

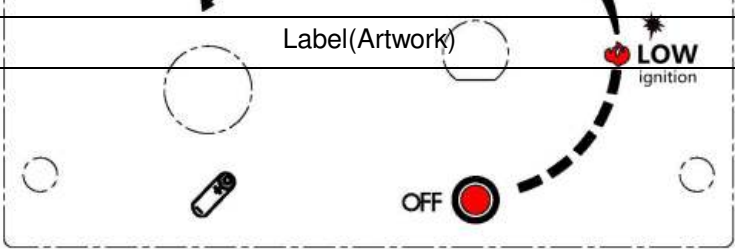


<b>Test Report</b>	
<b>EN 509:1999+A2:2004 Decorative fuel-effect gas appliances</b>	
<b>Report Reference No</b> .....	SDHL1801000508GA
Checked by (name + signature) .....	Jun He 
Approved by (name + signature) .....	Snow Zhang 
Date of issue .....	2019-01-04
This report is based on a blank test report that was prepared by SGS using information obtained from the TRF originator (see below).	
<b>Testing Laboratory</b> .....	SGS – CSTC Standards Technical Services Co., Ltd. Shunde Branch Hardlines.
Address .....	1 <sup>st</sup> Floor, Building 1 of European Industrial Park, No.1 Shunhenan Road, Wusha Section, Daliang Town, Shunde of Foshan, Guangdong Province, China
The following information was submitted and identified on behalf of the client as:	
<b>Applicant's name</b> .....	EOS Home DÉCOR CO.,LTD
Address .....	NO.94 YUEKEN ROAD, TIANHE AREA, GUANGZHOU, CHINA
Manufacturing site .....	YOU LIAN METAL PRODUCTS CO.,LTD NO.1 YONGXING ROAD, DONGCHENG TOWN, YANGDONG AREA, YANGJIANG CITY, GUANGZHOU
<b>Test item description</b> .....	Fire pit
Model and/or type reference .....	See Difference Declaration in page 5-8
Ratings .....	See Difference Declaration in page 5-8
Appliance categories .....	I <sub>3+</sub> (28-30/37), I <sub>3B/P</sub> (30), I <sub>2E</sub> (20), I <sub>2H</sub> (20)
Gas supply pressure .....	(28-30/37) mbar; (28-30) mbar, 20mbar, 20mbar
Destination countries .....	I <sub>3+</sub> (28-30/ 37): BE, FR, IT, LU, LV, IE, GB, GR, PT, ES, CY, CZ, LT, SK, CH, SI I <sub>3B/P</sub> (30): LU, NL, DK, FI, SE, CY, CZ, EE, LT, LV, MT, SK, SI, BG, IS, NO, TR, HR, RO, IT, HU I <sub>2E</sub> (20): DE, LU, PL I <sub>2H</sub> (20): FR, IT, NL, DK, IE, GB, GR, ES, PT, AT, FI, SE, CZ, EE, HU, LV, LT, SK, SI, IS, NO, CH, TR, BG, HR, RO
<b>Test specification</b> .....	
Standard .....	EN 509:1999+A2:2004
Test procedure .....	EU – type test
Non-standard test method .....	N/A



<b>Test Report Form No</b> .....	
TRF Originator .....	SGS - CSTC
Master TRF .....	Dated 2012-01
<b>Possible test case verdicts</b> .....	
Test case does not apply to the test object..... N/A	
Test object does meet the requirement ..... P(Pass)	
Test object does not meet the requirement..... F(Fail)	
<b>Testing</b> .....	
Date of receipt of test item .....	2018-01-08
Date (s) of performance of tests .....	2018-01-08~ 2019-01-04
<b>General remarks:</b>	
<p>The test results presented in this report relate only to the object tested.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(see Enclosure #)" refers to additional information appended to the report.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma/ point is used as the decimal separator.</p> <p>This document is issued by the company under its General Conditions of Service accessible at <a href="http://www.sgs.com/terms_and_conditions.htm">http://www.sgs.com/terms_and_conditions.htm</a>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.</p> <p>Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</p> <p>Unless otherwise stated: (a) the results shown in this document refer only to the sample(s) tested and (b) such sample(s) are retained for 3 months. This document cannot be reproduced except in full, without prior approval of the company.</p>	










Marking plate		MODEL NO.: GF-1070SQR		TRADE NAME: EOS FIRE	
MO BU CO PA N.V PIN	GAS FIREPIT				
	Burner type	10 inch burner <input type="checkbox"/>	13 inch burner <input type="checkbox"/>		
	Heat input	12kW(946g/h)	13.2kW(1040g/h)		
	GAS CATEGORY	GAS TYPE AND PRESSURE	DESTINATION COUNTRIES		
	I3+(28-30/37) <input type="checkbox"/>	G30:(28-30)mbar/ G31:37mbar	BE, FR, IT, LU, IE, GB, GR, PT, ES, CY, CZ, LT, SK, CH, SI, LV		
	I3B/P(30) <input type="checkbox"/>	G30,G31 or their mixture: (28-30) mbar	LU, NL, DK, FI, SE, CY, CZ, EE, LT, MT, SK, SI, BG, IS, NO, TR, HR, RO, IT, HU, LV		
	I2H(20) <input type="checkbox"/>	G20:20mbar	FR, IT, NL, DK, IE, GB, GR, ES, PT, AT, FI, SE, CZ, EE, HU, LV, LT, SK, SI, IS, NO, CH, TR, BG, HR, RO.		
	I2E(20) <input type="checkbox"/>	G20:20mbar	DE, LU, PL		
		G31:37mbar	Rating label(Artwork)		
	I3B/P(30) <input type="checkbox"/>	G30,G31 or their mixture:	LU, NL, DK, FI, SE, CY, CZ, EE, LT, MT, SK, SI, BG, IS, NO,		
This suffi	<p>This appliance must be installed in accordance with the rules in force, and used only in a sufficiently ventilated space. Consult instructions before installation and use of this appliance.</p> <p><b>WARNING: THIS APPLIANCE HAS A NAKED FLAME, A SUITABLE GUARD SHOULD BE USED FOR THE PROTECTION OF YOUNG CHILDRE, THE ELDERLY AND THE INFIRM.</b></p>				
	This appliance is intended for decorative purposes. FOR OUTDOOR USE ONLY				
<p>Serial number: 2018121070RDR-01</p> <p>Produced by EOS</p> <p>Made in China</p> <p>PIN CODE:2531CS-0167</p> <p style="text-align: right;"><b>CE</b> 2531-18</p>					
<p style="text-align: center;">Label(Artwork)</p> 					
Control panel marking					










## Summary of the product and the test report:

These appliances are an outdoor decorative gas fire pit. For more detail, see the Difference declaration and Technical data.

### Difference declaration

No.	Picture (for ref only)	Item No.	Size	burner heat output		Material	Color Available	burner type (inch)		tray Size (inch)	
				10inches	13inches					L	W
1		GF-1070RDR-G	φ107*30(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	light Grey	φ10	φ13	φ13	φ18
2		GF-1070RDR-W	φ107*30(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	White	φ10	φ13	φ13	φ18
3		GF-1070RDR-B	φ107*30(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Rusty brown	φ10	φ13	φ13	φ18
4		GF-1070RDR-N	φ107*30(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Nude	φ10	φ13	φ13	φ18
5		GF-1070RDR-D	φ107*30(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Dark Grey	φ10	φ13	φ13	φ18
6		GF-W1070RDR color: Wood like	φ107*30(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	WOOD LIKE	φ10	φ13	φ13	φ18

