LVD TEST REPORT

Report Ref. No.: **UK210101070S**

Name of Product: **Heat/Energy Recovery Ventilator**

Model: **EHR-S 1000**

Testing Institute: **Guangdong U.K Standard Testing Co., Ltd.**

U.K Standard Testing

NOTICE

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2. The copy of the report is invalid without the “Test report specialized stamp” or “the common seal of the testing institute” restamped.
3. The report is invalid without the signature or stamp of the chief tester, verifier and ratifier.
4. The report is invalid if altered.
5. The result of the testing is only for the tested sample.
6. Different opinions about the report should be informed to the testing institute within 15 days from the date on which the report is received.

COMPANY NAME:	U.K Standard Testing Co., LTD
LABORATORY:	Building E, Nanpu Technology Innovation Center, Banshi Village, Changping Town, Dongguan City, Guangdong Province.
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E-MAIL:	ukservice@163.com

Report ref. No.: UK210101070S

LVD TEST REPORT

Name of product:	**Heat/Energy Recovery Ventilator**	Applicant:	**ENING d.o.o.**
Model:	**EHR-S 1000**	Address:	**Straševina bb, P.fah 112, 81400 Nikšić, Montenegro.**
Quantity:	**Two sets**	Manufacturer:	**ENING d.o.o.**
Sample source:	**Sample is provided by applicant according to test requirements.**	Address:	**Straševina bb, P.fah 112, 81400 Nikšić, Montenegro.**

Test result:

PASS

Introduction of other products which fall into the range requested by applicant and related information:

Name of product: Heat/Energy Recovery Ventilator

Unit model: EHR-S 1000
Covering range which applied by applicant: EHR-S 250, EHR-S 500, EHR-M 2000, EHR-M 3000

Approved on: **Feb. 04, 2021** By: **Ivy Zhang**

Signature: 

Remarks: 1. The test results presented in this report relate only to the item(s) tested.

2. The test report is converted from the original report UK171201110, except that the manufacturer and models are different, others are the same.

Composition of the Report

Items	Pages	No.
Front cover	1	No.: UK210101070S
Head page	1	No.: UK210101070S
Composition of the report	1	No.: UK210101070S
EC type approval test report	65	No.: UK210101070S
Back cover	1	

Test case verdicts

Test case does not apply to the test object: **N(A)**

Test item does meet the requirement : **P(ass)**

Test item does not meet the requirement : **F(ail)**

EC Type Approval Test Report

Name of product:	**Heat/Energy Recovery Ventilator**	Applicant:	**ENING d.o.o.**
Model:	**EHR-S 1000**	Address:	**Straševina bb, P.fah 112, 81400 Nikšić, Montenegro.**
Quantity:	**Two sets**	Manufacturer:	**ENING d.o.o.**
Production No.:	**N/A**	Address:	**Straševina bb, P.fah 112, 81400 Nikšić, Montenegro.**

Standards for test:

EN 60335-1: 2012/A14: 2019 Safety of household and similar electrical appliances - Part 1: General requirements

EN 60335-2-65: 2003+A11: 2012 Safety of household and similar electrical appliances Part2-65: Particular requirements for air-cleaning appliances

EN 60335-2-40: 2003/A13:2012/AC:2013 Safety of household and similar electrical appliances Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers

Test result:

PASS

Tested On **Dec. 04~25, 2017** By **James Tang**

Signature: James Tang

Verified On **Feb. 04, 2021** By **Eddie Ma**

Signature:

U.K STANDARD TESTING CO., LTD. UK APPROVED

Issue Date: 2021.02.04

U.K Standard Testing Co., Ltd.

Remarks: 1. The test results presented in this report relate only to the item(s) tested.

