





Test Report issued under the responsibility of:



Electrical & Electronics

TEST REPORT IEC 60335-2-24 Safety of household and similar electrical appliances Part 2: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers	
Report Number	EFSH24120183-IE-12-L01-M1
Date of issue	2025-07-25; Modification: 2025-12-23
Total number of pages	46 pages
Name of Testing Laboratory preparing the Report	Eurofins Electrical Testing Service (Shanghai) Co., Ltd.
Applicant's name.....	NINGBO ZHISHUAI ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD.
Address	NO.158, SHATAN ROAD, XIJIE VILLAGE, XINPU TOWN, CIXI CITY, ZHEJIANG PROVINCE, CHINA
Test specification:	
Standard	IEC 60335-2-24:2020 in conjunction with IEC 60335-1:2010, IEC 60335-1:2010/AMD1:2013, IEC 60335-1:2010/AMD2:2016
Test procedure	CB Scheme
Non-standard test method.....	N/A
TRF template used	IECEE OD-2020-F1:2023, Ed.1.6
Test Report Form No.....	IEC60335_2_24U
Test Report Form(s) Originator.....	VDE Prüf- und Zertifizierungsinstitut GmbH
Master TRF	Dated 2024-11-01
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General disclaimer:	
The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.	

Test item description	Ice Maker	
Trade Mark(s)	NA	
Manufacturer	NINGBO ZHISHUAI ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD. NO.158, SHATAN ROAD, XIJIE VILLAGE, XINPU TOWN, CIXI CITY, ZHEJIANG PROVINCE, CHINA	
Model/Type reference	ZSW-ZB13, ZSW-ZB14, ZSW-ZB15, ZSW-ZB16, ZSW-ZB17	
Ratings	AC 220-240V, 50Hz, Class I ZSW-ZB13, ZSW-ZB14: 0,7A, R600a/23g, ZSW-ZB15, ZSW-ZB16, ZSW-ZB17: 0,84A, R290/20g Climate: N, SN, ST, Insulation Blowing Gas: Cyclopentane	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	CB Testing Laboratory:	Euofins Electrical Testing Service (Shanghai) Co., Ltd.
	Testing location/ address	Room 102/501/502, Building 18, No.2168, Chenhang Highway, Minhang District, Shanghai, China
	Tested by (name, function, signature)	Mark Zhang/ Project Engineer 
	Approved by (name, function, signature) ..	Owen Li/ Reviewer 
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	N/A
	Testing location/ address	N/A
	Tested by (name, function, signature)	N/A
	Approved by (name, function, signature) ..	N/A
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	N/A
	Testing location/ address	N/A
	Tested by (name + signature).....	N/A
	Witnessed by (name, function, signature) .	N/A
	Approved by (name, function, signature) ..	N/A
<input type="checkbox"/>	Testing procedure: CTF Stage 3:	N/A
<input type="checkbox"/>	Testing procedure: CTF Stage 4:	N/A
	Testing location/ address	N/A
	Tested by (name, function, signature)	N/A
	Witnessed by (name, function, signature) .	N/A
	Approved by (name, function, signature) ..	N/A
	Supervised by (name, function, signature) :	N/A

List of Attachments (including a total number of pages in each attachment):

- European Group Differences and National Differences (EU_GD_IEC60335_2_24T): 14 pages (incorporated in the main report)
- European Group Differences and National Differences (TRF-HS-090A): 2 pages (incorporated in the main report)
- photo document: 8 pages(incorporation in main report)

Summary of testing:**Tests performed (name of test, test clause and date test performed):**

Clause 11.8, 19.7, 24 for ZSW-ZB14

Testing location: (CBTL, SPTL, CTF, Subcontractor)

Eurofins Electrical Testing Service (Shanghai) Co., Ltd.
Room 102/501/502, Building 18, No.2168,
Chenhang Highway, Minhang District, Shanghai,
China

Summary of compliance with National Differences

European Group Differences and National Differences.

 The product fulfils the requirements of

BS EN IEC 60335-2-24:2022 +A11:2022 used in conjunction with

BS EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021+A16:2023

BS EN 62233: 2008 + AC: 2008

Use of uncertainty of measurement for decisions on conformity (decision rule) :

No decision rule is specified by the IEC standard, when comparing the measurement result with the applicable limit according to the specification in that standard. The decisions on conformity are made without applying the measurement uncertainty ("simple acceptance" decision rule, previously known as "accuracy method").

Other: ... (to be specified, for example when required by the standard or client, or if national accreditation requirements apply)

Information on uncertainty of measurement:

The uncertainties of measurement are calculated by the laboratory based on application of criteria given by OD-5014 for test equipment and application of test methods, decision sheets and operational procedures of IECEE.

IEC Guide 115 provides guidance on the application of measurement uncertainty principles and applying the decision rule when reporting test results within IECEE scheme, noting that the reporting of the measurement uncertainty for measurements is not necessary unless required by the test standard or customer.

Calculations leading to the reported values are on file with the NCB and testing laboratory that conducted the testing.

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

Ice maker**ZSW-ZB13**

AC 220-240V, 50Hz, 0,7A, R600a/23g,

Climate: N, SN, ST

**UK
CA****CE**

Serial No./Batch No.:XXXXXXXXXX

Imported by:

(Full Name of the EU importer)

(Full EU Address of the importer)

NINGBO ZHISHUAI ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD.


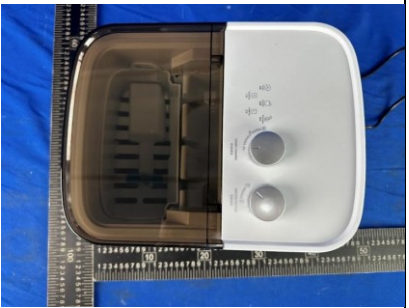

NO.158, SHATAN ROAD, XIJIE VILLAGE, XINPU TOWN, CIXI CITY, ZHEJIANG

PROVINCE, CHINA



WARNING: Risk of fire / flammable materials

: Paste it on the back of the outer shell of the appliance.

Test item particulars : Ice Make		
Classification of installation and use : Class I, household indoor use only		
Supply Connection : Type Y :		
Possible test case verdicts: - 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)		
Testing :		
Date of receipt of test item : 2025-12-10		
Date (s) of performance of tests : 2025-12-10 to 2025-12-18		
General remarks:		
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.		
Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.		
<input type="checkbox"/> This Test Report Form contains requirements according to IEC/ISO Standard dated and includes Corrigendum dated		
The related applicable CTL/OSM decisions have been considered and the requirements found fulfilled.		
Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60335-2-24:		
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided.....:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable	
When differences exist; they shall be identified in the General product information section.		
Name and address of factory (ies) : NINGBO ZHISHUAI ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD. NO.158, SHATAN ROAD, XIJIE VILLAGE, XINPU TOWN, CIXI CITY, ZHEJIANG PROVINCE, CHINA		
General product information and other remarks:		
The appliances covered by this report are Ice make only for household and indoor use only.		
ZSW-ZB13 	ZSW-ZB14 	ZSW-ZB15 



After checked, clauses need to be performed refer to the “summary of testing”, the most unfavorable data were recorded.

