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European Type Test Report

Roomheater fired by Solid Fuel

T1201 Multifuel Stove
T1202 Multifuel Stove

CIANG Stoves Limited
South Chuangye Road
Hanling Industrial Estate
Beiguan Section
Anyang City
Henan Province
China

Digitally signed by Ivanicenco Stanislav
Date: 2024.08.15 15:29:36 EEST
Reason: MoldSign Signature
Location: Moldova

Report Number: 60164
Project Number: 60164
Date: 19 April 2013

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Test report of the examination of the:

T1201 Multifuel Stove
T1201 Multifuel Stove

Appliance Received: 4th January 2012
Testwork completed: 13th April 2012

Tested and examined to: BS EN 13240:2001 + Amendment A2:2004

Report Contents

Report History

Date	Description	Project Number	Test Engineer
4th January 2012	SUNME 05 appliance received	60164	JT
2nd April 2012	Testwork commenced		
16th April 2012	Constructional examination		
1st May 2012	Examination of documentation		
17th July 2012	Final examination of SUNME 05 documentation		
19th April 2013	Examination of T1201 and T1202 documentation		

Signed by Test Engineer:

John Tucker

Name: **J Tucker** **Date : 19 April 2013**

Date: 19 April 2013	HEADING SHEETS	GASTEC at CRE
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The appliance, made by CIANG Stoves Limited, of the type:

T1201 Multifuel Stove
T1202 Multifuel Stove

Has been examined to:-

BS EN 13240:2001 + Amendment A2:2004

and meets the essential type-testing requirements when tested as a multifuel burning appliance for intermittent operation burning wood logs and both intermittent and continuous operation burning mineral smokeless fuel.

Signed in Acceptance:

A J Pittaway
Authorised Signatory
On behalf of Technical Manager

Date: 19 April 2013

Project Number: 60164		Initials: AP

Special Remarks

The T1201 and T1202 Multifuel Stoves are dry roomheates designed to provide space heating to the place of installation.

The T1201 and T1202 Multifuel Stoves are identical in all major respects to the SUNME 05 stove, a production model of which was submitted by CIANG Stoves Limited for type testing against BS EN 13240:2001 plus Amendment A2:2004 on 4th January 2002. Instructions and drawings for the T1201 and T1202 have been provided and compared against the SUNME 05 stove. The 1201 and T1202 are considered to be equivalent in all major respects to the SUNME 05 stove, the differences being aesthetics to the outward appearance of the appliance. Hence, the details and results reported herein are taken from the technical file for the SUNME 05 stove (Kiwa Gastec Report 6835-2)

The manufacturer declares that only well seasoned wood and mineral smokeless fuel should be burnt on this appliance. The manufacturer also claims the roomheater is capable of intermittent burning using wood logs and both intermittent and continuous operation with mineral smokeless fuel. It should not be connected to a flue serving more than one appliance.

The manufacturer claims that the appliance can be connected to a chimney using a reversible top or rear flue adapter. For the purposes of the test work the appliance was tested using the top flue configuration because it was considered that this would give the worst case scenario to provide the base line figures for the performance criteria.

The SUNME 05 Multifuel Stove was received on the 4th January 2012 and the test-work commenced on the 2nd April 2012.

The tests carried out on the appliance were:

1. A performance test at nominal heat output (burning wood).
2. A performance test at nominal heat output (burning Ancit as an intermittent burning appliance).
3. A performance test at nominal heat output (burning Ancit as a continuous burning appliance).
4. An overnight banking and recovery test (burning Ancit).
5. A temperature safety test (burning fir wood)

The manufacturer has not specified any duration for reduced output operation and thus a reduced output test was not undertaken.

It is important to note that the appliance(s) referred to in this report was/were tested at the manufacturer's declared nominal output (as required by the Standard). This nominal

output does not necessarily equate with the full (or maximum) output of the appliance(s), which may be higher.

If the manufacturer applies a CE mark to the appliance, the manufacturer is required to establish, document and maintain (and may be required to demonstrate) a permanent Factory Production Control system in accordance with Clause 9.3 of the Standard.

None of the interpretations and opinions given in this report are covered by the UKAS accreditation. The Schedule of UKAS Accreditation excludes quality of materials, pressure testing of boiler, testing of screw threads, quality of vitreous enamel finish, electrical controls and safety, measurement of thickness of enamelled components and dress guard testing.

Concurrent to the performance tests at nominal heat output burning wood and Ancit, determinations were made of the emissions of total hydrocarbons, nitrogen oxides and particulates (Austrian and German particle test methods) according to the Technical Specification in DD CEN/TS 15883:2009. These measurements were carried out in accordance with the requirements of the DIN Plus Certification Scheme. Kiwa Gastec's Schedule of UKAS Accreditation does not currently include these additional measurements.

Description	Enclosure Number
Installation and Operating Instructions – T1201	T1 – T16
Appliance General Dimension Drawings – T1201	T17
Installation and Operating Instructions – T1202	T18 – T33
Appliance General Dimension Drawings – T1202	T34
Data Plate	T35

4.1 Production documentation

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
To identify the appliance the manufacturer shall have available documents and/or scaled assembly drawings showing the basic design and construction of the appliance. The documentation and/or the drawings shall include at least the following information:		
- 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:		
- the welding process used in the manufacture of the boiler shell; *NOTE The symbol for the type of weld used is sufficient.*	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	

4.2.1 General Construction

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
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, 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	
Non-combustible materials shall be used, except that it shall be permissible to use combustible materials for the following applications: - components or accessories fitted outside the appliance; - internal components of controls and safety equipment; - operating handles; - electrical equipment.	Yes	
No part of the appliance shall comprise any material known to be harmful..	Yes	
Hard solder, containing cadmium in its formulation, shall not be used.	Yes	
When fired with solid mineral fuels, the appliance shall have a bottomgrate and an ashpan.	Yes	
Component parts, which require periodic replacement and/or removal, shall be either so designed or identified as to ensure correct fitting.	Yes	
NOTE 1 Because the entire heat dissipating surfaces of the appliance including the flue spigot/socket and the flue gas connector are working surfaces, there is no requirement for limiting the surface temperature of the appliance. NOTE 2 All operations which the user carries out, including loading and emptying the appliance, adjusting controls and de-ashing should be easy, safe and effective.	Yes	

4.2.2 Integral boiler

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
The boiler shell shall be constructed from cast iron and/or steel and shall be capable of operating at the maximum operating pressure declared by the manufacturer. The integral boiler shall meet the requirements of A.4.7.	N/A	No Boiler fitted.
The materials and dimensions for the integral boiler construction shall be in accordance with the specifications given in Tables 2 to 7. If alternative materials are used, a certificate giving evidence of similar performance is required.	N/A	
Provision shall be made for parts which form a seal to be located securely by means of bolts, gaskets or welding; to prevent the leakage of air, water or combustion products. Adjacent surfaces between metal components in the firebox or the flueways shall be gastight. Where a seal is made with fire cement, the cement shall be supported by adjacent metal surfaces.	N/A	

4.2.2.1 Boilers constructed of steel

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
4.2.2.1.1 Welding and welding materials The materials used shall be suitable for welding. Note The materials listed in Table 3 of BS EN 13240, are suitable and do not require any additional heat treatment after welding.	N/A	No Boiler fitted.
4.2.2.1.2 Nominal minimum wall thicknesses (steel) Boilers constructed of mild steel shall have the appropriate wall thickness set out in Table 2 of BS EN 13240.	N/A	
NOTE 1 The nominal minimum wall thicknesses of Table 2 apply to pressure loaded sheets and tubes other than immersion coils, safety heat exchangers. NOTE 2 Thinner wall thicknesses are only permissible with proof of equivalent corrosion resistance, heat resistance and strength. NOTE 3 The nominal minimum wall thicknesses listed in Table 2 have been specified taking into consideration the following parameters: - the permissible maximum water operating pressure (4 bar); - the material properties; - the heat transfer location.	N/A	
The tolerances on the nominal minimum wall thicknesses for steels shall be as specified in EN10029:1991.	N/A	

4.2.2.2 Boilers constructed of cast iron

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
4.2.2.2.1 Cast iron parts subject to water pressure The mechanical properties of cast iron used for parts subject to water pressure shall, as a minimum, correspond to the values listed in Table 4 of BS EN 13240.	N/A	No Boiler fitted.
4.2.2.2.2 Minimum wall thicknesses (cast iron) The wall thicknesses of the casting section shall be not less that the minimum thicknesses listed in Table 5 of BS EN 13240.	N/A	

