TESTING: MARKETER*

Il sottoscritto: Nils Agnar Brunborg  
*The undersigned:*  
nella funzione di: CEO Jøtul AS  
*in quality of (position in the company):*  
dell'azienda: Jøtul AS  
*of the company:*  
con sede in: P.o. box 1411, 1602 Fredrikstad, Norway  
*located in:*

**dichiara che:**  
*declares that:*

procederà a commercializzare, immettendo sul mercato con il proprio nome, il seguente  
*will market, placing in the market using the own product name, the following*

Apparecchio(i) tipo: *Apparecchio alimentato a pellet di legno*  
*Appliance/s type:*  
Modello(i): *PC 800 , PC 801*  
*Model/s:*  
Marchio commerciale: *Jøtul*  
*Trade Mark:*

tale apparecchio viene realizzato dal seguente costruttore, anche con la seguente denominazione:  
*the above mentioned appliance(s) is manufactured by the following manufacturer, also with the following name:*

modello (i): *R 1000 Pro , R 1000 Pro ADV*  
*model/s:*  
marchio commerciale: *Ravelli*  
*trade mark:*  
Costruttore: *Aico S.p.A.*  
*Manufacturer:*

Le principali differenze sono: Nome commerciale, Caratteristiche estetiche (*che non comportano differenze prestazionali*), Elettronica di controllo.  
*The main differences are: Trade mark, Aesthetic characteristics (not involving differences in performance), Control board.*

Non saranno apportate modifiche, rispetto al modello di derivazione.  
*No modifications have to be introduced on the appliance compared the based models*

03/03/2023



Firma / Signature

**DICHIARAZIONE FINALIZZATA ALLA PROVA DI TIPO: EQUIVALENZA APPARECCHIO**  
*DECLARATION FOR TYPE TESTING: APPLIANCE EQUIVALENCE*

Il sottoscritto: *The undersigned:* Claudio Mezzalira  
nella funzione di: *in quality of (position in the company):* Operations manager  
dell'azienda: *of the company:* Aico S.p.A.  
con sede in: *located in:* via Consorzio Agrario, 3/D Chiari (BS)

**dichiara che:**  
*declares that:*

L'apparecchio(i) tipo: *Appliance/s type:* Apparecchio alimentato a pellet di legno  
Modello(i): *Model/s:* PC 800 , PC 801  
Marchio commerciale *Trade Mark:* Jøtul  
Comercializzatore: *Marketer:* Jøtul AS

**E' equivalente per prestazioni e costruzione al(i) nostro(i) apparecchio(i):**  
*Is equivalent for performance and manufacturing to our appliance/s:*

Modello(i): *Model/s:* R 1000 Pro , R 1000 Pro ADV  
marchio commerciale: *trade mark:* Ravelli

**Le principali differenze sono:**  
*The main differences are:*

- Nome commerciale  
*Trade name*
- Caratteristiche estetiche *(che non comportano differenze prestazionali)*  
*Aesthetic characteristics (not involving differences in performance)*
- Elettronica di controllo *(che non comportano differenze prestazionali)*  
*Control board (not involving differences in performance)*

03/03/2023

Firma / Signature



**AUTORIZZAZIONE UTILIZZO RISULTATI TEST**  
**AUTHORIZATION TO USE TEST RESULTS**

Il sottoscritto: *Claudio Mezzalira*  
*The undersigned:*  
nella funzione di: *Operations manager*  
*in quality of (position in the company):*  
dell'azienda: *Aico S.p.A.*  
*of the company:*  
con sede in: *via Consorzio Agrario, 3/D Chiari (BS)*  
*located in:*

Per il sistema di attestazione 3 della  
*On the basis of attestation system 3*

In accordo all'art. 36 del Regolamento (UE) No 305/2011 (CPR)  
*According to art. 36 of Regulation (EU) No 305/2011 (CPR)*

**autorizza:**  
*authorize:*

La seguente ditta / *the following company :*

Jøtul AS

P.o. box 1411, 1602 Fredrikstad, Norway

ad utilizzare ai fini dell'attività CPR i risultati dei test, descritti nel test report n.2012260 emesso da KIWA Cermet Italia S.p.a inerenti i prodotti sotto elencati, in quanto tali prodotti verranno immessi sul mercato anche dalla sopracitata ditta, con diversa denominazione, mantenendo le medesime prestazioni:

*to use, to the purpose of CPR the results of the tests, described in the test report no. 2012260 issued by KIWA Cermet Italia S.p.a. regarding the products listed below, because these products will be placed on the market also by the above-mentioned company, under a different name, keeping the same performance:*

Corrispondenza prodotti: / *products correspondence:*

Denominazione dei prodotti realizzati da  
*name of products manufactured by:*

Aico S.p.A.