After testing, the samples are considered to comply with the requirements of relevant standards.

Modification 1:

The original test report EFSH24120183-IE-12-L01 dated 2025-07-25 was modified at 2025-12-23 to include the following changes and/or additions:

- 1.Changed the appliance& manufactor from “Ningbo Zhishuai Electrical Technology Co., Ltd. NO.158, SANDY BEACH ROAD, XINPU TOWN, CIXI CITY, ZHEJIANG, CHINA” to “NINGBO ZHISHUAI ELECTRICAL APPLIANCE TECHNOLOGY CO., LTD. NO.158, SHATAN ROAD, XIJIE VILLAGE, XINPU TOWN, CIXI CITY, ZHEJIANG PROVINCE, CHINA”
- 2.All component certificates and component Standards were rechecked and some components were added or updated (Show BOLD in CDF).

After checked, clauses need to be performed refer to the “summary of testing”, the most unfavourable data were recorded.

After testing, the samples are considered to comply with the requirements of relevant standards.

This report is only valid in conjunction with the original test report No. EFSH24120183-IE-12-L01.

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
11	HEATING		
11.8	Temperature rises monitored continuously and not exceeding the values in table 3	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
	During the test protective devices do not operate (IEC 60335-2-24)		P
	During the test sealing compound doesn't flow out (IEC 60335-2-24)		P
	During the test temperatures are monitored continuously (IEC 60335-2-24)		P
	For (SN) and (N) class, the temperature rises not exceeding values in Table 3 (IEC 60335-2-24)		N/A
	For (ST) and (T) class, the temperature rises not exceeding values in Table 3 reduced by 7 K (IEC 60335-2-24)		P
	For motor-compressors not conforming to IEC 60335-2-34 (incl. its Annex AA), the temperatures of (IEC 60335-2-24)		—
	- housings of motor-compressors and		N/A
	- windings of motor-compressors		N/A
	shall not exceed the values given in Table 101		N/A
	For motor-compressors conforming to IEC 60335-2-34 (including its Annex AA), the temperatures are not measured (IEC 60335-2-24)		P
	The temperature rise of the external enclosure of motor-operated appliances not applicable for: (IEC 60335-2-24)		—
	-built-in appliances		N/A
	-other appliances (distance from a wall < 75 mm)		N/A
	-max. temperature rises specified in Table 101		N/A
	The temperature of ballast windings and their associated wiring shall not exceed the values specified in 12.4 of IEC 60598-1:2014/AMD1:2017, when measured under the conditions stated (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
19	ABNORMAL OPERATION		
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		N/A
	locking moving parts of other appliances		P
	Locked rotor, capacitors open-circuited one at a time		N/A
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	the capacitor is of class S2 or S3 of IEC 60252-1		N/A
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed		N/A
	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit		N/A
	Other appliances supplied with rated voltage for a period as specified		P
	Winding temperatures not exceeding values specified in table 8	(see appended table)	P
	Fan motors of ice-cream appliances are tested for 5 min (IEC 60335-2-24)		N/A
24	COMPONENTS		
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components	(see appended table)	P
	Motors not required to comply with IEC 60034-1, they are tested as part of the appliance		P
	Relays tested as part of the appliance, or		P
	alternatively acc. to IEC 60730-1, and meeting the additional requirements in IEC 60335-1		P
	The requirements of Clause 29 apply between live parts of components and accessible parts of the appliance		P
	Components can comply with the requirements for clearances and creepage distances for functional insulation in the relevant component standard		P
	30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections		P

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	Components that have not been previously tested to comply with the IEC standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested to comply with the resistance to fire requirements in the IEC standard for the relevant component need not be retested provided the specified conditions are met		P
	If these conditions are not satisfied, the component is tested as part of the appliance.		P
	Power electronic converter circuits not required to comply with IEC 62477-1, they are tested as part of the appliance		N/A
	If components have not been tested and found to comply with relevant IEC standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		P
	For components mentioned in 24.1.1 to 24.1.9 no additional tests specified in the relevant component standard are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components not tested and found to comply with relevant IEC standard and components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance		P
	Lampholders and starterholders that have not being tested and found to comply with the relevant IEC standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant IEC standard		N/A
	No additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of IEC 60320-1 and IEC 60309		P
	Motor-compressors are not required to be separately tested according to (IEC 60335-2-34) nor are they required to meet the requirements of (IEC 60335-2-34) if they meet the requirements of this standard (IEC 60335-2-24)		N/A
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, comply with IEC 60384-14		P
	If the capacitors have to be tested, they are tested according to Annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16		P

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	Safety isolating transformers comply with IEC 61558-2-6		N/A
	If they have to be tested, they are tested according to Annex G		N/A
24.1.3	Switches comply with IEC 61058-1, the number of cycles of operation being at least 10 000		P
	If they have to be tested, they are tested according to Annex H		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		P
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		N/A
	The number of operations for other switches (IEC 60335-2-24):		—
	- quick-freeze switches: 300		N/A
	- manual and semi-automatic defrost switches 300		N/A
	- door switches 50 000		N/A
	- on/off switches 300		N/A
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		P
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10'000 as specified, the complete switching system need not be tested		N/A
24.1.4	Automatic controls comply with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		—
	- thermostats: 10 000		N/A
	- temperature limiters: 1 000		N/A
	- self-resetting thermal cut-outs: 300		N/A
	- voltage maintained non-self-resetting thermal cut-outs: 1 000		N/A
	- other non-self-resetting thermal cut-outs: 30		N/A
	- timers: 3 000		N/A
	- energy regulators: 10 000		N/A
	- self-resetting thermal cut-outs which may influence the test results of 19.101 and which are not short-circuited during this test: (IEC 60335-2-24) 100 000		N/A
	- thermostats which control the motor- compressor: (IEC 60335-2-24) 100 000		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
	- motor-compressor starting relays: (IEC 60335-2-24) 100 000		N/A
	- automatic thermal motor-protectors for motor-compressors of the hermetic and semi-hermetic type: (IEC 60335-2-24) 2 000 or acc to 15 day-test		N/A
	- manual reset thermal motor-protectors for motor-compressors of the hermetic and semi-hermetic type: (IEC 60335-2-24) 50		N/A
	- other automatic thermal motor-protectors: except for fan-motors (IEC 60335-2-24) 2 000		N/A
	- other manual reset thermal motor protectors: (IEC 60335-2-24) 30		N/A
	- for pressure relief devices of the bursting disc type, three separate samples of the appropriate parts of the refrigeration system are tested and the bursting disc shall operate in the same way for each sample tested (IEC 60335-2-24) 1		N/A
	- electrical pressure relief devices for automatic operation: (IEC 60335-2-24) 30 000		N/A
	- electrical pressure relief devices for manual reset: (IEC 60335-2-24) 300		N/A
	Electrical pressure relief devices comply with IEC 60730-2-6 and with listed additional requirements (IEC 60335-2-24)		N/A
	Requirement for mechanical pressure relief devices (IEC 60335-2-24)		N/A
	Testing of pressure relief devices of the bursting disc type with the appliance if not certified (IEC 60335-2-24).		N/A
	Marking of devices as specified (IEC 60335-2-24)		N/A
	The number of cycles for controls operating during clause 11 need not be declared, if the appliance meets the requirements of this standard when they are short-circuited		N/A
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D		N/A
	For water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains, the degree of protection declared for subclause 6.5.2 of IEC 60730-2-8 is IPX7		N/A
	Thermal cut-outs of the capillary type comply with the requirements for type 2.K controls in IEC 60730-2-9		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
24.1.5	Appliance couplers comply with IEC 60320-1		N/A
	However, for class II appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3		N/A
	Interconnection couplers comply with IEC 60320-2-2		N/A
24.1.6	Small lamp holders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable		N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151		N/A
24.1.8	The relevant standard for thermal links is IEC 60691		N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19		N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance		P
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance		N/A
24.2	Appliances not fitted with:		—
	- switches, automatic controls or power supplies in flexible cords		P
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		P
	- thermal cut-outs that can be reset by soldering, unless		N/A
	the solder has a melting point of at least 230 °C		N/A
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions		N/A
	Appliances for camping or similar use (IEC 60335-2-24):		N/A
	Voltage selection switches used in appliances for camping or similar use shall have a contact separation in all poles that provide full disconnection from the supply under overvoltage category III conditions. (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1		N/A
24.5	Capacitors in auxiliary windings of motors shall be marked with their voltage rating and their rated capacitance and shall be used in accordance with these markings.		N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load		N/A
	For starting capacitors, the voltage across the capacitors shall not exceed 1.3 times the rated voltage of the capacitor at 1.1xUn (IEC 60335-2-24)		N/A
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V		N/A
	In addition, the motors comply with the requirements of Annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A
	They are supplied with the appliance		N/A
	Appliances intended to be permanently connected to the water mains not connected by a detachable hose-set		N/A
	For coupling nuts the 96 h test is carried out at elevated temperatures as specified: (IEC 60335-2-24)		N/A
24.8	Motor running capacitors comply with IEC 60252-1 under the following conditions: (IEC 60335-2-24)		N/A
	– class of safety protection: S2;		N/A
	– class of operation: class A or class B;		N/A
	– damp heat test severity;		N/A
	• test duration 21 days;		N/A
	• temperature 40 °C ± 2 °C at a relative humidity of 93 % ± 3 %.		N/A
24.101	Lampholders be of the insulated type (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict
24.102	The discharge capacity of the pressure relief device shall be such that it is able to release an adequate amount of refrigerant so that the pressure during the release of the refrigerant does not increase beyond the pressure setting of the pressure relief device even if the compressor is operating (IEC 60335-2-24)		N/A