4.2.2.3 Boiler shell tappings

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
The threads of boiler shell tappings, for flow and return pipes, shall be not less than the minimum thread size designation given in Table 6 of BS EN 13240..	N/A	No Boiler fitted.
Where tapered threads are used, they shall be in accordance with the requirements of ISO 7-1:1994 and ISO 7-2:2000. Where parallel threads are used, they shall be in accordance with ISO 228-1:2000 and ISO 228-2:1987. The design and position of flow tappings shall be such that air will not be retained within the boiler shell.	N/A	
The minimum depth of tapping or length of thread shall be not less than the minimum values given in Table 7 of BS EN 13240.	N/A	
If boilers are supplied with reducing bushes in horizontal flow tappings, these shall be eccentric and fixed so that the reduced outlet is uppermost.	N/A	
Where a drain socket is provided in the boiler shell, it shall have a minimum thread size designation of ½ and shall be in accordance with either ISO 7-1:2000 and ISO 7-2:1982 if tapered threads are used or ISO 228-1:2000 and ISO 228-2:1987 if parallel threads are used.	N/A	

4.2.2.4 Boiler waterways

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
4.2.2.4.1 Design of all boiler waterways The design of the boiler shall ensure a free flow of water through all parts. To minimise the build up of sediment, designed sharp or wedge-shaped waterways with a taper towards the bottom shall be avoided.	N/A	No Boiler fitted.
Where inspection holes are provided in the boiler to give access for inspection and cleaning of the waterways, they shall be a minimum of 70 mm x 40 mm or have a minimum diameter of 70 mm and be sealed with a gasket and cap.	N/A	
4.2.2.4.2 Boilers waterways used with indirect water systems The minimum internal dimension of waterways throughout the main body in appliances designed for indirect water systems shall be not less than 20 mm, 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 be not less than 15 mm.	N/A	
The design of the boiler shell shall ensure a free flow of water through all parts such that under normal operation in accordance with the manufacturer's instructions, no undue boiling noises occur	N/A	
4.2.2.4.3 Boilers waterways used with direct water systems The minimum internal dimension of waterways in boilers designed for direct water systems shall be not less than 25 mm.	N/A	

4.2.2.4.4 Venting of the water sections The boiler shell and its component waterways shall be designed in such a way that their respective water sections are well vented.	N/A	
The boiler shall be so designed that under normal operation in accordance with the manufacturer's installation instructions, no undue boiling noises occur..	N/A	
4.2.2. 4.5 Water tightness Holes, for screws and similar components, which are used for the attachment or removal of parts shall not open into waterways or spaces through which water flows. NOTE This does not apply to pockets for measuring, control and safety equipment,	N/A	

4.2.3 Cleaning of heating surfaces

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
All heating surfaces shall be accessible from the flue gas side for inspection and cleaning with brushes, scrapers or chemical agents by means of sufficient cleaning openings.	N/A	
Where cleaning and servicing of the boiler and its components require the use of special tools (e.g. special brushes), these shall be supplied by the appliance manufacturer.	N/A	

4.2.4 Flue spigot or socket

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
For horizontal flue connection, the flue spigot/socket shall be designed to allow fitting, internal or external, over a length of at least 40 mm, of a flue gas connector.	Yes	
For vertical flue connection, the fitting shall overlap by at least 25 mm.	Yes	
NOTE For inset appliances (made for fireplace recesses) with a vertical chimney flue connection and where the manufacturer`s installation instructions specify, in addition to the flue gas connector, that an insulating mortar infill should be added around the connector to seal the appliance to the chimney flue, then in this case it is permissible for the flue spigot/socket overlap to be reduced to a minimum of 6 mm.	N/A	

4.2.5 Flueways

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
The size of the flueway in its minimum dimension shall be not less than 30 mm except it shall be permissible to reduce it to not less than 15 mm for appliances designed only to burn fuels other than bituminous coals and peat briquettes, and where an access door(s) is provided for cleaning the flueway.	Yes	
It shall be possible to clean the flueways of the appliance completely using commercially available tools or brushes, unless special tools or brushes are provided by the appliance manufacturer.	Yes	

4.2.6 Ashpan and ash removal

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
A means for the removal of the ash residue from the appliance shall be provided.	Yes	
When an ashpan is provided, it shall be capable of containing the combustion residue from two full charges of fuel whilst retaining sufficient space above to allow adequate primary air flow through the bottomgrate or firebed.	Yes	
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 it does not obstruct any primary air inlet control.	Yes	
NOTE 1 The ashpan should be designed and constructed to ensure that: a) it effectively collects the residue from beneath the bottomgrate; b) it can be easily and safely withdrawn, carried and emptied when hot, using the tool(s) provided, without undue spillage of residue material. NOTE 2 The ashpan can be shoval shaped.	Yes	

4.2.7 Bottomgrate

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
Where the bottomgrate is removable it shall be so designed or marked as to ensure correct fitting.	Yes	
If a de-ashing mechanism is fitted it shall be capable of effectively de-ashing the fuelbed.	Yes	
NOTE 1 The preferred design with the firedoor(s) and ashpit door(s) closed should allow de-ashing to be carried out. The de-ashing should be possible without undue effort. NOTE 2 If it is necessary to remove the ashpit door to de-ash the fire, the appliance should be designed to minimise ash or fuel spillage during the de-ashing operation.	Yes	

4.2.8 Combustion air supply

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
4.2.8.1 Primary air inlet control The appliance shall be fitted with either a thermostatically controlled primary air inlet control or a manual primary air inlet control. For appliances with boiler, a manual primary air inlet control shall only be allowed for boiler outputs up to 7.5 kW. The adjusting control shall be clearly visible or shall be permanently marked so that its operation is readily understandable by the user.	Yes	Manual
The design shall be such that during operation of the appliance, neither ash nor unburnt fuel can prevent the movement or closure of the air inlet control.	Yes	
The 'cold' setting of the primary air inlet control shall be clearly marked and the method of adjustment shall be described in the user instructions.	Yes	
The thermostat shall have a variable temperature range and be of the immersion or dry pocket type. The pocket shall be positioned so that the thermostat senses the temperature of the flow water from the appliance.	N/A	
4.2.8.2 Secondary air inlet control Where a secondary air inlet control is provided the position of air entry shall be so designed that the passage of air is not restricted when the firebox is filled to the manufacturer's recommended capacity.	Yes	Manual

4.2.9 Control of flue gas

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
If a flue damper is fitted, it shall be of a type that does not block the flue totally. The damper shall be easy to operate and incorporate an aperture within the blade which, in a continuous area, occupies at least 20 cm^2 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	

4.2.10 Firedoors and charging doors

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
Firedoors and charging doors shall be designed to prevent accidental opening and to facilitate positive closure. Door seals shall be either metal to metal or of flexible non-combustible material.	Yes	
Means shall be provided to maintain the fit of any door sealed with flexible non-combustible material.	Yes	
When open, firedoors shall not obstruct the firebox opening and shall be capable of opening to an angle greater than 90°.	Yes	

4.2.11 Flue bypass device

BS EN 13240:2001 + Amendment A2:20045 Requirement met	Yes/No/N/A	Note
Any flue bypass device shall be easily operable. The extreme positions corresponding to full opening and closing shall be stable and easily identifiable.	N/A	

4.2.12 Front firebars and/or deepening plate

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
Front firebars shall be designed to retain the fuel or ash such that there is no undue spillage of ash or burning fuel from the roomheater during normal operations, particularly during refuelling or de-ashing.	Yes	
If the appliance is fitted with removable front firebars and/or deepening plate, they shall be of a design such that they can neither be incorrectly fitted nor accidentally dislodged.	Yes	

4.2.13 Solid mineral fuel and peat briquettes burning appliances

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
When the recommended fuels are solid mineral fuel and peat briquettes, the appliances shall have a bottomgrate and an ashpan.	Yes	

7.1 General

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
Instructions written in the language of the country of intended destination 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 in accordance with this standard	Yes	

