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中国认可
国际互认
检测
TESTING
CNAS L0095

Deutsche
Akkreditierungsstelle
D-PL-17198-01-00

No.: RZCE2021-0468LVD

检 测 报 告

TEST REPORT

产品名称:
NAMEOF SAMPLE: Fermentation Chamber

受检单位:
CLIENT: ANHUI HONYI INTERNATIONAL CORP

检测类别:
CLASSIFICATION OF TEST: Commission Test

威凯检测技术有限公司

CVC Testing Technology Co., Ltd.

检验检测专用章

检 测 报 告

TEST REPORT

Name of product: Fermentation Chamber	Trade mark: KegLand
Type/Model: KL15813, RAPTCHAMBER265: 220-240 V 50 Hz Rated current: 1,1A R600a	Sample status: N
Manufacturer: ANHUI HONYI INTERNATIONAL CORP.	Client by: ANHUI HONYI INTERNATIONAL CORP.
Manufacturer address: B-2106 BUSINESS BLDG.,WOYE GARDEN,GANQURD.,SHUSHAN DISTRICT,HEFEI,ANHUI,CHINA	Client address: B-2106 BUSINESS BLDG.,WOYE GARDEN,GANQURD.,SHUSHAN DISTRICT,HEFEI,ANHUI,CHINA
Quantity of sample: one unit	Sampled by: N
Sample identification: 1#	Sampling at (place): N
Means of receiving: Submitted by the manufacturer	Means of sampling: N
Classification of test: Commission test	Sampling date: N
Receiving date: 2021-09-13	Completing date: 2021-12-30
Tested according to: EN 60335-1:2012+AC:2014+A11:2014+A13:2017 +A1:2019+A14:2019+A2:2019 EN 60335-2-24:2010+A1:2019+A2:2019	Test item: Full safety test

Test conclusion:

The Fermentation Chamber submitted by ANHUI HONYI INTERNATIONAL CORP. was tested according to: EN 60335-1:2012+AC:2014+A11:2014+A13:2017+A1:2019+A14:2019+A2:2019 Safety of household and similar electrical appliances Part 1: General requirements and EN 60335-2-24:2010+A1:2019+A2:2019 Safety of household and similar electrical appliances—Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice-makers.

Test result: pass

Seal of CVC

Date of issue:2021-12-30

Approved by: Li Yunmei, Director Reviewed by: Li Tie, Manager Tested by:Jie Huixia, Engineer

Li Yunmei Li Tie Jie Huixia

Description and illustration of the sample:

Class of equipment: Class I

Protection against ingress of water: IPX0

Type of power connection: Type Y attachment

Climatic class: Class SN/N/ST

The Fermentation Chamber of model KL15813 with comp. model NS1119Y was tested for a rated voltage of 220-240 V and rated frequency 50 Hz. Tests were carried out at the ambient temperature of 38 ℃ for clauses 10, 11 and 13, according to the ambient temperature requirement for climatic class: SN/N/ST. Other tests were carried out at an ambient temperature of 20 ℃± 5 ℃.

Description of the sampling procedure:

—

Description of the deviation from the standard, if any :

—

Remarks:

Throughout this report a comma is used as the decimal separator.

Name of the factory: Anhui Zungui Electrical Group Co.,Ltd..

Address of the factory : Intersection of Tianshui Road and Xiaocheng Road, XinZhan Industrial Park, Hefei,Anhui.

Total page of this report is 100.

Description of differences of all models: Models KL15813, RAPTCHAMBER265 are the Fermentation Chamber.There is no other difference except for the model name.

All construction photos are displayed on the appended remarks.

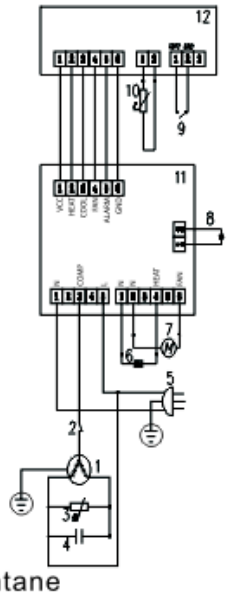
Copy of marking plate:

RAPT

Fermentation Chamber

KegLand

Model: KL15813
Volume: 265L
Climate Type: SN, N, ST
Voltage: 220-240VAC
Frequenzy: 50Hz
Current: 1.1A
Refrigerant: R600a(63g)
Blowing Agent: Cyclopentane



1. Compressor
2. Thermal Overload Switch
3. Starter
4. Start Capacitor
5. Power Socket
6. Heater
7. Fan
8. LED Light
9. Door Switch
10. NTC Thermistor KL22460
11. Relay Board KL17084
12. Screen Board KL17091

MANUFACTURER: ANHUI HONYI INTERNATIONAL CORP.

RAPT

Fermentation Chamber

KegLand

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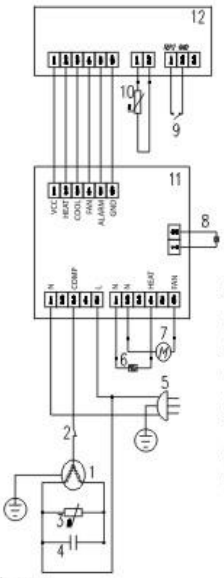

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MANUFACTURER: ANHUI HONYI INTERNATIONAL CORP.

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		P
	Tests performed according to cl. 5, e.g. nature of supply, sequence of testing, etc.		P
5.3	Before starting the tests (EN 60335-2-24):		—
	- ice cream appliances are operated empty of rated voltage for 1 h		N
	- other compression-type appliances shall be operated at rated voltage for 24 h then switched off for 12 h		P
5.4	Tests are additionally carried out with all combinations of energy sources supplied simultaneously unless this is prevented by interlocking devices (EN 60335-2-24)		P
5.7	Tests according to sub-clause 10, 11, 13 and subcl. 19.103 at ambient temperature of (EN 60335-2-24) :		—
	(23 ± 2) °C for ice-cream appliances		N
	(32 ± 1) °C Climatic class	SN ☒	P
	(32 ± 1) °C Climatic class	N ☒	P
	(38 ± 1) °C Climatic class	ST ☒	P
	(43 ± 1) °C Climatic class	T ☐	N
5.102	Compression-type appliances with heating systems and Peltier-type appliances are tested as combined appliances (EN 60335-2-24)		P
6	CLASSIFICATION		P
6.1	Protection against electric shock: Class I, II, III	Class I	P
6.2	Protection against harmful ingress of water	IPX0	P
6.101	Appliances, other than ice-cream appliances, shall be of one or more of the following climatic classes: SN, N, ST, T (EN 60335-2-24)		—
7	MARKING AND INSTRUCTIONS		P
7.1	Rated voltage or voltage range (V)	220-240 V	P
	Addition: Single-phase appliances:230 V co vered	220-240 V	P
	Multi-phase appliances:400 V covered		N
	Nature of supply		N
	Rated frequency (Hz)	50	P
	Rated power input (W)		N
	Rated current (A)	1,1	P
	Manufacturer's or responsible vendor's name, trademark or identification mark	See the nameplate	P
	Model or type reference	KL15813	P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Symbol 5172 of IEC 60417, for Class II appliances	Class I appliance	N
	IP number, other than IPX0:	IPX0	N
	Symbol IEC 60417-5180, for class III appliances, unless	Class I appliance	N
	the appliance is operated by batteries only		N
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N
	Power input of heating systems, if greater than 100 W, (W) (EN 60335-2-24)		N
	Defrosting input, in W, if greater than the rated power input, (W) (EN 60335-2-24)		N
	Rated power input in Watts (EN 60335-2-24)		N
	Rated current in Amperes for compression-type appliances (EN 60335-2-24)	1,1A	P
	Climatic class of the appliance (SN, N, ST or T) (EN 60335-2-24)	SN, N, ST	P
	Maximum rated input of lamps in Watts (EN 60335-2-24)	LED Lamp	N
	Total mass of the refrigerant (EN 60335-2-24)	63g	P
	For a single component refrigerant, at least one of the following (EN 60335-2-24) :		—
	- the chemical name		N
	- the chemical formula		N
	- the refrigerant number	R600a	P
	For a blended refrigerant, at least one of the following (EN 60335-2-24) :		—
	- the chemical name and nominal proportion of each of the components		N
	- the chemical formula and nominal proportion for each of the components		N
	- the refrigerant numbers and nominal proportion of each of the components		N
	- the refrigerant number of the refrigerant blend		N
	The chemical name or refrigerant number of the insulation blowing gas (EN 60335-2-24)	Cyclopentane	P
	Battery voltage for appliances which can be mains and battery operated (EN 60335-2-24)		N
	Max. power input for incorporated ice-maker, if greater than 100 W (EN 60335-2-24)		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Ice-makers shall be marked with the maximum permissible water level (EN 60335-2-24)		N
	Compression-type refrigerating systems appliance shall be marked with mass of the refrigerant for each separate refrigerant circuit (EN 60335-2-24)		P
	Compression-type appliances flammable which use refrigerants shall be marked the symbol ISO 7010 W021 (EN 60335-2-24)		P
	Appliances employing R-744 in a transcritical refrigeration system shall be marked with the substance of the following: (EN 60335-2-24)		—
	Warning: System contains refrigerant under high pressure. Do not tamper with the system. It must be serviced by qualified persons only.		N
	Appliances employing R-744 in a transcritical refrigeration system shall be marked with symbol ISO 7000 – 1701 (2004-01). (EN 60335-2-24)		N
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N
7.2	Warning for stationary appliances for multiple supply		N
	Warning placed in vicinity of terminal cover		N
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	220-240 V	P
	Different rated values marked with the values separated by an oblique stroke		N
7.4	Appliances adjustable for different rated voltages, the voltage setting is clearly discernible		N
	No frequent voltage settings changes and wiring diagram fixed to the appliance		N
7.5	Appliances with more than one rated voltage or one or more rated voltage ranges, marked with rated input or rated current for each rated voltage or range, unless		N
	the power input is related to the arithmetic mean value of the rated voltage range		P
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N
7.6	Correct symbols used		P
	 Symbol IEC 60417-5005 (2002-10) Plus; positive polarity (EN 60335-2-24)		N
	Symbol IEC 60417-5006 (2002-10) Minus; negative polarity (EN 60335-2-24)		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	 Symbol ISO 7010 W021 Warning: risk of fire / flammable materials (EN 60335-2-24)		P
	 Symbol ISO 7000–1701 (2004-01) Pressure (EN 60335-2-24)		N
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply		N
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		—
	- marking of terminals exclusively for the neutral conductor (N)		P
	- marking of protective earthing terminals (symbol 5019 of IEC 60417)		P
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard		N
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means. Switch for controls too		P
	This applies also to switches which are part of a control		P
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N
	See Note (EN 60335-2-24)		P
	Devices used to start/or operational functions of the appliance, if any, shall be distinguished from other manual devices by means of shape, or size, or surface texture, or position, etc.		N
	An indication that the device has been operated shall be given by:		N
	A tactile feedback or		N
	An audible and visual feedback		N
	A selector switch with an off-positon clearly identifiable is allowed		N
	An ON/OFF switch, if any, is considered a suitable device to stop operational functions. A plug is not considered a suitable device to stop operational functions, as it can be difficult to be reached by vulnerable persons.		N
7.11	Indication for direction of adjustment of controls		P
7.12	Instructions for safe use provided		P
	If it necessary to take precautions during user maintenance, appropriate details given		N
	The instructions include the substance of the following:		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	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 khowledge if they have been given supervision or instrucition concerning use of the appliance in safe way and understand the hazards inlvolved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.		P
	Instructions for class III appliances state that it must only be supplied at SELV, unless		N
	it is a battery-operated appliance, the battery being charged outside the appliance		N
	Instructions for refrigerating appliances and ice-makers for camping or similar use include the substance of the following (EN 60335-2-24) :		—
	- suitable for camping use		N
	- the appliances connected to more than one source of energy		N
	- the appliances shall not be exposed to rain unless at least IPX4		N
	For ice-makers not intended to be connected to the water supply WARNING:fill with potable water only (EN 60335-2-24)		N
	For compression-type appliances which use flammable refrigerants, instructions shall include information pertaining to the installation, handling, servicing (EN 60335-2-24)		P
	Children aged from 3 to 8 years are allowed to load and unload refrigerating appliances (EN 60335-2-24)		P
	For compression-type appliances that use flammable refrigerants shall additionally include the substance of the warnings listed below: (EN 60335-2-24)		—
	- WARNING – Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction		P
	- WARNING – Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer		P
	- WARNING – Do not damage the refrigerant circuit		P
	- WARNING – Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer		P
	Appliances which use flammable insulation blowing gases, instructions shall include information regarding disposal of the appliance (EN 60335-2-24)		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Instructions for ice-cream appliances shall include ingredients and max. quantity of mixtures that can be used in the appliance (EN 60335-2-24)		N
	The instructions shall state the substance of the following (EN 60335-2-24)		—
	Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.		P
	If symbol ISO 7000–1701 (2004-01) is used, its meaning shall be explained.		N
	The instructions shall include the substance of the following (EN 60335-2-24)		—
	This appliance is intended to be used in household and similar applications (list)		P
	If symbol ISO 7010–W021 is used, its meaning shall be explained (EN 60335-2-24)		P
	The instructions for refrigerating appliances and ice-makers shall include the substance of the following (EN 60335-2-24):		—
	WARNING: When positioning the appliance, ensure the supply cord is not trapped or damaged.		P
	WARNING: Do not locate multiple portable socket-outlets or portable power supplies at the rear of the appliance		P
7.12.1	Sufficient details for installation supplied		P
	For an appliance intended to be permanently connected to the water mains and not connected by a hose-set, this is stated		N
	The method for replacing illuminating lamps included, if they can be replaced by the user (EN 60335-2-24)	LED Lamp	N
	Appliances designed for incorporating ice-makers, the types of ice-makers (EN 60335-2-24)		N
	Information on the installation of incorporated ice-makers as optional accessories (EN 60335-2-24)		N
	Incorporated ice-makers installed only by the manufacturer or its service agent (EN 60335-2-24)		N
	Ice makers intended to be connected to the water supply (EN 60335-2-24) :		—
	WARNING: connect to potable water supply only		N
	Instructions for fixed appliances shall include the following warning (EN 60335-2-24) :		—
	WARNING: To avoid a hazard due to instability of the appliance, it must be fixed in accordance with the instructions		N
	In appliances employing R-744 in a transcritical refrigeration system the instructions shall include the substance of the following (EN 60335-2-24) :		—