**R 1000 Pro , R 1000 Pro ADV**

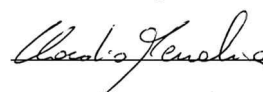
Denominazione dei prodotti commercializzati da  
*name of products marketed by:*

Jøtul AS

**PC 800 , PC 801**

03/03/2023

Firma / *Signature*



**Combustibile utilizzato per il test**
*Test fuel*

Analisi del campione viene eseguita da <i>Sample analysis is carried out by</i>	Accredia LAB N°0082 L	
Laboratorio di prova accreditato secondo <i>Accredited testing laboratory according to</i>	ISO/IEC 17025:2017	
Tipologia <i>Designation</i>	Pellet di legno <i>Wood pellet</i>	
Classe <i>Class</i>	A1 cfr. EN ISO 17225-2:2014	
Report di analisi <i>Analysys report</i>	S-SSC-2100686	
Tenore di umidità <i>Moisture content</i>	6,4	%
Tenore di ceneri (come base accesa) <i>Ash content (as fired basis)</i>	0,3	%
Materiali volatili (base secca priva di cenere) <i>Volatile matter (dry, ash free basis)</i>	N.D.	%
Tenore di idrogeno (come base accesa) <i>Hydrogen content (as fired basis)</i>	5,7	%
Tenore di carbonio (come base accesa) <i>Carbon content (as fired basis)</i>	47,5	%
Tenore di zolfo (come base accesa) <i>Sulfur content (as fired basis)</i>	0,05	%
Potere calorifico inferiore (base secca) <i>Lower calorific value (dry basis)</i>	18770	kJ/kg
Potere calorifico inferiore (come base accesa) <i>Lower calorific value (as fired basis)</i>	17413	kJ/kg
Potere calorifico superiore (base secca) <i>Higher calorific value (dry basis)</i>	20050	kJ/kg
Potere calorifico superiore (come base accesa) <i>Higher calorific value (as fired basis)</i>	18611	kJ/kg
Dimensioni, lunghezza <i>Size, length</i>	Ø 6 x ~ 30	mm
Indice di regolamento <i>Swelling index</i>	N.D.	

N.D.: non determinato / not determined

**Strumenti utilizzati per il test**
*Test instruments*

Descrizione <i>Description</i>	Costruttore <i>Manufacturer</i>	Modello <i>Model</i>	Matricola <i>Serial number</i>	Scadenza taratura <i>Expiry calibration</i>
Descrizione <i>Description</i>	Costruttore <i>Manufacturer</i>	Modello <i>Model</i>	Matricola <i>Serial number</i>	Scadenza taratura <i>Expiry calibration</i>
Analizzatore gas CO <i>Gas analyzer CO</i>	Siemens	Ultramat 6	600002	31.12.2023
Analizzatore gas CO2 <i>Gas analyzer CO2</i>	Siemens	Ultramat 23	600001	31.12.2023
Analizzatore gas O2 <i>Gas analyzer O2</i>	Siemens	Ultramat 23	600001	31.12.2023
Analizzatore gas NOx <i>Gas analyzer Nox</i>	Siemens	Ultramat 23	600001	31.12.2023
Analizzatore gas THC <i>Gas analyzer THC</i>	Siemens	Fidamat 6	600003	31.12.2023
Sonda temperatura fumi <i>Exhaust flue temperature probe</i>	Siap+Micros - Termics	PZI-i031a - tipo J stelo	600030-ch2	30.09.2023
Sonda temperatura ambiente <i>Ambient temperature probe</i>	Siap+Micros - Termics	PZI-i031a - CAVSCT0036	600030-ch1	30.09.2023
Sonda temperature superficiali <i>Surface temperature</i>	Siap+Micros - Termics	PZI-i031a - tipo J flessibile	600030-ch3/48	30.09.2023
Micromanometro differenziale <i>Micromanometer</i>	Furness Control	FCO 332	600114	30.09.2023
Flussimetro <i>Water meter</i>	-	-	-	-
Sonda temperatura mandata <i>Water flow temperature probe</i>	-	-	-	-
Sonda temperatura ritorno <i>Water return temperature probe</i>	-	-	-	-
Sonda temperatura flussimetro <i>Water meter temperature probe</i>	-	-	-	-
Barometro <i>Barometer</i>	Druck	DPI700	107140	30.09.2023
Igrometro <i>Hygrometer</i>	PCE Italia	PCE HT110	600170	31.12.2023
Bilancia <i>Platform scale</i>	Sartorius	Combics1	600006	30.09.2023
Bilancia polveri <i>Dust scale</i>	Kern	ABJ 120-4M	600008	30.06.2023
Bilancia per umidità <i>Moisture scale</i>	Dini argeo	ALGS60	600171	30.09.2023
Campionatore polveri <i>Dust system</i>	XEarPRO	Bulldog Pro	600604	30.09.2023
Wattmetro <i>Wattmeter</i>	Yokogawa	WT310E	600176	31.12.2023