7.2 Installation instructions

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
The installation instructions shall contain at least the following information:		
- a statement to the fact that "all local regulations, including those referring to national and European standards need to be complied with when installing the appliance";	Yes	
- the type (model or number) of the appliance;	Yes	
- the nominal heat output(s) in kW or W;	Yes	
- the space heating output in kW or W;	Yes	
- the water heating output in kW or W;	N/A	
- the maximum operating water pressure in bar, where applicable;	N/A	
- the safety clearances against combustible materials, and the other protective measures that shall be taken to protect the building construction;	Yes	
- the requirements for the supply of combustion air, for the simultaneous operation with other appliances and for the operation of exhaust air devices; NOTE Extractor fans when operating in the same room or space as the appliance, may cause problems.	Yes	
- the need of any air inlet grilles to be so positioned that they are not liable to blockage;	Yes	
- the mass of the appliance in kg;	Yes	
- the minimum flue draught for nominal heat output, (where applicable, with open and closed firedoors);	Yes	
- the flue gas mass flow in g/s (where applicable, with open and closed firedoors);	Yes	
- whether the appliance is suitable for installation in a shared flue system;	Yes	
- the flue gas temperature directly downstream of the flue spigot/socket in °C, (with closed firedoors), under nominal heat output conditions	Yes	
- the inset of roomheaters: in all cases the minimum dimensions of the required builder's opening and/or firefront opening in the surround;	Yes	
- the floors: the appliance shall be installed on floors with an adequate load-bearing capacity. If an existing construction doesn't meet this prerequisite, suitable measures (e.g. load distributing plate) shall be taken to achieve it;	Yes	
- the assembly of the appliance on-site, if applicable;	Yes	
- advice on the need to provide access for cleaning the appliance, the flue gas connector and the chimney flue;	Yes	
- the installation of the damper device, if applicable;	N/A	
- the water content and instructions for fitting a drain-cock in the lowest part of the system (where applicable);	N/A	
- the setting of temperature controller and method of adjusting the "cold" setting distance;	N/A	
- advice on a means of dissipating excess heat from the boiler, such as using a "heat leak" radiator.	N/A	
- 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.	Yes	

7.3 User operating instructions

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
Each appliance shall be accompanied by instructions in the language of the country in which it is to be operated, containing all important details regarding the operation for the concerned appliance.	Yes	
The operating instructions shall contain at least the following information:		
- a statement to the fact that "all local regulations, including those referring to national and European standards need to be complied with when installing the appliance";	Yes	
- a list of the recommended fuels including type and size in accordance with this standard;	Yes	
- details of the method of refuelling and de-ashing the appliance and the maximum filling height in the firebox and typical refuelling intervals at nominal heat output for various recommended fuels;	Yes	
- a description of the correct instructions for safe and efficient operation of the appliance including the ignition procedure;	Yes	
- advice against the use of the appliance as an incinerator and the use of unsuitable and non recommended fuels, including advice against the use of liquid fuels;	Yes	
- the operation of all adjusting devices, dampers and controls;	Yes	
- ventilation requirements for simultaneous operation with other heating appliances (where applicable);	Yes	
- the correct operations for seasonal use and under adverse flue draught or adverse weather conditions;	Yes	
- advice on the need for regular maintenance by a competent engineer;	Yes	
- instructions on how to achieve slow combustion;	Yes	
- a warning that the firebox and ashpit cover shall be kept closed except during ignition, refuelling and removal of residue material to prevent fume spillage, unless the appliance is intended to be operated with open firebox;	Yes	
- operation with open firebox, where applicable;	Yes	
- operation of the thermal discharge control, where applicable;	N/A	
- the need for regular cleaning of the appliance, of the flue gas connector and the chimney flue and highlighting the need to check for blockage prior to re-lighting after a prolonged shut down period;	Yes	
- advice on the adequate provision of combustion and ventilation air and on keeping air intake grilles supplying combustion air, free from blockage;	Yes	
- 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;	Yes	
- warning that parts of the appliance, especially the external surfaces, will be hot to touch when in operation and due care will need to be taken;	Yes	
- the means of protection against risk of fire in and outside the heat radiation area;	Yes	
- warning against any unauthorised modification of the appliance;	Yes	
- use of only replacement parts recommended by the manufacturer;	Yes	
- advice about the actions to be taken in the event of a chimney fire;	Yes	
- whether the appliance is suitable for installation in a shared flue system;	Yes	
- advice on whether the appliance is capable of continuous or intermittent operation and instructions on how this is achieved.	Yes	
- advice on the adjustment of any grilles, where fitted	N/A	

8 Marking

BS EN 13240:2001 + Amendment A2:2004 Requirement met	Yes/No/N/A	Note
Each appliance shall be permanently and legibly marked, with the minimum following information, in a place where it is accessible so that the information can be read when the appliance is in its final location: -the manufacturer's name or registered trade mark; -the type or the model; -the nominal output in kW or W, or range (if more than one fuel) of heat outputs listed in the form: 'from ... (lowest) kW to ... (highest) kW'; -the space heating output in kW or W; -the water heating output in kW or W; -the standard number: EN 13240; -the mean carbon monoxide concentration calculated to 13% oxygen ; -the determined appliance efficiency at nominal heat output, as defined in Sections 6.3 and 6.4 of the Standard -the maximum water operating pressure (if applicable), in bar; -the instruction "follow the user`s instructions"; -the minimum clearance distances from combustible materials, in mm, as appropriate; -whether or not the appliance can be used in a shared flue; -the words "use only recommended fuels"; -whether the appliance is capable of continuous or intermittent operation.	Yes	
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.	Yes	

Test Results

Appliance	**SUNME 05**	
Flue configuration	**Top outlet**	
Manufacturer's Declarations		
Nominal output (Wood)	**7.5 kW**	
Nominated refuel period (Wood)	**0.75 hours**	
	Intermittent	**Continuous**
Nominal output (Ancit)	**6.6 kW**	**5.6 kW**
Nominated refuel period (Ancit)	**1 hour**	**4 hours**

Test fuel	**Wood Logs**
Moisture content % (as fired)	**13.0**
Hydrogen content % (as fired)	**5.25**
Carbon content % (as fired)	**45.33**
Net calorific value kJ/kg (as fired)	**15955**
Gross calorific value kJ/kg (as fired)	**17390**

Test fuel	**Ancit**
Moisture content % (as fired)	**1.1**
Hydrogen content % (as fired)	**3.36**
Carbon content % (as fired)	**81.70**
Net calorific value kJ/kg (as fired)	**30882**
Gross calorific value kJ/kg (as fired)	**31650**

Efficiency Tests

Performance test at nominal heat output burning wood logs

(See clause 6.2 and 6.3 of the Standard)

	Test No A12/111-2	Test No A12/111-3	Test No A12/111-4	Mean
Test duration, h	0.75	0.80	0.73	**0.76**
Total efficiency, %	75.1	75.8	74.6	**75.2**
Nominal heat output, kW	7.6	7.2	7.7	**7.5**
Nominal heat output to water, kW	Not Applicable			
Nominal heat output to space, kW	7.6	7.2	7.7	**7.5**
Mean CO emission (at 13% O_2), %	0.16	0.08	0.12	**0.12**
Mean flue gas temperature, °C	346	347	347	**347**
Flue gas mass flow, gs^{-1}	6.2	5.8	6.6	**6.2**
Calculated output over manufacturer's declared refuelling period, kW	7.6	7.6	7.5	**7.6**
Calculated period at manufacturer's declared nominal output, h	0.8	0.8	0.8	**0.8**

Note Test A12/111-1 was treated as a pre-test due to malfunction of parallel determination of rig to determine particular emissions according to the German method

Summary of Efficiency Results – Net and Gross

Tests using Wood	Test No A12/111-2	Test No A12/111-3	Test No A12/111-4	Mean
Net efficiency, %	75.1	75.8	74.6	**75.2**
Gross efficiency, %	68.9	69.5	68.4	**68.9**

Assessment of Results Against Requirements of Standard

Tests using Wood	Ref in standard	Mean	Requirement of standard	Pass/Fail
Total efficiency, %	6.3	75.2	≥ 50	**P**
Nominal heat output, kW	6.3	7.5	≥ manufacturer's declaration	**P**
Mean CO emission (at 13% O_2)	6.2	0.12	≤ 1.0	**P**
Overall Assessment				**Pass**

Efficiency test: Performance test at nominal heat output

(See clause 6 of the Standard)

Tests using Ancit – Intermittent operation	Test No A12/115-1	Test No A12/115-2	Mean
Test duration, h	1.07	1.08	**1.08**
Total efficiency, %	71.7	72.5	**72.1**
Nominal heat output, kW	6.6	6.6	**6.6**
Nominal heat output to space, kW	6.6	6.6	**6.6**
Nominal heat output to water, kW	-	-	**-**
Mean CO emission (at 13% O_2), %	0.22	0.30	**0.26**
Mean flue gas temperature, °C	310	295	**303**
Flue gas mass flow, gs^{-1}	6.4	6.4	**6.4**

