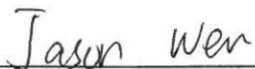
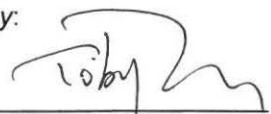


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Kunden-Referenz-Nr.: <i>Client Reference No.:</i>	628848	Auftragsdatum: <i>Order date:</i>	28th Nov. 2016	
Auftraggeber: <i>Client:</i>				
Prüfgegenstand: <i>Test item:</i>	BIO-ETHANOL FIREPLACE			
Bezeichnung / Typ-Nr.: <i>Identification / Type No.:</i>	FD181			
Auftrags-Inhalt: <i>Order content:</i>	Test report			
Prüfgrundlage: <i>Test specification:</i>	EN 16647:2015 Fireplaces for liquid fuels- Decorative appliances producing a flame using alcohol based or gelatinous fuel - Use in private households(Partly)			
Wareneingangsdatum: <i>Date of receipt:</i>	28th Nov. 2016			
Prüfmuster-Nr.: <i>Test sample No.:</i>	A000463563-002			
Prüfzeitraum: <i>Testing period:</i>	14th Dec. 2016 – 28th Dec. 2016			
Ort der Prüfung: <i>Place of testing:</i>	Gas Lab Zhongshan			
Prüflaboratorium: <i>Testing laboratory:</i>	TÜV Rheinland (China) Ltd. Zhongshan Branch			
Prüfergebnis*: <i>Test result*:</i>	Siehe Sonstiges / See Other			
geprüft von / tested by:		kontrolliert von / reviewed by:		
30th Dec. 2016 Jason Wen 		30th Dec. 2016 Tanghui Zhu 		
Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name / Stellung <i>Name / Position</i>
Sonstiges / Other: All test results were complying with EN 16647:2015 except for clause 8 which were not required by client. For burner chamber material and filing material, please see the declaration of manufacture. The test result is only related to the tested samples.				
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Details im vorherigen Abschnitt <i>Details in the previous section</i>		
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				



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Liste der verwendeten Prüfmittel
List of used test equipment

[illegible]

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Produktbeschreibung
Product description

Technical parameter:

Model name	FD181
Size of product (mm)	1100*150*450
Net weight (kg)	12.83
Size of burner opening (mm)	φ78*4
Intended fuel	95% C2H5OH
Maximum burner volume	0.3L
Total fuel capacity of the appliance	1.2L
Stated output (kW)	3.9
Appliance type	Fix Fireplace
Burn out time(h)	About 2
Suggested minimum room volume (m ³)	135

Photos:



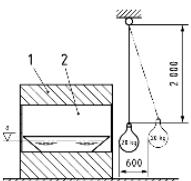
Photo 1 FD181



Photo 2 Alcohol box

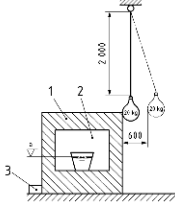


Photo 3 Closing mechanism

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Absatz	EN 16647:2015	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
1	Scope decorative fireplace for domestic use, producing a flame using alcohol		
2	Normative reference EN ISO 13732-1 referred for temperature testing		
3	Terms and definitions Fuel alcohol as at least 95% C ₂ H ₅ OH		
4	Contruction		
4.1	General		P ☒ F ☐ N/A ☐ N/T ☐
4.2	Fuel Volume	Maximum volume was 1.2L	P ☒ F ☐ N/A ☐ N/T ☐
4.3	Construction	The welding seams of the fuel storage tank is continuously.	P ☒ F ☐ N/A ☐ N/T ☐
4.4	Materials	For burner chamber material, chrome-nickel steel 1.4301, please see the declaration of manufacture.	P ☒ F ☐ N/A ☐ N/T ☐
4.5	Stability test		P ☒ F ☐ N/A ☐ N/T ☐
4.6	Ignition device	No integrated ignition device equipped, but user could ignite the fire form a horizontal minimum distance of 200mm.	P ☒ F ☐ N/A ☐ N/T ☐
5	Test methods and requirements		
5.1	General		
5.2	Tilting and sliding test Put sample on surface of glass, be tilted by 10° to all four sides for free-standing appliances and table-top appliances, should no spillage. The speed of tilting shall not exceed 1.5±0.5° increase of tilt angle/second		P ☒ F ☐ N/A ☐ N/T ☐
5.3	Movement from impact test 		P ☒ F ☐ N/A ☐ N/T ☐
5.4	Tilting from impact stress		P ☐ F ☐ N/A ☒ N/T ☐