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict

11.8	TABLE: Heating test ZSW-ZB14			P
	Test voltage (V)	254,4V		—
	Ambient (°C)	38,0°C		—
Thermocouple locations:		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)	
DC fan motor(MFD12025M12S)		10,8	80-7=73(Class E)	
Solenoid Valve(FDF-2AS)		8,9	80-7=73(Class E)	
Water pump(GY-23)		5,8	80-7=73(Class E)	
Supplementary information:				

11.8	TABLE: Heating test, resistance method ZSW-ZB14				P	
	Test voltage (V)	254,4V			—	
	Ambient, t1 (°C)	38,0			—	
	Ambient, t2 (°C)	38,0			—	
Temperature rise of winding:		R1 (Ω)	R2 (Ω)	ΔT (K)	Max. ΔT (K)	Insulation class
Synchronous motor(49TYJ)		10718	12722	51,0	90	Class E
Supplementary information:						

19.7	TABLE: Abnormal operation, locked rotor/moving parts ZSW-ZB14					P
	Test voltage (V)	240V				—
	Ambient, t1 (°C)	20,0				—
	Ambient, t2 (°C)	20,0				—
Temperature of winding:		R1 (Ω)	R2 (Ω)	ΔT (K)	T (°C)	Max. T (°C)
DC fan motor(MFD12025M12S)		—	—	—	52,8	165
Solenoid Valve(FDF-2AS)		—	—	—	51,0	165
Water pump(GY-23)		—	—	—	48,9	165
Synchronous motor(49TYJ)		—	—	—	78,2	165
Supplementary information:						

19.13	TABLE: Abnormal operation, temperature rises ZSW-ZB14		P
Thermocouple locations:		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
19.7			
Test corner		10,0	150

IEC 60335-2-24			
Clause	Requirement + Test	Result - Remark	Verdict

Supply cord	18,8	150
Supplementary information:		

24.1	TABLE: Critical components information					P
Object/ part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity ¹⁾²⁾	
Plug with cord	Cixi Yuantong Cable Appliance Co., Ltd.	YT-3	AC 250 V, 16 A	VDE 0620-2-1	VDE* 40052645	
	Cixi Yuantong Cable Appliance Co., Ltd.	H05VV-F	3 × 0,75 mm ²	EN 50525-2-11	VDE* 40052017	
(Alternative)	Dongguan Ubill Electrical Co., Ltd.	YG-102	AC 250 V, 16 A	VDE 0620-2-1	VDE* 40051501	
	Dongguan Ubill Electrical Co., Ltd.	H05VV-F	3 × 0,75 mm ²	EN 50525-2-11	VDE* 40042748	
(Alternative)	Cixi Yelei Electron Co., Ltd.	YL-03	AC 250 V, 16 A	VDE 0620-2-1	VDE* 40052989	
	Cixi Yelei Electron Co., Ltd.	H05VV-F	3 x0,75 mm ²	EN 50525-2-11	VDE* 40052058	
(Alternative)	NINGBO JINZE ELECTRIC CO., LTD.	JJ03	AC 250 V, 16 A	VDE 0620-2-1	VDE* 40034209	
	Ningbo Jinze Electric Co., Ltd.	H05VV-F	3 x0,75 mm ²	EN 50525-2-11	VDE* 40033407	
(Alternative)	PUNENG (CIXI CITY) CABLE CO., LTD.	PSB-16	AC 250 V, 16 A	VDE 0620-2-1	VDE* 40055174	
	PUNENG (CIXI CITY) CABLE CO., LTD.	H05VV-F	3 x0,75 mm ²	EN 50525-2-11	VDE* 40055024	
BS Plug with cord (Fitted with an appropriate size fuse link)	Ningbo Qiaopu Electric Co., Ltd.	D09 D09A	AC 250V	BS 1363-1	ASTA* 930	
	Ningbo Qiaopu Electric Co., Ltd.	H05VV-F	3 × 0,75 mm ²	EN 50525-2-11	TUV* R50279805	
	Ningbo Qiaopu Electric Co., Ltd.	H05RR-F H05RN-F	3 × 0,75 mm ²	EN 50525-2-11	TUV* R50460888	
(Alternative)	Cixi Lujie Electric Appliances Co., Limited	LJ01	AC 250V	BS 1363-1	BSI* KM 69196	
	Cixi Yelei Electron Co., Ltd.	H05VV-F	3 x0,75 mm ²	EN 50525-2-11	VDE* 40052058	
	Ningbo Jinze Electric Co., Ltd.	H05VV-F	3 x0,75 mm ²	EN 50525-2-11	VDE* 40034209	