	Test No A12/115-1	Test No A12/115-2	Mean
Calculated output over manufacturer's declared refuelling period, kW	7.1	7.1	**7.1**
Calculated period at manufacturer's declared nominal output, h	1.1	1.1	**1.1**

Summary of efficiency results – Net and Gross

Tests using Wood	Test No A12/115-1	Test No A12/115-2	Mean
Net efficiency, %	71.7	72.5	**72.1**
Gross efficiency, %	70.0	70.7	**70.4**

Assessment of results against requirements of standard

Tests using Wood	Ref in standard	Mean	Requirement of standard	Pass/Fail
Total efficiency, %	6.4	72.1	≥ 30	P
Nominal heat output, kW	6.6	6.6	≥ manufacturer's declaration	P
Mean CO emission (at 13% O_2)	6.3	0.26	≤ 1.0	P
Overall Assessment				Pass

Efficiency test: Performance test at nominal heat output

(See clause 6 of the Standard)

Tests using Ancit – Continuous operation	Test No A12/125	Test No A12/127	Mean
Test duration, h	4.00	3.50	**3.75**
Total efficiency, %	72.1	73.4	**72.8**
Nominal heat output, kW	5.6	6.5	**6.1**
Nominal heat output to space, kW	5.6	6.5	**6.1**
Nominal heat output to water, kW	-	-	**-**
Mean CO emission (at 13% O_2), %	0.37	0.49	**0.43**
Mean flue gas temperature, °C	324	307	**316**
Flue gas mass flow, gs^{-1}	5.6	6.0	**5.8**

	Test No A12/125	Test No A12/127	Mean
Calculated output over manufacturer's declared refuelling period, kW	5.6	5.7	**5.7**
Calculated period at manufacturer's declared nominal output, h	4.0	4.0	**4.0**

Summary of efficiency results – Net and Gross

Tests using Wood	Test No A12/125	Test No A12/127	Mean
Net efficiency, %	72.1	73.4	**72.8**
Gross efficiency, %	70.4	71.6	**71.0**

Assessment of results against requirements of standard

Tests using Wood	Ref in standard	Mean	Requirement of standard	Pass/Fail
Total efficiency, %	6.4	72.8	≥ 30	**P**
Nominal heat output, kW	6.6	6.1	≥ manufacturer's declaration	**P**
Mean CO emission (at 13% O_2)	6.3	0.43	≤ 1.0	**P**
Overall Assessment				**Pass**

Slow combustion and recovery test

(See section 6.8 of the standard)

Burning solid mineral fuel.

Refuelling interval hr	Fire recoverable	Pass/Fail
12	Yes	P

Safety Test

Temperature of adjacent combustible materials (see Clause 5.6 of the Standard)

During the nominal output tests using wood logs and Ancit in intermittent burning operation, the trihedron walls were positioned at 350 mm from the back and 350 mm from the side of the appliance. For the nominal output tests using burning Ancit in continuous mode, the trihedron walls were positioned at 750 mm from the back and 700 mm from the side of the appliance

For the temperature safety test, and to satisfy the pass criteria for combustible substances surrounding appliances, the back trihedron wall was positioned at 750 mm and the side wall at 750 mm from the appliance.

Performance test procedure	Ref in standard	Temperature, °C					PASS/ FAIL (Note 1)
		Surround Back wall Maximum	Surround Side wall Maximum	Hearth	Ambient	ΔT (Max-ambient)	
Nominal heat output (Burning Wood)	A4.7.3	100.2	100.1	29.7	20.4	79.8/79.7/ 9.3	N/A
Nominal heat output (Burning Ancit) Intermittent	A4.7.3	83.2	84.7	25.3	20.0	63.2/64.7/ 5.3	N/A
Nominal heat output (Burning Ancit) Continuous	A4.7.3	59.3	60.0	45.9	18.5	40.8/41.5/ 27.4	
Temperature safety	A4.9.2.2	85.7	85.9	33.1	20.9	64.8/65.0/ 12.2	P
Overall Assessment							**Pass**

Note 1 Pass criterion is for combustible substances surrounding the appliance not to exceed the ambient temperature by more than 65 K.

Note * Temperature safety test conducted with side and back walls moved further back to satisfy the pass criteria

The manufacturer declares that the appliance should only be installed on a non-combustible hearth.

Surface temperatures of handles or knobs (see clause 5.5 of the Standard)

Test procedure	Surface material of handles/knobs	Performance test at nominal heat output (Burning wood logs)		
Ambient temperature °C		20.4		
Temperatures °C (see notes below)		T_s	ΔT	Tool necessary ?
Primary air wheel	Metal	123.9	103.5	Yes
Secondary air lever	Metal	137.8	117.4	Yes
Door handle	Wood	29.1	8.7	No
Tertiary air knob	Metal	32.3	11.9	No
Grate riddle	Metal	29.2	8.8	No

Test procedure	Surface material of handles/knobs	Performance test at nominal heat output (Burning Ancit) Intermittent Operation			Performance test at nominal heat output (Burning Ancit) Continuous Operation		
Ambient temperature °C		20.0			20.1		
Temperatures °C (see notes below)		T_s	ΔT	Tool necessary ?	T_s	ΔT	Tool necessary?
Primary air wheel	Metal	72.1	52.1	Yes	n/m	n/m	-
Secondary air lever	Metal	141.3	121.3	Yes	161.3	141.2	Yes
Door handle	Wood	28.1	8.1	No	48.6	28.5	No
Tertiary air knob	Metal	25.5	5.5	No	49.2	29.1	No
Grate riddle	Metal	35.3	15.3	No	90.3	70.2	Yes

Note1: T_s Surface temperature of handle/knob
ΔT $T_s - T_a$, where T_a = Ambient temperature

Note 2: An operating tool shall be provided where it would otherwise be necessary to touch any surface having a temperature above ambient for more than the following values:-

35 K for metals
45 K for porcelain, vitreous enamel or similar materials
60 K for plastics, rubber or wood

A tool is supplied which may be used for operation of the air controls and grate riddle.

Measurements for DIN Plus Certification

Tests using Wood Logs	Test No A12/111-2	Test No A12/111-3	Test No A12/111-4	Mean
Total efficiency, %	75.1	75.8	74.6	**75.2**
Nominal heat output, kW	7.6	7.2	7.7	**7.5**
Mean CO emission (at 13% O_2), %	0.16	0.08	0.12	**0.12**
Mean NO_x emission (at 13% O_2), mg/Nm^3	84	115	107	**102**
Mean OGC emission (at 13% O_2), mg/Nm^3	105	103	128	**112**
Particulates emission (German method), mg/Nm^3	35.3	6.3	27.9	**23**

Tests using Ancit	Test No A12/115-1	Test No A12/115-2	Mean
Total efficiency, %	71.7	72.5	**72.14**
Nominal heat output, kW	6.6	6.6	**6.6**
Mean CO emission (at 13% O_2), %	0.22	0.30	**0.26**
Mean NO_x emission (at 13% O_2), mg/Nm^3	127	121	**124**
Mean OGC emission (at 13% O_2), mg/Nm^3	95	94	**95**
Particulates emission (German method), mg/Nm^3	23.7	15.8	**20**

Enclosures

Enclosure Number	Description	Page
1	Installation and Operating instructions	T1 – T16
2	Appliance General Dimension Drawings	T17 – T19
3	Data Plate	T20
	End of Report	

CIANG

Introductions for installation and use
T1201
Multi-fuel stove

Manufactured by CIANG Stoves Limited according to EN13240:2004

www.ciangstoves.com

Contents

Pre-installation checks

Installation of a fireplace must be according to local codes and regulations in each country. All local regulations, including those which refer to national and European standards, must be observed when installing the product.

Both an installation manual with technical data and a manual on general use and maintenance are enclosed with the product. The installation can only be used after it has been inspected by a qualified inspector. A name plate of heat-resistant material is affixed to the product. This contains information about identification and documentation for the product.