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	WARNING: The refrigeration system is under high pressure. Do not tamper with it. Contact qualified service personal before disposal.		N
7.12.2	Stationary appliances not fitted with means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III, the instructions state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules	Supply cord and plug	N
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions stating that the fixed wiring must be protected		N
7.12.4	Instructions for built-in appliances:		—
	- dimensions of space		N
	- dimensions and position of supporting means		N
	- distances between parts and surrounding structure		N
	- dimensions of ventilation openings and arrangement		N
	- connection to supply mains and interconnection of separate components		N
	- necessity to allow disconnection of the appliance from the supply after installation, unless the appliance incorporates a switch complying with 24.3		N
	- The disconnection may be achieved by having the plug accessible or by incorporating a switch in the fixed wiring in accordance with the wiring rules		N
	Applicable to fixed appliances (EN 60335-2-24)		N
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N
	Replacement cord instructions, type Y attachment	Type Y	P
	Replacement cord instructions, type Z attachment		N
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard		N
7.12.7	The instructions for fixed appliances shall state how the appliance is to be fixed to its support.		N
7.12.8	The instructions for appliances connected to the water mains shall state		N
	- the maximum inlet water pressure, in pascals;		N
	- the minimum inlet water pressure, in pascals, if this is necessary for the correct operation of the appliance.		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	The instructions for appliances connected to the water mains by detachable hose-sets shall state that the new hose-sets supplied with the appliance are to be used and that old hose-sets should not be reused.		N
7.12.Z1	The specific instructions related to the safe operation of this appliance (as given in 7.12 of this standard) shall be collated together in the front section of the user instructions. The height of the characters, measured on the capital letters, shall be at least 3 mm		P
	These instructions shall also be avalliable in an alternative format, e.g. on a website		P
7.13	Instructions and other texts in an official language		P
7.14	Markings required by the standard shall be clearly legible and durable		P
	checked by inspection and by rubbing the marking by hand for 15 s with a piece of cloth soaked with water and again for 15 s with a piece of cloth soaked with petroleum spirit		P
	The height of the triangle in the symbol ISO 7010–W021 shall be at least 15 mm (EN 60335-2-24)		P
	The height of the letters used for the marking of the type of flammable blowing insulation gas shall be at least 40 mm (EN 60335-2-24)		P
7.15	Marking on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		N
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		P
	Max. rated input of lamps discernible that can be replaced by the user (EN 60335-2-24)		P
	Compression-type appliances the marking of the type of flammable refrigerant and of the flammable insulation blowing gas, as well as the symbol ISO 7010–W021, shall be visible when gaining access to the motor-compressors (EN 60335-2-24)		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		P
7.101	For appliances which can be battery operated, the supply terminals or terminations for connections to the battery shall be clearly indicated by symbols. (EN 60335-2-24)		N
	The positive terminal shall be indicated by symbol IEC 60417-5005 (2002-10) and the negative terminal by symbol IEC 60417-5006 (2002-10). (EN 60335-2-24)		N
7.Z101	The instructions shall contain details on the use of the appliance to ensure the safe preservation of foodstuffs (EN 60335-2-24)		P
	Manufacturers should give details on the most appropriate part in the compartment of the appliance where specific types of food shall be stored, considering the distribution of temperature that can be present in the different compartments of the appliance (EN 60335-2-24).		N
	The instructions shall include the substance of the following (EN 60335-2-24):		—
	To avoid contamination of food, please respect the following instructions (EN 60335-2-24):		—
	- Opening the door for long periods can cause a significant increase of the temperature in the compartments of the appliance.		N
	- Clean regularly surfaces that can come in contact with food and accessible drainage systems.		P
	- 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
	- 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
	- Two-star frozen-food compartments are suitable for storing pre-frozen food, storing or making icecream and making ice cubes.		N
	- One-, two- and three-star compartments are not suitable for the freezing of fresh food.		N
	- 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
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		P
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N
	Use of test probe B and probe 18 of EN 61032: no contact with live parts		P
	Removal of lamps: protection against contact with live parts (EN 60335-2-24)		N
8.1.2	Use of test probe 13 of IEC 61032 through openings in class 0 appliances and class II appliances/ constructions: no contact with live parts		P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		P
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032: no contact with live parts of visible glowing heating elements		N
8.1.4	Accessible part not considered live if:		—
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V		N
	- safety extra-low d.c. voltage: not exceeding 42.4 V		N
	- or separated from live parts by protective impedance		N
	If protective impedance: d.c. current not exceeding 2 mA, and		N
	a.c. peak value not exceeding 0.7 mA		N
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 μF		N
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC		N
	- for voltages having a peak value over 15 kV, the energy in the discharge shall not exceed 350 mJ.		N
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		—
	- built-in appliances		N
	- fixed appliances		N
	- appliances delivered in separate units		N
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P

9	STARTING OF MOTOR-OPERATED APPLIANCES	N
	Not applicable	—

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
10	POWER INPUT AND CURRENT		P
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1	(see appended table)	N
	The permissible deviations apply for both limits of the range for appliances marked with a rated voltage range having limits differing by more than 10 % of the arithmetic mean value of the range.		N
	Appliances being operated under normal operation, user adjustable temperature controls are set to give the lowest temperature (EN 60335-2-24)		N
	The power input stabilized, steady conditions estabilished (EN 60335-2-24)		N
	A period between the making and the breaking of the temperature control, or highest and lowest values of power input measured excluding starting power input but including the power input of the incorporated ice-maker, if any (EN 60335-2-24)		N
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2	(see appended table)	P
	The permissible deviations apply for both limits of the range for appliances marked with a rated voltage range having limits differing by more than 10 % of the arithmetic mean value of the range.		P
	The appliance being operated under normal operation, user adjustable temperature controls are set to give the lowest temperature (EN 60335-2-24)		P
	The appliance is operated for 1 h. The max. value of the current averaged over any 5 min period is obtained. The interval shall not exceed 30s. Starting after 1 min (EN 60335-2-24)		P
10.101	The power input of the defrosting system, deviation shown in table 1 (EN 60335-2-24)		N
10.102	The power input of any heating system, deviation shown in table 1 (EN 60335-2-24)		N

11	HEATING		P
11.1	No excessive temperatures in normal use		P
	If the winding temperatures of motor-compressors exceed the values given in table 101, compliance is checked by the test of 11.101 (EN 60335-2-24)		N
	The winding temperatures of motor-compressors conforming IEC 60335-2-34 (incl. Annex AA) are not measured (EN 60335-2-24)	Motor-compressors complying with IEC 60335-2-34	P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
11.2	Placing and mounting of appliance as described (EN 60335-2-24)		P
	- according to instructions for installation		P
	- in a test corner		P
	- test enclosure		N
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		P
	the windings makes it difficult to make the necessary connections		N
11.4	Heating appliances operated under normal operation at 1.15 times rated power input:		N
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage:		N
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage:	254,4 V	P
11.7	The appliances is operated until steady conditions are established (EN 60335-2-24)		P
11.8	Temperature rises not exceeding values in table 3	(see appended table)	P
	During the test protective devices do not operate (EN 60335-2-24)		P
	During the test sealing compound doesn't flow out (EN 60335-2-24)		P
	During the test temperatures are monitored conti-nuously (EN 60335-2-24)		P
	For (SN) and (N) class, the temperature rises not exceeding values in table 3 (EN 60335-2-24)		N
	For (ST) and (T) class, the temperature rises not exceeding values in table 3 reduced by 7 K (EN 60335-2-24)	Class ST	P
	For motor-compressors not conforming to IEC 60335-2-34 (incl. its Annex AA), the temperatures of (EN 60335-2-24)		—
	- housings of motor-compressors and		N
	- windings of motor-compressors		N
	shall not exceed the values given in Table 101		N
	For motor-compressors conforming to IEC 60335-2-34 (including its Annex AA), the temperatures are not measured (EN 60335-2-24)	Motor-compressors complying with IEC 60335-2-34	P
	The temperature rise of the external enclosure of motor-operated appliances not applicable for: (EN 60335-2-24)		—
	- built-in appliances		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	- other appliances (distance from a wall ≤ 75 mm)		N
	- 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, when measured under the conditions stated. (EN 60335-2-24)		N
11.101	If the temperatures exceed the limits, the test is carried out again (EN 60335-2-24) :		—
	- winding temperatures at the end of a running cycle not higher than the limits given in table 101		N
11.102	Any defrosting system, temperature rises don't exceed the values given in 11.8 (EN 60335-2-24)		N
	Manual defrosting (EN 60335-2-24)		N
	Automatic defrosting (EN 60335-2-24)		N
11.103	Heating systems, other than defrosting, temperature rises don't exceed the values given in 11.8 (EN 60335-2-24)		P
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		P
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times rated power input:		N
	Motor-operated appliances and combined appliances supplied at 1.06 times rated voltage:		P
	Protective impedance and radio interference filters disconnected before carrying out the tests		N
	The test of 13.2 does not apply to battery circuit (EN 60335-2-24)		N
13.2	Leakage current measured by means of the circuit described in figure 4 of IEC 60990		P
	Leakage current measurements and limits (EN 60335-2-24)	(see appended table)	P
13.3	Electric strength tests according to table 4	(see appended table)	P
	No breakdown during the tests		P
	The test voltage for reinforced insulation is applied between separate circuits for battery operation and mains supply operation (EN 60335-2-24)		N
	The appliance is disconnected from the supply and the insulation is immediately subjected to a voltage having a frequency of 50 Hz or 60 Hz for 1 min, in accordance with IEC 61180-1		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	The high-voltage source used for the test is to be capable of supplying a short circuit current I_s between the output terminals after the output voltage has been adjusted to the appropriate test voltage		P
	The overload release of the circuit is not to be operated by any current below the tripping current I_r The values of I_s and I_r are given in Table 5 for various high-voltage sources.		P
14	TRANSIENT OVERVOLTAGES		N
	Appliances withstand the transient overvoltages to which they may be subjected	No clearances having a value less than specified in table 16	N
	The impulse test voltage has a no-load waveshape corresponding to the 1,2/50 µs standard impulse specified in IEC 61180-1. It is supplied from a generator having a conventional impedance not exceeding 42 Ω. The impulse test voltage is applied three times for each polarity with intervals of at least 1 s	(see appended table)	N
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6		N
	No flashover during the test, unless		N
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N
15	MOISTURE RESISTANCE		P
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance		N
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		N
	No trace of water on insulation which can result in a reduction of clearances and creepage distances below values specified in clause 29		N
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529:		N
	Water valves containing live parts and that are incorporated in external hoses for connection of an appliance to the water mains are subjected to the test specified for IPX7 appliances.		N
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test		N
	Built-in appliances installed according to the instructions		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Appliances with an automatic cord reel are tested with the cord in the most unfavourable positon in such a way that the reeling of the wet cord may affect electrical insulation during operation. The cord shall not be dried before reeling		N
	Appliances placed or used on the floor or table placed on a horizontal unperforated support		N
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		N
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube		N
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube		N
	However, for appliances normally used on the floor or table, the movement is limited to two times 90° for a period of 5 min, the support being placed at the level of the pivot axis of the oscillating tube		N
	Wall-mounted appliances, take into account the distance to the floor stated in the instructions		N
	Appliances with type X attachment fitted with a flexible cord as described		N
	Detachable parts tested as specified		N
	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support that is constructed to prevent water spraying onto its top surface. The pivot axis of the oscillating tube is located at the same level as the underside of the support and aligned centrally with the appliance. The spray is directed upwards.		N
	For IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min.		N
15.2	Spillage of liquid does not affect the electrical insulation		P
	Appliances with type X attachment fitted with a flexible cord as described		N
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		N
	Detachable parts removed		P
	Overfilling test with additional amount of water, over a period of 1 min (l):	0,25 L	P
	The appliance withstands the electric strength test of 16.3		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	No trace of water on insulation that can result in a reduction of clearances and creepage distances below values specified in clause 29		P
	Lamp covers are not removed (EN 60335-2-24)		P
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Humidity test for 48 h in a humidity cabinet		P
	The appliance withstands the tests of clause 16		P
15.101	Spillage of liquid from inside does not affect their electrical insulation (EN 60335-2-24)		P
	The relevant tests of 15.101.1 and 15.101.2are carried out using the solution specified in 15.2 (EN 60335-2-24)		P
15.101.1	The apparatus shown in figure 101 is filled with the spillage solution and the test is carried out as specified(EN 60335-2-24)		P
	Test acc. to 16.3 fulfilled and no reduction of clearances and creeping distances below values specified		P
	If defrost heating element is affected, test acc. to 22.102 is fulfilled		N
15.101.2	Test with rectangular container and 0,5 l of spillage solution is carried out as specified (EN 60335-2-24)		P
	Test acc. to 16.3 fulfilled and no reduction of clearances and creeping distances below values specified		P
	If defrost heating element is affected, test acc. to 22.102 is fulfilled		N
15.102	Appliances subject to spillage onto the top are tested acc. to 15.103 and 15.104 (EN 60335-2-24)		P
	Test of 15.103 is carried out using the solution specified in 15.2		P
15.103	Appliances, other than built-in appliances, ice-makers and ice-cream appliances, are tilted at an angle of up to 2° (EN 60335-2-24)		P
	Test with 0.5 l spillage solution over the top of the appliance		P
15.104	Ice-makers which are directly connected to the water supply, is filled with water as in normal use. The inlet valve is then held open for 1 min (EN 60335-2-24)		N
15.105	Operation of a defrosting system does not affect the electrical insulation of defrost heating elements (EN 60335-2-24)		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	If the water is in contact with the defrost heating element or its insulation, test of 22.102 is carried out		N
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		P
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		N
	The test of 16.2 does not apply to battery circuits (EN 60335-2-24)		N
16.2	Single-phase appliances: test voltage 1.06 times rated voltage:		P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by √3:		N
	Leakage current measurements	(see appended table)	P
	Limits for class 0I appliances and the various types of class I appliances (EN 60335-2-24)	(see appended table)	P
16.3	Electric strength tests according to table 7 voltage having a frequency of 50 Hz or 60 Hz for 1 min in accordance with IEC 61180-1		P
	No breakdown during the tests		P
	The test voltage specified in Table 7 for reinforced insulation is applied between separate circuits for battery operation and mains supply operation (EN 60335-2-24)		N
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		P
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use		P
	Appliance supplied with 1.06 or 0.94 times rated voltage and the most unfavourable short-circuit or overload likely to occur in normal use applied:		P
	Temperature rise of insulation of the conductors of safety extra-low voltage circuits not exceeding the relevant value specified in table 3 by more than 15 K		N
	Temperature of the winding not exceeding the value specified in table 8,	(see appended table)	P
	however limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1		N
18	ENDURANCE		N
	Not applicable		—

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
19	ABNORMAL OPERATION		P
19.1	The risk of fire or mechanical damage under abnormal or careless operation obviated		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe		P
	Appliances incorporating contactors or relays are subjected to the test of 19.14.		N
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N
	Subclauses 19.2 and 19.3 do not apply to heating systems (EN 60335-2-24)		N
	Motor compressors not conforming to IEC 60335-2-34 are subjected to the tests specified in IEC 60335-2-34 19.101, 19.102 and 19.104 (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	N
	Fan motors of ice-cream appliances are not subject to the locked-rotor test specified in Annex AA (EN 60335-2-24)		N
19.2	Appliances with heating elements are tested under the conditions		N
	Controls that operate during the test of Clause 11 are allowed to operate		—
19.3	Test of 19.2 is repeated but with a supply voltage, determined prior to the test, equal to that required to provide a power input of 1,24 times rated power input under normal operation when the power input has stabilized		N
19.3	Controls that operate during the test of Clause 11 are allowed to operate		—
19.4	Test conditions as in cl. 11, any control limiting the temperature during tests of cl. 11 short-circuited		N
19.5	Test of 19.4 repeated on Class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the elements sheath		N
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		N
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		N
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		N
	The working voltage of the PTC heating element is increased by 5% and the appliance is operated until steady conditions are re-established. The voltage is then increased in similar steps until 1.5 times working voltage or until the PTC heating element ruptures		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
19.7	Stalling test by locking the rotor of appliances for which the locked rotor torque is smaller than the full load torque or locking moving parts of other appliances		P
	Locked rotor, capacitors open-circuited one at a time		N
	The test is repeated with the capacitors short-circuited one at a time unless they are of class P2 of IEC 60252-1		N
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed		N
	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 (EN 60335-2-24)		N
19.8	Multi-phase motors operated at rated voltage with one phase disconnected		N
	Three-phase motor compressors operated at rated voltage with one phase disconnected, unless complying with IEC 60335-2-34 (EN 60335-2-24)		N
19.9	Not applicable		—
19.10	Series motor operated at 1.3 times rated voltage for 1 min:		N
	During the test, parts not being ejected from the appliance		N
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits, unless they comply with the conditions specified in 19.11.1		P
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.8		N
	Appliances having a device with an off position obtained by electronic disconnection, or a switch that can place the appliance in a stand-by mode, are subjected to the tests of 19.11.4.		N
	NOTE 2 For the evaluation of electronic circuits, see Annex Q.		—
19.11.1	Before applying the fault conditions a) to g) in 19.11.2, it is checked if circuits or parts of circuit meet both of the following conditions:		—
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified		N
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction in other parts of the appliance does not rely on the correct functioning of the electronic circuit		P