IEC 60335-2-24					
Clause	Requirement + Test			Result - Remark	Verdict
Motor compressor (ZSW-ZB13 ZSW-ZB14)	Zhejiang Asbeila Refrigeration Technology CO., LTD.	ASV53Y	AC 220-240 V, 50-60 Hz, R600a	IEC/EN 60335-1 IEC/EN 60335-2-34	VDE* 40059148
Motor compressor (ZSW-ZB15 ZSW-ZB16 ZSW-ZB17)	Zhejiang Asbeila Refrigeration Technology CO., LTD.	ASV30U	AC 220-240 V, 50/60 Hz, R290	IEC/EN 60335-1 IEC/EN 60335-2-34	VDE* 40049630
Synchronous motor	NINGBO KELU MICROMOTOR CO LTD	49SM-H16	AC 220-240 V, 50/60 Hz, 4 W, Class E	IEC/EN 60335-1 IEC/EN 60335-2-24	CB*(CNCVC2199 with report CVC0012024-0802+ Tested with appliance
Alternative	Ningbo Tianling Electromechanical Co., Ltd.	49TYJ	AC 220-240 V, 50/60 Hz, 4 W, Class E	IEC/EN 60335-1 IEC/EN 60335-2-24	TUV R 50488783
Solenoid valve	Zhejiang Zhongbao Auto-control Cpmponent Co., Ltd.	FDF2A-02C	AC 220-240 V, 50/60 Hz, 13 W	IEC/EN 60730-1	TUV * R 50051211
(Alternative)	Anhui Tianhao Refrigerating Equipment Co., Ltd.	FDF-2A	AC 230V 50/60Hz, Max 0,08A	IEC/EN 60730-1	TUV SUD 068217 0003
Alternative	Changzhou Duling Controller Co., Ltd.	FDF-2AS	220-240V ~ , 50/60Hz, 10-15W	IEC/EN 60730-1	TUV * R 50420120
(Alternative)	Anhui Tianhao Refrigerating Equipment Co., Ltd.	FDF-2A	AC 230V 50/60Hz, Max 0,08A	IEC/EN 60730-1	TUV SUD 068217 0003
Water pump	Shenzhen Jianyong Technology Co., Ltd.	JY-BLLP2308-12	DC12V	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with Appliance
Alternative	Changzhou Turin Controller Co., Ltd.	GY-23	DC12V	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with Appliance
Fan motor	Cixi Deshuo Electronic Factory	DS12025M12 S	DC12V 0,27A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Alternative	CIXI MINGSHENG MOTOR CO.. LTD	MFD12025M1 2S	DC 12V 0,3A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Suction pump Motor (For ZSW-ZB15)	Jieyang Pinchang Intelligent Technology Co., Ltd.	365-12170	DC12V	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance

IEC 60335-2-24					
Clause	Requirement + Test			Result - Remark	Verdict
Internal wire	ZUANBAO ELECTRONIC CO LTD	1007	300V,80°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E515028+ Tested with appliance
(Alternative)	Hangzhou Angchi Electronics Co Ltd	1007	300V,80°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E527085+ Tested with appliance
(Alternative)	Cixi Haosheng Wire & Cable Co., Ltd.	H05V-K H05V-U	1*0,5mm ²	EN 50525-2-31 IEC/EN 60335-1 IEC/EN 60335-2-24	VDE* 40021089+ Tested with appliance
(Alternative)	Cixi City Haoteng Cable Co., Ltd.	H05S-K H05SJ-K	1*0,5mm ²	EN 50525-2-31 IEC/EN 60335-1 IEC/EN 60335-2-24	VDE* 40037535+ Tested with appliance
(Alternative)	WUXI ELPONT RADIATION TECHNOLOGY CO LTD	3478	600V,125°C, 18-28AWG	EN 50525-2-31 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E186848+ Tested with appliance
(Alternative)	WUXI HUAHAO ELECTRIC CO LTD	3478	600V,125°C, 18-28AWG	EN 50525-2-31 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E231903+ Tested with appliance
- motor Lead wire	Dongguan Cihang Electronic Technology Co., Ltd	2468	300V,80°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E524105+ Tested with appliance
(Alternative)	DONGGUAN DANYANG ELECTRONIC WIRE CO LTD	1569	300V, 105°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E332522+ Tested with appliance
(Alternative)	Guangdong Shouyi Wire and Cable Co Ltd	2468	300V, 80°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E469565+ Tested with appliance
(Alternative)	Zhongshan Zhaoyuan Electric Appliance Co Ltd	2468	300V, 80°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E522990+ Tested with appliance
(Alternative)	DONGGUAN YIAO ELECTRONICS CO LTD	2468	300V, 80°C, 18-28AWG	IEC/EN 60335-1 IEC/EN 60335-2-24 UL758	UL E348933+ Tested with appliance

IEC 60335-2-24					
Clause	Requirement + Test		Result - Remark		Verdict
-PCB	KINGBOARD LAMINATES HOLDINGS LTD	KB-5150 KB-5152 KB-6160	V-0, Min thickness: 1,1mm	IEC/EN 60335-1 IEC/EN 60335-2- 24 UL 796	UL E123995+ Tested with appliance
Fuse link	Shanghai Fullness Electrical Co., Ltd.	TSP	T3,15A 250V	IEC/EN 60127-1 IEC/EN 60127-3	TUV R 50315914
(Alternative)	XC Electric (Shen Zhen) Corp. Ltd.	5TE	T3,15A 250V	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40036821
(Alternative)	Dongguan Reomax Electronics Technology Co., Ltd.	SET	T3,15A 250V	IEC/EN 60127-1 IEC/EN 60127-3	VDE* 40050560
(Alternative)	Honghu Bluelight Electronic Co., Ltd.	6ET	T3,15A 250V	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40047916
(Alternative)	Dongguan LUOYI Electronics Technology Co., Ltd.	SAT	T3,15A 250V	IEC/EN 60127-1 IEC/EN 60127-3	VDE 40050512
X2 capacitor	DongGuan Chengdong Electronic Technology Co., Ltd.	MPX	275V~, 0,22 µF, 40/110/56/B	IEC/EN 60384-14	VDE* 40046845
(Alternative)	CHANGXING YOUCHANG ELECTRONIC CO.,LTD	MKP/MPX	AC 275V, 0,22 µF, 40/100/21	IEC/EN 60384-14	VDE 40049705
(Alternative)	Tenta Electric Industrial Co. Ltd.	MEX	AC 275 V, 0,22 µF, 40/100/21	IEC/EN 60384-14	VDE 119119
Varistor	Shantou High-New Technology Dev. Zone Songtian Enterprise Co., Tld.	STE 10D471K STE 10D331K	T85	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2- 2	VDE 40023049
(Alternative)	JYH HSU (JEC) ELECTRONICS LTD	JEC 10D471K JEC 10D331K	T125	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2- 2	TUV SUD* 105842 0001
(Alternative)	Dongguan City Dafu Electronics Co., Ltd.	10D471K 10D331K	T125	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2- 2	VDE 40050909
(Alternative)	Suzhou Xinhonggao Electronic Co., Ltd.	10D471K 10D331K	T125	IEC/EN 61051-1 IEC/EN 61051-2 IEC/EN 61051-2- 2	TUV SUD 120484 0001
Relay	NINGBO ZETTLER ELECTRONICS CO., LTD.	JQC-3FF	AC 277V, 10A, 1E5, T85	IEC/EN 61810-1 IEC/EN 60079-0 IEC/EN 60079-15	TUV *R 50265555 TUV AK 50461281 0002