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TEST REPORT

EN60335-1, EN 60335-2-65 and EN 60335-2-40

Safety of household and similar electrical appliances

Part 2-65: Particular requirements for air-cleaning appliances

Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers

Report	
Report Reference No……:	UK210101070S
Tested by (Printed name and signature).....:	James Tang
Approved by (Printed name and signature)…....:	Eddie Ma
Date(s) of performance of test.....:	Dec. 04 to Dec. 25, 2017
Date of issue……:	Feb. 04 , 2021
Total Pages……....:	65 Pages
Testing Laboratory	
Name……:	U.K Standard Testing Co., Limited
Address……:	Building E, Nanpu Technology Innovation Center, Banshi Village, Changping Town, Dongguan City, Guangdong Province.
Test location……:	**Same as above**
Client	
Name...……..……:	ENING d.o.o.
Address……:	Straševina bb, P.fah 112, 81400 Nikšić, Montenegro.
Test Specification	
Standard……...:	EN 60335-1: 2012/A14: 2019; EN 60335-2-65: 2003+A11: 2012; EN 60335-2-40: 2003/A13:2012/AC:2013
Test procedure……:	N/A
Procedure deviation……:	N/A
Non-Standard test method……..:	N/A
Test Item	
Description……...:	Heat/Energy Recovery Ventilator
Trademark……:	N/A
Model and/or type reference……..:	EHR-S 1000
Rating(s).....……:	220Vac, 50Hz, 0.5A 51W

Test case verdicts

Test case does not apply to the test object..... : N(.A.)

Test item does meet the requirement ..... : P(ass)

Test item does not meet the requirement ..... : F(ail)

Testing

Date of receipt of test item ..... : Feb. 04, 2021

Date(s) of performance of test..... : Dec. 04 to Dec. 25, 2017

General remarks

"This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a NCB, in accordance with IECEE 02".

This test report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item tested.

"(See appended table)" refers to a table appended to the report.

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

Note: Blank here

Information of marking plate:

Copy of marking label:

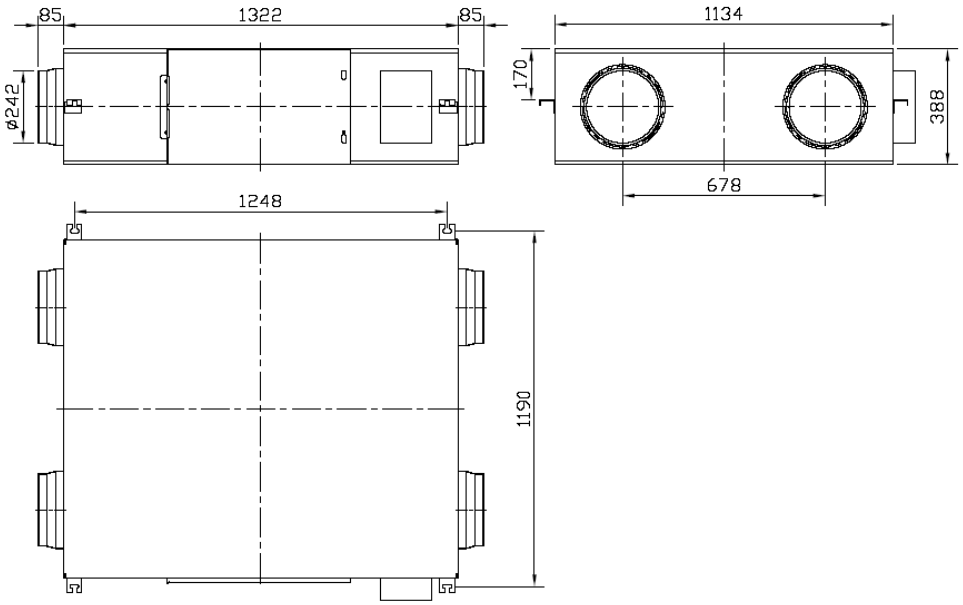
Heat/Energy Recovery Ventilator

Model No.	EHR-S 1000
Series No.	-------
Rated Voltage	230V~ 50Hz 2.47A
Input Power	305W
Efficiency	75%
Manufacture Date	2021.02
Equipment Weight	83 Kg
Dimensions	1332(L)*1134(W)*388(H)
ENING d.o.o.	
MADE IN --	