7		GF-890BLR-G	Φ 89*41(H)cm	12kW	13.2kW	body: MGO, burner: 304SS	light Grey	Φ10	Φ13	Φ13	Φ18
8		GF-890BLR-W	Φ 89*41(H)cm	12kW	13.2kW	body: MGO, burner: 304SS	White	Φ10	Φ13	Φ13	Φ18
9		GF-890BLR-B	Φ 89*41(H)cm	12kW	13.2kW	body: MGO, burner: 304SS	Rusty brown	Φ10	Φ13	Φ13	Φ18
10		GF-890BLR-N	Φ 89*41(H)cm	12kW	13.2kW	body: MGO, burner: 304SS	Nude	Φ10	Φ13	Φ13	Φ18
11		GF-890BLR-D	Φ 89*41(H)cm	12kW	13.2kW	body: MGO, burner: 304SS	Dark Grey	Φ10	Φ13	Φ13	Φ18
12		GF-610CLR	Φ 81*42(H)cm	12kW	13.2kW	body: MGO, burner: 304SS	light grey/dark grey/black/rusted-brown/white / cream	Φ10	Φ13	Φ13	Φ18
13		GF-1070SQR-G	107*107*29 (H) cm	12kW	13.2kW	body: MGO, burner: 304SS	light Grey	Φ10	Φ13	Φ13	Φ18
14		GF-1070SQR-W	107*107*29 (H) cm	12kW	13.2kW	body: MGO, burner: 304SS	White	Φ10	Φ13	Φ13	Φ18
15		GF-1070SQR-B	107*107*29 (H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Rusty brown	Φ10	Φ13	Φ13	Φ18

16		GF-1070SQR-N	107*107*29 (H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Nude	Φ10	Φ13	Φ13	Φ18
17		GF-1070SQR-D	107*107*29 (H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Dark Grey	Φ10	Φ13	Φ13	Φ18
21		GF-W1200TR	120*80*45(H) cm	12kW	13.2kW	body: MGO, burner: Steel	WOOD LIKE	Φ10	/		13*11*4
22		GF-1270LTR	127*87*48(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	light grey/dark grey/black/rusted-brown/white / cream	Φ10	Φ13	Φ13	Φ18
23		GF-910CDR	91*91*40(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	light grey/dark grey/black/rusted-brown/white / cream	Φ10	Φ13	Φ13	Φ18
24		GF-1150STR	115*84*38(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Dark Grey	Φ10	Φ13	Φ13	Φ18
25		GF-600CSR	60*60*38(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Black	Φ10	Φ13	Φ13	Φ18
26		GF-1240RSR	124*100*40(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	Rock color	Φ10	Φ13	Φ13	Φ18
28		GF-1080WSR	108*108*38(H) cm	12kW	13.2kW	body: MGO, burner: 304SS	WOOD LIKE	Φ10	Φ13	Φ13	Φ18



31		GF-S5660SQR	60*60*54(H) cm	12kW	13.2kW	body: 304SS+Pow der coated steel, burner: 304SS	SS	Φ10	Φ13	Φ13	Φ18
32		GF-S600SQR	60*60*54(H) cm	12kW	13.2kW	body: Powder coated steel, burner: 304SS	black/White /dark grey	Φ10	Φ13	Φ13	Φ18
33		GF-S780PDR	top: 78*78cm, bottom: 45*45cm, height: 60cm	12kW	13.2kW	body: Powder coated steel, burner: 304SS	black/White /dark grey	Φ10	Φ13	Φ13	Φ18
34		GF-S810OTR	81*81*44(H) cm	12kW	13.2kW	body: Powder coated steel, burner: 304SS	black/White /dark grey	Φ10	Φ13	Φ13	Φ18
35		GF-S790CR	79*79*81(H) cm	12kW	13.2kW	body: Powder coated steel, burner: 304SS	black/White /dark grey	Φ10	Φ13	Φ13	Φ18
37		GF-S910SQR	91*91*45(H) cm	12kW	13.2kW	body: Powder coated steel, burner: 304SS	black	Φ10	Φ13	Φ13	Φ18

## Technical data

Burner type	Gas category	Injector size(mm)	Primary air inlet	Nominal heat input
10inch burner	I <sub>3B/P(30)</sub> & I <sub>3+(28-30/37)</sub>	1.74	2×4mm×18mm	12kW
	I <sub>2E(20)</sub> , I <sub>2H(20)</sub>	2.86	2×8mm×18mm	
13inch burner	I <sub>3B/P(30)</sub> & I <sub>3+(28-30/37)</sub>	1.86	2×4mm×18mm	13.2kW
	I <sub>2E(20)</sub> , I <sub>2H(20)</sub>	3.00	2×8mm×18mm	

**Test schedule:**

1. Full tests were carried out on the GF-1070SQR-W with 10inch burner and 13inch burner.
2. Additional tile tests were carried out on the GF-S789PDR & GF-S910SQR. These two model didn't tip over at the 15° to the horizontal.

**This test report includes the following parts:**

1. Test equipment and apparatus
2. Test table
3. Annex test table
4. The photo documents
5. Critical components list



Test equipment and apparatus				
Instruments Name	Type/Model	Equipment No.	Measuring Range	Uncertainty of measurement
Digital Caliper	(0~300) mm	SD-HG-E492	(0~300)mm	U=0.02mm, (k=2)
Pressure Gauge	---	SD-HG-E419	±6000Pa	Urel=0.1%; (k=2)
	---	SD-HG-E421	±6000Pa	Urel=0.1%; (k=2)
Mercurial Thermometer	---	SD-HG-E255	0~100℃	U=0.24℃, (k=2)
Air Leakage Tester	FL-295CS-R	SD-HG-E219	---	Urel=0.4% FS(k=2)
Gas Chromatograph	GC	SD-HG-E221	---	Temp:0.2℃ Sensitivity: 3.2%(k=2)
Stop watch	PC894	SD-HG-E473	---	U=0.06, (k=2)
Wet Gas Flowmeter	W-NK-5A	SD-HG-E224	0.16~50L/min (10~3000L/h)	U=0.36%;(k=2)
Testo 350-S Combustion Analyzer	350-S	SD-HG-E227	CO:0~10000ppm CO <sub>2</sub> : 0~25%	U=2%(k=2)
Steel Tape	---	SD-HG-E441	0~5m	U=0.1mm,k=2 U=0.2mm,k=2 U=0.1mm,k=2
Temperature Testing Corner	---	SD-HG-E276	---	U=0.6℃ (k=2)
Temperature Record	---	SD-HG-E268	---	U=0.6℃,(k=2)
Laser Thermometer	FLUKE 62	SD-HG-E299	-30~500℃	Ur=1.2%;(k=2)
Stability Tester	---	SD-HG-E271	0~30°	U=0.1°, (k=2)
Digital Protractor	82201C-00	SD-HG-E247	4X90°	U=0.1°, (k=2)
Wind Blower	TEUO.25-F	SD-HG-E285	---	Ur=3%(k=2)
Anemometer	AVM-01	SD-HG-E339	0~45m/s	U=(0.2~0.5)m/s, (k=2)
Enhanced Image Measuring Tester	JT-VMS1510F	SD-HG-E222	---	U=0.9um; k=2

