

MORETTIDESIGN

Report No. K30602021Z1

Verification of the requirements according to:

COMMISSION REGULATION (EU) 2015/1185

(Ecodesign Directive 2009/125/EC)

and

COMMISSION DELEGATED REGULATION (EU) 2015/1186

(Energy Labelling Directive 2010/30/EU)

Type:

Solid fuel local space heaters:

Models:

COMPACT GLASS AQUA 22

Trademark:

MORETTI DESIGN

Company:

MORETTI FIRE S.r.l.

2019

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Test Report according the Commission Regulation (EU) 2015/1185 – Ecodesign
and the Commission Delegated Regulation (EU) 2015/1186 – Energy Labelling

Appliance manufacturer / contractor		MORETTI FIRE S.r.l. Contrada Tesino, 50 63065 Ripatransone (AP) - Italy			
Trademark:		MORETTI DESIGN			
Models: COMPACT GLASS AQUA 22 0 0 0 0 0 0 0 0 0					
Type of construction:		Pellet stoves in acc. with EN 14785:2006			
Fuel:		Compressed wood pellets class A1 acc. to EN17225-2, Ø 6 mm, Lmax 30 mm			
Nominal heat output (P _{nom})	19,7	kW	Direct:	3,7	kW
			Indirect	16	kW
Minimum heat output (P _{min})	5,8	kW	Direct:	4,4	kW
			Indirect	1,4	kW
Reference type test report:					
Test basis: Regulations no. 2015/1185 and no. 2015/1186. This examination has been carried out in a test laboratory equipped in accordance with the EN 14785:2006. The test results were reviewed by the impartial test centre of TÜV Rheinland Energy GmbH. Test results: the requirements of the implementing Directives 2009/125/EC and 2010/30/EU					
Seasonal space heating energy					
Energy efficiency class					
Ripatransone		MORETTI FIRE S.r.l. Contrada Tesino, 50 63065 Ripatransone (AP) - Italy			
Assessor:		Report released after review:			

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1 Task

The Test Centre for Energy Appliances was instructed to execute the measurements and calculations on the appliance AQUA TURBO COMAPACT GLASS 16 according to the Commission Regulation (EU) 2015/1185 and the Commission Delegated Regulation (EU) 2015/1186.

The tests were carried out in the laboratory of TÜV Rheinland Energy GmbH /CMC Centro Misure Compatibilità S.r.l. in Thiene (Italy).

Test details on the reference initial type testing report K 2612 2019 T1 (EN 14785:2006).

2 Description of the appliances

Residential room sealed heating appliances fired by wood pellets without water heat exchanger for domestic central heating system. The flue discharge for pellet operation is fan assisted. The stoves are equipped with an automatic ignition.

All the models share the same basic construction of the tested one (the stove AQUA TURBO COMAPACT GLASS 16), regarding the combustion air inlet, the dimensions and the shape of combustion chamber and the flueways. The only difference between each model is related to the external claddings. The stove ZEUS V has been chosen from the manufacturer as representative model of the family and it may be operated with convection air fan on/off.

See the reference testing report K 2612 2019 T1 for further details.

Control features

Room temperature control

Single stage heat output, no room temperature control	No
Two or more manual stages, no temperature control	No
With mechanic thermostat room temperature control	No
With electronic room temperature control	No
With electronic room temperature control plus day timer	No
With electronic room temperature control plus week timer	Yes

Controls for indoor heating comfort

Room temperature control with presence detection	No
Room temperature control with open window detection	No
With distance control option	Yes

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3 Test data

Working conditions	Description	Parameter	Result	Unit
Nominal heat output	Useful efficiency at nominal heat output	$\eta_{th,nom}$	92,50	%
	Nominal heat output	P_{nom}	19,7	kW
	Electric power requirement at nominal heat output*	e_{lmax}	78	W
	Particulate matter emissions**	PM	13	mg/m ³
	Organic gaseous compounds emissions**	OGC	1	
	Carbon monoxide emissions**	CO	173	
	Nitrogen oxides emissions**	Nox	148	
Minimum heat output	Useful efficiency at minimum heat output	$\eta_{th,min}$	96,50	%
	Minimum heat output	P_{min}	5,8	kW
	Electric power requirement at minimum heat output*	e_{lmin}	25	W
	Particulate matter emissions**	PM	14	mg/m ³
	Organic gaseous compounds emissions**	OGC	3	
	Carbon monoxide emissions**	CO	279	
	Nitrogen oxides emissions**	Nox	128	
Standby	Standby mode power consumption	e_{lsb}	2,9	W

* average values, measured according to EN15456:2008.