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Absatz Clause	EN 16647:2015 Anforderungen - Prüfungen / Requirements - Tests	Messergebnisse - Bemerkungen Measuring results - Remarks	Bewertung Evaluation
			
5.5	Stress test	Fix in the wall.	P ☒ F ☐ N/A ☐ N/T ☐
5.6	Spillage test		P ☒ F ☐ N/A ☐ N/T ☐
5.7	Fuel storage container		
	Tightness; Safety of overfilled; Safety chamber Safety symbol on the fuel tank Durance test for the filling material test	For filing material, please see the declaration of manufacture.	P ☒ F ☐ N/A ☐ N/T ☐
5.8	Operating method	No burner adjustment, all test was carried out with maximum rate.	P ☒ F ☐ N/A ☐ N/T ☐
5.8.1	General		P ☒ F ☐ N/A ☐ N/T ☐
5.8.2	Test conditions	Test was carried out according to the user instruction.	P ☒ F ☐ N/A ☐ N/T ☐
5.8.3	Fuel consumption		P ☒ F ☐ N/A ☐ N/T ☐
5.8.4	Operating safety		
	Flaring out of the flames under normal air draft condition	The safety distance is 50cm declared by the manufacture.	P ☒ F ☐ N/A ☐ N/T ☐
	Withstand the draught from 2 m/s and 0,5 m/s.		P ☒ F ☐ N/A ☐ N/T ☐
	The CO concentration of the burning-out phase	Less than 0.2%	P ☒ F ☐ N/A ☐ N/T ☐

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Absatz	EN 16647:2015	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
5.8.5	Autoignition test	No auto ignition take place	P ☒ F ☐ N/A ☐ N/T ☐
5.8.6	Extinguish test	Fire extinguish less than 10 s	P ☒ F ☐ N/A ☐ N/T ☐
5.8.7	Combustion performance		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8	Fire safety		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.1	General		
5.8.8.2	Floor temperature shall not exceed 65K above room temperature		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.3	Wall temperature shall not exceed 65K above room temperature		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.4	Temperature of operating handles should fulfil the requirements of EN ISO13732-1 for burn threshold		P ☐ F ☐ N/A ☒ N/T ☐
5.8.8.5	Temperature of touchable surfaces should fulfil the requirements of EN ISO13732-1 for burn threshold	No risk of burning	P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.6	Ignition, extinguishing and relighting of the fire(in cold and warm state)		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.6 .1	Ignition of the fire in cold state		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.6 .2	Relighting of the fire in warm state		P ☒ F ☐ N/A ☐ N/T ☐
5.8.8.6 .3	Extinguishing of the fire		P ☒ F ☐ N/A ☐ N/T ☐

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Absatz	EN 16647:2015	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
5.8.9	Electrical safety		P ☐ F ☐ N/A ☒ N/T ☐
5.8.10	Electronic devices		P ☐ F ☐ N/A ☒ N/T ☐
5.9	Labelling		P ☒ F ☐ N/A ☐ N/T ☐
6	Marking		P ☒ F ☐ N/A ☐ N/T ☐
6.1	General		P ☒ F ☐ N/A ☐ N/T ☐
6.2	Labelling/Rating plate		P ☒ F ☐ N/A ☐ N/T ☐
6.3	Safety instruction		P ☒ F ☐ N/A ☐ N/T ☐
6.4	Marking on the package		P ☒ F ☐ N/A ☐ N/T ☐
6.5	Warning advice fuel storage tank		P ☒ F ☐ N/A ☐ N/T ☐
7	User's manual		P ☒ F ☐ N/A ☐ N/T ☐
7.1	General		P ☒ F ☐ N/A ☐ N/T ☐
7.2	Installation instructions		P ☒ F ☐ N/A ☐ N/T ☐

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Absatz	EN 16647:2015	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
7.3	Operating instructions		P ☒ F ☐ N/A ☐ N/T ☐
7.4	Emergency extinguish instructions		P ☒ F ☐ N/A ☐ N/T ☐
7.5	Type examination		P ☒ F ☐ N/A ☐ N/T ☐
7.5.1	Test sample and documents		P ☒ F ☐ N/A ☐ N/T ☐
7.5.2	Test report		P ☒ F ☐ N/A ☐ N/T ☐
8	Factory production control	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.1	General	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.2	Materials and components	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.3	Check of devices used for examinations, tests and measurements	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.4	Process control	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.5	Supervision, testing and evaluation of the product	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.5.1	General	No required by client	P ☐ F ☐ N/A ☐ N/T ☒