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
5	Constructional requirements		
5.1	General		
5.1.1	Conversion to different gases		Pass
5.1.2	Materials and method of construction		
	<p>The quality and thickness of the materials used in the construction of the appliance, and the method of assembling the various parts, shall be such that the constructional, functional and operational characteristics do not alter significantly during a reasonable life under normal conditions of installation, use and maintenance.</p> <p>In particular, when the appliance is installed according to the manufacturer's instructions and national installation requirements, all components shall withstand the mechanical, chemical and thermal conditions to which they may be subjected during use.</p> <p>In addition, the appliance shall be designed in such a way that there is no condensation at the operating temperature provided by the controls.</p>		Pass
	<p>If condensation is produced at start-up, this shall not:</p> <ul style="list-style-type: none"> <li>- Affect the operational safety;</li> <li>- Drip outside the appliance;</li> </ul>		NA
	<p>If the appliance has any bricks, radiants or imitation fuel that is not fixed, then the appliance when installed shall incorporate a fire basket or fire front or both, to contain the fuel. When the fire front is removable without the use of tools its removal shall not allow the imitation fuel to fall out.</p>		NA
	Asbestos or materials containing asbestos shall not be used.		Pass
	Sheet metal parts in contact with products of combustion and not made of corrosion-resistant material shall be coated with an effective protection against corrosion, e.g. enamel.		Pass
	<p>Thermal or acoustic shall be non-combustible, securely located and protected against mechanical damage.</p> <p>Copper shall be used for those parts of the gas circuit which exceed 100°C when the appliance is in normal use, when tested in accordance with 7.4.</p>		Pass
5.1.3	Accessibility for use and maintenance		
	<p>Any control placed in the gas circuit shall be so arranged that any adjustment, maintenance or exchange is easy.</p> <p>Removable parts shall be so designed or marked that they are</p>		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	<p>easy to reassemble correctly according to the manufacturer's instructions and difficult to reassemble incorrectly.</p> <p>It shall be possible to complete all the operations of removal and reassembly of parts which the user has to carry out in the course of routine maintenance, as explained in the user's instructions, without the aid of a tool.</p> <p>Removable parts shall be dismountable for maintenance by a service engineer using ordinary tools, such as a screwdriver or a spanner.</p> <p>Parts that are not intended to be removed by the user and that on removal may result in a hazard, e.g. injector jets, shall require the use of tools for their removal.</p> <p>If the manufacturers instructions specify the removal of the appliance for servicing, any joint specified in the gas circuit for this purpose shall be capable of being checked for gas soundness after re-assembly.</p>		
5.1.4	Connections		
5.1.4.1	Appliance inlet connections		
	<p>For appliance inlet connections see A.5.</p> <p>Appliances shall not be supported by their connections.</p> <p>The appliance inlet connection shall be one of the following types:</p> <p>a) a thread conforming to ISO 228-1: 1994. In this case the end of the gas inlet connection shall have a flat annular surface at least 3 mm wide for thread sizes 1/2 and 3/8 and at least 2,5 mm wide for thread size 1/4, to allow the interposition of a sealing washer. When the end of the gas inlet connection has a thread of nominal size 1/2, it shall be possible to insert a gauge of 12,3 mm diameter to a depth of at least 4 mm;</p> <p>b) a thread conforming to ISO 7-1: 1994;</p> <p>c) a compression fitting suitable for copper tube conforming to table 2 of ISO 274: 1975;</p> <p>d) a straight tube at least 30 mm long, the end of which is cylindrical, smooth and clean, to allow connection by means of a compression fitting as specified in c);</p> <p>e) a cone-seated union.</p>		Pass
5.1.4.2	Access to the inlet connection		
	The position of the connection shall be such that connection to the gas supply can be made easily with tools in common use.		Pass
5.1.5	Soundness of the gas circuit		

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	<p>Holes for screws, studs, etc., intended for the assembly of components shall not open into the gasways. The residual wall thickness shall be at least 1mm.</p> <p>Brackets for supporting components shall not be interposed in any gas-carrying joints.</p> <p>The soundness of the components and assemblies connected to the gas circuit and likely to be dismantled for routine maintenance at the consumer's premises, with the exception of taps and cocks, shall be assured by means of mechanical joints, e.g. metal to metal joints, O-ring joints or packing, but excluding the use of any sealing compound such as tape, mastic or paste. The soundness shall be maintained after dismantling and reassembly.</p> <p>Sealing compounds may be used for permanent threaded assemblies and grease for taps and cocks. The sealing material shall remain effective under normal conditions of appliance use.</p> <p>The soundness of the gas circuit assemblies shall not be achieved by means of soft solder for which the lowest temperature of the melting range, after application, is less than 450°C.</p>		Pass
5.1.6	Spacing		
	If, on installation, it is necessary to leave a gap between the back of the appliance and the back of the opening, suitable stops shall be incorporated on, or be supplied with, the appliance.		NA
5.1.7	Electrical equipment		NA
5.1.8	Safety in the event of interruption and restoration of the auxiliary energy		NA
5.2	Adjusting, control and safety devices		
5.2.1	General		
	<p>The functioning of any safety device shall not be overruled by that of any control device.</p> <p>Any adjuster or control which is not intended to be altered by the user or installer shall be sealed such that any unauthorized adjustment is obvious.</p> <p>NOTE: Paint may be used for sealing provided that it withstands the temperature to which it is subjected during normal operation of the appliance.</p>		Pass
5.2.2	Gas rate adjusters		NA
5.2.3	Flame picture adjuster		NA
5.2.4	Manual controls		

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
5.2.4.1	General		
	The appliance shall be provided with such gas taps, push-buttons or electrical switches as are essential for normal operation of the appliance by the user		Pass
5.2.4.2	Tap design		
	<p>All gas taps shall comply with the parameters specified by the tap manufacturer.</p> <p>Any gas cock or tap shall be designed, identified or positioned to avoid inadvertent operation but shall be easy to operate when required. It shall be so designed that the OFF and ON positions are readily distinguishable.</p> <p>Any gas cock or tap used for the purposes of OFF-ON operation shall be provided with positive stops at the OFF and full ON positions. The gas shall not be shut off in any position of the tap except between the OFF stop and the end of the circumferential seal. For the purpose of this standard any operating mechanism between the control and the tap handle shall be deemed part of the control.</p> <p>A multi-position tap shall be clearly marked at the ignition position and it shall not be possible to move from the OFF to the ON position without a halt at the ignition position unless the control incorporates another device to avoid a hazard arising, e.g. flame supervision device or ignition cut-out.</p> <p>Any cock or tap shall be easy to operate at the highest working temperature.</p> <p>To indicate the reduced rate position, the tap shall have either a stop at the end of the travel when the reduced rate position is beyond the full-on position, or a positive stop when the reduced rate position is situated between the full-on and the off positions.</p> <p>The various tap positions shall be marked indelibly and clearly as follows:</p> <p>Off : disc</p> <p>Ignition burner ignition : stylized star</p> <p>Full-on (burner) : large stylized flame</p> <p>Reduced rate (if any) : small stylized flame</p>		Pass
	When a single push button controls a safety device that controls both burner and ignition burner, no markings are required if incorrect operations is not possible.		NA
	If a control knob operates by turning, movement in a clockwise direction by a user facing the knob shall close the gasway.		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	A control knob shall be designed and placed so that it can be neither mounted incorrectly nor move by itself.		
	If the appliance has a burner that includes fine granular material (e.g. sand), the gas tap shall be protected either by design or position from ingress of such material into the tap mechanism.		Pass
5.2.5	Pressure governors		NA
5.2.6	Multifunctional controls		NA
5.2.7	Flame supervision devices		
	Heat sensitive flame supervision devices of the thermoelectric type shall comply with EN125:1991.		Pass
	The flame detector of an automatic burner control system shall comply with EN298:1993.		NA
	In the event of failure of the means of sensing, the appliance shall be safe..		Pass
5.2.8	Shut-off valves		NA
5.2.9	Automatic burner control systems		NA
5.2.10	Atmosphere sensing device		NA
5.3	Ignition devices		
5.3.1	General		
	<p>Ignition of the ignition burner (or main burner if there is no ignition burner) shall be possible from a safe and easily accessible position.</p> <p>If an appliance is not fitted with an automatic burner control system, it shall be possible to light the ignition burner safely with a match or a wooden spill in the event of failure of the ignition device, (e.g. piezo).</p> <p>It shall be possible to determine readily that the ignition burner (or main burner if there is no ignition burner) is alight.</p> <p>Any specific instructions that are necessary in respect of operation of the tap shall be stated in the instructions for use and maintenance.</p> <p>Ignition burners and ignition devices shall be protected by design and position against diminution or extinction resulting from, for example, draughts, products of combustion, overheating, condensation, corrosion or matter falling from above.</p> <p>Ignition burner, ignition devices and their mountings shall be so designed that they can only be located rigidly and correctly in relation to every component and burner with which they are designed to operate.</p>		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
5.3.2	Ignition burners		NA
5.4	Flame supervision systems		
5.4.1	General		
	An appliance shall have a flame supervision device. It shall control the gas supply to the main burner and to any ignition burner if fitted. A flame supervision device shall be securely located in relation to every component with which it is designed to operate.		Pass
	An atmospheric sensing device, or equivalent, in conjunction with an ignition burner, may serve as a flame supervision device and ignition burner.		NA
5.4.2	Appliances with automatic burner systems		NA
5.5	Ignition burner or start-gas flame establishment		NA
5.6	Main flame establishment		
5.6.1	General		
	Flame failure at any time before and after the main gas safety shut-off valves have been signalled to open shall lead to safety shut-down and non-volatile lock-out.		Pass
5.6.2	Appliances with non-automatic burner systems		
	Main gas shall not be admitted to the burner until the start-gas flame has been detected by the flame supervision system and manual intervention has occurred (e.g. release of a push-button).		Pass
5.6.3	Appliances with automatic burner systems		NA
5.6.4	Direct establishment of the main flame		
	Direct ignition of the main burner is allowed for appliances which: - Incorporate an automatic ignition system; or - Have a heat input less than or equal to 4kW during the ignition procedure. The ignition source shall not be energized before a safe-start check has been made of the flame supervision system and shall be de-energized at, or before, the end of the safety time. If the flame has not been detected before the end of the safety time, non-volatile lock-out shall result. This extinction time shall not exceed 3s, as verified under the test conditions described in 7.10.2.3.		Pass
5.7	Burners		
5.7.1	General		



EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	The section of the flame ports shall not be adjustable. Removal and replacement of the burner in accordance with the manufacturer's instructions shall be possible using commercial tools (i.e. tools which are available on the open retail market). The relative position between the burner(s) and injector (s) shall be well defined.		Pass
5.7.2	Pan burners		NA
5.8	Clocks and timing devices		NA
5.9	Gas pressure test points		NA
6	Operational requirements		
6.1	General		
	Unless otherwise specified the test gases and conditions of test are given in 7.1.		Pass
6.2	Soundness of the gas circuit and correct evacuation of combustion products		
6.2.1	Soundness of the gas circuit		
	The gas circuit shall be sound. It is deemed to be sound if, when tested as described in 7.2.1, the leakage of air does not exceed 100 cm <sup>3</sup> /h irrespective of the number of components, whether mounted in series or parallel on the appliance.		Pass
6.2.2	Correct evacuation of combustion products		
	Under the test conditions described in 7.2.2 any leakage of products from the appliance shall not exceed the ambient CO <sub>2</sub> by more than 0.02 %.		Pass
6.2.3	Escape of unburnt gas from the burner		
	When tested as described in 7.2.3 there shall be no escape of an ignitable quantity of unburnt gas between the injector outlet and the external surface of the burner, excluding the flameports.		Pass
6.3	Heat inputs		
6.3.1	Nominal heat input		
	When calculated in accordance with 7.3.1: for an appliance without a gas rate adjuster, under the test conditions described in 7.3.2, the heat input obtained at normal test pressure shall be within $\pm 5$ % of the nominal heat input; for an appliance with a gas rate adjuster but no governor, the heat input shall be at least equal to the nominal heat input when measured under the conditions described in 7.3.3, test No.1, and shall not exceed the nominal heat input when measured under the conditions described in 7.3.3, test No. 2;	See the annex test table 2	Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	an appliance with a pressure governor shall comply with 6.6.		
6.3.2	Start gas heat input		
	When measured in accordance with 7.3.4, the heat input shall be as specified by the manufacturer (see 5.5.1 or 5.6.4).		Pass
6.3.3	Reduced rate		
	When tested as described in 7.3.5, any reduced rate specified by the manufacturer shall be within $\pm 10\%$ of the specified rate.		Pass
6.4	Temperature of various parts of the appliance and its surroundings		
6.4.1	Temperature of external parts of the appliance		
	<p>When tested as described in 7.4.2, the surface temperature of the control handles and of all the parts that have to be manipulated during normal operation of the appliance, measured only in the areas intended to be touched, shall not exceed the ambient temperature by more than:</p> <p>35 K for metals and equivalent materials;  45 K for porcelain and equivalent materials;  60 K for plastics and equivalent materials.</p> <p>If, when tested as described in 7.4.1, the temperature of the end of the appliance gas inlet connection exceeds the ambient by more than 30 K, the technical instructions for installation and adjustment shall state the precautions to be taken when connecting the appliance by means of a flexible pipe. This requirement only applies to those countries where this type of connection is permitted.</p> <p>When tested as described in 7.4.1, the temperature of those parts of the appliance, other than working surfaces (see 3.1.2), and those parts that have to be removed during normal operation of the appliance, shall not exceed the ambient temperature by more than:</p> <p>80 K for bare metal;  95 K for enamelled steel, coated or painted metals and equivalent materials;  100 K for plastics, rubber or wood.</p>	See the annex test table 3	Pass
6.4.2	Temperature of components		
	Under the test conditions described in 7.4.3, the temperature measured of any component (including taps) shall not exceed that declared by the component manufacturer.	See the annex test table 3	Pass
6.4.3	Floor temperatures		

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	When the appliance is tested under the conditions described in 7.4.4, the temperature of the area of the floor shall not exceed the ambient by more than 60 K. If this temperature is exceeded, the manufacturer shall state that the appliance is to be installed on a non-combustible hearth (see figure 6).	See the annex test table 3	Pass
6.5	Ignition, cross-lighting and flame stability		
6.5.1	Ignition and cross lighting		
6.5.1.1	For all appliances		
	When tested as described in 7.5.1.1 to 7.5.1.4 inclusive, correct ignition of the ignition burner and main burner by the ignition burner, or, main burner if this is ignited directly, shall be smooth and cross-lighting assured.		Pass
	For piezo ignition devices, the appliance shall successfully ignite eight out of ten operations of the device.		Pass
6.5.1.2	Supplementary tests		
	When tested as described in 7.5.1.1, 7.5.1.5.1 and 7.5.1.5.2, as appropriate, the main burner shall not cause a hazard to the user or deformation to the fire and/or its components which affects safety. NOTE: The test described in 7.5.1.5.1 and 7.5.1.5.2 are not carried out if the appliance is fitted with a re-start interlock, or, if the safety time (ie for automatic burner systems) is less than or equal to 5 s. Under the test conditions described in 7.5.1.1 and 7.5.1.5.3 correct ignition of the main burner shall be assured.		Pass
6.5.2	Flame stability		
	When tested as described in 7.5.2, the flames shall be stable. NOTE: In general, stability implies that the flames do not lift from the burner ports, combustion surfaces or jets. However, with some burners, flames may lift intermittently because of the effects of local heating or vitiation, and this should be taken into account.		Pass
6.5.3	Effect of room draughts		
	Under the test conditions described in 7.5.3, the main burner shall not light-back or be permanently extinguished.		Pass
6.5.4	Fluctuation of auxiliary energy		
	When tested as described in 7.7.3.2 the appliance shall ignite and continue to operate		NA
6.6	Pressure governors		