Installation introduction with technical data

1.0 Technical data

Material: Cast iron

Finish: High-temp. Resistance paint

Fuel: Multi-fuel

Log length, max.: 34.7cm

Flue outlet: Top and rear

Flue pipe dimension:

- Inside: - 3 -125 mm/113cm ^{2} cross section

Approx. weight: 99kgs

Dimensions, distances etc.: figure 2

Parameter		Wood Logs	Ancit
Total Efficiency	%	75.2	72.1
Nominal heat output	kW	7.5	6.6
Mean CO emission (at 13 % O_2)	%	0.12	0.26
Mean flue gas temperature	°C	347	303
Flue gas mass flow	g/s	6.2	6.4
Mean C_nH_m emission	Nmg/m^3	112	95
Mean NOx emission	Nmg/m^3	102	124

DIN Plus particulates	Nmg/m^3	23	20

Technical data according to EN 13240:2004

Recommended chimney draught: 12 Pa

Operational mode: Intermittent or Continuous with smokeless fuels.

Intermittent combustion in this context means normal use of the fireplace, i.e. fuel is added as soon as the fuel has burnt down.

Continuous with smokeless fuels means the appliance remain alight overnight and can be easy recovered in the morning.

2.0 Installation

2.1 Unpacking the stove

After removing the outer packaging, unbolt the combustion chamber from the wooden pallet and place it gently on its back. The cardboard packaging can be placed underneath to prevent marring. Remove the leg pack from the stove and bolt each leg securely to the underside of the base on the combustion chamber, using the bolts provided (found inside the stove).
We recommend that two people perform the assembly and installation procedure.

2.2installing this stove

The stove and chimney installations MUST comply to all current National and Local Building Regulations; your approved dealer or your local building control officer can advise regarding this. Ultimately, it is you and your installer who is responsible that the installation complies.

2.2 Assembling the control of the Secondary air

figure 1.

The control of the Secondary air is option part.
After assembling the control, check it for easy operation and completed sealed when closed

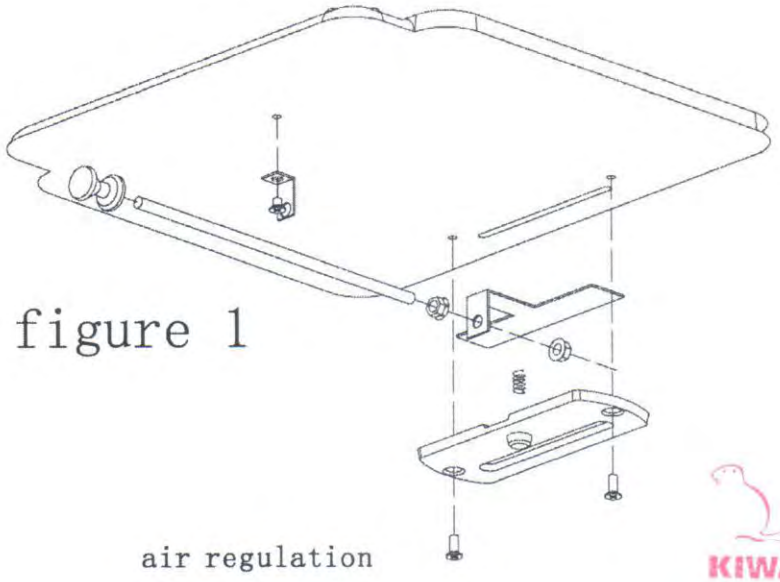

figure 1

air regulation

2.3 Stove placement/clearance requirements

Hearth and Wooden floor protection

The product must be installed on a level surface with adequate load-bearing capacity. If an existing construction does not meet this requirement then suitable measures, e.g. load distribution plate, have to be taken to achieve it.
The product can be placed directly on a wooden floor that is covered by a metal plate or other suitable, non-inflammable material. The recommended minimum thickness is 12 mm.
Any flooring made of combustible material, such as linoleum, carpets, etc. must be removed from under the floor plate. Requirement for protecting combustible flooring in front of fireplace. The dimensions of the heart must be in accordance with national laws and regulations. See

figure 2

Contact your local building authority regarding restrictions and installation requirements.

Walls protection

Note! The side load door must not be used in corner installations if this product is with side load door.

Distance to wall made of combustible material see figure 2

The fireplace is authorised for use with the distances to the wall of flammable material as shown in

figure 2.

A heat shield for the back can be ordered and mounted depending on the position of the fireplace and the desired distance to combustible materials. See fig. 2.

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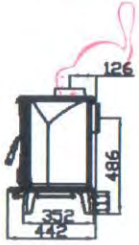
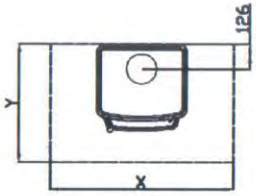
ENCLOSURE NO: 16





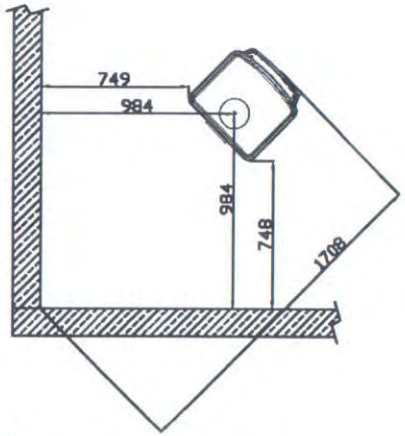
Min.measure floorplate
X/Y=Acc,to national standards
and regulations

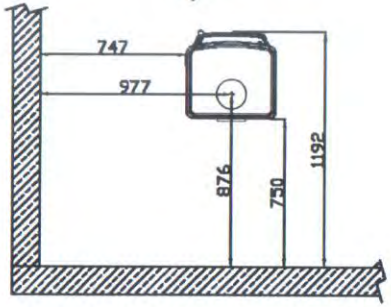
Combustible wall

Non combustible wall

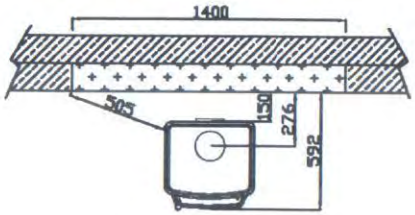
Dimensions refer to untreated products.
After painting or enamelling dimensions
may have small divergences.

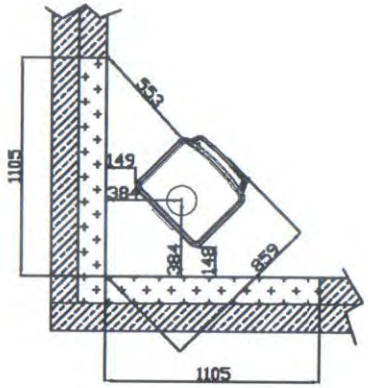
Min.distance to combustible wall

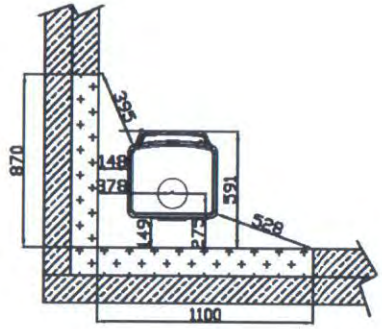




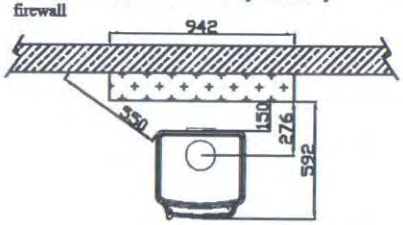
Min.distance from product to brick wall.

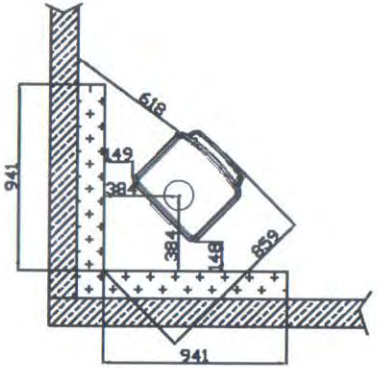


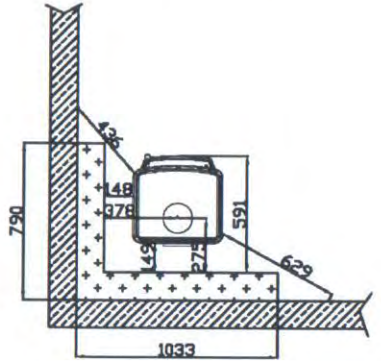




Min.distance to combustible wall protected by firewall







Distance to walls covered by a firewall
Firewall requirement
The firewall must be at least **100 mm thick** and be made of brick, concrete-stone or light concrete. Other materials and structures with satisfactory documentation may also be used.

Ceiling protection

There must be a minimum distance of **1200 mm** to a combustible ceiling above the fireplace.