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Clause	Requirement – Test	Result – Remark	Verdict
19.11.2	Fault conditions applied one at a time, the appliance operated under conditions specified in cl. 11, but supplied at rated voltage, the duration of the tests as specified:		—
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in 29	(see appended table)	N
	b) open circuit at the terminals of any component		P
	c) short circuit of capacitors, unless they comply with IEC 60384-14		P
	d) short circuit of any two terminals of an electronic component, other than integrated circuits. This fault condition is not applied between the two circuits of an optocoupler		P
	e) failure of triacs in the diode mode		N
	f) failure of microprocessors and integrated circuits.		P
	g) failure of an electronic power switching device		N
	Low-power circuits are short circuited		N
	In each case, the test is ended if a non-self-resetting interruption of the supply occurs within the appliance		N
19.11.3	If the appliance incorporates a protective electronic circuit which operates to ensure compliance with clause 19, the relevant test is repeated with a single fault simulated, as indicated in a) to g) of 19.11.2		N
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or a device that can be placed in the stand-by mode, are subjected to the tests of 19.11.4.1 to 19.11.4.7		N
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7		N
	The tests are carried out with surge protective devices disconnected, unless they incorporate spark gaps		N
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		N
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3		N
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified		N
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified		N
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11		N
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34		N
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		N
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate		N
19.12	If the safety of the appliance for any of the fault conditions specified in 19.11.2 depends on the operation of a miniature fuse-link complying with IEC 60127, the test is repeated, measuring the current flowing through the fuse-link; measured current (A); rated current of the fuse-link (A):	measured current :＞11,5 A; rated current:3,15A	P
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		P
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		—
	- basic insulation	1000 V	P
	- supplementary insulation	1750 V	P
	- reinforced insulation	3000 V	P
	The appliance does not undergo a dangerous malfunction, and		N
	not become operational, or if they become operational, not result in a dangerous malfunction during or after the tests of 19.11.4		N
	The temperature of the housing of motor-compressors other than those which comply with IEC 60335-2-34 is determined at the end of the test period and shall not exceed 150 °C. (EN 60335-2-24)		N
19.14	Appliances are operated under the conditions of Clause 11. Any contactor or relay contact that operates under the conditions of Clause 11 is short-circuited		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied		N
19.101	Heating systems dimensioned and located properly and comply with 19.13 during and after the test (EN 60335-2-24)		P
19.102	Ice-makers and ice-cream appliances so constructed that they do not cause any risk and comply with 19.13 during and after the tests (EN 60335-2-24)		N
19.103	Appliances intended for camping and similar use tested on an inclined support (5°) and comply with 19.13 during and after the test (EN 60335-2-24)		N
19.104	Illuminating equipment shall not cause a fire hazard under abnormal operating conditions (EN 60335-2-24)		P
	Test as specified (EN 60335-2-24)		P
	Illuminating equipment having discharge lamps is operated under the fault conditions specified in items a), d) and e) of 12.5.1 of IEC 60598-1, the appliance being supplied at rated voltage until temperature stabilisation of the measured parts (EN 60335-2-24)		N
	During and after the test, the appliance shall comply with 19.13 (EN 60335-2-24)		P
	The temperature of ballast windings and their associated wiring shall not exceed the values specified in 12.5 of IEC 60598-1 when measured under the conditions specified (EN 60335-2-24)		N
19.105	Appliances intended for battery operation properly constructed and comply with 19.13 during and after the test (EN 60335-2-24)		N
20	STABILITY AND MECHANICAL HAZARDS		P
20.1	Ice-cream appliances shall have adequate stability (EN 60335-2-24) :		—
	Tilting test through an angle of 10° (appliance placed on an inclined plane/horizontal plane); appliance does not overturn		N
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		N
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9		N
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	For appliances having dangerous movable parts, due to their main function, e.g. the needle of a seeing machine, tools of kitchen machines or the blade of an electrical knife, full protection is not possible for performing their intended use		P
	Protective enclosures, guards and similar parts are non-detachable		P
	Adequate mechanical strength and fixing of protective enclosures		P
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard, by unexpected reclosure		N
	Not possible to touch dangerous moving parts with test probe		P
20.101	Refrigeration appliances and ice-makers shall have adequate stability. Tests according to 20.102, 20.103 and 20.104 (EN 60335-2-24)		P
	Appliance shall not tilt by more than 2°		P
	This requirement does not apply to built-in appliances (EN 60335-2-24)		N
20.102	Tests with weights as described		P
	Test with door opened to 90° (EN 60335-2-24)		P
	Test with door opened to 180° or to the limit of door stop (EN 60335-2-24)		P
20.103	Test with one of the drawers is pulled to the most onerous out position (EN 60335-2-24)		N
	Test with two drawers are pulled to the most onerous out position (EN 60335-2-24)		N
20.104	Test with sliding drawers accessible without opening a door (EN 60335-2-24)		N
	Doors shelves are loaded as specified in 20.102 and opened 90° (EN 60335-2-24)		N
21	MECHANICAL STRENGTH		P
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J		P
	The appliance shows no damage impairing compliance with this standard, and compliance with 8.1, 15.1 and clause 29 not impaired		P
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	If necessary, repetition of groups of three blows on a new sample		N
	For accessible glass panels, the impact energy is 1,00 J (EN 60335-2-24)		N
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements		P
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		P
21.101	Appliances for camping or similar use tested against the effects of dropping and vibration as specified (EN 60335-2-24)		N
21.102	Lamps are protected against mechanical shocks (EN 60335-2-24)		P
22	CONSTRUCTION		P
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IPX0	N
22.2	Stationary appliance: means to provide all-pole disconnection from the supply provided, the following means being available:		—
	- a supply cord fitted with a plug		P
	- a switch complying with 24.3		N
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided		N
	- an appliance inlet		N
	Single-pole switches and single-pole protective devices that disconnect heating elements from the supply mains in single-phase, permanently connected class 0I appliances and class I appliances shall be connected to the phase conductor		N
22.3	Appliance provided with pins: no undue strain on socket-outlets		N
	Applied torque not exceeding 0.25 Nm		N
	Pull force of 50N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm		N
	Each pin subjected to a tork of 0.4Nm; the pins are not rotating unless rotating does not impair compliance with the standard		N
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance exceeding 0,1μF, the appliance being disconnected from the supply at the instant of voltage peak		P
	The voltage shall not exceed 34 V	16,1 V	P
22.6	Electrical insulation not affected by condensing water or leaking liquid		P
	Electrical insulation of Class II appliances not affected in case of a hose rupture or seal leak		N
	Thermostats are not in contact with the evaporator unless they are adequately protected. Fluids don't flow along parts such as stems and tubes of thermostats (EN 60335-2-24)		N
22.7	Compression-type appliances, including protective enclosures of a protected cooling system, using flammable refrigerants shall withstand (EN 60335-2-24)		—
	- a pressure of 3,5 times the saturated vapour pressure (70 °C)		P
	- a pressure of 5 times the saturated vapour pressure (20 °C)		P
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use		P
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		P
	the substance has adequate insulating properties		N
22.10	It shall not be possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:		N
	- a non-self-resetting thermal cut-out is required by the standard, and		N
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		N
	Non-self-resetting thermal motor protectors shall have a trip-free action unless they are voltage maintained		N
	Reset buttons of non-self-resetting controls shall be located or protected so that their accidental resetting is unlikely to occur if this could result in a hazard		N
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		P
	Obvious locked position of snap-in devices used for fixing such parts		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		P
	Tests as described		P
22.12	Handles, knobs etc. fixed in a reliable manner		P
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		P
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		N
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		P
22.13	Unlikely that handles, when gripped as in normal use, make the operators hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only		P
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance	No ragged or sharp edges	P
	No exposed pointed ends of self-tapping screws etc., liable to be touched by the user in normal use or during user maintenance	No exposed pointed ends	P
22.15	Storage hooks and the like for flexible cords smooth and well rounded	No storage hooks	N
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands, no undue wear of contacts	No automatic cord reel	N
	Cord reel tested with 6000 operations, as specified		N
	Electric strength test of 16.3, voltage of 1000 V applied		N
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		N
	Not applicable to refrigeration appliances and ice-makers (EN 60335-2-24)		—
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.19	Driving belts not used as electrical insulation		N
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless material used is non-corrosive, non-hygroscopic and non-combustible		P
	Compliance is checked by inspection and, if necessary, by appropriate test		P
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless impregnated	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used	N
22.22	Appliances not containing asbestos		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements adequately supported		N
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N
22.25	Sagging heating conductors cannot come into contact with accessible metal parts		N
22.26	The insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation		N
22.27	Parts connected by protective impedance separated by double or reinforced insulation		N
22.28	Metal parts of Class II appliances conductively connected to gas pipes or in contact with water: separated from live parts by double or reinforced insulation		N
22.29	Class II appliances permanently connected to fixed wiring so constructed that the required degree of access to live parts is maintained after installation		N
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		P
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		P
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		P
22.32	Supplementary and reinforced insulation designed or protected against deposition of dirt or dust		P
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2		N
	Ceramic material not tightly sintered, similar material or beads alone not used as supplementary or reinforced insulation		N
	Insulating material in which heating conductors are embedded is considered to be basic insulation and not reinforced insulation		N
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts		P
	Electrodes not used for heating liquids		P
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, (or 3 layers of reinforced insulation)	Conductive liquids are not in contact with live parts	P
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, (or 3 layers)	Conductive liquids are not in contact with live parts	P
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid		N
	Heating conductors having only one layer of insulation are not in direct contact with water or ice during normal use (EN 60335-2-24)		N
	NOTE : Frozen water is regarded as a conducting liquid (EN 60335-2-24)		P
22.34	Shafts of operating knobs, handles, levers etc. not live, unless the shaft is not accessible when the part is removed		P
22.35	If these handles, levers and knobs are of metal and if their shafts or fixings are likely to become live in the event of a failure of basic insulation, they shall be adequately covered by insulating material or their accessible parts shall be separated from their shafts or fixings by supplementary insulation		P
	This requirement does not apply to handles, levers and knobs on stationary appliances other than those of electrical components, provided they are either reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N
22.36	Handles continuously held in the hand in normal use are so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless they are separated from live parts by double or reinforced insulation		N
22.37	Capacitors in Class II appliances not connected to accessible metal parts, unless complying with 22.42	Class I appliance	N
	Metal casings of capacitors in Class II appliances separated from accessible metal parts by supplementary insulation, unless complying with 22.42		N
22.38	Capacitors not connected between the contacts of a thermal cut-out		P
22.39	Lamp holders used only for the connection of lamps		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.40	Motor-operated appliances and combined appliances intended to be moved while in operation, or having accessible moving parts, fitted with a switch to control the motor. The actuating member of the switch being easily visible and accessible		N
	Unless the appliance can operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation shall be fitted with a switch for stopping the operation of the appliance. The actuating member of this switch shall be easily visible and accessible		N
	Ice-cream appliances and ice-makers shall be fitted with an accessible switch to stop all functions of the appliance.		N
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components		N
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N
	Resistors checked by the test of 14.1 a) in IEC 60065		N
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		N
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N
22.44	Appliances shall not have an enclosure that is shaped or decorated like a toy		P
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.4 due to deformation as a result of an external force applied to the enclosure		N
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1		N
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards		N
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		N
	No leakage from any part, including any inlet water hose		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water (tests according to IEC 61770)		N
22.49	For remote operation, the duration shall be set before the appliance can be started unless the appliance switches off automatically at the end of a cycle or it can operate continuously without giving rise to a hazard.		N
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation		N
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode. There is a visual indication showing that the appliance is adjusted for remote operation		N
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		—
	- continuously, or		N
	- automatically, or		N
	- remotely		N
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold		N
22.101	Lampholders properly fixed (EN 60335-2-24)		N
	NOTE: Normal use includes replacement of lamps (EN 60335-2-24)		N
	Test with torque of (EN 60335-2-24) :		N
	Lampholders for a fluorescent lamp shall comply with the test of 4.4.4 i) in IEC 60598-1 (EN 60335-2-24)		N
22.102	Insulated wire heaters and their joints protected against entry of water (EN 60335-2-24)		P
	3 heating elements: 24 h immersion in water with 1% NaCl; electric strength test between heating conductor and water (1250 V 15 min) (EN 60335-2-24)		P
22.103	Appliances employing a transcritical refrigeration system shall in the high pressure side of the refrigeration system include a pressure relief device on the compressor or between the compressor and the gas cooler. There shall be no shut off devices or other components except piping between the compressor and the pressure relief device, which could introduce a pressure drop. (EN 60335-2-24)		N
	Pressure relief device installed as described (EN 60335-2-24)		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Test of pressure relief device as described (EN 60335-2-24)		N
22.104	Appliances with two or more temperature control devices controlling the same motor-compressor don't cause undue operation of the thermal motor-protector (EN 60335-2-24)		N
	The test is carried out separately with each combination of control devices (EN 60335-2-24)		N
22.105	Appliances which can also be battery operated, the battery circuit is insulated from live parts by double insulation or reinforced insulation (EN 60335-2-24)		N
	It is not possible to touch live parts when making the connections to the battery (EN 60335-2-24)		N
	Specified for double insulation or reinforced insulation (EN 60335-2-24)		N
22.106	The mass of flammable refrigerant shall not exceed 150g (EN 60335-2-24)		P
22.107	Compression-type appliances with a protected cooling system and which use flammable refrigerants shall be constructed to avoid any fire or explosion hazard, in the event of leakage of the cooling system (EN 60335-2-24)		N
22.107.1	A leakage is simulated at the most critical point of the cooling system (tested as specified) (EN 60335-2-24)		N
	The measured value shall not exceed 75% LEL of the refrigerant (table 102) and shall not exceed 50% LEL for a period exceeding 5 min. (EN 60335-2-24)		N
22.107.2	All accessible surfaces of protected cooling system components, are scratched using the tool whose tip is shown in figure 102 (EN 60335-2-24)		N
	The tool is applied using the following parameters (EN 60335-2-24) :		—
	- force at right angles to the surface to be tested 35 N $\pm$ 3 N		N
	- force parallel to the surface to be tested 250 N		N
	The appropriate part shall withstand the test of 22.7 reduced by 50% (EN 60335-2-24)		N
22.107.3	If aluminium having a purity of less than 99,5 % according to ISO 209 is used in a protected cooling system that is embedded in thermal insulation, a sample of the cooling system is subjected to the salt mist test of IEC 60068-2-11 for a test duration of 48 h. (EN 60335-2-24)		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.108	Compression-type appliances with unprotected cooling systems and which use flammable refrigerants, any electrical apparatus other than non-self-resetting protective devices, shall be tested and found to comply with the requirements in Annex CC for group IIA gases or the refrigerant used (EN 60335-2-24)		P
	Refrigerant leakage into food storage shall not result in an explosive atmosphere outside the food storage compartment in areas where electrical apparatus are mounted, except in those areas which contain only non-self-resetting protective devices, necessary for compliance with the requirements in Annex CCfor group IIA gases or the refrigerant used (EN 60335-2-24)		P
	The measured value shall not exceed 75% LEL of the refrigerant (table 102) and shall not exceed 50% LEL for a period exceeding 5 min (EN 60335-2-24)		P
22.109	Compression-type appliance which use flammable refrigerants shall be constructed so that leaked refrigerant will not stagnate so as to cause a fire hazard in areas outside the food storage compartments where the appliance's electrical components, other than non-self-resetting protective devices necessary for compliance with clause 19, are fitted (EN 60335-2-24)		P
	Unless the electrical components comply least with the requirements in Annex CC for group IIA gases or the refrigerant used (EN 60335-2-24)		P
	Test: A quantity equal to 50% $\pm$ 1,5g of the refrigerant charge is injected into the considered area (EN 60335-2-24)		P
	The measured value shall not exceed 75% LEL of the refrigerant (table 102) and shall not exceed 50% LEL for a period exceeding 5 min (EN 60335-2-24)		P
22.110	Temperatures on surfaces be exposed to leakage of flammable refrigerants shall not exceed the auto-ignition temperature (table 102) reduced by 100 K (EN 60335-2-24)		P
22.111	In compression-type appliances which use flammable refrigerant: Prevention from galvanic coupling in contact points between uncoated aluminium and copper pipes (or similar metals) by positive means such as the use of insulated sleeving or spacers. (EN 60335-2-24)		P
22.112	Doors and lids of compartments in appliances with a free space shall be capable of being opened from the inside (EN 60335-2-24)		P
	The door shall open before the force exceeds 70 N (EN 60335-2-24)		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
22.113	Drawers which are only accessible after openings a door or lid shall not contain a free space (EN 60335-2-24)		N
22.114	Drawers which are accessible without opening a door and which contain a free space shall have an opening in their rear wall and be capable of being opened from the inside (EN 60335-2-24)		N
	The drawers shall open before the force exceeds 70 N (EN 60335-2-24)		N
22.115	Appliances for household use which contain compartments with a free space any door or drawer shall not be fitted with a self-latching lock (EN 60335-2-24)		P
	Key operated locks shall require two independent movements to actuate the lock or be of a type that automatically ejects the key when unlocked (EN 60335-2-24)		N
22.116	Accessible glass panels with an area having any two orthogonal dimensions exceeding 75 mm shall be made from (EN 60335-2-24)		N
	• glass that breaks into small pieces when it fractures, or		N
	• glass that is not released or dropped from its normal position when broken		N
	This requirement does not apply to glass panels inside the appliance with enhanced mechanical strength		N
	a) glass that breaks tested as specified		N
	b) glass that is not released or dropped tested as specified		N
	c) glass with enhanced mechanical strength tested as specified		N
22.Z101	Drawers of refrigerating appliances that are provided with sliding devices shall be fitted with stops to prevent them inadvertently falling out (EN 60335-2-24)		N
22.Z102	Appliances shall be constructed so that lubricants are prevented from polluting food compartments (EN 60335-2-24)		P
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 60335-2-24)		P
	All other surfaces shall be durable and cleanable (EN 60335-2-24)		P
	Internal angles, seams and corners that can get in contact with food shall be effectively cleanable (EN 60335-2-24)		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Joints that can get in contact with food shall be sealed and hygienic (EN 60335-2-24)		P
22.Z105	Any internal water dispensing system shall be (EN 60335-2-24):		—
	- accessible for cleaning; or		N
	- designed to permit manual cleaning or flushing with water or other appropriate liquid in accordance with the manufacturer's instructions.		N
	The above requirements are not applicable to self-cleaning systems or chemical dosing systems (EN 60335-2-24)		N
23	INTERNAL WIRING		P
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well rounded or provided with bushings		P
	Wiring effectively prevented from coming into contact with moving parts		P
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges or corners		N
	Beads inside flexible metal conduits contained within an insulating sleeve		N
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		N
	Flexible metallic tubes not causing damage to insulation of conductors		N
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N
	No damage after 100’000 flexings for conductors flexed during normal use (EN 60335-2-24) or 100 flexings for conductors flexed during user maintenance		N
	The number of flexings for an incorporated ice maker is 50 000 (EN 60335-2-24)		N
	Electric strength test, 1000V between live parts and accessible metal parts		N
	Not more than 10% of the strands of any conductor broken, and not more than 30% for wiring supplying circuits that consume no more than 15W		N
	Open-coil springs not used. NOTE : It does not apply to external conductors (EN 60335-2-24)		N
23.4	Bare internal wiring sufficiently rigid and fixed		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use	Withstand the electrical stress	P
	No breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or be such that it can only be removed by breaking or cutting		N
23.7	The colour combination green/yellow used only for earthing conductors		P
23.8	Aluminium wires not used for internal wiring		P
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless		N
	the contact pressure is provided by spring terminals		N
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)		N
24	COMPONENTS		P
24.1	Components comply with safety requirements in relevant standards		P
	List of components	(see appendix components)	P
	Unless otherwise specified, the requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance		P
	Unless otherwise specified, 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 previously tested or do not comply with the standard for the relevant component are tested according to the requirements of 30.2 of this standard		N
	Components that have been previously tested and shown to comply with the resistance to fire requirement s in the standard for the relevant component need not be retested provided that:		P
	- The severity specified in the component standard is not less than the severity specified in 30.2 of this standard, and		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	- Unless this preselection alternative is used, the test report for the component states whether it complied with the standard for the relevant component with or without flame. Flames existing for a cumulative time not exceeding 2 s during the test are ignored		P
	If the above two conditions are not satisfied, the component is tested as part of the appliance		P
	There are two levels of severity specified for appliances for which 30.2.3 is applicable		P
	Unless components have been previously tested an d found to comply with the relevant standard for the numberi of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9. for components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant standard fro the component are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components that have not been separately tested and found to comply with the relevant standard and components t hat are not marked or not used in accordance with their making, are tested in accordance with the conditions occruing in the appliance, the number of samples being that required by the relevant standard		N
	Lampholders and starterholders that have not being tested and found to comply with the relevant standard, tested as a part of the appliance and additionally according to the gauging and interchangeability requirements of the relevant standard		N
	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		N
	Plugs and socket-outlets and other connecting devices of interconnection cords shall not be interchangeable with plugs and socket-outlets listed in IEC/TR 60038 or IEC 60906-1 or with connectors and applicance intlets complying with the standard sheets of IEC 60320-1, if direct supply to these parts from the supply mains could give rise to a hazard		N
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, complying with IEC 60384-14, or		N
	tested according to annex F		N
24.1.2	Safety isolating transformers complying with IEC 61558-2-6, or		P
	tested according to annex G		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
24.1.3	Switches complying with IEC 61058-1, the number of cycles of operation being at least 10 000, or		P
	tested according to annex H		N
	The number of operations for other switches (EN 60335-2-24) :		—
	- quick-freeze switches:	300	N
	- manual and semi-automatic defrost switches	300	N
	- door switches	50’000	P
	- on/off switches	300	N
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		N
	If the switch only operates a motor staring 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
24.1.4	Automatic controls complying with IEC 60730-1 with relevant part 2		P
	The number of cycles of operation being:		—
	- thermostats:	10’000	N
	- temperature limiters:	1’000	N
	- self-resetting thermal cut-outs:	300	N
	- non-self-resetting thermal cut-outs:	30	N
	- voltage maintained non-self-resetting thermal cut-outs:	1’000	N
	- other non-self-resetting thermal cut-outs:	30	N
	- timers:	3’000	N
	- energy regulators:	10’000	N
	- self-resetting thermal cut-outs which may influence the test results of 19.101 and which are not short-circuited during this test: (EN 60335-2-24)	100'000	N
	- thermostats which control the motor-compressor: (EN 60335-2-24)	100'000	N
	- motor-compressor starting relays: (EN 60335-2-24)	100'000	P
	- automatic thermal motor-protectors for motor-compressors of the hermetic and semi-hermetic type: (EN 60335-2-24)	the number of operations during the locked-rotor test (but minimum 2000)	P
	- manual reset thermal motor-protectors for motor-compressors of the hermetic and semi-hermetic type: 50 (EN 60335-2-24)	50	N
	- other automatic thermal motor-protectors: except for fan-motors (EN 60335-2-24)	2000	N
	- other manual test thermal motor protectors: (EN 60335-2-24)	30	N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	- 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 (EN 60335-2-24)		N
	- electrical pressure relief devices for automatic operation: (EN 60335-2-24)	30’000	N
	- electrical pressure relief devices for manual reset: (EN 60335-2-24)	300	N
	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
	Thermal motor protectors are tested in combination with their motor under the conditions specified in Annex D		N
	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
	Electrical pressure relief devices shall comply with IEC 60730-2-6 and shall be of type 2B and type 2N, shall have a trip free mechanism of type 2E and the deviation and drift shall not exceed + 0%. (EN 60335-2-24)		N
	Requirement for mechanical pressure relief devices (EN 60335-2-24)		N
	Testing of pressure relief devices of the bursting disc type with the appliance if not certified (EN 60335-2-24).		N
	Marking of devices as specified (EN 60335-2-24)		
24.1.5	Appliance couplers complying with IEC 60320-1		N
	However, appliances classified higher than IPX0, the appliance couplers complying with IEC 60320-2-3		N
	The relevant standard for interconnection couplers is IEC 60320-2-2		N
24.1.6	Small lamp holders similar to E10 lampholders complying with IEC 60238, the requirements for E10 lampholders being applicable		N
24.1.7	If 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
24.1.8	The relevant standard for thermal links is IEC 60691. Thermal links that do not comply with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance. They are also tested in accordance with Clause 17 of IEC 60730-1. Number of cycles of operations defined in 24.1.4		N
24.2	No switches or automatic controls in flexible cords		P
	No devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance		N
	No thermal cut-outs that can be reset by soldering		P
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and having a contact separation in all poles, providing full disconnection under overvoltage category III conditions		N
	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 (EN 60335-2-24)		N
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1		N
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance and used accordingly		P
	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		P
	For starting capacitors, the voltage across the capacitors shall not exceed 1,3 times the rated voltage of the capacitor at $1.1xU_n$ (EN 60335-2-24)		N
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 42V.		N
	In addition, the motors are complying with the requirements of Annex I		N
24.7	For coupling nuts used with hose-sets marked 25 ℃ max., the 96 h ageing test is carried out at a temperature of		—
	- 32 ℃±1 ℃ on hose-sets supplied with appliances of extended temperate (SN) an temperate (N) classes		N
	- 38 ℃±1 ℃ on hose-sets supplied with appliances of subtropical (ST) classes		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	- 43 ℃±1 ℃ on hose-sets supplied with appliances of tropical (T) classes		N
24.8	Motor running capacitors not causing a hazard in the event of a failure (EN 60335-2-24)		P
	One or more of the following conditions are to be met: (EN 60335-2-24)		—
	- the capacitors are of class S2 or S3 according to IEC 60252-1		P
	- the capacitors are housed within a metallic or ceramic enclosure		N
24.Z1	For motor running capacitors (IEC 60252-1 type P2) with a metallic enclosure having an overpressure fuse the flame testing of internal plastic parts supporting current carrying connetions as required in 30.2.2 and 30.2.3.1 is not necessary		N
24.101	Lampholders shall be of the insulated type (EN 60335-2-24)		N
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 (EN 60335-2-24)		N
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		P
	Motor-compressors with facilities for connecting a supply cord, complying with the appropriate requirements of IEC 60335-2-34 are not subjects to the following tests (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	P
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		—
	- supply cord fitted with a plug		P
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance		N
	- pins for insertion into socket-outlets		N
25.2	Mains-operated appliances provided with not more than one means of connection to the supply unless (EN 60335-2-24)		P
	- the appliance consists of two or more completely independent units built together in one enclosure (EN 60335-2-24)		N
	- the relevant circuits are adequately insulated from each other (EN 60335-2-24)		N
	Appliances which can be both mains and battery operated shall be provided with a separate means for connection (EN 60335-2-24)		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
25.3	Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains:		—
	- a set of terminals allowing the connection of a flexible cord	Supply cord with a plug	N
	- a fitted supply cord		N
	- a set of supply leads accommodated in a suitable compartment		N
	- a set of terminals for the connection of cables of fixed wiring, cross-sectional areas specified in 26.6, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support		N
	- a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate types of cable or conduit, and the appliance allows the connection of the supply conductors after the appliance has been fixed to its support		N
	For a fixed appliance constructed so that parts can be removed to facilitate easy installation, this requirement is met if it is possible to connect the fixed wiring without difficulty after a part of the appliance has been fixed to its support		N
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimensions according to table 10		N
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in 29		N
25.5	Method for assemble supply cord with the appliance:		—
	- type X attachment		N
	- type Y attachment	Type Y	P
	- type Z attachment, if allowed in part 2		N
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		N
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment		N
25.6	Plugs fitted with only one flexible cord		P
	Supply cords of single-phase portable appliances having a rated current not exceeding 16 A shall be fitted with a plug complying with the following standard sheets of IEC/TR 60083		N
	- For class I appliances standard sheet C2b, C3b or C4		N
	- For class II appliances standard sheet C5 or C6		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
25.7	Supply cords, other than for class III appliances, being one of the following types:		—
	- Rubber sheathed (60245 IEC 53)		N
	- Polychloroprene sheathed (60245 IEC 57)		N
	- Cross-linked polyvinyl chloride sheathed. (60245 IEC 88)		N
	Appliance supply cord other than SELV power supply not lighter than (EN 60335-2-24) :		—
	- light polyvinyl chloride sheathed cord (code designation 60227 IEC 52)		P
	- Halogen-free thermoplastic compound sheathed		—
	halogen-free thermoplastic compound sheathed cords (code designation HO3Z1Z1H2-F, H03Z1Z1-F), for appliances not exceeding 3 kg		N
	halogen-free thermoplastic compound sheathed cords (code designation HO5Z1Z1H2-F, H05Z1Z1-F), for other appliances		N
	- Cross-linked halogen-free compound sheathed		N
	Their properties shall be at least those of cross-linked halogen-free compound sheathed cords (code designation H07ZZ-F)		N
	Supply cords for class III appliances adequately insulated (test as described)		N
25.8	Nominal cross-sectional area of supply cords according to table 11; rated current (A); cross-sectional area (mm²):	Rated current: 3,0 A Supply cord: 3 G 0,75 mm^2	P
25.9	Supply cord not in contact with sharp points or edges		P
25.10	Green/yellow core for earthing purposes in Class I appliance		P
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless		N
	the contact pressure is provided by spring terminals		N
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure		N
25.13	Inlet opening so shaped as to prevent damage to the supply cord		P
	Unless the enclosure at the inlet opening is of insulation material, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		N
	If unsheathed supply cord, a similar additional bushing or lining is required, unless		N
	the appliance is class 0, or		N
	a class III appliance not containing live parts		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Does not apply to flexible leads used to connected an appliance to a SELV power supply (EN 60335-2-24)		N
25.14	Supply cords adequately protected against excessive flexing	Appliance not move while in operation	N
	Flexing test:		—
	- applied force (N):		N
	- number of flexings:		N
	The test does not result in:		—
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current		N
	- breakage of more than 10% of the strands of any conductor		N
	- separation of the conductor from its terminal		N
	- loosening of any cord guard		N
	- damage to the cord or the cord guard		N
	- broken strands piercing the insulation and becoming accessible		N
25.15	Conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage		P
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		P
	Pull and torque test of supply cord, values shown in table 10: pull (N); torque (not on automatic cord reel) (Nm) :	100 N 0,35 Nm	P
	Max. 2 mm displacement of the cord, and conductors not moved more than 1 mm in the terminals		P
	Creepage distances and clearances not reduced below values specified in 29.1		P
25.16	Cord anchorages for type X attachments constructed and located so that:		—
	- replacement of the cord is easily possible	Type Y	N
	- it is clear how the relief from strain and the prevention of twisting are obtained		N
	- they are suitable for different types of cord		N
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless separated from accessible metal parts by supplementary insulation		N
	- the cord is not clamped by a metal screw which bears directly on the cord		N
	- at least one part of the cord anchorage securely fixed to the appliance, unless part of a specially prepared cord		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	- screws which have to be operated when replacing the cord do not fix any other component, if applicable		N
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood		N
	- for Class 0, 0I and I appliances: they are of insulating material or are provided with an insulating lining, unless a failure of the insulation of the cord does not make accessible metal parts live		N
	- for Class II appliances: they are of insulating material, or if of metal, they are insulated from accessible metal parts by supplementary insulation		N
25.17	Adequate cord anchorages for type Y and Z attachment	Type Y	P
25.18	Cord anchorages only accessible with the aid of a tool, or		N
	so constructed that the cord can only be fitted with the aid of a tool		P
25.19	Type X attachment, glands not used as cord anchorage in portable appliances		N
	Tying the cord into a knot or tying the cord with string not used		N
25.20	Conductors of the supply cord for type Y and Z attachment adequately additionally insulated	Type Y	P
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed to permit checking of conductors with respect to correct positioning and connection before fitting any cover, no risk of damage to the conductors when fitting the cover, no contact with accessible metal parts if a conductor becomes loose, etc.		N
	For portable appliances, the uninsulated end of a conductor prevented from any contact with accessible metal parts, unless the end of the cord is such that the conductors are unlikely to slip free		N
25.22	Appliance inlet:		—
	- live parts not accessible during insertion or removal		N
	Requirement not applicable to appliance inlets complying with IEC 60320-1		N
	- connector can be inserted without difficulty		N
	- the appliance is not supported by the connector		N
	- is not for cold conditions if temp. rise of external metal parts exceeds 75 K, unless the supply cord is not likely to touch such metal parts		N
25.23	Interconnection cords comply with the requirements for the supply cord, except as specified		N
	If necessary, electric strength test of 16.3		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Interconnection cord for battery operated appliances (EN 60335-2-24)		N
25.24	Interconnection cords not detachable without the aid of a tool if compliance with the standard is impaired when they are disconnected		N
25.25	Dimensions of pins compatible with the dimensions of the relevant socket-outlet. Dimensions of pins and engagement face in accordance with the relevant plug in IEC 60083		N
25.101	Appliances which can be battery operated shall have suitable means for connection of the battery (EN 60335-2-24)		N
26	TERMINALS FOR EXTERNAL CONDUCTORS		P
	This clause of part 1 is not applicable to those parts of motor-compressors with facilities for connecting a supply cord and complying with. IEC 60335-2-34 (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	P
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors		P
	Terminals only accessible after removal of a non-detachable cover, except		P
	for class III appliances that do not contain live parts		N
	However, earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection		P
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless the connections are soldered		N
	Screws and nuts serve only to clamp supply conductors, except		N
	internal conductors, if so arranged that they are unlikely to be displaced when fitting the supply conductors		N
	If soldered connections used, the conductor so positioned or fixed that reliance is not placed on soldering alone, unless		N
	barriers provided so that neither clearances nor creepage distances between live parts and other metal parts reduced below the values for supplementary insulation if the conductor becomes free at the soldered joint		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor		N
	Terminals fixed so that when the clamping means is tightened or loosened:		—
	- the terminal does not become loose		N
	- internal wiring is not subjected to stress		N
	- neither clearances nor creepage distances are reduced below the values in clause 29		N
	Compliance is checked by inspection and by the test of subclause 9.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified.		N
	No deep or sharp indentations of the conductors		N
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened		N
26.5	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection to other parts that result in a hazard		N
	Stranded conductor test, 8 mm insulation removed		N
	No contact between live parts and accessible metal parts and, for class II constructions, between live parts and metal parts separated from accessible metal parts by supplementary insulation only		N
26.6	Terminals for type X attachment and for the connection of cables of fixed wiring suitable for connection of conductors with required cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm^2):		N
	Terminals only suitable for a specially prepared cord		N
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure		N
26.8	Terminals for the connection to fixed wiring, including the earthing terminal, located close to each other		N
26.9	Terminals of the pillar type constructed and located as specified		N
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless conductors ends fitted with a device suitable for screw terminals		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Pull test of 5 N to the connection		P
26.11	For type Y and Z attachment: soldered, welded, crimped and similar connections may be used	Type Y	P
	For Class II appliances: the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		N
	Conductors connected by soldering are not considered to be positioned or fiexed so that reliance is not placed upon the soldering alone to maintain them in positon unless they are held in place near the ternimals independently of the solder		N
	For Class II appliances: soldering, welding or crimping alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free		N
	Terminals for type X attachment so located or shielded that if a wire of a stranded conductor escapes, no risk of accidental connection between live parts and accessible metal parts, between battery supply terminals if any (EN 60335-2-24)		N
27	PROVISION FOR EARTHING		P
	Compliance is not checked on parts related to motor-compressors if the motor-compressor complies with IEC 60 335-2-34 (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	P
27.1	Accessible metal parts of Class 0I and I appliances, permanently and reliably connected to an earthing terminal or contact of the appliance inlet		P
	Earthing terminals not connected to neutral terminal		P
	Class 0, II and III appliance have no provision for earthing		N
	Safety extra-low voltage circuits not earthed, unless protective extra-low voltage circuits		N
27.2	Clamping means adequately secured against accidental loosening		P
	Terminals used for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm², and	No connection of external equipment bonding conductor	N
	do not provide earthing continuity between different parts of the appliance		N
	Conductors cannot be loosened without the aid of a tool		P
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		P
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal		P
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		P
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 µm		P
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		N
	In case of aluminium alloys precautions taken to avoid risk of corrosion		N
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided that clearances of basic insulation are based on the rated voltage of the appliance		N
	Resistance not exceeding 0,1 Ω at the specified low-resistance test	0,03 Ω	P
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand held appliances	Stationary appliances	N
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit		N
28	SCREWS AND CONNECTIONS		P
	Compliance is not checked on parts related to motor-compressors if the motor-compressor complies with IEC 60 335-2-34 (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	P
28.1	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm		N
	Screws of insulating material not used for any electrical connection or connections providing earthing continuity		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Screws used for electrical connections or connections providing earthing continuity screw into metal		P
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		P
	Type X attachment, screws to be removed for replacement of supply cord or for user maintenance, not of insulating material if their replacement by a metal screw can impair basic insulation		N
	For screws and nuts; test as specified	(see appended table)	P
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material		N
	This requirement does not apply to electrical connections in circuits of appliances for which:		
	- 30.2.2 is applicable and that carry a current not exceeding 0,5 A		N
	- 30.2.3 is applicable and that carry a current not exceeding 0,2 A		N
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together		N
	Thread-cutting (self-tapping) screws and thread rolling screws shall only be used for electrical connections if they generate a full form standard machine screw thread. However, thread-cutting (self-tapping) screws shall not be used if they are likely to be operated by the user or installer		P
	Thread-cutting, thread rolling and space-threaded screws may be used in connections providing earthing continuity provided it is not necessary to disturb the connection		N
	At least two screws must be used for each connection providing earthing continuity unless the screw forms a thread having a length of at least half the diameter of the screw		N
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		P
	This requirement does not apply to screws in the earthing circuit if at least two screws are used, or if an alternative earthing circuit is provided		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if subjected to torsion		N
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		P
	Compliance is not checked on parts related to motor-compressors if the motor-compressor complies with IEC 60 335-2-34 (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	P
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies. The microenvironment is pollution degree 1 under type 1 protection. For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3	No such printed circuits boards	N
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless for basic insulation and functional insulation they comply with the impulse voltage test of clause 14	(see appended table)	P
	However, if the construction is affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N
	The impulse voltage test is not applicable when the microenvironment is pollution degree 3 or for basic insulation of class 0 appliances and class 0I appliances	Rated voltage: 220-240 V Overvoltage category II	P
	Appliances are in overvoltage category II	Category II	P
	Compliance is checked by inspection and measurements as specified		P
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		P
	The values of Table 16, or the impulse voltage test of Clause 14, are applicable		P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1mm if the microenvironment is pollution degree 1		N
	Lacquered conductors of windings considered to be bare conductors		N
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, but using the next higher step for rated impulse voltage		P
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation		P
29.1.4	Clearances for functional insulation are the largest values determined from:		—
	- table 16 based on the rated impulse voltage		P
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless the microenvironment is pollution degree 3, or the distances can be affected by wear, distortion, movement of the parts or during assembly		N
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		N
	Lacquered conductors of windings considered to be bare conductors		N
	However, clearances at crossover points are not measured		N
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		—
	- table 16 based on the rated impulse voltage		N
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation		N
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160% of the withstand voltage required for basic insulation		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation		N
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage		N
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation based on the working voltage used as the rated voltage in table 15		N
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree		P
	Pollution degree 2 applies, unless		P
	precautions taken to protect the insulation; pollution degree 1		N
	insulation subjected to conductive pollution; pollution degree 3		P
	Compliance is checked by inspection and measurements as specified		P
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system		P
	Insulation in refrigeration appliances and ice-makers is in pollution degree 3 and shall have a CTI value of 250 unless the insulation to be protected to pollution by condensation (EN 60335-2-24)		P
	Not applicable for functional insulation if working voltage < 50 V (EN 60335-2-24)		N
29.2.1	Creepage distances of basic insulation not less than specified in table 17	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17		N
	For pollution degree 1, creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14		N
29.2.2	Creepage distances of supplementary insulation at least as specified for basic insulation in table 17, or		P
	Table 2 of IEC 60664-4, as applicable		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
29.2.3	Creepage distances of reinforced insulation at least double as specified for basic insulation in table 17, or		P
	Table 2 of IEC 60664-4, as applicable		N
29.2.4	Creepage distances of functional insulation not less than specified in table 18		P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18		N
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N
29.3	Supplementary insulation and reinforced insulation shall have adequate thickness, or have a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		—
	- by measurement, in accordance with 29.3.1, or		P
	- by an electric strength test in accordance with 29.3.2, or		N
	- by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N
29.3.Z1	Appliance shall be constructed so that if there is a possibility of damaging the insulation during installation, the insulation shall withstand the soratch and penetration test of 21.2		N
29.3.1	The thickness of the insulation shall be at least:		—
	- 1 mm for supplementary insulation; - 2 mm for reinforced insulation.		P
29.3.2	Each layer of material shall withstand the electric strength test of 16.3 for supplementary insulation.		N
	Supplementary insulation shall consist of at least 2 layers of material and reinforced insulation of at least 3 layers		N
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2 for 48 h, followed by the electric strength test of 16.3		N