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	<p>When tested in accordance with 7.6.1 the rate shall not differ by more than + 7,5 % and -10 % for first family gases, and by more than <math>\pm 5</math> % for second and third family gases, from the rate obtained at the normal test pressure, when the upstream pressure is varied between the minimum and maximum values given in 7.1.4 for the reference gases of the relevant category.</p> <p>Where the function of the governor has been annulled by the manufacturer, as given in 7.6.2 the relationship between the flow rate and the square root of the pressure shall remain constant when the inlet pressure is varied between its minimum and maximum values.</p>		NA
6.7	Combustion		
6.7.1	CO concentration for all appliances		
	<p>The CO concentration in the air-free, dry products of combustion shall not exceed:</p> <ul style="list-style-type: none"> <li>- 0,10 % when the appliance is supplied with reference gas under the test conditions described in 7.7.1 and 7.7.2.1;</li> <li>- 0,20 % when the appliance is supplied with the incomplete combustion limit gas under the test conditions described in 7.7.1, and 7.7.2.2.</li> </ul>	See the annex test table 4	Pass
6.7.2	Supplementary tests under special conditions		
	Under the test conditions described in 7.7.3, the CO concentration in the air-free, dry products of combustion shall not exceed 0.2 %.		NA
6.8	Sooting		
	When tested as described in 7.8.3.1, the smoke number shall be less than or equal to 3.		NA
6.9	Atmosphere sensing device		
	Under the test conditions of 7.9, the atmosphere sensing device shall shut off the appliance before the CO concentration of the atmosphere exceeds $200 \times 10^{-6}$ (V/V).		NA
6.10	Flame supervision device		
6.10.1	Thermoelectric device		
6.10.1.1	Cold condition		
	<p>When tested as described in 7.10.1.1, any flame supervision device shall hold open the valve in not more than 60 s from the cold condition.</p> <p>No device shall require more than 20 s of sustained manual operation.</p>	See the annex test table 5	Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
6.10.1.2	Hot condition		
	When tested as described in 7.10.1.2, any flame supervision device shall close the valve from the fully heated condition within 60 s.	See the annex test table 5	Pass
6.10.2	Automatic burner control system		NA
8	Marking and instructions		
	The instructions and warning notices shall be in the official language(s) of the country of destination.	Checked in English only.	
8.1	Marking		
8.1.1	Marking of the appliance		
	<p>The appliance shall carry one or more data plates and/or labels that are firmly and durably attached to the appliance such that the information given is visible to, and can be read by, the installer. The data plate(s) and/or label(s) shall give at least the following information in indelible characters:</p> <ul style="list-style-type: none"> <li>a) the manufacturer's name and/or identification symbol;</li> <li>b) the trade name of the appliance;</li> <li>c) the serial number;</li> <li>d) the type of gas in relation to the pressure and/or the pressure couple, for which the appliance has been adjusted, any pressure indication shall be identified in relation to the corresponding category index; If an intervention is necessary to the appliance in order to change from one pressure to the other within a pressure couple of the third family, only the pressure corresponding to the current adjustment of the appliance shall be indicated;</li> <li>e) the commercial identification symbol of the appliance;</li> <li>f) the nominal heat input and, where necessary, the range of inputs for an appliance with an adjustable input, expressed in kW, stating whether it is based on net or gross calorific value;</li> <li>g) the direct country or countries of destination of the appliance (see 8.1.3.4);</li> <li>h) the appliance category or categories: if more than one appliance category is specified, each of these categories shall be identified in relation with the appropriate country or countries of destination;</li> <li>i) the setting pressure for governed appliances;</li> </ul>		Pass
	j) the nature (~) and voltage (v) of the current used and the maximum electrical power used, in volts (v), amperes (A), frequency (Hz) and kilowatts (kW) for all intended electrical supply		NA

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	conditions.		
	For an appliance with an adjustable nominal input, there shall be room for the installer to durably mark the input value for which it has been adjusted.		NA
	No other information shall be included on the appliance if this could lead to confusion with regard to the current state of adjustment of the appliance and the corresponding appliance category (or categories) and the direct country of destination. The indelibility of the marking shall be checked by a test carried out in accordance with clause 7.14 of EN 60335-1: 1988.		Pass
8.1.1.1	Spillage test label		
	A notice stating that the installer must check that all the products of combustion are entering the flue after 10 mm when lit from cold by traversing the perimeter of the fireplace opening or canopy, as applicable, using a smoke generator, e.g. a smoke match, shall be securely fitted to the appliance in a position readily accessible to the installer and/or service engineer. This may be incorporated as part of the data plate.		NA
8.1.1.2	Other marking		
	The appliance shall be marked with the following text: “This appliance must be installed in accordance with the rules in force, and used only in a sufficiently ventilated space. Consult instructions before installation and use of this appliance.” In addition, the appliance shall have a removable stick-on or tie-on label with the following wording: “This appliance is intended for decorative purposes.” This label maybe part of the warning label specified in 8.1.1.3.		Pass
8.1.1.3	Warning labels		
	Appliances fitted with a guard shall have a label reading as follows: “No part of the guard shall be permanently removed. IT DOES NOT GIVE FULL PROTECTION FOR YOUNG CHILDREN, THE ELDERLY OR THE INFIRM.”		NA
	Where a permanent guard is not fitted, appliances shall have affixed to them a tie-on label headed ‘To be removed only by the user’ and bearing in capital letters not less than 8 mm high the words: “WARNING: THIS APPLIANCE HAS A NAKED FLAME, A SUITABLE GUARD SHOULD BE USED FOR THE PROTECTION OF YOUNG CHILDREN, THE ELDERLY AND THE INFIRM.”		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
8.1.2	Marking of the packaging		
	<p>The packing shall carry at least the following information:</p> <ul style="list-style-type: none"> <li>- The type of gas, in relation to the pressure and/or the pressure couple, for which the appliance has been adjusted; any pressure indication shall be identified in relation to the corresponding category index. If an intervention is necessary on the appliance in only the pressure corresponding to the current adjustment of the appliance shall be indicated;</li> <li>- The direct country or countries of destination of the appliance;</li> <li>- The appliance category or categories: if more than one appliance category is specified, each of these categories shall be identified in relation with the appropriate country or countries of destination.</li> </ul> <p>The packaging shall be marked with the following text:</p> <p>“This appliance must be installed in accordance with the rules in force, and used only in a sufficiently ventilated space. Consult instructions before installation and use of this appliance.”</p> <p>No other information shall be included on the packaging if this could lead to confusion with regard to the current state of adjustment of the appliance and the corresponding appliance category (or categories) and the direct country (or countries) of destination.</p>		Pass
8.1.3	Utilization of symbols on the appliance and packaging		NA
8.2	Instructions		
8.2.1	General		
	<p>Instructions shall be written in the official language(s) of the country or countries of destination stated on the appliance and shall be valid for that country or those countries.</p> <p>If the instructions are written in an official language that is used by more than one country, the country or countries for which they are valid shall be identified using the codes given in 8.1.3.4.</p> <p>Instructions for countries other than those stated on the appliance may be supplied with the appliance, on condition that each set of instructions has the following initial statement:</p> <p>“These instructions are only valid if the following country code is on the appliance... If this code is not present on the appliance it is necessary to refer to the technical instructions which will provide the necessary information concerning the modification of the appliance to the condition of use for the country.”</p>		Pass



EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
8.2.2	Technical instructions		
8.2.2.1	Technical instructions for installation and adjustment		
	<p>In addition to the information specified in 8.1.1, the technical instructions may include information indicating, where appropriate, that the appliance has been certified for use in countries other than those stated on the appliance. If such information is given, the instructions shall include a warning that modification of the appliance and its method of installation are essential to use the appliance safely and correctly in any of these additional countries. This warning shall be repeated in the official language(s) of each of these countries. Furthermore, the instructions shall indicate how to obtain the information, instructions and parts necessary for safe and correct use in the countries concerned.</p> <p>The following statement shall be included:  “Before installation, ensure that the local distribution conditions (identification of the type of gas and pressure) and the adjustment of the appliance are compatible.”</p>		Pass
	<p>The technical instructions for installation and adjustment, intended for the installer, shall be available with the appliance and shall:</p> <ul style="list-style-type: none"> <li>- state that the builder's opening must be constructed of non-combustible material;</li> </ul>		NA
	<ul style="list-style-type: none"> <li>- state the method of connection and the installation regulations in the country where the appliance is to be installed (if such regulations exist);</li> <li>- state the method of assembly and any fixing of the appliance;</li> <li>- state the use and siting of other controls;</li> <li>- state the siting of the appliance, including the minimum clearances around the appliance, the dimensions of the fireplace openings, and whether or not the appliance requires a suitable guard, and whether or not the appliance requires a non-combustible hearth, in accordance with national regulations;</li> </ul>		Pass
	<ul style="list-style-type: none"> <li>- if the appliance is not fitted with a guard, the manufacturer's instructions shall specify the criteria in order that the approach to the appliance is limited such that accessibility to the flame is minimized;</li> </ul>		NA
	<ul style="list-style-type: none"> <li>- state that either any flue damper plates or flue restrictors shall be removed or fixed permanently in the fully open position, or shall only be fitted in accordance with national regulations;</li> <li>- state that the chimney should be swept before the appliance is installed and a flue test in accordance with national regulations is</li> </ul>		NA