The electrical power data in operation are obtained:

- for the nominal heat output, with the convention air fan on;
- for part load heat output with the convention air fan off;

** values standardised to a dry flue gas basis at 13 % oxygen and conditions at 273 K and 1013 mbar.


4 Test results

Seasonal space heating energy efficiency in active mode		η_{son}	90,00%	%
Contributions of controls of indoor heating comfort (mutually exclusive temperature controls)		F(2)	7%	%
Contributions of controls of indoor heating comfort		F(3)	1%	%
Negative contribution to the seasonal space heating energy efficiency by auxiliary electricity consumption		F(4)	0%	%
Negative contribution to the energy efficiency index by energy consumption of a permanent pilot flame		F(5)	0%	%
Biomass label factor		BLF	1,45	
Up to 1/1/2022	Seasonal space heating energy efficiency	η_s		%
	Energy efficiency index	EEl		-
	Energy efficiency class		A++	-
From 1/1/2022	Seasonal space heating energy efficiency	η_s		%
	Energy efficiency index	EEl		-
	Energy efficiency class			-

5 Evaluation of the Energy Labelling Requirements

Energy efficiency class	Energy efficiency index (EEI)
A++	$EEI \geq 130$
A+	$107 \leq EEI < 130$
A	$88 \leq EEI < 107$
B	$82 \leq EEI < 88$
C	$77 \leq EEI < 82$
D	$72 \leq EEI < 77$
Energy efficiency class	$62 \leq EEI < 72$
F	$42 \leq EEI < 62$
G	$EEI < 42$

According to the Directive 2010/30/EU, the local space heater shall be marked as following:

Appliances	Energy efficiency class
COMPACT GLASS AQUA 22	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
0	
	From 1/1/2022
Trademark: MORETTI DESIGN	

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6 Statement of test results

The local space heaters with models:

COMPACT GLASS AQUA 22

0
0
0
0
0
0
0
0
0
0

of the company:

MORETTI FIRE S.r.l.

fulfil and correspond to the requirements of the Commission Regulation (EU) 2015/1185 with regard to ecodesign requirements for local space heaters and achieved a seasonal space heating energy efficiency of:

90,0%

From 1/1/2022

that corresponds to the energy efficiency class:

A++

From 1/1/2022

in accordance with Annex II Energy Efficiency Classes table 1 of the Commission Delegated Regulation (EU) 2015/1186

The evaluation of the results of this report with respect of conformity with the related commission regulations (2015/1185 and 2015/1186) is only a part of the conformity assessment to fulfil the Ecodesign (Directive 2009/125/EC) and Energy Labelling (Directive 2010/30/EU) prescriptions

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(IT) SCHEDA PRODOTTO (EN) PRODUCT DATA SHEET (DE) PRODUKTDATENBLATT (FR) FICHE DE PRODUIT (ES) FICHA DE PRODUCTO (PT) FICHA DO PRODUTO (NL) PRODUCTKAART	(PL) KARTA PRODUCTU (CZ) INFORMAČNÍ LIST VÝROBKU (SK) INFORMAČNÝ LIST VÝROBKU (RO) FIȘA PRODUSULUI (HU) TERMÉKISMERTETŐ ADATLAP (SL) PODATKOVNI LIST IZDELKA (HR) INFORMACIJSKI LIST PROIZVODA	(GR) ΔΕΛΤΙΟ ΠΡΟΪΟΝΤΟΣ (BG) ПРОДУКТОВ ФИШ (LT) GAMINIO VARDINIŲ PARAMETRŲ LENTELĖ (ET) TOOTEKIRJELDUS (DK) PRODUKTBLAD (SE) INFORMATIONSBLAG
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EU 2015 / 1186

(IT) Marchio (EN) Trademark (DE) Marke (FR) Marque (ES) Marca (PT) Marca (NL) Merk (PL) Marka (CZ) Značka (SK) Značka	(RO) Marca (HU) Márka (SL) Blagovna Znamka (HR) Marka (GR) Μάρκα (BG) Марка (LT) Ženklas (ET) Kaubamärk (DK) Mærke (SE) Märke	MORETTIDESIGN
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(IT) Modello (EN) Model (DE) Modell (FR) Modèle (ES) Modelo (PT) Modelo (NL) Model (PL) Model (CZ) Model (SK) Model	(RO) Model (HU) Modell (SL) Model (HR) Model (GR) Μοντέλο (BG) Модел (LT) Modelis (ET) Mudel (DK) Model (SE) Modell	COMPACT GLASS AQUA 22	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	
		0	