IEC 60335-2-24					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	NINGBO ZETTLER ELECTRONICS CO., LTD.	JT32F-G	250V, 10A, 10E4, T85	IEC/EN 61810-1 IEC/EN 60079-0 IEC/EN 60079-15	VDE* 40049146 TUV AK 50478433 0002
Micro switch	Guangdong Yushun Electric Appliance Ltd.	KW-5	5(3)A,250VAC, T125,1E4	IEC/EN 61058-1 IEC/EN 60079-0 IEC/EN 60079-15	TUV *R 50179582 TUV* CL 50673783
Y capacitor	JYH HSU (JEC) ELECTRONICS LTD	JY 472M	AC 300V, 4700pF, 40/085/21	IEC/EN 60384-14	VDE 40038643
(Alternative)	Dongguan City Dafu Electronics Co. Ltd.	CT7 Y2	AC 300V, 4700pF, 25/085/21	IEC/EN 60384-14	VDE 40041521
Transformer (For ZSW-ZB13, ZSW-ZB14)	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	EE16	12V 1A	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Transformer (For ZSW-ZB15, ZSW-ZB16, ZSW-ZB17)	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	EE1610	0,8MH	EC/IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
- Bobbin	CHANG CHUN Plastics CO.,LTD	EQ2201	T378JB	UL 94 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E59481 + tested with appliance
- Winding	HUZHOU NANXUN SHANGFU CABLE CO LTD	QA/180	180°C	UL 1446 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E330288 + Tested with appliance
-Tripple-insulated wire in transformer	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C	UL 2353 IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance+ UL E206440
- Insulation tape	Haining ChuLong Tape Co Ltd.	CL All Color-1	PET, 130°C	UL 510 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E464604 + Tested with appliance
- Varnish	SUZHOU TAIHU ELECTRIC ADVANCED MATERIAL CO LTD.	T-4260(a)	MW28-C, 130°C	UL 1446 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E228349 + Tested with appliance
Condenser	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	--	Thickness: 0,6 mm, pipe diameter: 4 mm	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance

IEC 60335-2-24					
Clause	Requirement + Test		Result - Remark		Verdict
Evaporator	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	--	Thickness: 0,6 mm, pipe diameter: 8 mm	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Shrinkable tube	DONGGUAN SALIPT CO LTD	SALIPT S-901-600	600V, 125°C	UL 224 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E209436 + tested with appliance
(Alternative)	SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO LTD	RSFR-H	600V, 125°C	UL 224 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E203950 + tested with appliance
(Alternative)	Dong Guan Zhongdian New Material Co Ltd	ZDXLPEST-001	600V, 125°C	UL 224 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E538587 + tested with appliance
(Alternative)	GuangDong Sansun New Material Technology CO., LTD	SS-300 SS-600	600V, 125°C	UL 224 IEC/EN 60335-1 IEC/EN 60335-2-24	UL E540699 + tested with appliance
Enclosure	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	PP	Min.thickness: 2,0mm	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Plastic for water tanks	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	PP	Min.thickness: 2,0mm	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Touch panel (ZSW-ZB13, ZSW-ZB15, ZSW-ZB16, ZSW-ZB17)	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	ABS	Min.thickness: 2,0mm	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Knob (ZSW-ZB14)	NINGBO ZHISHUAI ELECTRICAL TECHNOLOGY CO., LTD.	ABS	Min.thickness: 2,0mm	IEC/EN 60335-1 IEC/EN 60335-2-24	Tested with appliance
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) License available upon request					

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ATTACHMENT TO TEST REPORT IEC 60335-2-24:2020 IEC 60335-1:2010, IEC 60335-1:2010/AMD1:2013, IEC 60335-1:2010/AMD2:2016 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES Household and similar electrical appliances - Safety - Part 2: Particular requirements for refrigerating appliances, ice-cream appliances and ice makers			
Differences according to		EN IEC 60335-2-24:2022 +A11:2022 used in conjunction with EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021 EN 62233:2008 + AC:2008	
TRF template used :		IECEE OD-2020-F2:2022, Ed. 1.2	
Attachment Form No.		EU_GD_IEC60335_2_24T	
Attachment Originator :		TÜV Rheinland InterCert Kft., MEEI Division	
Master Attachment		2024-02-22	
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CENELEC COMMON MODIFICATIONS (EN)			
6.1	Delete "class 0" and "class 01"		N/A
7.1	Single-phase appliances to be connected to the supply mains: 230 V covered		P
	Multi-phase appliances to be connected to the supply mains: 400 V covered		N/A
7.12	The instructions include the substance of the following:		---
	- this appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved		P
	- children not play with the appliance		P
	- cleaning and user maintenance not be made by children without supervision		P
	Children aged from 3 to 8 years allowed to load and unload refrigerating appliances. (EN IEC 60335-2-24:2022/A11:2022)		P
7.Z101	The instructions shall contain details on the use of the appliance to ensure the safe preservation of foodstuffs. (EN IEC 60335-2-24:2022/A11:2022)		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Manufacturers should give details on the most appropriate part in the compartment of the appliance where specific types of food stored, considering the distribution of temperature that can be present in the different compartments of the appliance.		N/A
	The instructions include the substance of the following:		---
	To avoid contamination of food, please respect the following instructions:		N/A
	- Opening the door for long periods can cause a significant increase of the temperature in the compartments of the appliance		N/A
	- Clean regularly surfaces that can come in contact with food and accessible drainage systems		N/A
	- Clean water tanks if they have not been used for 48 h; flush the water system connected to a water supply if water has not been drawn for 5 days		N/A
	- Store raw meat and fish in suitable containers in the refrigerator, so that it is not in contact with or drip onto other food		N/A
	- Two-star frozen-food compartments are suitable for storing pre-frozen food, storing or making ice-cream and making ice cubes		N/A
	- One-, two- and three-star compartments are not suitable for the freezing of fresh food		N/A
	- If the refrigerating appliance is left empty for long periods, switch off, defrost, clean, dry, and leave the door open to prevent mould developing within the appliance		N/A
8.1.1	Also test probe 18 of EN 61032 is applied		P
	The appliance being in every possible position during the test, except that		P
	appliances normally used on the floor and having a mass exceeding 40 kg are not tilted		N/A
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
8.1.3	Instead of test probe B, test probe 18 and test probe 13, for appliances other than those of class II, test probe 41 of IEC 61032 is applied with a force not exceeding 1 N to live parts of visibly glowing heating elements, all poles of which can be disconnected by a single switching action		N/A
8.2	Compliance is checked by inspection and by applying the test probes of EN 61032 in accordance with the conditions specified in 8.1.1		P
	Test probe B and probe 18 of EN 61032 are applied to built-in appliances and fixed appliances only after installation		P
15.1.2	Appliances with an automatic cord reel tested with the cord in the most unfavourable position so that the reeling of the wet cord may affect electrical insulation during operation, the cord not being dried before reeling		N/A
20.2	For appliances having hazardous moving parts, due to their working function, e.g. the needle of a sewing machine, tools of kitchen machines or the blade of an electrical knife, full protection is not possible for performing their intended use		P
	When using a test probe similar to test probe B of EN 61032, having a circular stop face and applied with a force of 5N, the accessories and detachable covers are removed		P
	When using test probe 18 it is applied with a force of 2,5N on the appliance fully assembled		N/A
22.12	Other parts intended to be detached during use, maintenance or cleaning (e.g. batteries, battery covers, lids, attachments, steam nozzles) are not considered as parts providing a similar function as handles, knobs, grips, levers		P
22.17	The requirement is not applicable to built-in appliances		N/A
22.40	Ice-cream appliances and ice-makers shall be fitted with an accessible switch to stop all functions of the appliance. (EN IEC 60335-2-24:2022/A11:2022)		N/A
22.44	An appliance is child-appealing if one of the following criteria is present:		N/A
	- appliance decorated using faces, cartoon like characters, or similar images		N/A
	- appliance using shapes representing animals, characters, persons or scale models		N/A
	An appliance is child-appealing if more than one of the following criteria are present:		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- using non-functional light (functional light is e.g. illumination of an object or area, signal indicating status of an appliance)		N/A
	- using non-functional sound (e.g. music)		N/A
	- using non-functional movement		N/A
	If the appliance is child-appealing, has a mass less than 4 kg or is mounted or normally intended for use at a height less than 850 mm, the following conditions are met:		N/A
	- surface temperature rise requirements not exceeded		N/A
	- hazardous moving parts not accessible		N/A
	- live parts not accessible		N/A
	- liquid temperature requirement not exceeded,		N/A
	unless for vessels in which two independent and sequential actions are needed to access the liquid		N/A
	- the requirement of 22.12 is applicable for all accessible parts of the appliance		N/A
22.Z101	Drawers of refrigerating appliances provided with sliding devices shall be fitted with stops to prevent them inadvertently falling out. (EN IEC 60335-2-24:2022/A11:2022)		N/A
22.Z102	Appliances shall be constructed so that lubricants are prevented from polluting food compartments (EN IEC 60335-2-24:2022/A11:2022)		N/A
22.Z104	All surfaces that can get in contact with food (including "splash areas") shall be durable, cleanable, without breaks, resistant to cracking, chipping, flaking and abrasion (EN IEC 60335-2-24:2022/A11:2022)		N/A
	NOTE 1 The splash area comprises surfaces on which part of the food can splash or flow during normal use, but this food does not become part of the product (e.g. ice-cream)		N/A
	All other surfaces shall be durable and cleanable		N/A
	Internal angles, seams and corners that can get in contact with food effectively cleanable		N/A
	Joints that can get in contact with food sealed and hygienic		N/A
	NOTE 2 Example of guidance can be found in EN 1672-2		N/A
22.Z105	Any internal water dispensing system shall be (EN IEC 60335-2-24:2022/A11:2022)		