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	carried out;		
	<ul style="list-style-type: none"> <li>- state that the appliance shall be connected in accordance with national regulations;</li> <li>- state that any air supply shall be in accordance with national regulations;</li> <li>- refer to purpose provided gas and electricity supply and connections;</li> <li>- state the procedure to be followed for commissioning the appliance;</li> <li>- refer to the adjusters:</li> <li>- refer to the assembly of exchangeable parts;</li> <li>- where the distribution medium is of a granular material describe precisely the method of filling the burner tray, e.g. the method of levelling the medium and precautions to be taken with regard to compressing the medium;</li> <li>- provide a statement that this appliance is intended for decorative purposes.</li> </ul>		Pass
	The instructions shall:		
	<ul style="list-style-type: none"> <li>- specify the minimum dimensions of the flue system required; - indicate, where applicable, any type of special flue system for which the appliance is suitable and any limitations as to methods of installing the appliance;</li> <li>- state that the installer must check that all the products of combustion are entering the flue after 10 mm when lit from cold by traversing the perimeter of the fireplace opening or canopy, as applicable, using a smoke generator, e.g. a smoke match.</li> </ul>		NA
	In addition, the installation instructions shall include complete electrical instructions, including a complete wiring diagram, and technical data.		NA
	<p>The technical data shall include:</p> <ul style="list-style-type: none"> <li>- the appliance heat input, stating whether it is based on net or gross calorific value;</li> <li>- burner pressure, and for an appliance with an adjustable pressure governor, the setting pressure as measured upstream of the burner but downstream of any adjuster, in relation to the Wobbe number of the gas used;</li> <li>- injector sizes;</li> <li>- number of injectors;</li> <li>- gas connection size;</li> <li>- mass of the appliance:</li> </ul>		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	- any other technical data as may be required by the installer and commissioning engineer.		
	The installation instructions shall state that an isolation valve, or valves has to be fitted adjacent to the appliance which, when closed, allow(s) the complete burner and control assembly to be disconnected for maintenance or repair in accordance with national regulations.		Pass
	The instructions for the spillage monitoring systems shall: - warn that the system shall not be adjusted by the installer; - warn that the spillage monitoring system shall not be put out of operation; - warn that when the spillage monitoring system, or any of its parts is exchanged, only original manufacturer's parts shall be used.		NA
8.2.2.2	Conversion instructions		
	Where appropriate, conversion instructions shall be available on request. They can form part of the installation instructions. The parts required for conversion, to another type of gas or another pressure, shall be supplied with clear and adequate instructions regarding the change of parts, and the cleaning adjustment and checking of the appliance. In addition, a self-adhesive label shall be supplied to be placed on the appliance, indicating the nature and pressure of the gas for which it has been adjusted and also, where appropriate, the heat input set during commissioning.		Pass
8.2.3	Instructions for use and maintenance		
	Instructions for use and maintenance shall be supplied with the appliance. The instructions, which are intended for the user, shall provide all the necessary information for the safe and sensible use of the appliance in clear and simple terms. They shall be separate or easily separable from the installation instructions, or, constitute a separate section in the same booklet/document containing the installation instructions. Wherever necessary, diagrams, and/or photographs shall augment the text. The instructions shall contain notes on the care and safe operation of the appliance including its lighting and shut-down procedures, including any instructions in the event of failure of the normal means of ignition. The instructions shall also stress that a qualified installer is required to install the appliance,		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	and, where applicable, to convert it for use with other gases. The instructions shall deal briefly with the installation regulations (connection, ventilation) in the country where the appliance is to be installed.		
	Where the radiants or parts of the fuel bed are intended to be removed by the user, there shall be explicit diagrams or photographs and instructions for their correct replacement. The instructions shall warn against changing the fuel bed layout or the quantity of material contained in the fuel bed.		NA
	The instructions shall include: - the manufacturer's or distributors name and address; - the type name or number (commercial designation); - a statement on the need for regular servicing of the appliance;		Pass
	- a statement that the chimney should be swept before the appliance is installed; - a statement that the chimney should be checked regularly to ensure that all the products of combustion are entering the flue or canopy, as applicable, and that there is no excessive build up of soot; - a statement that any purpose-provided ventilation should be checked regularly to ensure that it is free from obstruction;		NA
	- a statement that debris from any source, or any soot formed shall require removal. The instructions shall clearly state the method of cleaning; - any necessary instructions in respect of the operation of the tap; - a recommendation that a guard be used for the protection of young children, the elderly or infirm; - where the distribution medium is of a granular material, the precise method of filling the burner tray, e.g. the method of levelling the medium and precautions to be taken with regard to compressing the medium;		Pass
	- where the design of the appliance makes cleaning by a vacuum cleaner acceptable this should be stated, in other cases the use of a vacuum cleaner should be deprecated; - the quantity of material and layout of the fuel bed:		Pass
	- a list of user replaceable parts; - a statement that this appliance is intended for decorative purposes; - a statement that the user is warned not to throw rubbish on or otherwise to disturb the fuel bed.		Pass

EN509:1999/ A2: 2004			
Clause	Requirement – Test	Result - Remark	Verdict
	<p>The instructions for the spillage monitoring system shall:</p> <ul style="list-style-type: none"> <li>- point out that the spillage monitoring system operates if evacuation of the combustion products is interrupted;</li> <li>- describe the restart procedures;</li> <li>- point out that, on repeated operation of the spillage monitoring system, a specialist should be informed.</li> </ul>		NA

Annex Test Table 1: Soundness

6.1		Soundness	
Condition: the appliance inlet air pressure is 150 mbar		Test No.1: the tap closed	Test No.2: the valve of the flame supervision device is opened. The injector is blocked.
The leakage shall not exceed 0.07 l/h (dry air, 20 °C, 1013.25 mbar)	at the beginning of the test(L/h)	0.0038	0.0045
	at the end of the test(L/h)	0.0043	0.0049
Verdict		Pass	Pass

Annex test table 2-1: Verification of the nominal heat input

6.3.1 & 6.3.2	Verification of the nominal heat input			
Condition	Gas temperature (°C)	25.0	Barometer value (mbar)	1007.5
Category	I <sub>3+(28-30/37)</sub> / I <sub>3B/P(30)</sub>			
Gas type	G30			
Pressure (mbar)	29			
Burner type	13inches burner			
Tap position	Full rate position		Start gas heat input	
Nominal Heat input (kW)	13.2		---	
Heat value (Hi) (MJ/m³)	115.9			
Result (kW)	13.13		3.92	
Tolerance (%)	-0.53%		---	
Requirement	<±5%		<4kW	
Orifice diameter (mm)	1.86			
Verdict	Pass		Pass	

Annex test table 2-2: Verification of the nominal heat input

6.3.1 & 6.3.2	Verification of the nominal heat input			
Condition	Gas temperature (°C)	25.0	Barometer value (mbar)	1015
Category	I <sub>2E(20)</sub> , I <sub>2H(20)</sub>			
Gas type	G20			
Pressure (mbar)	20			
Burner type	13inchs burner			
Tap position	Full rate position		Start gas heat input	
Nominal Heat input (kW)	13.2		---	
Heat value (Hi) (MJ/m <sup>3</sup> )	34.02			
Result (kW)	13.14		3.43	
Tolerance (%)	-0.45%		---	
Requirement	<±5%		<4kW	
Orifice diameter (mm)	3.00			
Verdict	Pass		Pass	