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out		N
30	RESISTANCE TO HEAT AND FIRE		P
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	thermoplastic material providing supplementary or reinforced insulation,		P
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2	(see appended table)	P
	External parts: at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 75°C, whichever is the higher		P
	Parts supporting live parts: at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125°C, whichever is the higher		P
	Parts of thermoplastic material providing supplementary or reinforced insulation, 25°C plus the maximum temperature rise determined during clause 19, if higher		N
	Relevant external parts of non-metallic material also within the storage compartment parts (EN 60335-2-24)		P
	Accessible parts within the storage compartment 65 °C (EN 60335-2-24)		P
	Following tests do not apply to parts related to the motor-compressor if the motor-compressor complies with IEC 60 335-2-34 (EN 60335-2-24)	Motor-compressor complying with IEC 60335-2-34	P
30.2	Relevant parts of non-metallic material adequately resistant to ignition and spread of fire	(see appended table)	P
	This requirement does not apply to:		—
	parts related to the motor-compressor if the motor-compressor complies with IEC 60 335-2-34 with no ignition (EN 60335-2-24)		N
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or		N
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		N
	For accessible thermal insulation and (accessible) non-metallic material on the external rear surface in direct contact with thermal insulation, compliance is checked by 30.2.101 (EN 60335-2-24)		P