Clearances to furniture and soft furnishings

We recommend that the stove be installed 800 mm from furniture. Serious consideration should also be given to positioning of any furniture that could be adversely affected by heat. The clearances to combustible materials in front of the stove should be a minimum of 800mm. When lit, a wood-burning stove gets hot and therefore adequate protection must be provided, particularly in situations where there is a safety risk to children or the infirm. A suitable safety guard around the stove should be considered.

2.4 The chimney

This product never connect to any shared chimney.

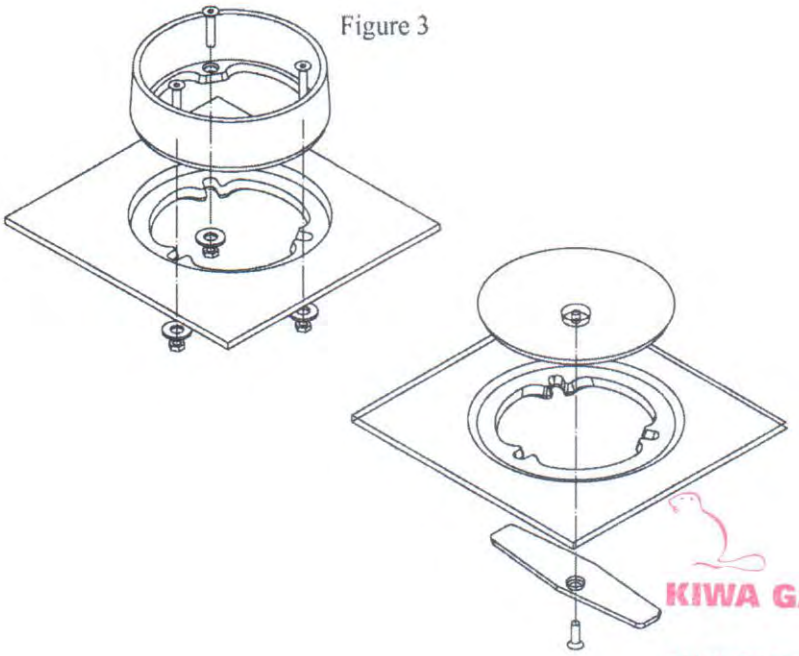
An efficient modern stove places heavy demands on the chimney, and you should have the chimney regularly swept and inspected by your approved chimney sweep.
The cross-sectional area of the chimney (at its narrowest point) must comply with National and Local Building Regulations. Generally, the area needed for a - 7 - wood-burning stove installation should measure at least 113 cm^2(125 mm diameter).
An over-sized chimney is generally hard to keep warm and results in poor draft. In cases here there is an oversized masonry chimney, it is recommended that the chimney be lined using an appropriate chimney lining system with the correct internal diameter.
With respect to the chimney termination, all chimneys should terminate in accordance with national and Local Building Regulations.
Note that National and Local Regulations also apply with regard to the placement of chimneys and flues in connection with thatched roofs.
The chimney or flue system must be equipped with access doors for inspection and cleaning. the size of the cleaning door in the chimney must at least equal to that of the cross-sectional area of the chimney. In the event that a chimney fire occurs resulting from faulty operation or prolonged use of damp wood fuel, close the air vents completely and contact your local fire department immediately.

2.5 Pipe connections

The stove is installed with a 125 mm diameter flue pipe. This must be an approved thickness.
The flue outlet for this product is inside the burn chamber during transportation. You can choose between a top or rear outlet from the flue pipe. The screws for fastening are in the bag containing screws. **Figure 3**

Flue pipes are placed directly onto the product flue outlet. There is a screw on threefold sides of the product flue outlet. These are used to fasten the flue pipe. Fasten the flue pipe with screws.
Note! It is important that the joints are completely sealed. Air leakage etc. may lead to malfunction.

Figure 3



2.6 Connecting to a masonry chimney

A wall sleeve should be bricked securely into the wall of the chimney at the appropriate height and the stovepipe inserted centrally. The pipe must not extend into the actual chimney opening, but rather must reach only to the inside of the chimney aperture. The gap between the stovepipe and sleeve must be sealed using glass fibre packing rope.

2.7 Connecting to a steel chimney

If your installation involves taking the chimney straight up and through the ceiling, you must comply with National, Local Building Regulations or flue manufacturers instructions concerning clearances to combustible materials such as walls, floor joists and ceilings. The joint between the stove flue collar and the stovepipe must also be sealed using the glass fibre rope provided. It is important that the insulated flue system is properly supported both at ceiling level and at roof level. **THE STOVE MUST NOT BEAR THE WEIGHT OF THE CHIMNEY SYSTEM** (See chimney manufacturer's instructions). Excessive weight on the stove will inhibit expansion and could lead to damage of the stove top. Damage caused to the stove in this way would not be covered by the manufacturers guarantee.
In the event that a chimney fire occurs resulting from faulty operation or prolonged use of damp wood fuel, close the air vents completely and contact your local fire department immediately.

CAUTION:

Cleaning procedure: Discuss this with chimney sweep or qualified installer prior to or during the stove installation

Chimney draft: If the chimney draft is naturally poor it is better to install the flue from the top of the stove so as to minimise any internal resistance of the flue gases.
Avoid having any more than 2 bends in the flue system and limit the length of the offset between bends.

Fresh air supply

A wood-burning stove requires air for combustion and therefore you may need to install additional ventilation to the room*(ATTENTION: don't use any extractor fans or any similar device in the same room with this product. It could make the draft too week)*, especially so in well insulated houses. If the air supply is inadequate the chimney draft may be too weak, with the possible result that the stove will not burn properly; smoke spillage may also occur during the refuelling process.

National and local laws and building regulations must be followed for the installation of any air vents that may be necessary. These vents should be installed so that they are not liable to become blocked.

On a positive note, a properly installed wood-burner will give even the most efficient houses a pleasant and natural ventilation.

2.8 Draft conditions

If smoke spillage occurs when the fire door is opened, it is probably due to poor chimney draft. This type of stove requires at least **12 pa** of chimney draft to achieve satisfactory combustion and smoke spillage prevention. However, in cases where the stove door is opened too vigorously you could expect that slight smoke spillage may occur.
If you have any doubts, you may want to have your installer measure the draft in the chimney.

Draft conditions
The chimney's draft is the resulting effect within the flue caused by the difference in temperature within the flue and the cooler temperature outside. Other factors that can influence the level of draft include the length of the flue, insulation of the chimney, adverse weather conditions or tall buildings or trees nearby the flue terminal.
Poor draft occurs when:

- The atmospheric temperature difference is too low, e.g. a poorly insulated chimney. If the chimney is excessively cool, it may help to 'prime' the flue before the fire is lit. Just place a screwed-up sheet of newspaper in the flueways of the stove and ignite.

The outside temperature is too high, e.g. during the summer months.

- There is no air movement (wind) outside.
- The chimney is not tall enough, with the result that the terminal sits in the lee of the roof surface or in the vicinity of tall trees or neighbouring buildings. These conditions are also associated with downdraft where the flue gases are pushed back down the chimney.
- Flue draft is diluted by residual air entering the chimney, e.g. due to inadequate fluepipe joints or leaks at the cleaning door or flue collar.
- Unsealed, unused fireplaces are connected to the chimney.
- The flue is blocked, e.g. by soot, due to inadequate cleaning, loose debris or even a birds nest.
- The house is too tightly sealed (see section on Fresh air supply).

A good draft is achieved when:

- The temperature difference between the chimney and outside is high. This also applies during firing, when the need is greatest.
- The weather is clear and there is a good wind.
- The chimney is of the proper height, i.e. minimum 4 meters over the stove and the termination adequately clear of the roof line.

3.0 User Manual

3.1 Choice of fuel

Recommended fuel : **Wood**

- Use hard wood logs.

Although you can fire this product with almost all kinds of wood, you should not fire with wet wood, or unseasoned wood. Wood ought to be stored under a roof for at least 1 year, and preferably 2 years, with free access to wind. Wood should be chopped as soon as possible after felling if it is to dry quickly. The wood can be used once the moisture content is less than 20%. During the EN test, all stoves are tested with wood with a moisture content of (16 ± 4)%.

- Hardwood has a higher calorific value as the same valume (oak, ash, maple, birch, elm, beech, etc.).

-Pieces of wood with a diameter greater than 10 cm should always be chopped. The pieces of wood should be short enough to be able to lie flat over the layer of embers, with air at both ends. The maximum length of fuel in the stove no more than 40cm.