Annex test table 2-3: Verification of the nominal heat input

6.3.1 & 6.3.2	Verification of the nominal heat input			
Condition	Gas temperature (°C)	25.0	Barometer value (mbar)	1015.0
Category	I <sub>3+(28-30/37)</sub> / I <sub>3B/P(30)</sub>			
Gas type	G30			
Pressure (mbar)	29			
Burner type	10inches burner			
Tap position	Full rate position		Start gas heat input	
Nominal Heat input (kW)	12		---	
Heat value (Hi) (MJ/m³)	115.9			
Result (kW)	11.78		3.74	
Tolerance (%)	-1.83%		---	
Requirement	<±5%		<4kW	
Orifice diameter (mm)	1.74			
Verdict	Pass		Pass	



Annex test table 2-4: Verification of the nominal heat input

6.3.1 & 6.3.2	Verification of the nominal heat input			
Condition	Gas temperature (°C)	25.0	Barometer value (mbar)	1007.5
Category	I <sub>2E(20)</sub> , I <sub>2H(20)</sub>			
Gas type	G20			
Pressure (mbar)	20			
Burner type	10inches burner			
Tap position	Full rate position		Start gas heat input	
Nominal Heat input (kW)	12		---	
Heat value (Hi) (MJ/m <sup>3</sup> )	34.02			
Result (kW)	12.33		3.38	
Tolerance (%)	+2.73%		---	
Requirement	<±5%		<4kW	
Orifice diameter (mm)	2.86			
Verdict	Pass		Pass	

Annex test table 3: Temperatures

6.4	Temperatures	
Room temperature (°C)	24.0	
Gas category	I <sub>2E(20)</sub>	
Gas type	G20	
Supply pressure (mbar)	20	
Distance from: side wall <u>600</u> mm, real wall <u>600</u> mm		
Temperature ΔT of part/at:	ΔT (K)	Required ΔT (K)
Surfaces in contact with the flexible tube	4.1	70
Connections	4.8	30
Ignition device button (plastic)	2.7	60
Knob (plastics)	2.5	60
Control panel(Metal)	2.6	80
Floor temperature	5.4	60
Temperature T of part/at:	T (°C)	Required T (°C)
Tape body	29.8	-20~120°C
Ignition device	31.7	-25~90°C
Verdict	Pass	

Note: The tests were carried out appliance with 13inch burner based on  $I_{2E(20)}$  because the measured input of  $I_{2E(20)}$  was bigger than

Annex test table 4-1: Combustion

6.7	Combustion		
Burner type	13inch burner		
Gas category	$I_{3+(28\sim30/37)} / I_{3B/P(30)}$		
Gas type	G30		
Pressure	29	25	35
Tape position	Nominal rate	Reduced rate	Full rate
$(CO)_M (10^{-6})$	67	57	115
$(CO_2)_M (\%)$	3.62	1.98	3.99
$(CO_2)_N (\%)$	14		
$(CO)_N (\%)$	$(CO)_N (\%)$ shall not exceed 0.10%	$(CO)_N (\%)$ shall not exceed 0.20%	
Required:	0.0259	0.0403	0.0404
Verdict	Pass	Pass	Pass
Gas category	$I_{2E(20)}, I_{2H(20)}$		
Gas type	G20	G21	
Pressure	20	17	25
Tape position	Nominal rate	Reduced rate	Full rate
$(CO)_M (10^{-6})$	23	17	41
$(CO_2)_M (\%)$	2.36	1.42	2.85
$(CO_2)_N (\%)$	11.7	12.2	
$(CO)_N (\%)$	0.0114	0.0146	0.0176
Required:	$(CO)_N (\%)$ shall not exceed 0.10%	$(CO)_N (\%)$ shall not exceed 0.20%	
Verdict	Pass	Pass	Pass

Annex test table 4-2: Combustion

6.7	Combustion		
Burner type	10inch burner		
Gas category	$I_{3+(28\sim30/37)} / I_{3B/P(30)}$		
Gas type	G30		
Pressure	29	25	35
Tape position	Nominal rate	Reduced rate	Full rate
$(CO)_M (10^{-6})$	79	58	80
$(CO_2)_M (\%)$	2.52	1.28	2.82
$(CO_2)_N (\%)$	14		
$(CO)_N (\%)$	$(CO)_N (\%)$ shall not exceed 0.10%	$(CO)_N (\%)$ shall not exceed 0.20%	
Required:	0.0439	0.0634	0.0397
Verdict	Pass	Pass	Pass
Gas category	$I_{2E(20)}, I_{2H(20)}$		
Gas type	G20	G21	
Pressure	20	17	25
Tape position	Nominal rate	Reduced rate	Full rate
$(CO)_M (10^{-6})$	11	21	35
$(CO_2)_M (\%)$	1.55	1.12	1.84
$(CO_2)_N (\%)$	11.7	12.2	
$(CO)_N (\%)$	0.0083	0.0229	0.0232
Required:	$(CO)_N (\%)$ shall not exceed 0.10%	$(CO)_N (\%)$ shall not exceed 0.20%	
Verdict	Pass	Pass	Pass

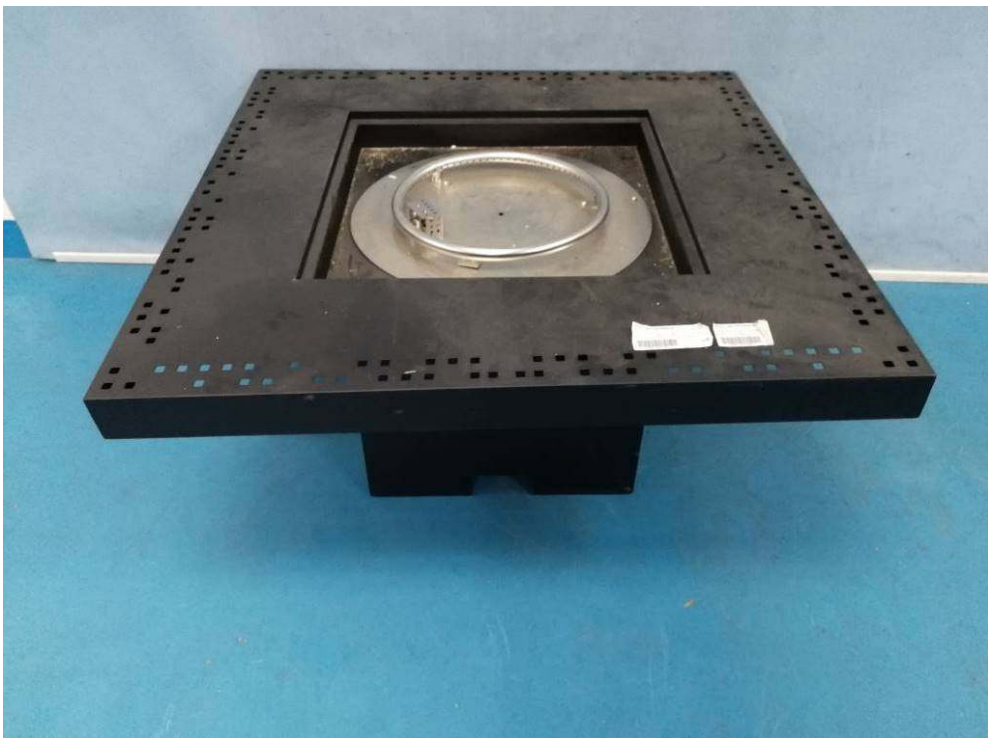
Annex Test Table 5-1: Flame supervision device