EN 60335-2-24			
Clause	Requirement – Test	Result – Remark	Verdict
30.2.1	Glow-wire test of IEC 60695-2-11 at 550°C, unless		P
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 C, or		N
	the material is classified at least HB40 according to IEC 60695-11-10		N
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF		N
30.2.2	Not applicable (EN 60335-2-24)		—
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		P
	Tests not applicable to conditions as specified		N
30.2.3.1	Parts of insulating material supporting connections carrying a current exceeding 0.2A during normal operation, and		P
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		P
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850°C		P
	Glow-wire applied to an interposed shielding material, if relevant		N
	The glow-wire test is not carried out on parts of material classified as having a GWFI according to IEC 60695-2-12 of at least 850°C		N
30.2.3.2	Parts of insulating material supporting current-carrying connections, and		P
	parts of non-metallic material, within a distance of 3mm,		P
	subjected to glow-wire test of IEC 60695-2-11		P
	The test severity is:		—
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		P
	- 650 °C, for other connections		P
	Glow-wire applied to an interposed shielding material, if relevant		N
	However, the glow-wire test of 750°C or 650°C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		—
	- a GWIT according to IEC 60695-2-13 of at least:		N
	• 775°C , for connections carrying a current exceeding 0,2 A during normal operation		N
	• 675°C, for other connections		N
	- a GWFI according to IEC 60695-2-12 of at least:		N
	• 750°C, for connections carrying a current exceeding 0,2 A during normal operation		N

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Clause	Requirement – Test	Result – Remark	Verdict
	• 650°C, for other connections		N
	The glow-wire test is also not carried out on small parts. These parts are to:		—
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N
	- comprise material having a glow-wire flammability index of at least 750°C or 650°C as appropriate, or		N
	- comply with the needle-flame test of Annex E, or		N
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10		N
	The consequential needle-flame test of Annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a distance of 3 mm of such connections if these parts are those		—
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or		P
	- parts that comprised material having a glow-wire flammability index of at least 750°C or 650°C as appropriate, or		N
	- small parts, that comprised material having a glow-wire flammability index of at least 750°C or 650°C as appropriate, or		N
	- small parts for which the needle-flame test of Annex E was applied, or		N
	- small parts for which a material classification of V-0 or V-1 was applied		N
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		—
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or		N
	- parts shielded by a flame barrier that meets the needle-flame test of Annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N
30.2.4	Base material of printed circuit boards subjected to needle-flame test (NFT) of annex E		P
	Test not applicable to conditions as specified		N
30.2.101	Accessible thermal insulation and (accessible) non-metallic material on the external rear surface in direct contact with thermal insulation (EN 60335-2-24)		—
	- is subjected to the needle-flame test; or		N
	- material shall be V-0 or V-1		N
	This does not apply to non-metallic material that		—

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Clause	Requirement – Test	Result – Remark	Verdict
	- is within 150 mm from the top surface		N
	- is on the left or right side of the compressor compartment		N
	- has an area not exceeding 75 cm^2 that is in direct contact with the thermal insulation		N
31	RESISTANCE TO RUSTING		P
	Relevant ferrous parts adequately protected against rusting		P
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		N
	Appliances shall not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use.		N
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		N
	Description of routine tests to be carried out by the manufacturer		N
AA	ANNEX AA, (NORMATIVE) LOCKED-ROTOR TEST OF FAN MOTORS (EN 60335-2-24)		P
	The winding of a fan motor does not reach excessive temperatures if the motor locks or fails to start	(see appended table)	P
	The motor is supplied at rated voltage according to supply circuit fig. AA.1.		P
	Tests as described		P
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES		N
	The following modifications to this standard are applicable for appliances powered by batteries that are recharged in the appliance		N
	This annex does not apply to battery chargers		N
3.1.9	Appliance operated under the following conditions:		—
	-the appliance, supplied by its fully charged battery, operated as specified in relevant part 2		N
	-the battery is charged, the battery being initially discharged to such an extent that the appliance cannot operate		N

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Clause	Requirement – Test	Result – Remark	Verdict
	-if possible, the appliance is supplied from the supply mains through its battery charger, the battery being initially discharged to such an extent that the appliance cannot operate. The appliance is operated as specified in relevant part 2		N
	If the appliance incorporates inductive coupling between two parts that are detachable from each other, the appliance is supplied from the supply mains with the detachable part removed		N
3.6.2	Part to be removed in order to discard the battery is not considered to be detachable		N
5.101	Appliances supplied from the supply mains tested as specified for motor-operated appliances		N
7.1	Battery compartment for batteries intended to be replaced by the user, marked with battery voltage and polarity of the terminals		N
	The positive terminal indicated by symbol IEC 60417-5005 and the negative terminal by symbol IEC 60417-5006		N
7.6	Symbols 60417-5005 and IEC 60417-5006		N
7.12	The instructions for appliances incorporating batteries intended to be replaced by the user includes required information		N
	Details about how to remove batteries containing materials hazardous to the environment given		N
7.15	Markings placed on the part of the appliance connected to the supply mains		N
8.2	Appliances having batteries that according to the instruction may be replaced by the user need only have basic insulation between live parts and the inner surface of the battery compartment		N
	If the appliance can be operated without batteries, double or reinforced insulation required		N
11.7	The battery is charged for the period described		N
19.1	Appliances subjected to tests of 19.101, 19.102 and 19.103		N
19.101	Appliances supplied at rated voltage for 168 h, the battery being continually charged		N
19.102	Short-circuiting of the terminals of the battery, being fully charged, for appliances having batteries that can be removed without the aid of a tool		N
19.103	Appliances having batteries replaceable by the user supplied at rated voltage under normal operation with the battery removed or in any position allowed by the construction		N
21.101	Appliances having pins for insertion into socket-outlets have adequate mechanical strength, checked according to procedure 2 of IEC 68-2-32		N