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- accessible for cleaning; or		P
	- designed to permit manual cleaning or flushing with water or other appropriate liquid in accordance with the manufacturer's instructions		P
	The above requirements not applicable to self-cleaning systems or chemical dosing systems.		P
24.1	Components comply with the safety requirements specified in the relevant EN standards as far as they reasonably apply		P
	Motors are not required to comply with EN 60034-1, but tested as part of the appliance according to this standard		P
	Relays are tested as part of the appliance according to this standard		P
	Relays may be alternatively tested to EN 60730-1 and the additional requirements in EN 60335-1		P
	The requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance		P
	Components may comply with the requirements for clearances and creepage distances for functional insulation as specified in the relevant component standard		P
	The requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components		P
	Components that have not been tested and shown to comply with the EN standard for the relevant component are tested according to the requirements of 30.2 of this standard		P
	Components that have been tested and shown to comply with the resistance to fire requirements in the EN standard for the relevant component need not be retested provided that:		---
	- the severity specified in the component standard is not less than the severity specified in 30.2, and		P
	- the test report for the component states the values of t_e and t_i acc. to EN 60695-2-11		P
	If the above two conditions are not satisfied, the component is tested as part of the appliance		P
	Power electronic converter circuits are not required to comply with EN 62477-1, but tested as part of the appliance according to this standard		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Unless components have been tested and found to comply with the relevant EN standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		P
	For components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant EN standard for the component are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components that have not been tested and found to comply with the relevant EN standard, and		P
	components that are not marked or not used in accordance with their marking,		P
	are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard		P
	Lamp-holders and starter-holders that have not been tested and found to comply with the relevant EN standard are tested as a part of the appliance and additionally comply with the gauging and interchangeability requirements of the relevant EN standard under the conditions occurring in the appliance		N/A
	Where the relevant EN standard specifies these gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of Clause 11 are used		P
	There are no additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of EN 60320-1 and EN 60309, unless they are specifically mentioned in the text of this standard		P
	Plugs and socket-outlets and other connecting devices of interconnection cords are not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1, or		N/A
	with connectors and appliance inlets complying with the standard sheets of EN 60320-1, if		N/A
	direct supply to these parts from the supply mains gives rise to a hazard		N/A
	For plugs used in CENELEC countries Annex ZH applies		P
24.1.7	When the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is EN 41003		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	If the remote operation of the appliance is via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151. (EN 60335-1:2012/A15:2021)		N/A
24.Z1	Type S2 and S3 capacitors according to EN 60252-1 are not required to undergo the testing as required by 30.2.2 and 30.2.3.1		N/A
25.1	Plugs and pins for insertion into socket outlets follow the relevant standards sheets in Annex ZH		P
25.7	Rubber sheathed cords (60245 IEC 53) are not suitable for appliances intended to be used outdoors, or		N/A
	when they are liable to be exposed to significant amount of ultraviolet radiation		N/A
25.25	Instead of IEC/TR 60083, dimensions of the pins and engagement face of plugs of appliances that are inserted into socket-outlets are in accordance with the dimensions of the relevant plug standard		N/A
	Common plugs and socket-outlets types in CENELEC countries as shown in Annex ZH		N/A
26.11	Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain them in position,		N/A
	unless they are held in place near the terminals independently of the solder		N/A
29.3.Z1	Appliance constructed so that if there is a possibility of damaging the insulation during installation, the insulation withstands the scratch and penetration test of 21.2		P
32	This clause of Part 1 is applicable (EN IEC 60335-2-24:2022/A11:2022)		P
	Compliance regarding electromagnetic fields is checked according to EN 62233		P
Annex I, 19.I.101	The appliance is supplied at rated voltage and operated under normal operation with each of the fault conditions specified		N/A
	The duration of any of the tests is as specified in 19.7		N/A
ZA	ANNEX ZA (NORMATIVE) SPECIAL NATIONAL CONDITIONS (EN)		---
	Denmark, Sweden, Norway and Finland		---