### Prove di prestazione a potenza termica nominale

*Performance tests at nominal heat output*

Apparecchio <i>Appliance</i>	<b>PC 800</b>
Numero di progetto <i>Project Number</i>	<b>PKC0012260</b>

Condizioni ambientali / <i>Room conditions</i>			
Item	Unit	Clause	Incertezza <i>Uncertainty</i>
Date del test * <i>Test date *</i>			dal 01.03.2023 al 01.03.2023 -
Umidità media ambiente <i>Mean room humidity</i>	%		40,6 4,0 % **
Pressione media ambiente <i>Mean room pressure</i>	mbar		1003 4 mbar

Item	Unit	Clause	Test			Med. / Aver.	Incertezza <i>Uncertainty</i>
			1	2	3		

Prestazioni / <i>Performance</i>							
Potenza termica <i>Heat output</i>	kW	6.5	8,8	8,7	-	8,7	-
allo spazio <i>To space</i>	kW	6.7	8,8	8,7	-	8,7	-
all'acqua <i>To water</i>	kW		-	-	-	-	-
(§) Potenza termica nominale <i>(§) Nominal heat output</i>	kW		-	-	-	8,7	-
(§) allo spazio <i>(§) to space</i>	kW		-	-	-	8,7	-
(§) all'acqua <i>(§) to water</i>	kW		-	-	-	-	-
Rendimento di combustione <i>Combustion efficiency</i>	%	6.4.2	92,0	92,4	-	92,2	-

Emissioni / <i>Emission</i>							
Emissioni medie di CO <sub>2</sub> <i>Mean CO<sub>2</sub> concentration</i>	%		9,25	9,66	-	9,46	0,19 % **
Emissioni medie di O <sub>2</sub> <i>Mean O<sub>2</sub> concentration</i>	%		10,96	10,45	-	10,71	0,21 % **
Emissioni medie di CO <i>Mean CO concentration</i>	% (13% O <sub>2</sub> )	6.3	0,005	0,006	-	0,006	0,0004 % **
	mg/Nm <sup>3</sup> (13% O <sub>2</sub> )	6.3	66	75	-	70	-
Emissioni medie di NO <sub>x</sub> <i>Mean NO<sub>x</sub> concentration</i>	mg/Nm <sup>3</sup> (13% O <sub>2</sub> )		98	98	-	98	4 mg/Nm <sup>3</sup>
Emissioni medie di OGC <i>Mean OGC concentration</i>	mg/Nm <sup>3</sup> (13% O <sub>2</sub> )		8	9	-	8	1 mg/Nm <sup>3</sup>
Emissioni medie di polveri <i>Mean dust concentration</i>	mg/Nm <sup>3</sup> (13% O <sub>2</sub> )		13	15	-	14	4 mg/Nm <sup>3</sup>
Tiraggio medio <i>Mean fuel draught</i>	Pa		9,4	9,1	-	9,3	2,0 Pa
Flusso gas combustibile <i>Flue gas mass flow rate</i>	g/s		7,0	6,6	-	6,8	-