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Clause	Requirement – Test	Result – Remark	Verdict
	Part of the appliance incorporating the pins subjected to the free fall test, procedure 2, of IEC 60068-2-32, the number of falls being:		—
	- 100, the mass of part does not exceed 250 g		N
	- 50, the mass of part exceeds 250 g		N
	After the test, the requirements of 8.1, 15.1.1, 16.3 and clause 29 are met		N
22.3	Appliances having pins for insertion into socket-outlets tested as fully assembled as possible		N
25.13	An additional lining or bushing not required for interconnection cords operating at safety extra-low voltage		N
30.2	For parts of the appliance connected to the supply mains during the charging period, 30.2.3 applies		N
	For other parts, 30.2.2 applies		N
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		N
	This annex does not apply to motor-compressors (EN 60335-2-24)		N
CC	**ANNEX CC (NORMATIVE) NON-SPARKING "N" ELECTRICAL APPARATUS (EN 60335-2-24)**		**N**
	Where reference is made to IEC 60079-15, the following clauses are applicable as modified below		—
11	Supplementary requirements for non-sparking luminaires		—
	All subclauses of Clause 11 are applicable, except 11.2.4.1, 11.2.4.5, 11.2.5, 11.2.6, 11.2.7, 11.3.4, 11.3.5, 11.3.6 and 11.4		N
16	General supplementary requirements for apparatus producing arcs, sparks or hot surfaces		N
17	Supplementary requirements for enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces		N
18	Supplementary requirements for hermetically sealed devices producing arcs, sparks or hot surfaces		N
19	Supplementary requirements for sealed devices producing arcs, sparks or hot surfaces		—
	All of the subclauses of Clause 19 are applicable, except 19.1 and 19.6, which are replaced by the following		N
19.1	Non-metallic materials		—

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Clause	Requirement – Test	Result – Remark	Verdict
	Seals are tested using 22.5. However if the device is tested in the appliance, then 22.5.1 and 22.5.2 are not applicable		N
	After the tests of Clause 19 in EN 60335-2-24, by inspection, no damage that could impair the type of protection shall be evident		N
19.6	Type tests		—
	The type tests described in 22.5 shall be performed where relevant		N
20	Supplementary requirements for restricted-breathing enclosures protecting apparatus producing arcs, sparks or hot surfaces		N
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		N
	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard		N
	This annex does not apply to motor-compressors or condenser fan motors (EN 60335-2-24)		N
	Test conditions as specified		N
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		P
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		—
5	Severities:		—
	The duration of application of the test flame is 30 s ± 1 s		P
8	Test procedure		—
8.2	The specimen so arranged that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1		P
8.4	The first paragraph does not apply		P
	If possible, the flame is applied at least 10 mm from a corner		P
8.5	The test is carried out on one specimen		P
	If the specimen does not withstand the test, the test may be repeated on two further specimens, both withstanding the test		P
10	Evaluation of test results		—
	The duration of burning not exceeding 30 s		P
	However, for printed circuit boards, the duration of burning not exceeding 15 s		N

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Clause	Requirement – Test	Result – Remark	Verdict
F	ANNEX F (NORMATIVE) CAPACITORS		N
	Capacitors likely to be permanently subjected to the supply voltage, and used for radio interference suppression or voltage dividing, comply with the following clauses of IEC 60384-14, with the following modifications:		—
1.5	Terminology		—
1.5.3	Class X capacitors tested according to subclass X2		N
1.5.4	This subclause is applicable		N
1.6	Marking		—
	Items a) and b) are applicable		N
3.4	Approval testing		—
3.4.3.2	Table II is applicable as described		N
4.1	Visual examination and check of dimensions		—
	This subclause is applicable		N
4.2	Electrical tests		—
4.2.1	This subclause is applicable		N
4.2.5	This subclause is applicable		N
4.2.5.2	Only table IX is applicable		N
	Values for test A apply		N
	However, for capacitors in heating appliances the values for test B or C apply		N
4.12	Damp heat, steady state		—
	This subclause is applicable		N
	Only insulation resistance and voltage proof are checked		N
4.13	Impulse voltage		—
	This subclause is applicable		N
4.14	Endurance		—
	Subclauses 4.14.1, 4.14.3, 4.14.4 and 4.14.7 applicable		N
4.14.7	Only insulation resistance and voltage proof are checked		N
	Visual examination, no visible damage		N
4.17	Passive flammability test		—
	This subclause is applicable		N
4.18	Active flammability test		—
	This subclause is applicable		N

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Clause	Requirement – Test	Result – Remark	Verdict
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		N
	The following modifications to this standard are applicable for safety isolating transformers:		—
7	Marking and instructions		—
7.1	Transformers for specific use marked with:		—
	-name, trademark or identification mark of the manufacturer or responsible vendor		N
	-model or type reference		N
17	Overload protection of transformers and associated circuits		—
	Fail-safe transformers comply with subclause 15.5 of IEC 61558-1		N
22	Construction		—
	Subclauses 19.1 and 19.1.2 of IEC 61558-2-6 are applicable		N
29	Clearances, creepage distances and solid insulation		—
29.1, 29.2, 29.3	The distances specified in items 2a, 2c and 3 in table 13 of IEC 61558-1 apply		N
	For insulated winding wires complying with subclause 19.12.3 of IEC 61558-1 there are no requirements for clearances or creepage distances		N
	For windings providing reinforced insulation, the distance specified in item 2c of table 13 of IEC 61558-1 is not assessed		N
	For safety isolating transformers subjected to periodic voltages with a frequency exceeding 30 kHz, the clearances, creepage distances and solid insulation values specified in IEC 60664-4 are applicable, if greater than the values specified in items 2a, 2c and 3 in table 13 of IEC 61558-1		N
H	ANNEX H (NORMATIVE) SWITCHES		N
	Switches comply with the following clauses of IEC 61058-1, as modified:		—
	-The tests of IEC 61058-1 carried out under the conditions occurring in the appliance		N
	-Before being tested, switches are operated 20 times without load		N
8	Marking and documentation		—
	Switches are not required to be marked		N
	However, switches that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference		N
13	Mechanism		—
	The tests may be carried out on a separate sample		N

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Clause	Requirement – Test	Result – Remark	Verdict
15	Insulation resistance and dielectric strength		—
15.1	Not applicable		N
15.2	Not applicable		N
15.3	Applicable for full disconnection and micro-disconnection		N
17	Endurance		—
	Compliance is checked on three separate appliances or switches		N
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335 .....:		N
	Switches for operation under no load and which can be operated only by a tool, and		N
	switches operated by hand that are interlocked so that they cannot be operated under load,		N
	are not subjected to the tests		N
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation		N
	Subclauses 17.2.2 and 17.2.5.2 not applicable		N
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in EN 60335-1		N
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of EN 60335-1 (K).....:		N
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		—
	This clause is applicable to clearances and creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in table 24		N
I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE		N
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:		—
8	Protection against access to live parts		—
8.1	Metal parts of the motor are considered to be bare live parts		N
11	Heating		—
11.3	Temperature rise of the body of the motor is determined instead of the temperature rise of the windings		N

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Clause	Requirement – Test	Result – Remark	Verdict
11.8	Temperature rise of the body of the motor, where in contact with insulating material, not exceeding values in table 3 for the relevant insulating material		N
16	Leakage current and electric strength		—
16.3	Insulation between live parts of the motor and its other metal parts not subjected to the test		N
19	Abnormal operation		—
19.1	The tests of 19.7 to 19.9 not carried out		N
19.101	Appliance operated at rated voltage and operated under normal operation with each of the following fault conditions:		—
	- short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit		N
	- short circuit of each diode of the rectifier		N
	- open circuit of the supply to the motor		N
	- open circuit of any parallel resistor, the motor being in operation		N
	Only one fault simulated at a time, the tests carried out consecutively		N
	When any of the fault conditions are simulated, the duration of the test is as specified in 19.7		N
22	Construction		—
22.101	For class I appliances incorporating a motor supplied by a rectifier circuit, the d.c. circuit being insulated from accessible parts of the appliance by double or reinforced insulation		N
	Compliance checked by the tests specified for double and reinforced insulation		N
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		N
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3		N
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		P
	The information on overvoltage categories is extracted from IEC 60664-1		P
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		P
	Sequences for the determination of clearances and creepage distances		P

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Clause	Requirement – Test	Result – Remark	Verdict
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		P
	The information on pollution degrees is extracted from IEC 60664-1		P
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		P
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		—
	Test apparatus		—
7.3	Test solutions		—
	Test solution A is used		P
10	Determination of proof tracking index (PTI)		—
10.1	The proof voltage is 100V, 175V, 400V or 600V:		P
	The last paragraph of Clause 3 applies		P
	The test is carried out on five specimens		P
	In case of doubt, a material is considered to have a PTI of the specified value if it withstands the test at a voltage equal to the proof voltage reduced by 25 V, the number of drops being increased to 100.		N
10.2	The report shall state if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25)		P
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30		P
	Description of tests for determination of resistance to heat and fire		P
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		N
	Modifications applicable for class 0 and 01 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WDaE		—
	Modifications may also be applied to class 1 appliances having a rated voltage exceeding 150V, intended to be used in countries having a warm damp equable climate and that are marked WdaE, if liable to be connected to a supply mains that excludes the protective earthing conductor		—
5.7	The ambient temperature of the tests of Clause 10, 11 and 13 is 43° C ± 1° C. See Subclause 5.7 (EN 60335-2-24)		N
7.1	The appliance marked with the letters WdaE		N

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Clause	Requirement – Test	Result – Remark	Verdict
7.12	The instructions shall state that the appliance is to be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.		N
	The instructions state that the appliance is considered to be suitable for use in countries having a warm damp equable climate, but may also be used in other countries		N
11.8	The values of Table 3 are reduced by 18 K (EN 60335-2-24)		N
13.2	The leakage current for class I appliances not exceeding 0,5 mA		N
15.3	The value of t is 37 °C		N
16.2	The leakage current for class I appliances not exceeding 0,5 mA		N
19.13	The leakage current test of 16.2 is applied in addition to the electric strength test of 16.3		N
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		N
	Description of tests for appliances incorporating electronic circuits		—
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex		—
R.1	Programmable electronic circuits using software		—
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 constructed so that the software does not impair compliance with the requirements of this standard		N
R.2	Requirements for the architecture		—
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 use measures to control and avoid software-related faults/errors in safety-related data and safety-related segments of the software		N
R.2.1.1	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.2 have one of the following structures:		—
	- single channel with periodic self-test and monitoring		N
	- dual channel (homogenous) with comparison		N

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Clause	Requirement – Test	Result – Remark	Verdict
	- dual channel (diverse) with comparison		N
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 have one of the following structures:		—
	- single channel with functional test		N
	- single channel with periodic self-test		N
	- dual channel without comparison		N
R.2.2	Measures to control faults/errors		—
R.2.2.1	When redundant memory with comparison is provided on two areas of the same component, the data in one area is stored in a different format from that in the other area		N
R.2.2.2	Programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.2 and that use dual channel structures with comparison, have additional fault/error detection means for any fault/errors not detected by the comparison		N
R.2.2.3	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, means are provided for the recognition and control of errors in transmissions to external safety-related data paths		N
R.2.2.4	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the programmable electronic circuits incorporate measures to address the fault/errors in safety-related segments and data indicated in table R.1 and R.2 as appropriate		N
R.2.2.5	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, detection of a fault/error occur before compliance with clause 19 is impaired		N
R.2.2.6	The software is referenced to relevant parts of the operating sequence and the associated hardware functions		N
R.2.2.7	Labels used for memory locations are unique		N
R.2.2.8	The software is protected from user alteration of safety-related segments and data		N
R.2.2.9	Software and safety-related hardware under its control is initialized and terminates before compliance with clause 19 is impaired		N
R.3	Measures to avoid errors		—
R.3.1	General		—

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Clause	Requirement – Test	Result – Remark	Verdict
	For programmable electronic circuits with functions requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2, the following measures to avoid systematic fault in the software are applied		—
	Software that incorporates measures used to control the fault/error conditions specified in table R.2 is inherently acceptable for software required to control the fault/error conditions specified in table R.1		N
R.3.2	Specification		—
R.3.2.1	Software safety requirements:	Software Id:	N
	The specification of the software safety requirements includes the descriptions listed		N
R.3.2.2	Software architecture		—
R.3.2.2.1	The specification of the software architecture includes the aspects listed - techniques and measures to control software faults/errors (refer to R.2.2); - interactions between hardware and software; - partitioning into modules and their allocation to the specified safety functions; - hierarchy and call structure of the modules (control flow); - interrupt handling; - data flow and restrictions on data access; - architecture and storage of data; - time-based dependencies of sequences and data	Document ref. No:	N
R.3.2.2.2	The architecture specification is validated against the specification of the software safety requirements by static analysis		N
R.3.2.3	Module design and coding		—
R.3.2.3.1	Based on the architecture design, software is suitably refined into modules		N
	Software module design and coding is implemented in a way that is traceable to the software architecture and requirements		N
R.3.2.3.2	Software code is structured		N
R.3.2.3.3	Coded software is validated against the module specification by static analysis		N
	The module specification is validated against the architecture specification by static analysis		N
R.3.3.3	Software validation		—
	The software is validated with reference to the requirements of the software safety requirements specification		N
	Compliance is checked by simulation of:		N
	- input signals present during normal operation		N
	- anticipated occurrences		N

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Clause	Requirement – Test	Result – Remark	Verdict
	- undesired conditions requiring system action		N
ZA	ANNEX ZA (NORMATIVE) SPECIAL NATIONAL CONDITIONS		P
	National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions		—
ZB	ANNEX ZB (INFORMATIVE) A-DEVIATIONS		P
	National deviation due to regulations, the alteration of which for the time being outside the competence of the CENELEC national member		—
ZC	ANNEX ZC (NORMATIVE) NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPINDING EUROPEAN PUBLICATIONS		P
	Description of referenced documents indispensable for the application of this document		—
ZD	ANNEX ZD (INFORMATIVE) IEC AND CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS		P
	IEC and CENELEC code designations for flexible cords		—
ZE	ANNEX ZE (INFORMATIVE) SPECIFIC ADDITIO NAL REQUIREMENTS FOR APPLIANCES AND MACHINES INTENDED FOR COMMERCIAL USE		N
	Description of modifications to this standard applicable for appliances and machines intended for commercial use		—
ZF	ANNEX ZF (INFORMATIVE) CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD		P
	This guide has been prepared by CLC/TC 61 based on the discussions with the group of experts set up by the EU Commission to manage the application of the Machinery Directive 2006/42/EC		—
	In Talble ZF.1 – Lists of standards under CLC/TC 61, replace line of EN 60335-2-38 by the table of EN 60335-2-38		—
ZG	ANNEX ZG (NORMATIVE) UV APPLIANCES		N
	Description of modifications to this standard applying to appliances having UV emitters		—

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Clause	Requirement – Test	Result – Remark	Verdict
ZZ	ANNEX ZZA (INFORMATIVE) RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE SAFETY OBJECTIVES OF DERECTIVE 2014/35/EU [2014 OJ L96] AIMED TO BE COVERED (EN 60335-2-24)		P
	Description of relationship between this European standard and the safety objectives of derective 2014/35/EU [2014 OJ L96]		—
ZZA	ANNEX ZZA (INFORMATIVE) RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE SAFETY OBJECTIVES OF DERECTIVE 2014/35/EU [2014 OJ L96] AIMED TO BE COVERED		P
	Description of relationship between this European standard and the safety objectives of derective 2014/35/EU [2014 OJ L96]		—
ZZB	ANNEX ZZB (INFORMATIVE) RELATIONSHIP BETWEEN THIS EUROPEAN STANDARD AND THE ESSENTIAL REQUIREMENTS OF DERECTIVE 2006/42/EC AIMED TO BE COVERED		N
	Description of relationship between this European standard and the essential requirements of derective 2006/42/EC		—