Recommended fuel: **Smokeless fuels**

And smokeless fuels, including coolite nuts, phurnacite, ancit and extracite.

Not recommended as fuel :

- "green wood". Green or damp wood reduces stove efficiency and soils the glass, the internal walls and the flue (soot, tar, etc.).
- "used timbers". Burning treated wood (railway sleepers, telegraph poles, offcuts of plywood or chip board, pallets, etc.) quickly clogs the flue ways (soot, tar, etc.), pollutes the environment (pollution and smell, etc.) and cause the fire to burn too quickly and overheat.

"Green wood" and "recovered wood" can eventually cause a chimney fire.

Prohibited fuels: plastic bags, liquid fuels, waste materials and any form of bituminous coal or petroleum based coke. **This may harm the product and pollute the atmosphere**. The appliance should never be used as an incinerator.

3.2 Use

Odours when using the fireplace for the first time

Painted products: the fireplace may emit an irritating gas when used for the first time, and it may smell a little. The gas is not toxic, but the room should be thoroughly ventilated. Let the fire burn with a high draught until all traces of the gas have disappeared and no smoke or smells can be detected.
Enamelled products: Condensation may form on the surface of the fireplace the first few times it is used. This must be wiped off to prevent permanent stains forming when the surface heats up.

Air Control:

What you do the National and local laws and building regulations must be followed.

Figure 4

The amount of heat emitted by the stove is regulated using three air controls. The primary air supply, where air passes up through the riddling grate, is controlled using the lower air control, and the secondary air(airwash system), which is supplied to the combustion over the glass, is controlled using the upper air control.

A third air inlet(normally named secondary air) provides a constant, pre-heated air supply to the combustion just above the fire, is controlled using the air control below ash lip. This air supply normally don't need to be regulated. It's necessary to keep this air supply opening always.

3.2.1 Use with wood

- **Lighting**

Figure 4

• Slide the top air control to open. Open the lower control.
• Lay firelighters or rolled up newspapers on the grate with a reasonable quantity, if necessary, of dry kindling wood. Place 2 or 3 small logs on top.
• Light the newspaper or firelighters using a long taper and close the door.
• When the fire is burning fiercely, add further logs of a diameter up to 10 cms.
• When the stove body is very hot, close the lower control.
• The burning rate can now be lowered by moving the top air control to smaller air inlet.

- **Re-fuelling**

Figure 4

• Slide the top air control to open. Open the lower control.

• Open the glass door and add logs.(To load fuel, the door should be opened slowly, avoiding a sudden rush of intake air, so that smoke does not escape into the room.)
• Leave the lower control open for a few minutes to allow the initial volatiles in the wood to burn.
• Close the lower control.

Very Important: Wood is a material that contains a great deal of gas (approximately 75 %). The gases are released when the wood is lit and heated up. For this reason, it is important that the gases are ignited quickly after stoking. If the wood just lies smouldering, especially after re-stoking, a lot of smoke is created, which, in the worst case, may cause an explosive ignition of the gasses, resulting in damage to the stove.
In order to ignite the gases that are released from the wood, and to keep clear, lasting flames during the combustion process, it is important to let in the required quantity of oxygen (air supply) at all times. The setting of the air supply, the method of ignition and the lighting intervals depend on the draught in the chimney, the wind and weather, the amount of heat required, the fuel, etc. This means that it may take some time before you get to know the correct functioning of the stove under any given circumstances

3.2.2 Use with solid fuel

- **lighting**

Figure 4

• Slide the top air control to open. Open the lower control.
• Lay firelighters or rolled up newspapers on the grate with a reasonable quantity, if necessary, of dry kindling wood. Place a small quantity of solid fuel on top.
• Light the newspaper or firelighters using a long taper and close the door.
• When the fire is burning fiercely, add further fuel.
• When the stove body is hot, close the top air control.
• The burning rate can now be adjusted by the lower control.

- **Re-fuelling**

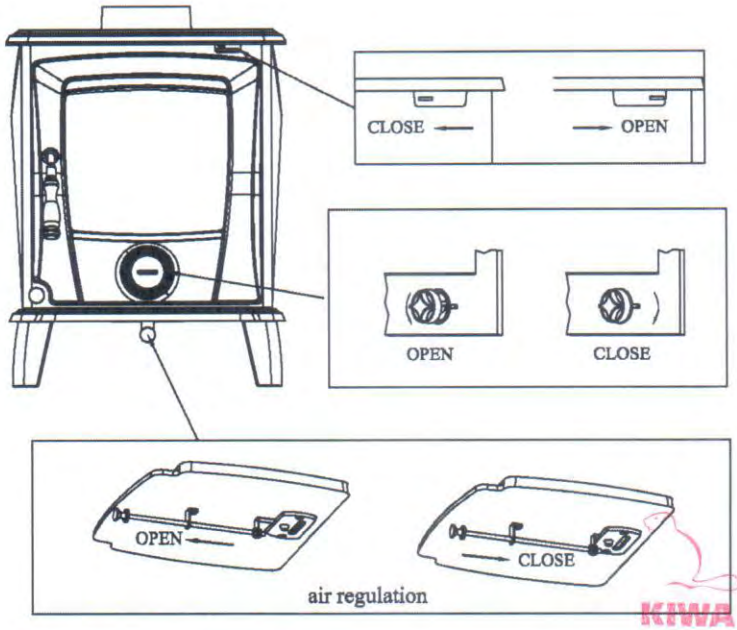
Figure 4

• Open the lower control.
• Open the glass door and add fuel. (To load fuel, the door should be opened slowly, avoiding a sudden rush of intake air, so that smoke does not escape into the room.).
• Leave the lower control open for a few minutes to allow the initial volatiles in the fuel to burn.
• Adjust the lower control to the desired position.

It is possible to operate the appliance in continuous mode when solid fuels are burnt. To do this, the appliance should be de-ashed and then refueled onto a hot bed of residual fuel. The lower control can then be turned down to a low setting and the fire will remain overnight. The exact setting of the control will depend on the specific installation but will be easy to determine after a few practices. In the morning, the fire should be riddled, refueled and the lower control opened to maximum in order to recover the fire quickly.

When tested as a continuous burning appliance the technical specification is as follows:-

Parameter		**Ancit**
Total Efficiency	%	72.8
Nominal heat output	kW	6.1
Mean CO emission (at 13 % O_2)	%	0.43
Mean flue gas temperature	°C	326
Flue gas mass flow	g/s	5.8



Very Important: The stove door should never be opened when the stove is being fired vigorously.

Warning: The firebox and ashpit cover shall be kept closed except during ignition, refueling and removal of residue material.

- **We would strongly recommend that you do not leave your stove alit at night when burning wood. It harms the environment, and constitutes very poor use of the wood, as the gases in the wood do not ignite at the low temperature, but settle as soot (unburned gases) in the chimney and stove. Extreme conditions, such as poor draught in the chimney, large quantities of wood or wet wood, may, in the worst-case scenario, cause an explosive ignition.**
- **When firing in the summer period, when there is minimal need for heat, the combustion will be poor. The stove provides too much heat, so the combustion should be reduced. But**

always remember to make sure that there are lasting flames until the wood becomes charcoal. If you want a weaker fire, stoke up using less wood.

- **If you fire the stove using wet wood, a lot of the fuel's thermal energy will be spent forcing the water out of the wood, without releasing any heat to the stove. This incomplete combustion results in a layer of soot being left in the stove, pipe and chimney.**