(\*)= Vedi nota al Chap. RP / See note Chap. RP

Item	Unit	Clause	Test			Med. / Aver.	Incertezza Uncertainty
			1	2	3		

Misurazioni lato acqua / <i>Water side measurements</i>							
Flusso <i>Water flow</i>	kg/h		-	-	-	-	-
Pressione di esercizio <i>Operating pressure</i>	bar		-	-	-	-	-
Temperatura di mandata <i>Supply water temperature</i>	°C	5.8.2	-	-	-	-	-
Temperatura di ritorno <i>Supply water temperature</i>	°C	5.8.2	-	-	-	-	-

Tempi e intervalli di ricarica / <i>Charging times and intervals</i>							
Consumo orario <i>Fuel throughput</i>	kg/h		1,97	1,95	-	1,96	-
Effettiva durata della prova <i>Actual test duration</i>	min		180	180	-	180	-

Temperature / <i>Temperature</i>							
Temperatura media fumi <i>Mean flue gas temperature</i>	°C	6.2	118,6	117,5	-	118,0	3,0 °C
Temperatura media ambiente <i>Mean room temperature</i>	°C		25,4	26,2	-	25,8	0,6 °C

Validazione prove / <i>Test validation</i>								
Item	Unit	Clause	Mean	±10%	Test 1	Test 2	Test 3	Approval
			Potenza termica nominale <i>Nominal heat output</i>	kW	A.4.7.1	8,7	9,6 7,9	

Item	Unit	Clause	Limite accreditamento; norma / <i>Accreditation limit; standard</i>					Approval
			Mean	Limit	Test 1	Test 2	Test 3	
Potenza termica nominale <i>Nominal heat output</i>	kW	§	8,7	50,0	8,8 Ok	8,7 Ok	- -	Ok

Item	Unit	Clause	Req.	Test 1	Test 2	Test 3	Approval
			Durata della prova <i>Test time</i>	h	6.5	3	

Ok= Conforme alla clausola / *In compliance with the clause*

Not Ok= Non conforme alla clausola / *Not in compliance with the clause*

(§) Dichiarato dal Fabbricante. Il laboratorio declina ogni responsabilità relativamente ai dati dichiarati dal Fabbricante.

(§) *Manufacturer declaration. The laboratory declines all responsibility for data declared by manufacturer.*

**Temperature delle superfici**
*Surface temperatures*

Condizioni ambientali / Room conditions			
Item	Unit	Clause	Incertezza Uncertainty
Data del test <i>Test date</i>			dal 01.03.2023 al 01.03.2023 -
Temperatura media ambiente <i>Mean room temperature</i>	°C		25,8 0,6 °C
Umidità media ambiente <i>Mean room humidity</i>	%		40,6 4,0 % **
Pressione media ambiente <i>Mean room pressure</i>	mbar		1003 4 mbar

Item	Unit	Clause	Material	Test ΔT	Limit	Incertezza Uncertainty
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Temperature / Temperature						
Superfici interne del serbatoio <i>Store internal surface</i>	°C	5.4	-	58,0	32,2	65 K 3,7 °C
Scivolo coclea <i>Hopper</i>	°C	5.5	-	71,3	45,5	65 K 3,7 °C
Display <i>Display</i>	°C	5.2	C	26,9	1,1	60 K 3,7 °C

**Specifiche del materiale / Material specification**

Descrizione <i>Description</i>	Limit	Cod
Metalli <i>Metals</i>	35 K	A
Porcellana, smalti vetrosi o materiali simili <i>Porcelain, vitreous enamel or similar materials</i>	45 K	B
Plastica, gomma o legno <i>Plastics, rubber or wood</i>	60 K	C

ΔT= Differenza tra la temperatura della superficie ed ambiente / *Difference between surface temperature and ambient*

K= °C / °C

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**Temperature del triedro durante la prova a potenza nominale**
*Surface trihedro temperatures during nominal heat output test*

Condizioni ambientali / Room conditions				
Item	Unit	Clause		Incertezza Uncertainty
Data del test <i>Test date</i>			dal 01.03.2023 al 01.03.2023	-
Temperatura media ambiente <i>Mean room temperature</i>	°C		25,8	0,6 °C
Umidità media ambiente <i>Mean room humidity</i>	%		40,6	4,0 % **
Pressione media ambiente <i>Mean room pressure</i>	mbar		1003	4 mbar