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10.1	TABLE: Power input deviation					N
Input deviation of/at:		P rated (W)	P measured (W)	dP(%)	Required dP(%)	Remark
N						

10.2	TABLE: Current deviation					P
Current deviation of/at:		I rated (A)	I measured (A)	dI(%)	Required dI(%)	Remark
Model KL15813 refrigerating with comp. model NS1119Y		1,1	1,07	-2,7%	+15 %	230 V
Model KL15813 refrigerating with comp. model NS1119Y		--	1,01	--	--	220 V (reference)
Model KL15813 refrigerating with comp. model NS1119Y		--	1,15	--	--	240 V (reference)
--						

10.101	TABLE: Power input deviation					N
Input deviation of/at:		P rated (W)	P measured (W)	dP	Required dP	Remark
N						

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11.8	TABLE: Heating test(The heating test are conducted on between 254,4 V and 206,8 V, the temperature rise data in above table are those bigger ones in 1,06 and 0,94 times rated voltage heating test.)		P
	t1 (℃) :	38,0	
	t2 (℃) :	38,0	
	test voltage (V) :	254,4	

temperature rise Dt of part/at:	Dt (K)	required Dt (K)
External enclosures of motor-compressor	81,5℃	150℃
Running capacitor	7,3	53(T85)
The internal wire	16,7	43
The supply cord	6,8	43
Test appliance enclosure	5,8	53
Relay	6,6	23
Transformer	10,1	73
Wall of the test corner	2,3	53
Ceiling of the test corner	0,4	53
Floor of the test corner	2,7	53
Thermostat cover	5,4	Reference for Cl.30
Terminal box of compressor	10,2	Reference for Cl.30
--		

	Winding temperature rise measurements :		P

temperature rise Dt of winding:	R_1 (Ω)	R_2 (Ω)	Dt (K)	required Dt (K)	insulation class
Winding of fan motor (YR12038A2HB)	733,6	788,5	20,4	83	120
Winding of fan motor (XY-12025B2H)	167,7	179,0	18,4	83	120

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13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input.....:		
	Motor-operated and combined appliances: 1.06 x rated voltage……..:	254,4 V	

Leakage current between	I (mA)	Max. allowed I (mA)
Any pole of the supply and accessible metal parts intended to be connected to protective earth	0,096	3,5
Any pole of the supply and metal foil is in contact with accessible surfaces of insulating material and metal parts not intended to be connected to protective earth	0,024	0,35 peak
L1/L2/L3 (Switches a, b and c in ON position)	N	N
L1 (Switch a is opened)	N	N
L2 (Switch b is opened)	N	N
L3 (Switch c is opened)	N	N

13.3	TABLE: Electric strength	P

Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Live part and accessible parts(basic insulation)	500	N
Live part and accessible parts(basic insulation)	1000	No
Live part and accessible parts(reinforced insulation)	1750	No
Intermediate metal and accessible parts(supplementary insulation)	3000	No

14	TABLE: Transient overvoltages	N

Clearance between:	Cl (mm)	Required Cl (mm)	Rated impulse voltage (V)	Impulse test voltage (V)	Flashover (Yes/No)
N					

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16.2	TABLE: Leakage current		P
	Single phase appliances: 1.06 x rated voltage…...:	254,4 V	
	Three phase appliances 1.06 x rated voltage divided by √3:.....:		

Leakage current between	I (mA)	Max. allowed I (mA)
Class I Between live parts and metal parts – basic insulation only	0,171	3,5
Class II Between live parts and accessible parts – reinforced insulation	0,05	0,25

16.3	TABLE: Electric strength	P

Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Basic insulation	500	N
Basic insulation	1250	No
Supplementary insulation	1750	No
Reinforced insulation	3000	No

17	TABLE: Overload protection of transformers and associated circuits	P

Temperature rise of part/at:	dT (K)	Max. dT (K)
The internal wire	12,8	65

	Heating test, resistance method:					
temperature rise of winding:	R_1 (Ω)	R_2 (Ω)	T (℃)	required T (℃)	insulation class	
Transformer(overload)	measured by thermocouple		72	165	120	

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19.7	TABLE: Abnormal operation, locked rotor/moving parts		P
	Test voltage (V)..... :	240,0	
	Ambient, t_1 (°C) ..... :	23,0	
	Ambient, t_2 (°C) ..... :	23,0	

Temperature of winding	R_1 (Ω)	R_2 (Ω)	T(°C)	required T(°C)	insulation class
Winding of fan motor (YR12038A2HB)	693,2	909,6	80,4	165	120
Winding of fan motor (XY-12025B2H)	158,5	197,8	86,9	165	120

19.9	TABLE: Abnormal operation, running overload		N
	Test voltage (V)..... :		
	Ambient, t_1 (°C) ..... :		
	Ambient, t_2 (°C) ..... :		

Temperature of winding	R_1 (Ω)	R_2 (Ω)	(°C)	required (°C)	insulation class
N					

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19.11.3/.4	Abnormal operation conditions	N

Operational characteristics	YES/NO	Operational conditions
Are there electronic circuits to control the appliance operation?		
Are there “off” or “stand-by” position?		
The unintended operation of the appliance results in dangerous malfunction?		

Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	--	--	--	--	--	--	--
19.3	--	--	--	--	--	--	--
19.4	--	--	--	--	--	--	--
19.5	--	--	--	--	--	--	--
19.6	--	--	--	--	--	--	--
19.7	--	--	--	--	--	--	--
19.8	--	--	--	--	--	--	--
19.9	--	--	--	--	--	--	--
19.10	--	--	--	--	--	--	--
19.11.2	--	--	--	--	--	--	--
19.11.4.8	--	--	--	--	--	--	--
19.10X	--	--	--	--	--	--	--
This part of the table is not applicable as the electronic circuits have no PEC functions.							

19.13	TABLE: Abnormal operation, temperature rises	P

Thermocouple locations	dT (K)	Max. dT (K)
Lamp cover	1,8	--
PCB of LED lamp	3,1	--

21.1	TABLE: Impact resistance	P

Impacts per surface	Surface tested	Impact energy (Nm)	Comments
3	Lamp cover	0,5	P
3	PCB of LED lamp	0,5	P
Supplementary information:			

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24.1	TABLE: Components	P

Object/ part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity1)
Compressor		NS1119Y	220 V - 240 V, 50 Hz, R600a	IEC 60335-1 IEC 60335-2-34	CB CN49370
Running capacitor		CBB65A-2	AC 450 V, 50/60 Hz, 6 µF, T85, S3	IEC/EN 60252-1	VDE 40015353
Alt.		CBB65 MKP	AC 450 V, 50/60 Hz, 6 µF, T85, S2	IEC/EN 60252-1	VDE 40018780
Alt.		CBB65-A	AC 450 V, 50/60 Hz, 6 µF, T85, S2	IEC/EN 60252-1	VDE 40026610
Alt.		CBB65D MKP-1	AC 450 V, 50/60 Hz, 6 µF, T85, S3	IEC/EN 60252-1	VDE 40023685
Alt.		CBB65	AC 450 V, 50/60 Hz, 6 µF, T85, S3	IEC/EN 60252-1	VDE 40024267
Plug		Y006	250 V, 13 A	BS 1363-1 IEC 60884-1	BSI KM45980
Alt.		Y006A	250 V, 13 A	BS 1363-1 IEC 60884-1	BSI KM45980
Alt.		AW103	250 V, 16 A	DIN VDE 0620-1 IEC 60884-1	VDE 40023421
Alt.		AW30 1	250 V, 13 A	BS 1363-1 IEC 60884-1	BSI KM504558
Alt.		JT006A	250 V, 13 A	BS 1363-1 IEC 60884-1	ASTA 1120
Alt.		LJ01	250 V, 13 A	BS 1363-1 IEC 60884-1	BSI KM69196
Alt.		D09	250 V, 13 A	BS 1363-1 IEC 60884-1	ASTA 930

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24.1	TABLE: Components				P
Object/ part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity1)
Alt.		LS03-F	250 V~, 16 A	DIN VDE 0620-1	VDE 40035039
Alt.		LS03	250 V~, 16 A	DIN VDE 0620-1	VDE 40034732
Alt.		D18	250V~, 6A	IEC 60884-1	Intertek 170501558SHA-001
Alt.		JT008	250 V~, 16 A	DIN VDE 0620-2-1	VDE 40050831
Alt.		D06	250 V~,10A	AS/NZS 3112 AS/NZS 3100	SAA-170389-EA
Supply cord		H05VV-F	3G 0,75 mm²	EN 50525-2-11 IEC 60227	VDE 40013419
Alt.		H05VV-F	3G 0,75 mm²	EN 50525-2-11 IEC 60227	VDE 40023114
Alt.		H05VV-F	3G 0,75 mm²	EN 50525-2-11 IEC 60227	VDE 40036119
Alt.		H05VV-F	3G 0,75 mm²	EN 50525-2-11 IEC 60227	VDE 40022054
Alt.		H05VV-F	3G 0,75 mm²	EN 50525-2-11 IEC 60227	VDE 40013419
Internal wire		60227 IEC 06(RV)	0,5 mm² 0,75 mm²	EN 60335-1 EN 60335-2-24	Tested with appliance
Alt.		60227 IEC 08 (RV-90)	0,5 mm² 0,75 mm²	EN 60335-1 EN 60335-2-24	Tested with appliance

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24.1	TABLE: Components	P

Object/ part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity1)
Alt.		60227 IEC 06 (RV)	0,5 mm² 0,75 mm²	EN 60335-1 EN 60335-2-24	Tested with appliance
Alt.		60227 IEC 08(RV-90)	0,5 mm² 0,75 mm²	EN 60335-1 EN 60335-2-24	Tested with appliance
Alt.		60227 IEC 06(RV)	0,5 mm² 0,75 mm²	EN 60335-1 EN 60335-2-24	Tested with appliance
Alt.		H05V-K	0,5 mm² or 0,75 mm²	EN 50525-2-31 IEC 60227	VDE 40043993
lamp switch		HC-050K.4	250 V, 0,5 A 50E3, T85	EN 61058-1 EN 60079-15	VDE 40025046
Alt.		P29	250 V, 2,5 A 5E4, T85	EN 61058-1 EN 60079-15	VDE 40015095
Alt.		KAN3-1	250 V, 0,5 A, 5E4, 10T85	EN 61058-1 EN 60079-15	VDE 40026651
FAN		YR12038A2H B	220-240VAC 50/60Hz	EN 60335-1 EN 60335-2-24	Tested with appliance
Alt.		XY-12025B2H	220-240VAC 50/60Hz	EN 55014-1 EN 61000-3-2 EN 61000-3-3 EN 55014-2	CE 2021SZ0409019
Heater		/	220V 70W	EN 60335-1 EN 60335-2-24	Tested with appliance

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24.1	TABLE: Components				P
Object/ part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity1)
Control board		220540455300000	220-240V,50Hz	EN 60335-1 EN 60335-2-24 AS/NZS 60335.1 AS/NZS 60335.2.24	Tested with appliance
relay		HF3FF	10A 250VAC; 10A 277VAC;	DIN EN 61810-1	VDE 40025218
Alt.		HF3FF	10A 250VAC; 10A 277VAC;	DIN EN 61810-1	TUV R50148356
Alt.		HF3FF(JQC-3FF)	10A 250VAC; 10A 277VAC;	DIN EN 61810-1 IEC 61810-1	VDE 40025218
Alt.		HF3FF(JQC-3FF)	10A 250VAC; 10A 277VAC;	DIN EN 61810-1	TUV R50148356
Alt.		MPA-S-112-A	10A 250VAC	EN 61810-1	TUV R50184948
Alt.		CHW-S-112DA2	10A 250VAC	EN 61810-1	TUV R50254542
Alt.		RD-112DM-A-S	10A 277VAC	EN 61810-1 IEC 61810-1	VDE 40047206
Alt.		RD-112DM-A-S	10A 277VAC	EN 61810-1	TUV R50244311
Alt.		HF32F	5A 250VAC ; 5A 30VDC	EN 61810-1	VDE 40012204
Alt.		MPD-S-112-A	5A/250VAC;5A 30VDC	EN 61810-1	TUV R50184948

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24.1	TABLE: Components				P
Object/ part No.	Manufacturer/ trademark	Type/ model	Technical data	Standard	Mark(s) of conformity1)
Alt.		A1-S-112DA	5A/250VAC;5A 30VDC	EN 61810-1	VDE 40051983
Alt.		A1-S-112DA	5A/250VAC;5A 30VDC	EN 61810-1	TUV R50174892
Alt.		RJ-SS-112DM-S	5A/250VAC;5A 30VDC	EN 61810-1	TUV R50222701
Fuse		932	T3.15AL250V	DIN EN 60127-3 DIN EN 60127-1	VDE 40033369
Alt.		5TE	T3.15A250V	DIN EN 60127-3 DIN EN 60127-1	VDE 40036821
transformer		BCK-25-1991/BK-19-1991	/	DIN EN 61558-1 DIN EN 61558-2-16	VDE 40037839

-Description:	--				

Supplementary information:

1) Provided evidence ensures the agreed level of compliance. See OD-2039

2) For component acceptance see appendix components

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28.1	TABLE: Threaded part torque test		P
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
Screw for connection of earthing wire	> 3.6 - ≤ 4.1	II	1,2
Fixing screw for cord anchorage	> 3.6 - ≤ 4.1	II	1,2
Screw for connection of different part	> 3.6 - ≤ 4.1	II	1,2

29.1	TABLE: Clearances					P
	Overvoltage category….:	II				
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark
500	0,5					N
800	0,5					N
1500	0,5					N
2500	1,5	>2,0	>2,0	>2,0		P
4000	3,0				>4,0	P

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29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B*)	S*)	R*)	Verdict
≤ 50	0,2	0,6	0,9	1,2	1,5	1,7	1,9		—	—	N
≤ 50	0,2	0,6	0,9	1,2	1,5	1,7	1,9	—		—	N
≤ 50	0,4	1,2	1,8	2,4	3,0	3,4	3,8	—	—		N
> 50 and ≤ 125	0,3	0,8	1,1	1,5	1,9	2,1	2,4		—	—	N
> 50 and ≤ 125	0,3	0,8	1,1	1,5	1,9	2,1	2,4	—		—	N
> 50 and ≤ 125	0,6	1,6	2,2	3,0	3,8	4,2	4,8	—	—		N
> 125 and ≤ 250	0,6	1,3	1,8	2,5	3,2	3,6	4,0	>5,5	—	—	P
> 125 and ≤ 250	0,6	1,3	1,8	2,5	3,2	3,6	4,0	—	>5,5	—	P
> 125 and ≤ 250	1,2	2,6	3,6	5,0	6,4	7,2	8,0	—	—	>11,0	P
> 250 and ≤ 400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N
> 250 and ≤ 400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N
> 250 and ≤ 400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N
> 400 and ≤ 500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N
> 400 and ≤ 500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N
> 400 and ≤ 500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N
*), B=Basic, S=Supplementary and R=Reinforced											

29.2	TABLE: Creepage distances, functional insulation							P
Working voltage (V)	Creepage distance (mm) Pollution degree							
	1	2			3			
		Material group			Material group			
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	Verdict / Remark
≤ 50	0,2	0,6	0,8	1,1	1,4	1,6	1,8	N
> 50 and ≤ 125	0,3	0,7	1,0	1,4	1,8	2,0	2,2	N
> 125 and ≤ 250	0,4	1,0	1,4	2,0	2,5	2,8	3,2	P(>4,2)
> 250 and ≤ 400	0,8	1,6	2,2	3,2	4,0	4,5	5,0	P(>6,5)
> 400 and ≤ 500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N