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
7.12.8	The maximum inlet water pressure is at least 1,0 MPa		N/A
	Norway		---
19.5	The test is also applicable to appliances intended to be permanently connected to fixed wiring		N/A
22.2	The second paragraph of this subclause, dealing with single-phase, permanently connected class I appliances having heating elements, is not applicable due to the supply system		N/A
	Denmark		---
22.47	The maximum inlet water pressure is at least 1,0 MPa		N/A
	Ireland and United Kingdom		----
25.8	In the table, the line >10 A and ≤16 A is replaced with:		---
	> 10 and ≤ 13 1,25 (1,0) ^b		N/A
	> 13 and ≤ 16 1,5 (1,0) ^b		N/A
ZB	ANNEX ZB (INFORMATIVE) A-DEVIATIONS		---
	Ireland		---
25.1 and 25.25	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances		N/A
	United Kingdom		---
25.1 and 25.25	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs to BS 1363 to be fitted to domestic appliances.		N/A
	It also allows plugs to BS 4573 and EN 50075 to be fitted to shavers and toothbrushes		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZC	ANNEX ZC (NORMATIVE) NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		---
	A list of documents referred to in the text of this standard in such a way that some or all of their content constitutes requirements of this document		P
ZD	ANNEX ZD (INFORMATIVE) IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS		---
	List of IEC and CENELEC code designations for flexible cords		P
ZE	ANNEX ZE (INFORMATIVE) SPECIFIC ADDITIONAL REQUIREMENTS FOR APPLIANCES AND MACHINES INTENDED FOR COMMERCIAL USE		---
7.1	Business name and full address of the manufacturer and, where applicable, his authorized representative		N/A
	Model or type reference.....		N/A
	Serial number, if any		N/A
	Production year		N/A
	Designation of the appliance		N/A
7.12	Instructions provided with the appliance so that the appliance can be used safely		N/A
	The instructions contain at least the following information:		---
	- the business name and full address of the manufacturer and, where applicable, his authorized representative		N/A
	- model or type reference of the appliance as marked on the appliance itself, except for the serial number		N/A
	- the designation of the appliance together with its explanation in case it is given by a combination of letters and/or numbers		N/A
	- the general description of the appliance, when needed due to the complexity of the appliance		N/A
	- specific precautions required during installation, operation, adjusting, user maintenance, cleaning, repairing or moving		N/A
	- when needed drawings, diagrams, descriptions and explanations necessary for the safe use and user maintenance of the appliance		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- the possible reasonably foreseeable misuse and, whenever relevant, a warning against the effects it may have on the safe use of the appliance		N/A
	The words "Original instructions" appear on the language version(s) verified by the manufacturer or by the authorized representative		N/A
	When a translation of the original instructions has been provided by a person introducing the appliance on the market; the meaning of the sentence "Translation of the original instructions" appear in the relevant instructions delivered with the appliance		N/A
	The instructions for maintenance/service to be done by specialized personnel, mandated by the manufacturer or the authorized representative may be supplied in only one Community language which the specialized personnel understand		N/A
	The instructions indicate the type and frequency of inspections and maintenance required for safe operation including the preventive maintenance measures		N/A
7.12.ZE1	If needed for specific appliances, the following information to be given:		N/A
	- on use, transportation, assembly, dismantling when out of service, testing or foreseeable breakdowns, if these operations have consequences on stability of the appliance in order to avoid overturning, falling or uncontrolled movements of the appliance or of its component parts		N/A
	- on how to maintain adequate mechanical stability when in use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance		N/A
	- on the protective measures to be taken by the user, including, where appropriate, the personal protective equipment to be provided		N/A
	- on the operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur the operating method to safely unblock the appliance		N/A
	- on the specifications on the spare parts to be used, when these affect the health and safety of the operator		N/A
	- on airborne noise emissions, determined and declared in accordance with the relevant Part 2, which includes:		---

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- the A-weighted emission sound pressure level at workstations, where this exceeds 70 dB(A)..... ;		N/A
	- where this level does not exceed 70 dB(A), this fact is indicated		N/A
	- the peak C-weighted instantaneous sound pressure value at workstations, where this exceeds 63 Pa (130 dB in relation to 20 µPa)		N/A
	- the A-weighted sound power level emitted by the machinery, where the A-weighted emission sound pressure level at workstations exceeds 80 dB(A)		N/A
7.12.ZE2	The instructions include a warning to disconnect the appliance from its power source during service and when replacing parts		N/A
	If the removal of the plug is foreseen, it is clearly indicated that the removal of the plug is such that an operator can check from any of the points to which he has access that the plug remains removed		N/A
	If this is not possible, due to the construction of the appliance or its installation, a disconnection with a locking system in the isolated position is provided		N/A
19.11.4.8	The appliance continues to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage fluctuation occurred, or		N/A
	a manual operation is required to restart it		N/A
20.1	Appliances and their components and fittings have adequate mechanical stability during transportation, assembly, dismantling and any other action involving the appliance		N/A
20.2	Dangerous moving transmission parts safeguarded either by design or guards		N/A
	When guards are used, they are fixed guards, interlocking movable guards or protective devices		N/A
	Moving parts directly involved in the function of the appliance which cannot be made completely inaccessible fitted with:		---
	- fixed guards or interlocking movable guards preventing access to those sections of the parts that are not used in the work, and		N/A
	- adjustable guards restricting access to those sections of the moving parts where access is necessary		N/A
	Interlocking movable guards used where frequent access is required		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
21.1	Appliances and their components and fittings have adequate mechanical strength and is constructed to withstand such rough handling that may be expected in normal use, during transportation, assembly, dismantling, scrapping and any other action involving the appliance		N/A
22.ZE.1	For appliances provided with a seat, the seat gives adequate stability		N/A
	The distance between the seat and the control devices capable of being adapted to the operator		N/A
22.ZE.2	For appliances provided with separate devices for the start and the stop functions, the stop function is unambiguously identifiable and does always override the start function		N/A
	For appliances provided with one device performing the start and the stop function, the stop function is unambiguously identifiable and does always override the start function		N/A
22.ZE.3	Appliances designed in such a way that incorrect mounting is avoided, if this can lead to an unsafe situation		N/A
	If this is not possible, information on the correct mounting is given directly on the part and/or the enclosure		N/A
22.ZE.4	Where the weight, size or shape prevents appliances from being moved manually, they are fitted with attachments for lifting gear, or		N/A
	so designed that they can be fitted with such attachments, or		N/A
	be shaped in such a way that standard lifting gear can easily be used		N/A
	Appliances to be moved manually are constructed or equipped so that they can be moved easily and safely		N/A
22.ZE.5	The fixing systems of fixed guards which prevent access to dangerous moving transmission parts only removable with the use of tools		N/A
	If such guards have to be removed by the user for routine cleaning or maintenance their fixing systems remain attached to the fixed guards or to the machine after removal		N/A
	Where possible, guards are incapable of remaining in place without their fixings		N/A
	This does not apply if, after removal of the screws, or if the component is incorrectly repositioned, the appliance becomes inoperative		N/A
	Movable guards are interlocked		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	The interlocking devices prevent the start of hazardous appliance functions until the guards are fixed in their position, and give a stop command whenever they are no longer closed		N/A
	Where it is possible for an operator to reach the danger zone before the risk due to hazardous appliance functions has ceased, movable guards associated with a guard locking device in addition to an interlocking device that:		---
	- prevents the start of hazardous appliance functions until the guard is closed and locked, and		N/A
	- keeps the guard closed and locked until the risk of injury from the hazardous appliance functions has ceased		N/A
	Interlocking movable guards remain attached to the appliance when open, and		N/A
	they are designed and constructed in such a way that they can be adjusted only by means of an intentional action		N/A
22.ZE.6	Interlocking movable guards designed in such a way that the absence or failure of one of their components prevents starting or stops the hazardous appliance functions		N/A
	The guard is opened to the extent needed to cause the interlocking to operate and is then closed, the number of operations being defined in the specific Part 2		N/A
	After this test any defect that may be expected in normal use is applied to the interlock system, including interruption of the supply, only one defect being simulated at a time		N/A
	After these tests the interlock system is fit for further use		N/A
22.ZE.7	Adjustable guards restricting access to areas of the moving parts strictly necessary for the work are:		N/A
	- adjustable manually or automatically, depending on the type of work involved, and		N/A
	- readily adjustable without the use of tools		N/A
22.ZE.8	In case of interruption, re-establishment after an interruption or fluctuation in whatever manner of the power supply, the appliance does not restart		N/A
	However, automatic restarting of the operation is allowed if the appliance may continue to operate, without causing any hazard to the user, from the same point in its operating cycle at which the voltage interruption or fluctuation occurred		N/A
22.ZE.9	Appliances fitted with means to isolate them from all energy sources		N/A