6.10	Flame supervision devices			
Burner type	13inch burner			
Test condition	Ignition delay time	Extinction delay time	Ignition delay time	Extinction delay time
Gas category	$I_{3B/P(30)}$ ; $I_{3+(28-30/37)}$ ;		$I_{2E(20)}$ , $I_{2H(20)}$	
Gas type	G30		G20	
Gas pressure(mbar)	29		20	
Allowed (Ignition delay time <20s, Extinction delay time <60s)	5.8s	32.7s	6.2s	31.8s
Verdict	Pass		Pass	

Annex Test Table 5-2: Flame supervision device

6.10	Flame supervision devices			
Burner type	10inch burner			
Test condition	Ignition delay time	Extinction delay time	Ignition delay time	Extinction delay time
Gas category	$I_{3B/P(30)}$ ; $I_{3+(28-30/37)}$ ;		$I_{2E(20)}$ , $I_{2H(20)}$	
Gas type	G30		G20	
Gas pressure(mbar)	29		20	
Allowed (Ignition delay time <20s, Extinction delay time <60s)	6.2s	33.7s	7.1s	32.5s
Verdict	Pass		Pass	

The photo documents:



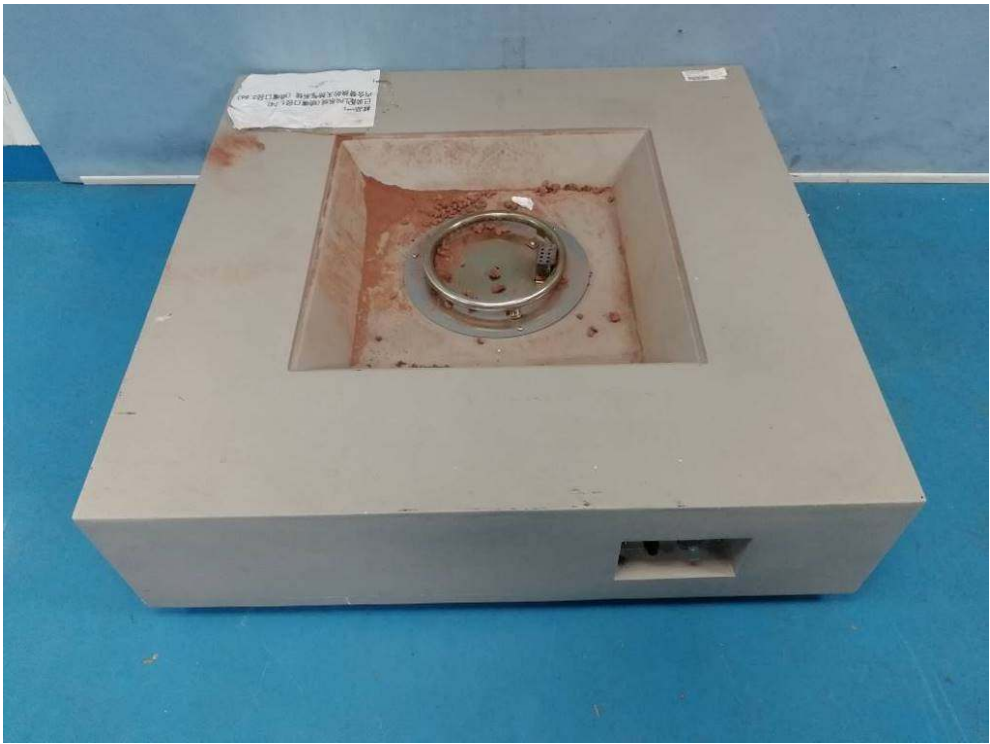
Front view – Model GF-S910SQR



Front view – Model GF-S780PDR



Front view – Model GF 1070SQR-W (10inch burner)



Front view – Model GF 1070SQR-W (13inch burner)





Gas valve – Model BS190



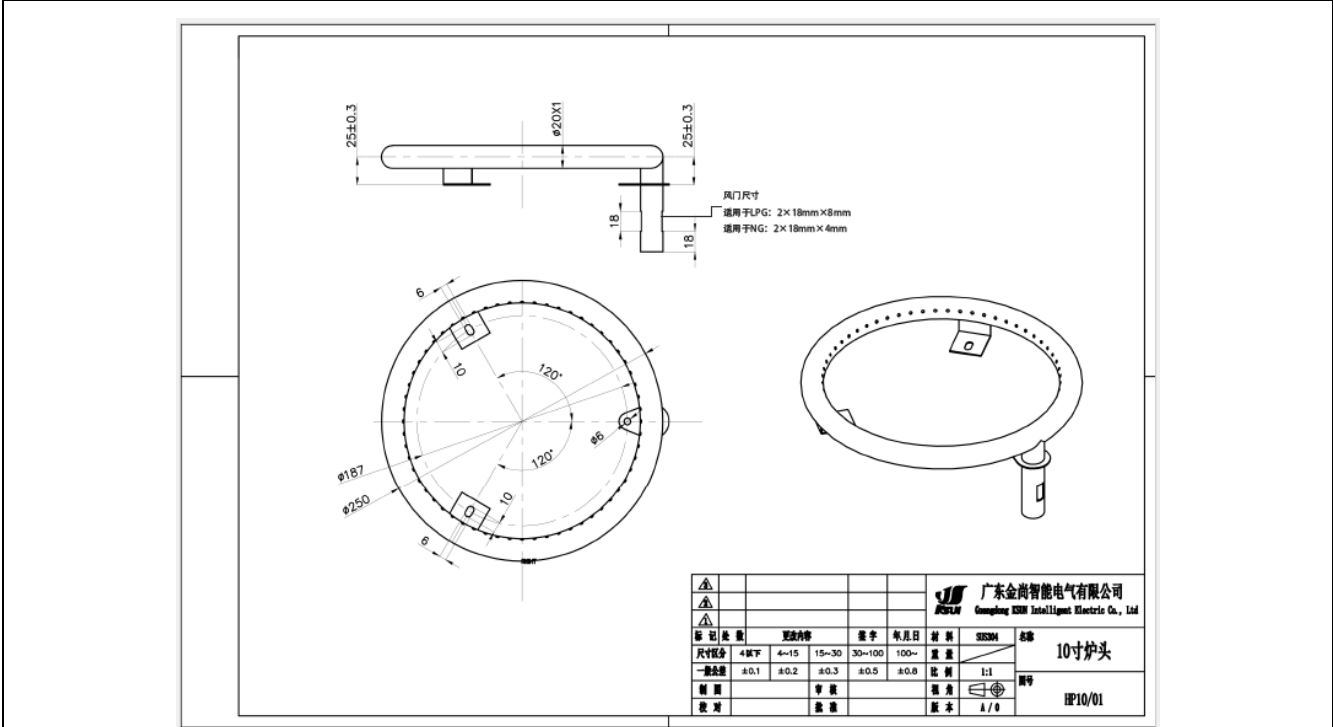
Ignition device – Model DHLG-12





10inch Burner

(Primary air inlet measured: 2×8mm×18mm for I<sub>3B/P(30)</sub> & I<sub>3+(28-30/37)</sub>, 2×4mm×18mm for I<sub>2E(20)</sub> & I<sub>2H(20)</sub>)



Drawing of 10 inch burner

(Primary air inlet designed: 2×8mm×18mm for I<sub>3B/P(30)</sub> & I<sub>3+(28-30/37)</sub>, 2×4mm×18mm for I<sub>2E(20)</sub> & I<sub>2H(20)</sub>)



**Critical components list**

Object/Part	Manufacture /Trademark	Type /Model	Technical Data	Standard	Marks of Conformity
Burner	YOU LIAN & BODECHENG	GB-FRR 1013	--	--	Tested with appliance
Burner	YOU LIAN & BODECHENG	GB-FRR1318	--	--	Tested with appliance
Gas valve	GUANGDONG KSUN INTELLIGENT ELECTRIC CO., LTD	BS190	-20~ +120℃	EN 126:2010	51CQ4607
Ignition Device	Anhui Hefei Xinda Electronic Co., Ltd.	DHLG-12	-25~ +90℃	ANSI Z21.92	CSA master contract: 220315

--- End of Report ---