(IT) Classe di efficienza energetica (EN) Energy efficiency class (DE) Energieeffizienzklasse (FR) Classe d'efficacité énergétique (ES) Clase de eficiencia energética (PT) Classe de eficiência energética (NL) Energie-efficiëntieklasse (PL) Klasa efektywności energetycznej (CZ) Třída energetické účinnosti (SK) Trieda energetickej účinnosti	(RO) Clasa de eficiență energetică (HU) Energiahatékonyság osztály (SL) Razred energijske učinkovitosti (HR) Razred energetske učinkovitosti (GR) Κατηγορία ενεργειακής απόδοσης (BG) Клас на енергийна ефективност (LT) Energijos efektyvumo klasė (ET) Energiatõhususe Klass (DK) Energiklasse (SE) Energieffektivitetsklass	A++
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FROM 1/1/2022

(IT) Potenza termica diretta (EN) Direct heat output (DE) Direkte wärmeleistung (FR) Puissance thermique directe (ES) Potencia calorífica directa (PT) Potência térmica direta (NL) Directe warmteafgifte (PL) Bezpośrednia moc cieplna (CZ) Přímý tepelný výkon (SK) Priamy tepelný výkon	(RO) Puterea termică directă (HU) Közvetlen hőteljesítmény (SL) Neposredna toplotna moč (HR) Izravna toplinska snaga (GR) Άμεση Θερμική Ισχύς (BG) Директна топлинна мощност (LT) Tiesioginė šiluminė galia (ET) Otsene soojusvõimsus (DK) Direkte termisk effekt (SE) Direkt värmeeffekt	3,7
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(IT)	Potenza termica indiretta	(RO)	Puterea térmica indirectă	16
(EN)	Indirect heat output	(HU)	Közvetett hőteljesítmény	
(DE)	Indirekte Wärmeleistung	(SL)	Posredna toplotna moč	
(FR)	Puissance thermique indirecte	(HR)	Neizravna toplinska snaga	
(ES)	Potencia térmica indirecta	(GR)	Έμμεση Θερμική ισχύς	
(PT)	Potência térmica indireta	(BG)	Индиректна топлинна мощност	
(NL)	Indirecte warmteafgifte	(LT)	Netiesioginė šiluminė galia	
(PL)	Pośrednia moc cieplna	(ET)	Kaudne soojusvõimsus	
(CZ)	Nepřímý tepelný výkon	(DK)	Indirekte termisk effekt	
(SK)	Nepriamy tepelný výkon	(SE)	Indirekt värmeeffekt	
(IT)	Indice di efficienza energetica	(RO)	Indicele de eficiență energetică	131,625
(EN)	Energy efficiency index	(HU)	Energiahatékonisági mutató	
(DE)	Energieeffizienzindex	(SL)	Indeks energetske učinkovitosti	
(FR)	Indice d'efficacité énergétique	(HR)	Indeks energetske učinkovitosti	
(ES)	Índice de eficiencia energética	(GR)	Δείκτης ενεργειακής απόδοσης	
(PT)	Índice de eficiência energética	(BG)	Индекс на енергийна ефективност	
(NL)	Energie-efficiëntie-index	(LT)	Energijos efektyvumo indeksas	
(PL)	Współczynnik efektywności energetycznej	(ET)	Energiaatõhususe indeks	
(CZ)	Index energetické účinnosti	(DK)	Indeks energieffektivitet	
(SK)	Index energetickej účinnosti	(SE)	Energieffektivitetsindex	
(IT)	Efficienza utile a potenza termica nominale	(RO)	Eficiență energetică utilă la puterea termică nominală	93%
(EN)	Useful energy efficiency at nominal heat output	(HU)	Hasznos hatásfok névleges Hőteljesítményen	
(DE)	Brennstoff-Energieeffizienz Nennwärmeleistung	(SL)	Izkoristek energije pri nominalni toplotni moči	
(FR)	Rendement utile à la puissance thermique nominale	(HR)	Korisna energetska učinkovitost pri naviznom toplinskom učinku	
(ES)	Eficiencia energética útil a la potencia termica nominal	(GR)	Απόδοση ισχύος χρήσιμη στην ονομαστική ισχύ	
(PT)	Eficiência energética útil com potência termica nominal	(BG)	Εнергийна ефективност полезна за номиналната мощност	
(NL)	Nuttig rendement bij nominale	(LT)	Naudingasis efektyvumas esant nominaliai šiluminei galia	
(PL)	Sprawność użytkowa przy nominalnej mocy cieplnej	(ET)	Kasutegur nominaalsel soojusvõimsusel	
(CZ)	Užitečná energetická účinnost při jmenovitém tepelném výkonu	(DK)	Nyttevirkning ved nominel termisk effekt	
(SK)	Užitočná energetická účinnosť pri menovitom tepelnom výkone	(SE)	Nyttoverkningsgraden vid nominell värmeffekt	
(IT)	Efficienza utile al carico minimo	(RO)	Eficiență energetică utilă la sarcină minimă	97%
(EN)	Useful energy efficiency at minimum load	(HU)	Hasznos hatásfok minimális terhelésen	
(DE)	Brennstoff-Energieeffizienz bei Mindestlast	(SL)	Izkoristek energije pri minimalni obremenitmi	
(FR)	Rendement utile à la puissance minimale	(HR)	Korisna energetska učinkovitost pri minimalnom opterećenju	
(ES)	Eficiencia energética útil a la carga mínima	(GR)	Αποτέλεσματική ενεργειακή απόδοση με ελάχιστο φορτίο	
(PT)	Eficiência energética útil à carga mínima	(BG)	Εнергийна ефективност полезна за минималното натоварване	
(NL)	Efficiëntie nuttig voor der minimale last	(LT)	Naudingasis efektyvumas esant mažiausiai apkrovai	
(PL)	Sprawność użytkowa przy minimalnym mocy cieplnej	(ET)	Kasutegur minimaalsel koormusel	
(CZ)	Užitečná energetická účinnost při minimálním zatížením	(DK)	Nyttevirkning ved minimal belastning	
(SK)	Užitočná energetická účinnosť pri minimálnom zaťažení	(SE)	Nyttoverkningsgraden vid minimibelastning	