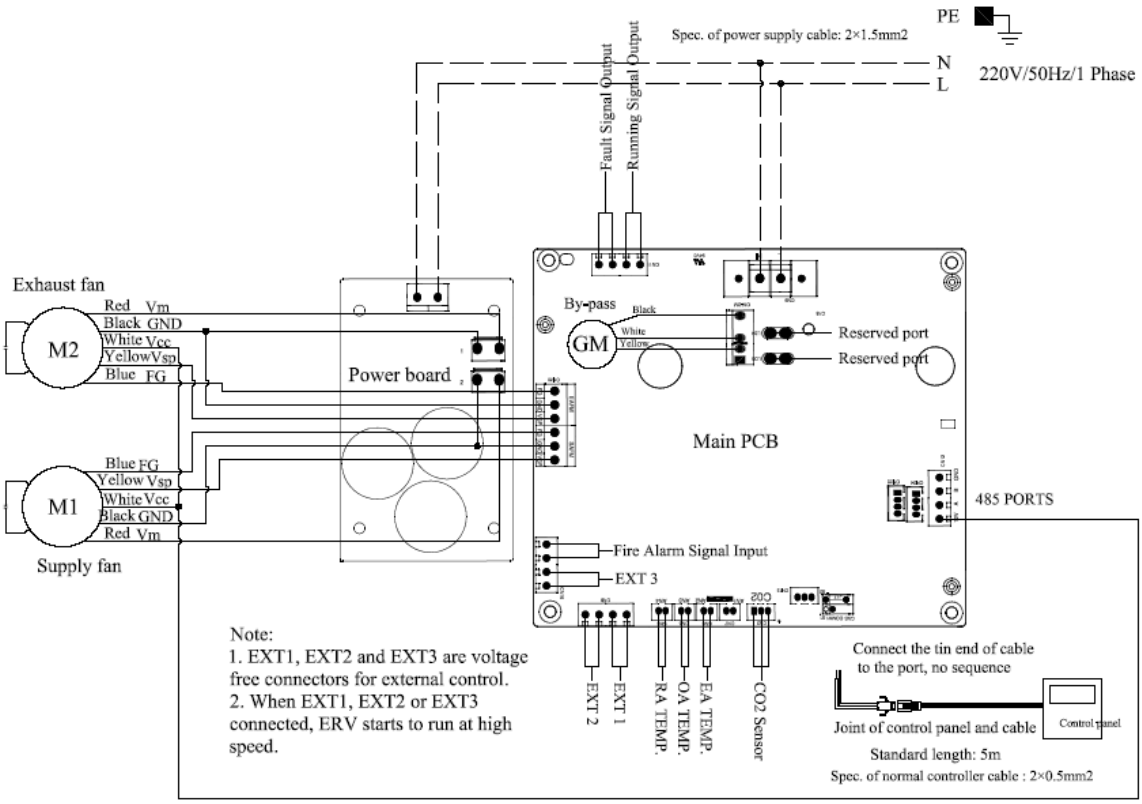
Note: Blank here

Product overall dimension drawing&Circuit diagram:

Product overall dimension drawing:



Circuit diagram:



EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
5	**GENERAL CONDITIONS FOR THE TESTS**		--
	Tests performed according to cl.5, e.g. nature of supply, sequence of testing, etc.		P
5.101	Appliances are tested as motor-operated appliances (IEC 60335-2-65: 2003)		P
6	**CLASSIFICATION**		--
6.1	Protection against electric shock: Class 0, 01, I, II or III :	Class I	P
6.2	Appliances shall have the appropriate degree of protection against harmful ingress of water.	IPX2	N
7	**MARKING AND INSTRUCTIONS**		--
7.1	Rated voltage or voltage range (V) :	220V	P
	Single-phase appliances: 230V covered:		P
	Multi-phase appliance: 400V covered:		N
	Nature of supply:	~	P
	Rated frequency (Hz) :	50Hz	P
	Rated power input (W):	305W	P
	Rated current (A) :	2.47A	P
	Manufacturer's or responsible vendor's name, trademark or identification mark :		N
	Model or type reference :	EHR-S 1000	P
	Symbol 5172 of IEC 60417, for Class II appliances		N
	IP number, other than IPX0 :	IPX2	P
	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(IEC 60335-1/A1)		P
	Fans operating at local temperature exceeding 40 °C marked with ambient operating temperature		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		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		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	discernible		
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 mean value of the rated voltage range(IEC 60335-1/A2)		N
	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
	three-phase alternating current (EN60335-1/A2)	3 ~	N
	three-phase alternating current with neutral (EN60335-1/A2)	3N ~	N
	operator's manual; operating instructions (EN60335-1/A2)		P
	read operator's manual (EN60335-1/A2)		P
7.7	Connection diagram fixed to appliance s 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:		P
	- 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		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means :		P
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		P
7.11	Indication for direction of adjustment of controls		P
7.12	Instructions for safe use provided		P
	This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety (EN60335-1/A2)		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	Children should be supervised to ensure that they do not play with the appliance (EN60335-1/A2)		P
	The instructions shall include details for cleaning and other user maintance of the appliance. They shall state that prior to cleaning or other maintenance, the appliance must be disconnected from the supply mains.		P
7.12.1	Sufficient details for installation supplied		P
	The installation instructions shall include the substance of the following:		P
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		P
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instruction s stating that the fixed wiring must be protected		P
7.12.4	Instructions for built-in appliances:	Not built-in appliance	N
	- dimensions of space		N
	- dimensions and position of support ing 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
	- plug accessible after installation, unless		N
	a switch complying with 24.3		N
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		P
	Replacement cord instructions, type Y attachment		N
	Replacement cord instructions, type Z attachment		N
7.12.6	Instructions for heating appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection the supply mains contains the warning(EN60335-1/A1)		P
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		P
7.12.8	Instructions for appliance connected to the water mains: (EN60335-1/A1)		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	-max. inlet water pressure (Pa)……..:		N
	-max. inlet water pressure, if necessary (Pa)…..:		P
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		P
7.13	Instructions and other texts in an official language	English	P
7.14	Marking clearly legible and durable		P
7.15	Marking on a main part	Located on main unit enclosure	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		P
	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
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		P
8	**PROTECTION AGAINST ACCESS TO LIVE PARTS**		--
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed	No detachable parts	N
	Use of test probe B of IEC 61032: no contact with live parts		P
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		N
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	The requirement is meet	P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
8.1.4	Accessible part not considered live if:		N
	- 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		P
	- 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		P
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μC		N
	-for voltage having a peak value over 15KV, the energy in the discharge shall not exceed 350mJ (EN60335-1/A2)		N
	The quantity of electricity and energy in the discharge is measured using a resistor having a nominal non-inductive resistance of 2000Ω (EN60335-1/A2)		P
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		N
	- built-in appliances		N
	- fixed appliances		P
	- appliances delivered in separate units		P
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		N
	Only possible to touch parts separated from live parts by double or reinforced insulation		N
	Removal of detachable parts after user maintenance, basic insulation may be touched provided that wiring is electrically equivalent with IEC 60227 or IEC 60245		N
9	**STARTING OF MOTOR-OPERATED APPLIANCES**		--
	Requirements and tests are specified in part 2 when necessary		P
10	**POWER INPUT AND CURRENT**		--
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating	(see appendex table)	P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	from rated power input by more than shown in table 1		
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 appendex table)	P
11	**HEATING**		--
11.1	No excessive temperatures in normal use		P
11.2	Placing and mounting of appliance as described		P
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		P
11.4	Heating appliances operated under normal operation at 1.15 times rated power input :		P
11.5	Motor operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage:	220×1,06=233.2V	P
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage:		N
11.7	Appliances are operated until steady conditions are established. (IEC 60335-2-65: 2003)		P
11.8	Temperature rises not exceeding values in table 3	(see appendex table)	P
	Protective devices do not operate		P
	Sealing compound does not flow out	No sealing compound	N
	Components in protective electronic circuits are allowed to operate provided they are tested for the number of cycles of operation specified in 24.1.4(EN60335-1/A1)		N
	Operation of a current-limiting device in a high-voltage circuit is allowed. (IEC 60335-2-65: 2003)		N
13	**LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE**		--
13.1	Leakage current not excessive and electric strength adequate	(see appendex table)	P
	Heating appliances operated at 1,15 times rated power input :		P
	Motor-operated appliances and combined appliances supplied at 1,06 times rated voltage:	220×1,06=233.2V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
13.2	Leakage current measured by means of the circuit described in figure 4 of IEC 60990		P
	Leakage current measurements	(see appendex table)	P
13.3	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. (IEC 60335-1/A1)		P
	The high-voltage source used for the test is to be capable of supplying a short circuit current Is between the output terminals after the output voltage has been adjusted to the appropriate test voltage.(IEC 60335-1/A1)		P
	The overload release of the circuit is not to be operated by any current below the tripping current Ir. The values of Is and Ir are given in Table 5 for various high-voltage sources. (IEC 60335-1/A1)		P
	The test voltage is applied between live parts and accessible parts, non-metallic parts being covered with metal foil. For class II constructions having intermediate metal between live parts and accessible parts, the voltage is applied across the basic insulation and the supplementary insulation.	(see appendex table)	P
	No breakdown during the tests		P
14	**TRANSIENT OVERVOLTAGES**		--
	Appliances withstand the transient overvoltages to which they may be subjected		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 of functional insulation		N
	In case of flashover of functional insulation, the appliance complies with clause 19 with the clearance short circuited		N
15	**MOISTURE RESISTANCE**		--
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance		P
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		P
	No trace of water on insulation which can result in a reduction of clearances and creepage		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	distances below values specified in clause 29		
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529 :	IPX2	N
	Water valves containing live parts are subjected to the tests for IPX7 appliances (IEC 60335-1/A1)		N
	The outer part of fans to be installed in the external structure is subjected to subclause 14.2.4(a) of IEC 60529. (IEC 60335-2-80: 2004)		N
	Duct fans are subjected to the appropriate test of IEC 60529 both at rest and in operation while supplied at rated voltage. (IEC 60335-2-80: 2004)		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
	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
	For IPX4 appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support that prevents water spraying onto the top surface		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 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. (IEC 60335-1/A1)		N
	For IPX4 appliances, the movement of the tube is limited to two times 90º from the vertical for a		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	period of 5 min." (IEC 60335-1/A1)		
	Appliances with type X attachment fitted with a flexible cord as described		N
	Detachable parts tested as specified		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		P
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		P
	Detachable parts removed		N
	Overfilling test with additional amount of water, over a period of 1 min (l) :		P
	The appliance withstands the electric strength test of 16.3		P
	No trace of water on insulation that can result in a reduction of clearances and creepage distances below values specified in clause 29		P
15.3	Appliances proof against humid conditions		P
	Humidity test for 48 h in a humidity cabinet	25℃, R.H.: 93%	P
	The appliance withstands the tests of clause 16		P
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		--
16.1	Leakage current not excessive and electric strength adequate	(see appendex table)	P
	Protective impedance disconnected from live parts before carrying out the tests		P
16.2	Single-phase appliances: test voltage 1.06 times rated voltage :	220×1,06=233.2V	P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by √3 :		N
	Leakage current measurements	(see appendex table)	P
16.3	After the test of 16.2, the insulation is subjected to a voltage having a frequency of 50Hz or 60Hz for 1min in accordance with IEC 61180-1, the values of the test voltage for different types of insulation are give in table 7(IEC 60335-2-32:A1)	(see appendex table)	P
	No breakdown during the tests		P
16.101	High-voltage transformer shall have adquate internal insulation.		P
17	**OVERLOAD PROTECTION OF**		--