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Such isolators are clearly identified, and		N/A
	they are capable of being locked if reconnection endanger persons		N/A
	After the energy source is disconnected, it is possible to dissipate any energy remaining or stored in the circuits of the appliance without risk to persons		N/A
ZF	ANNEX ZF (INFORMATIVE) CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD		---
	List of standards under CENELEC/TC61 with the allocation under the LVD (Low Voltage Directive) or the MD (Machinery Directive)..... :	LVD	P
ZG	ANNEX ZG (NORMATIVE) UV APPLIANCES		---
	The following modifications to this standard apply to appliances having UV emitters		N/A
	This annex is not applicable to appliances covered by the scopes of IEC 60335-2-27, IEC 60335-2-59 or IEC 60335-2-109		N/A
7.12.ZG	The instructions for appliances incorporating UVC emitters include the substance of the following: WARNING — This appliance contains a UV emitter. Do not stare at the light source		N/A
32	For appliances incorporating UV emitters the manufacturer delivers a declaration providing evidence that the plastic material exposed to the radiation is UV resistant		N/A
ZH	ANNEX ZH (INFORMATIVE) Common plug and socket-outlet types in CENELEC countries		
	In general, supply cords of single-phase appliances having a rated current not exceeding 16 A are fitted with a plug complying with the following standard sheets:		---
	- for class I appliances or class II appliances with functional earth, standard sheet EU2, EU3 or EU4:	EU4	P
	- for class II appliances, standard sheet EU5, EU6 or EU7..... :		N/A
	There are exemptions or differences in certain CENELEC countries		P

IEC60335_2_24T ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
ZI	ANNEX ZI (INFORMATIVE) Information on the application of A11:2014 to EN 60335-1:2012 CENELEC CLC/TC 61(SEC)2096A		---
	Clarification of the application of parts 2 in conjunction with the 2002 or 2012 version of EN 60335-1		P
ZZA	ANNEX ZZA (INFORMATIVE) RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE SAFETY OBJECTIVES OF DIRECTIVE 2014/35/EU [2014 OJ L96] AIMED TO BE COVERED		---
	This standard provides one means of conforming to safety objectives of Directive 2014/35/EU		P
	When cited in the Official Journal under that Directive, compliance with the normative clauses of this standard given in Table ZZA.1 confers a presumption of conformity with the safety objectives of that Directive and associated EFTA regulations		P
	Compliance with this standard in conjunction with Part 1 provides one means of conformity with the safety requirements		P
ZZB	ANNEX ZZB (INFORMATIVE) RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ESSENTIAL REQUIREMENTS OF DIRECTIVE 2006/42/EC AIMED TO BE COVERED		---
	This annex of Part 1 is not applicable.		N/A
	ANNEX EN 62233:2008 + AC:2008 EMF- ELECTROMAGNETICS FIELDS		
	The tested product also complies with the requirements of EN 62233:2008		--
	Limit100%	Measured max. :.....<10%	P

Appendix: EN 60335-1:2012/A16:2023			
Clause	Requirement + Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60335-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Household and similar electrical appliances – Safety –
Part 1: GENERAL REQUIREMENTS

Differences according to:	EN 60335-1:2012/A16:2023
Attachment Form No.:	TRF-HS-090A
Attachment Originator:	Eurofins EESH
Master Attachment:	2024-06

22.44	If the appliance is child-appealing and	--
	- has a mass less than 4 kg, and	N/A
	- is mounted or normally intended for use at a height less than 850 mm,	N/A
	the following conditions are met:	N/A
	- surface temperature rise requirements not exceeded	N/A
	- hazardous moving parts not accessible	N/A
	- live parts not accessible	N/A
	- liquid temperature requirement not exceeded,	N/A
	unless for vessels in which two independent and sequential actions are needed to access the liquid	N/A
	- the requirement of 22.12 is applicable for all accessible parts of the appliance	N/A
ZE	ANNEX ZE (INFORMATIVE) SPECIFIC ADDITIONAL REQUIREMENTS FOR APPLIANCES AND MACHINES INTENDED FOR COMMERCIAL USE	-
22.ZE.5	The fixing systems of fixed guards which prevent access to hazardous moving transmission parts only removable with the use of tools	N/A
22.ZE.10	Noise reduction is achieved by applying measures at source to control noise, for example EN ISO 11688-1:2009	N/A
	The success of the applied noise reduction measures is assessed based on the actual noise emission values in relation to other machines of the same type with comparable non-acoustical technical data	N/A
	Compliance is checked by the noise test code, if any, given in part 2	N/A

Appendix: EN 60335-1:2012/A16:2023			
Clause	Requirement + Test	Result - Remark	Verdict
ZF	ANNEX ZF (INFORMATIVE) CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD		-
	List of standards under CENELEC/TC61 with the allocation under the LVD (Low Voltage Directive) or the MD (Machinery Directive) :	LVD	P

Appendix – Photographs

Photo 1

Description: Overall view of ZB13(white color)



Photo 2

Description: Overall view of ZB13(green color)



Appendix – Photographs

Photo 3

Description: Overall view of ZB13(grey color)



Photo 4

Description: Overall view of ZB14(white color)



Photo 5

Description: Overall view of ZB14(green color)



Photo 6

Description: Overall view of ZB14(grey color)



Appendix – Photographs

Photo 7

Description: Overall view of ZB15(green color)



Photo 8

Description: Overall view of ZB15(grey color)



Photo 9

Description: Overall view of ZB15(white color)



Photo 10

Description: Overall view of ZB16(green color)



Photo 11

Description: Overall view of ZB16(grey color)



Photo 12

Description: Overall view of ZB16(white color)



Photo 13

Description: Overall view of ZB17 (grey color)



Photo 14

Description: Overall view of ZB17 (green color)



Photo 15

Description: Overall view of ZB17 (white color)