(FR)	CO à puissance nominale 13% O2 (%)	0,014%
(FR)	INDICE de PERFORMANCE ENVIRONNEMENTALE (I) < 2	0,065
(FR)	Poussière à puissance nominale (mg/m ³ - 13% O2)	13
(FR)	INSCRIT AU REGISTRE DE L'ADEME	OUI
(IT)	Rispettare le avvertenze e le indicazioni di installazione e manutenzione periodica riportate sul manuale di istruzioni.	
(EN)	Comply with the warnings and installation and maintenance instructions provided in the user manual.	
(DE)	Beachten sie die warnungen und hinweise betreffend die installation und regelmäßige wartung in den bedienungsanleitung.	
(FR)	Respecter les avertissements et les indications sur l'installation et l'entretien périodique fournis dans le manuel d'instructions.	
(ES)	Respete las advertencias y las indicaciones de instalación y mantenimiento periódico, detalladas en el manual de usuario.	
(PT)	Respeitar as advertências e as indicações de instalação e manutenção periódica referidas nos manual de instruções.	
(NL)	Neem de waarschuwingen en instructies voor installatie en periodiek onderhoud in acht zoals aangegeven in de hoofdstukken van de gebruiksaanwijzing.	
(PL)	Należy przestrzegać ostrzeżeń i wskazówek dotyczących instalacji i okresowej konserwacji podanych w instrukcji obsługi.	
(CZ)	Dodržujte varování a pokyny pro instalaci a pravidelnou údržbu, které jsou popsány v návodu k obsluze.	
(SK)	Dodržujte varovania a pokyny pre inštaláciu a pravidelnú údržbu, ktoré sú popísané opísané v návodu na obsluhu.	
(RO)	Respectați avertismentele și indicațiile privind instalarea și întreținerea periodică din manualul de instrucțiuni.	
(HU)	Kövesse a használati útmutató fejezetében közölt wgylmeztetések, beépítési utasításokat és az időszakos karbantartásra vonatkozó előírásait.	
(SL)	Upoštevajte opozorila in navodila za namestitve in redno vzdrževanje, navedena v poglavjih priročnika z navodili.	
(HR)	Poštivajte upozorenja i smjernice za ugradbu o periodično održavanje navedene u poglavljima ovog priručnika s uputama.	
(GR)	Τηρήστε τις προειδοποιήσεις και τις οδηγίες εγκατάστασης και συντήρησης στο εγχειρίδιο οδηγιών.	
(BG)	Спазвайте предупрежденията и инструкциите за монтаж и поддръжка в ръководството за експлоатация.	
(LT)	Vadovaukitės montavimo ir periodinės techninės priežiūros perspėjimais ir nurodymais, pateiktais instrukcijų vadovo skyriuose.	
(ET)	Järgige hoiatusi ning paigaldamise ja korrapärase hoolduse juhiseid, mis on toodud peatükkides kasutusjuhendis.	
(DK)	Overhold advarslerne og angivelserne for installation og vedligeholdelse, som angivet i brugsvejledningen.	
(SE)	Följ de anvisningar och indikationer för installation och periodiskt underhåll som beskrivs i bruksanvisningen.	