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30.1	TABLE: ball pressure test		P
part	temperature (°C)	Impression diameter (mm)	Verdict
PCB	125	1,2	P
Lamp cover	65	1,1	P
Thermostat cover	75	1,3	P
Inner plastic	65	1,0	P
LED lamp PCB	125	1,2	P
Connector	125	1,1	P

30.2	TABLE: glow-wire test	P
part	temperature (°C)	Verdict
Quick insertion terminal sheath	550	P
Inner plastic	550	P
Thermostat cover	550	P
Lamp cover	550	P
Connector	750/850	P
--		

30.2	TABLE: other Tests	P
part	test	Verdict
PCB	Needle-flame test	P
LED lamp PCB	Needle-flame test	P
--		

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AA	TABLE: locked-rotor test of fan motors, windings temperature limit measurements					P
	Ambient, t1 (°C):			240,0		
	Ambient, t2 (°C):			23,0		
	Test voltage (V) :			23,0		
temperature limit T of winding:		R_1 (Ω)	R_2 (Ω)	T °C)	required T (°C)	insulation class
Winding of fan motor (YR12038A2HB)		693,2	909,6	91,6	114,6	165
Winding of fan motor (XY-12025B2H)		158,5	212,8	88,2	111,2	165
--						

	TABLE: electric strength measurements		P
test voltage applied between:		test voltage (V)	breakdown Yes / No
Live part and the body of fan motor (YR12038A2HB)		1250	No
Live part and the body of fan motor(XY-12025B2H)		1250	No
--			

	TABLE: leakage current measurements		P
	a voltage equal to twice the rated voltage (V) :	480	
leakage current I between :		I (mA)	required I (mA)
Live part and the body of fan motor (YR12038A2HB)		0,08	2,0
Live part and the body of fan motor(XY-12025B2H)		0,08	2,0
--			

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Remarks

KL15813

EN 60335-2-24
Remarks

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Remarks

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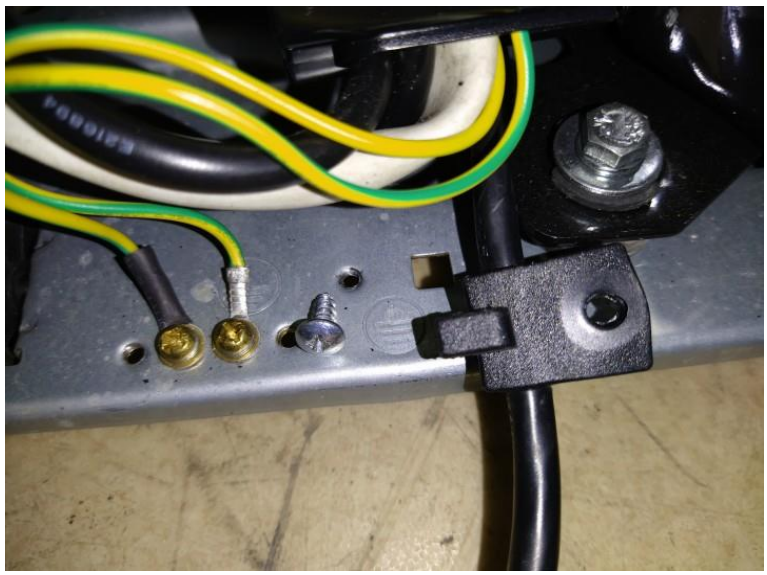
Remarks

NS1119Y



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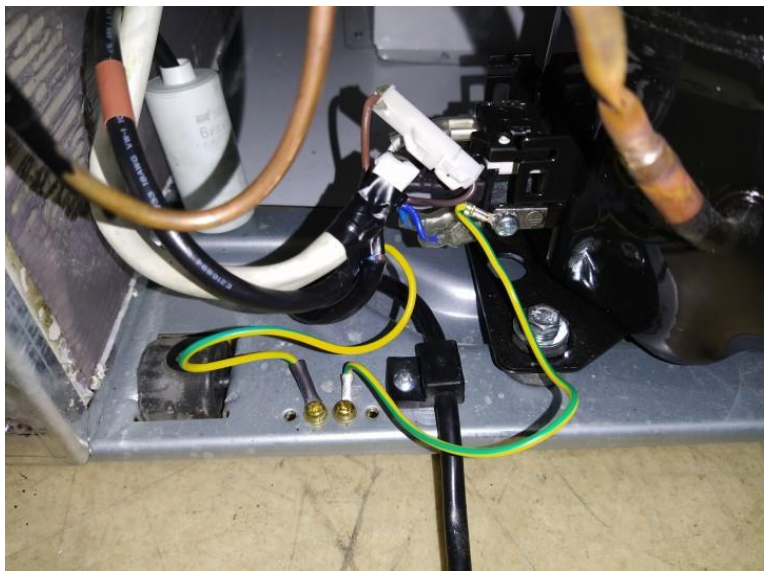
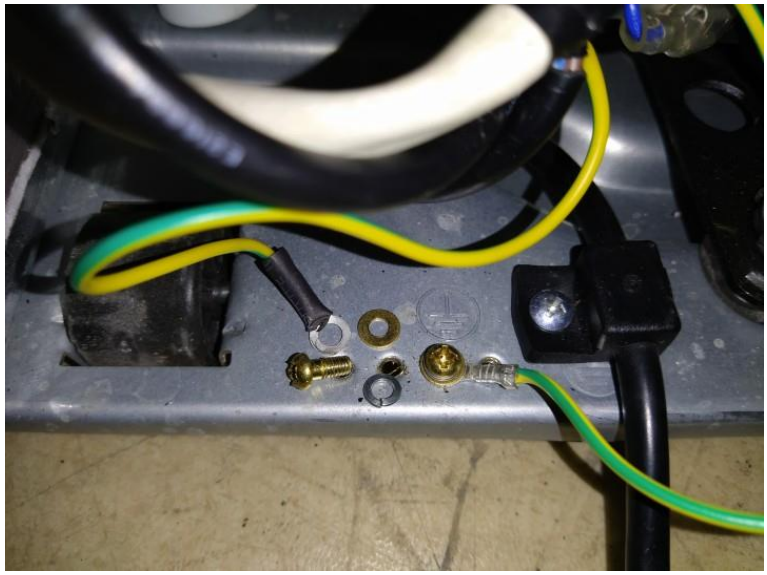
Remarks





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Remarks

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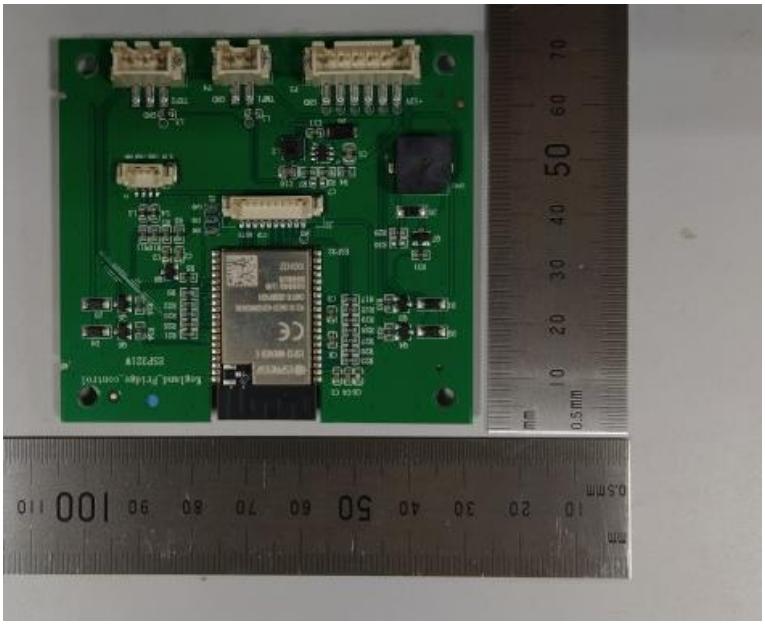
Remarks



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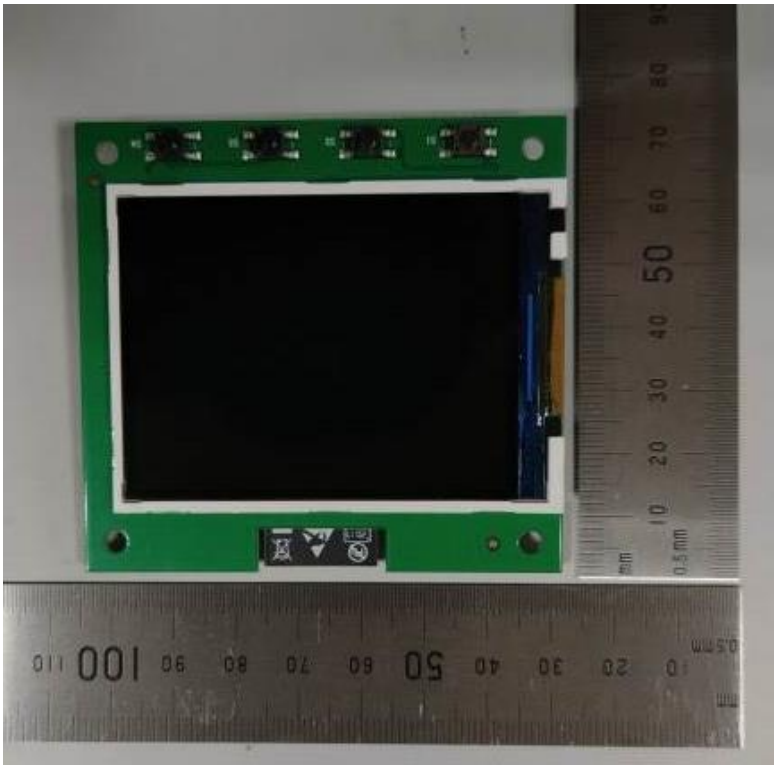
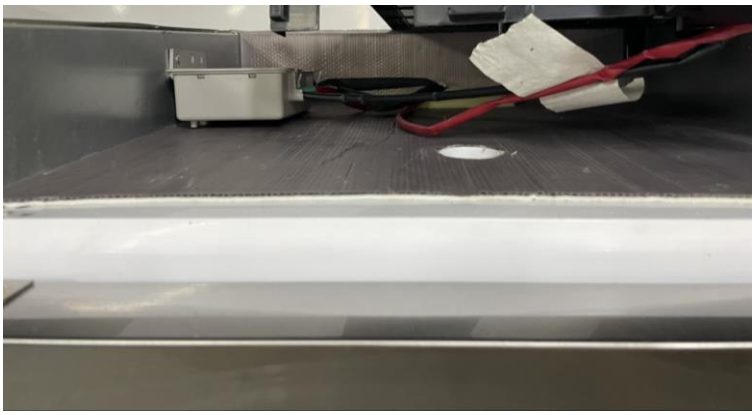
Remarks





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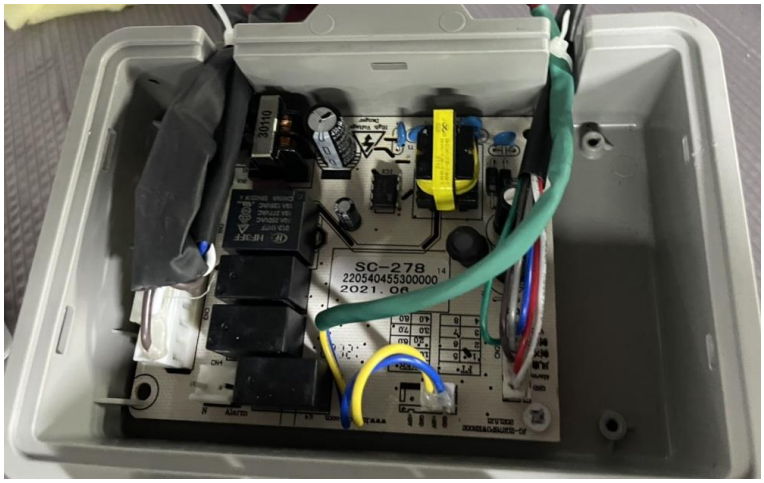
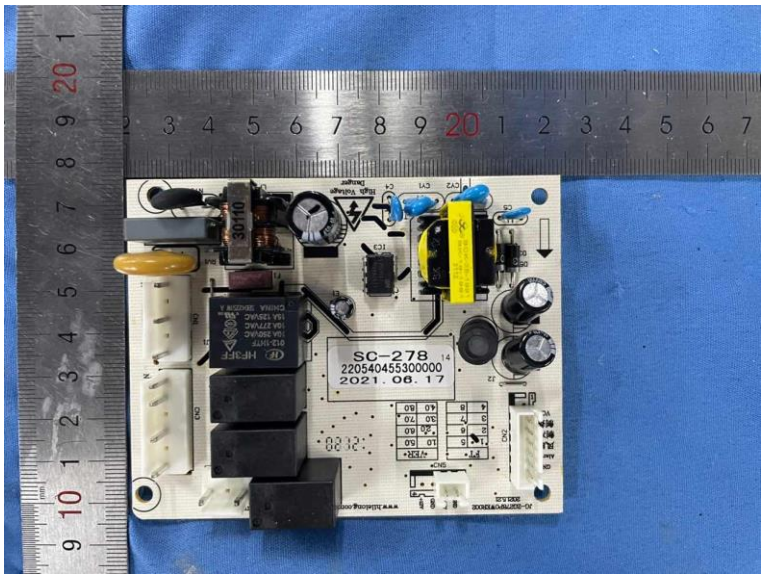
Remarks





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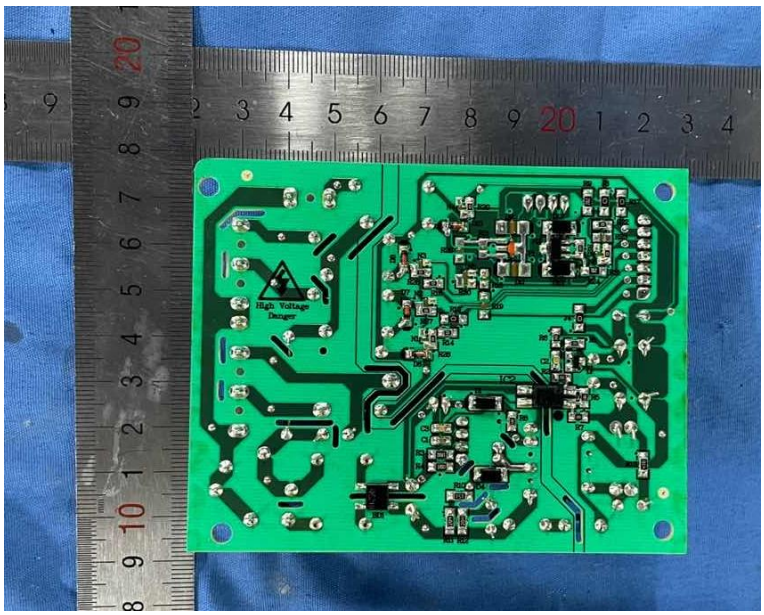
Remarks



注意事项

Important

1. 报告无检测单位印章无效；

   The test report is invalid without the official stamp of CVC;

2. 未经本试验室书面同意，不得部分地复制本报告；

   Any photocopies or part photocopies of the test report are forbidden without the written permission from CVC;

3. 报告无主检、审核、批准人签名无效；

   The test report is invalid without the signatures of Author and Reviewer;

4. 报告涂改无效；

   The test report is invalid if altered;

5. 对检测报告若有异议，请于收到报告之日起十五天内向检测单位提出；

   Objections to the test report must be submitted to CVC within 15 days;

6. 一般情况，委托检测结果仅对所检测样品有效；

   Generally, commission test is responsible for the tested samples only;

7. “P”表示“合格或通过”，“F”表示“不合格或不通过”，“N”或“—”表示“不适用”，“／”表示“未检测”。

   “P” means “pass” , “F” means “fail”, “N” or “—” means “not applicable” and “／”means “not test”.

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