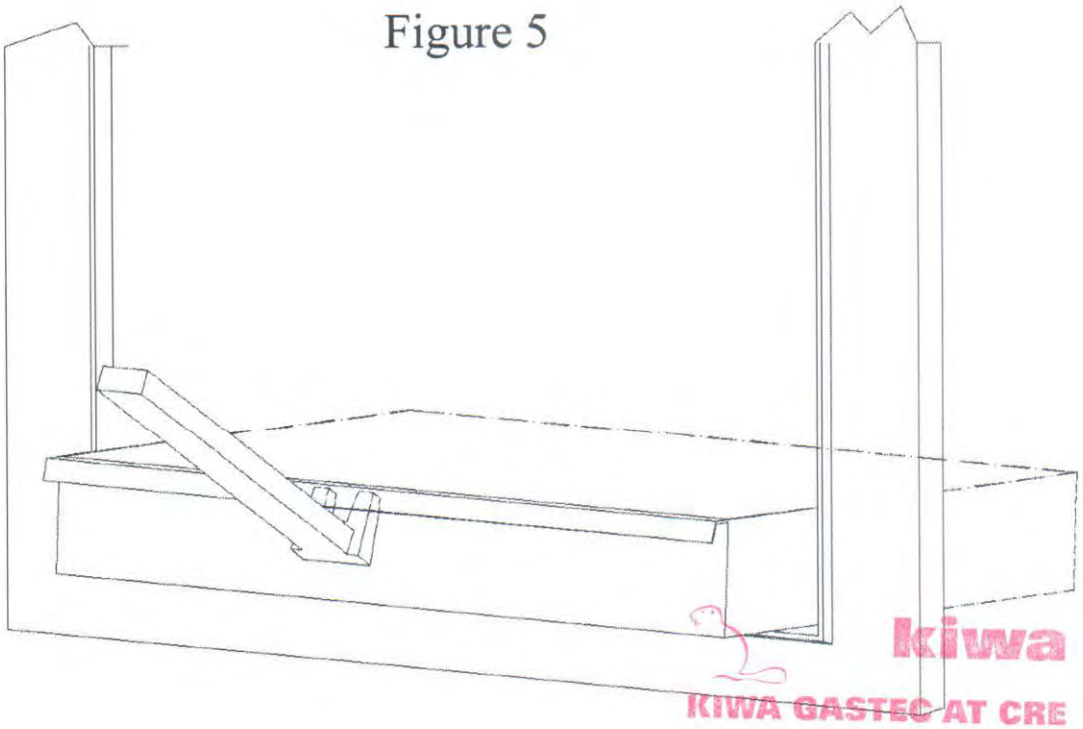
3.2.3 Ash removal

figure 5(how to put out ashpan)

It is essential to keep the grate free from a heavy build up of ashes. This product is equipped with a grate riddling device which is used to "shake" ashes off the grate into the ash pan. Whenever the stove is burning without life when the lower control is open, use the riddling lever to clear the grate of surplus ashes.

If burning solid fuel, always empty the ash pan at least once a day or whenever it is full of ashes. Never allow the ashpan to overfill allowing ash to be in contact with the underside of the grate. If this condition is allowed, the grate will wear out pre-maturely.

Figure 5



3.3 Maintenance

The regular maintenance by a competent engineer recommended.

3.31 Cleaning glass

This product is equipped with an air wash for the glass. Air is sucked in through the air vent above the fireplace and down along the inside of the glass.
However, some soot will always stick to the glass, but the quantity will depend on the local draught conditions and adjustment of the air wash vent. Most of the soot layer will normally be burned off when the air wash vent is opened all the way and a fire is
burning briskly in the fireplace.
Good advice! For normal cleaning, moisten a paper towel with warm water and add some ash from the burn chamber. Rub it over the glass and then clean the glass with clean water. Dry well. If it is necessary to clean the glass more thoroughly we recommend using a glass cleaner (follow the instructions on the bottle).

3.3.2 External surface cleaning

The cast surface of the stove is painted with heat-resistant paint. It is best maintained by simply vacuuming it with a soft brush attachment or wiping it down with a dry, dust-free cloth.
If the stove is used too vigorously, the painted surface may assume a greyish tinge over time, but the stove can easily be freshened up with spray paint, which is available from your local retailer.

3.3.3 Gaskets

The gaskets in the door will wear out over time, and should be replaced as required in order to prevent runaway combustion.

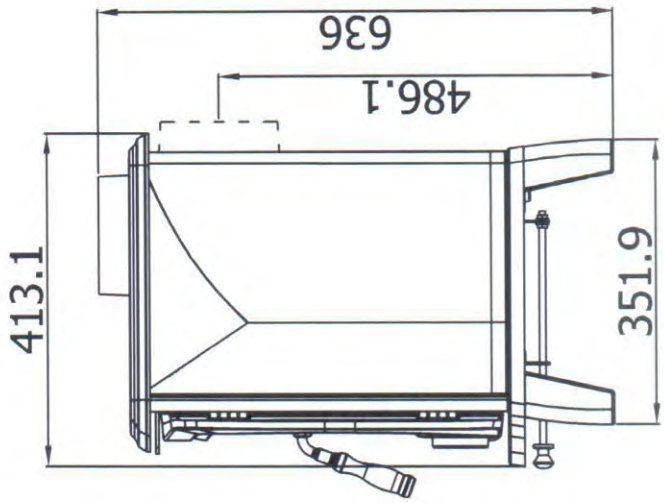
- There should be no unauthorized modification of the appliance;

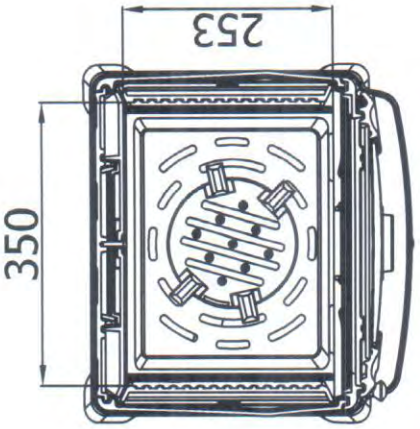
-Use only replacement parts recommended by the manufacturer.

3.4 Operational problems – troubleshooting

Problem	Probable causes	-Action
Fire difficult to start	**Wood green, too damp or poor quality.**	– Use the recommended fuel.
	Logs are too big.	– To light the fire, use small, very dry twigs. To maintain the fire, use split logs.
Fire goes out	**Air starvation.**	– Open lower spin wheel and top air control lever.
	Insufficient draught.	–Check that the flue is not obstructed, sweep it if necessary

		Seek advice from a chimney specialist.
Fire burns too quickly.	**Too much draught.** **Excessive draw.** **Poor quality wood.**	– Ensure that the lower spin wheel is closed Partially close the top air control lever. – Install a draught stabiliser. Consult your Dealer. – Do not continuously burn small wood, sticks, bundles, carpentry offcuts (plywood, pallets), etc.
Smokes when lighting up.	**Flue duct is cold.** **Room is in decompression.**	– Burn paper and kindling wood to increase heat. – In houses equipped with mechanical ventilation, open a window until the fire is well established.
Smokes while burning.	**. Draught is insufficien** **Down draught.** **Room is in decompression.**	– Consult a chimney specialist. Check that the flue is not obstructed, sweep if necessary. – Install an anti-down draught cowl. Consult your Dealer. – In houses equipped with Mechanical Ventilation, an outside air intake must be installed for the chimney.
Low heat output.	**Incorrect Fuels.**	– Use the recommended fuel.





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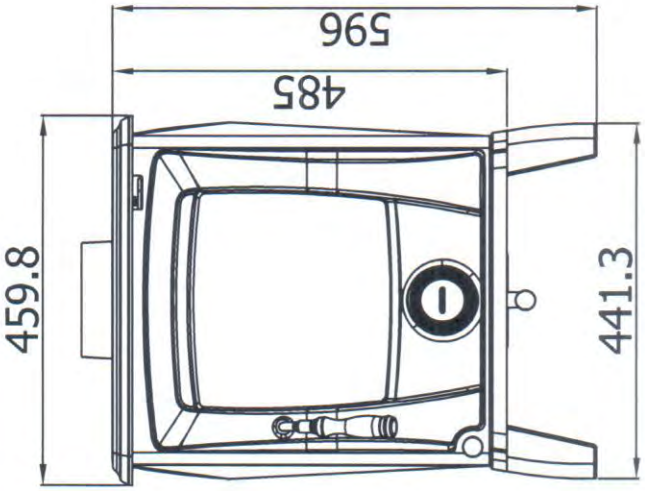

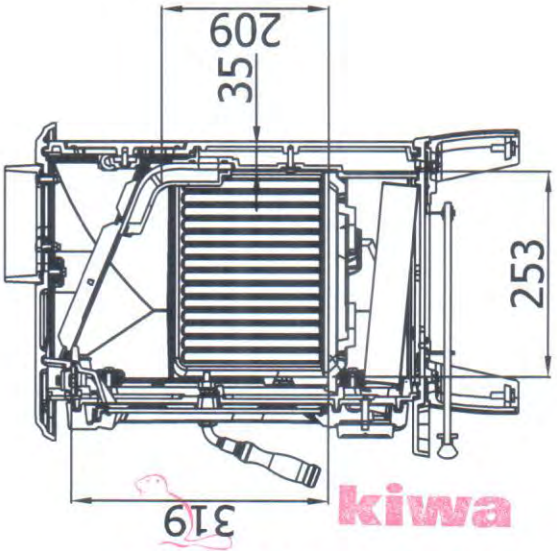

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