Item	Unit	Clause	Test $\Delta T$	Limit	Incertezza Uncertainty
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Temperature / Temperature						
Temperatura parete posteriore <i>Temperature back wall</i>	°C	5.1	33,6	7,9	65 K	2,5 °C
Temperatura parete laterale <i>Temperature side wall</i>	°C	5.1	51,9	26,2	65 K	2,5 °C
Temperatura fondo <i>Temperature floor</i>	°C	5.1	28,6	2,8	65 K	2,5 °C

**Temperature del triedro durante la prova di sicurezza**
*Surface trihedro temperature during safety temperature test*

Condizioni ambientali / Room conditions				
Item	Unit	Clause		Incertezza Uncertainty
Data del test <i>Test date</i>			dal 01.03.2023 al 01.03.2023	-
Temperatura media ambiente <i>Mean room temperature</i>	°C		25,8	0,6 °C
Umidità media ambiente <i>Mean room humidity</i>	%		40,6	4,0 % **
Pressione media ambiente <i>Mean room pressure</i>	mbar		1003	4 mbar

Item	Unit	Clause	Test $\Delta T$	Limit	Incertezza Uncertainty
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Temperature / Temperature						
Temperatura parete posteriore <i>Temperature back wall</i>	°C	5.1	33,6	7,9	65 K	2,5 °C
Temperatura parete laterale <i>Temperature side wall</i>	°C	5.1	51,9	26,2	65 K	2,5 °C
Temperatura fondo <i>Temperature floor</i>	°C	5.1	28,6	2,8	65 K	2,5 °C

Minime distanze da materiali combustibili <i>Minimum combustible materials distance</i>	mm	lato <i>side</i>	retro <i>back</i>	fondo <i>ground</i>	Incertezza Uncertainty
		150	50	0	

 $\Delta T$  = Differenza tra la temperatura della superficie ed ambiente / *Difference between surface temperature and ambient*

K = °C / °C

**Valutazione del consumo elettrico**
*Electrical consumption evaluation*

Consumo elettrico / <i>Electrical consumption</i>				
Item	Unit	Clause		Incertezza <i>Uncertainty</i>
Potenza nominale <i>Nominal heat output</i>	W	5.1.3.1	108,215	3,422 W
Alimentazione elettrica media / <i>Mean power supply</i>				
Potenza nominale <i>Nominal heat output</i>	V		227	-
Effettiva durata della prova / <i>Actual test duration</i>				
Potenza nominale <i>Nominal heat output</i>	min		180	-

**Informazioni in merito alla conformità dell'apparecchio alle normative di riferimento su LVD e EMC**

*Information concerning the appliance complies with the reference standards of LVD and EMC*

a) In accordo all'allegato ZA della norma tecnica utilizzata, la valutazione della conformità dei seguenti aspetti, quando applicabili:

- Sicurezza Elettrica, con riferimento anche alla Direttiva 2014/35/EU;
  - Compatibilità Elettromagnetica, con riferimento anche alla Direttiva 2014/30/EU
- sono a carico del fabbricante, il quale dovrà tenerne conto al fine della redazione dell' attestato di conformità e della Dichiarazione di Prestazione (DOP) ai sensi del regolamento (UE) 305/2011

*a) According to Annex ZA of the technical standard used, the assessment of conformity of the following matters, when applicable:*

- *Electrical Safety, also with reference to Directive 2014/35/EU;*
- *EMC, also with reference to Directive 2014/30/EU*

*are task for the manufacturer, which must be taken into account for the issuance the Conformity Certificate and Declaration of Performance (DOP) in accordance to Regulation (EU) 305/2011*

<b>Num. allegato</b> <i>Enclosure num.</i>	<b>Descrizione</b> <i>Description</i>	<b>Num. pag.</b> <i>Num. pages</i>
1	Foto dell'apparecchiatura <i>Appliance photo</i>	2
2	Etichetta <i>Label</i>	1
3	Manuale uso e manutenzione <i>Installation and operative instruction</i>	120
4	Disegno e dimensioni generali dell'apparecchio <i>Appliance drawings and general dimensions</i>	11
5	Report nr. K31042021Z1 del 07.08.2021 emesso da TÜV Rheinland Energy GmbH <i>Report nr. K31042021Z1 dated 07.08.2021 issued by TÜV Rheinland Energy GmbH</i>	16