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Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation
8.5.2	Building materials	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.5.3	Insulating materials	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.5.4	Sealing and sealing materials	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.5.5	Production Control	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.6	Non-conforming products	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.7	Corrective and preventive measures	No required by client	P ☐ F ☐ N/A ☐ N/T ☒
8.8	Handling, storage, packaging, preservation and delivery	No required by client	P ☐ F ☐ N/A ☐ N/T ☒

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Absatz	EN 16647:2015	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

V Performance test table / Test data sheet

Table 1– Fuel Volume, according to EN16647:2015 clause 4.2

Model number	FD181
Measured maximum capacity	1.2L
Requirement	≤10L
Result	P

Table 2 – Fuel consumption, according to EN16647:2015 clause 5.8.3

Model number	FD181
calculated thermal output (kW)	3.9
Requirement(kW)	≤4.5
Result	P

Table 3 – Safety operation-draught test, according to EN16647:2015 clause 5.8.4

Model number	FD181
speed of air draught	2m/s & 0.5m/s
Requirement	No flame out was occurred
Result	P

Table 4 – Safety operation- burning-out phase test, according to EN16647:2015 clause 5.8.4

Model number	FD181
CO of burning-out phase(ppm)	82
Requirement (ppm)	≤2000
Result	P

Table 5 – Auto-ignition and Extinguish test, according to EN16647:2015 clause 5.8.5 and clause 5.8.6

Model number	FD181
No auto ignition take place	Re-opened after 10s,no auto ignition occur
Fire extinguish time	≤10s
Result	P

Table 6 – Combustion performance test, according to EN16647:2015 clause 5.8.7

Model number		FD181			
Measurement		CO(ppm)	CO2(ppm)	NOx	O2(%)
	within 15min	0.7(< 87)	/	7.7	19.18
	within 30min	1.7 (< 52)	/	6.3	19.55
	within 1h	4.0 (<26)	/	5.6	19.85
	within 8h	8.9 (<9)	4997(<5000)	6.3	19.76
Manufacture Suggested minimum room with 0.5 time air change		135m ³			

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Absatz	EN 16647:2015	Messergebnisse - Bemerkungen	Bewertung
Clause	Anforderungen - Prüfungen / Requirements - Tests	Measuring results - Remarks	Evaluation

Table 7 – Fire safety test, according to EN16647:2015 clause 5.8.8

Model number	FD181		
Ambient temperature	24.8°C		
Measured position	Requirement rise (ΔT) K	Temperature rise (ΔT) K	Result
Wall temperature	65	38.4	P
Floor temperature	65	/	N/A
Temperature of operating handle	35	/	N/A
Surface temperature	/	55.8°C	Please see the risk assessment

Table 8 –Assessment for risk of burning

a)Product information	
Assessed surface	Surface
Accessibility	Easily touchable
Temperature estimation	Moderate to hot
Surface material	Steel
Texture of the surface	Smooth
Operating conditions	In maximum thermal output
b)Task analysis	
Surface which is or may be touched	Surface
Intentional or unintentional touching	Unintentional
Persons who contact or may contact	Adults and children
Duration of contact	0,5 s for healthy adults, 4 s for children, 15 s for very young children
Probability of unintentional touching	A small probability to touch
Frequency of intentional touching	Zero
Actual range of power/temperature settings	In maximum thermal output
c) Measurement of surface temperature	
The maximum measured temperature of the top surface when In maximum thermal output is 55.8 °C in this example.	
d) Choice of applicable burn threshold	
The burn threshold spread for a smooth surface made of steel and a contact period of 0,5 s is 78 °C to 84 °C. These figures apply if only adults have access to the top surface. If also children have access burn spreads of 62 °C to 67 °C (4 s contact period) respective 56 °C to 60 °C (15 s contact period) apply.	
e) Comparison and conclusion	
The measured surface temperature isn't above the applicable burn threshold spreads.	
f) Result of risk assessment	
No risk of burning.	
g) Application of protective measures	
NA.	

-End of the report-