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	TRANSFORMERS AND ASSOCIATED CIRCUITS		
	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		P
	Temperature of the winding not exceeding the value specified in table 8,		P
	however limits do not apply to fail-safe transformers complying with sub-clause 15.5 of IEC 61558-1	Compliance with testing	P
18	**ENDURANCE**		--
	Requirements and tests are specified in part 2 when necessary		P
19	**ABNORMAL OPERATION**		--
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 (IEC 60335-1/A1)		P
	Appliances incorporating contactors or relays are subjected to test of 19.14(IEC 60335-1/A1)		N
19.2	Test of appliance with heating elements with restricted heat dissipation; test voltage (V): power input of 0.85 times rated power input:		P
19.3	Test of 19.2 repeated; test voltage (V): power input of 1.24 times rated power input :		P
19.4	Test conditions as in cl. 11, any control limiting the temperature during tests of cl. 11 short-circuited		P
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		P
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		P
	The test is not carried out on appliances intended to be permanently connected to fixed		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		
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
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque or locking moving parts of other appliances		P
	Locked rotor, motor capacitors open-circuited or short-circuited, if required (IEC 60335-1/A2)		P
	Locked rotor, capacitors open-circuited one at a time (IEC 60335-1/A2)		P
	Test repeated with capacitors short-circuited one at a time, if required (IEC 60335-1/A2)		P
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed		P
	Other appliances supplied with rated voltage for a period as specified		P
	Winding temperatures not exceeding values specified in table 8	(see appendex table)	P
19.8	Three phase motors operated at rated voltage with one phase disconnected		N
19.9	Not applicable		N
19.10	Series motor operated at 1.3 times rated voltage for 1 min	Not series motor	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
	Protective electronic circuits are subjected to the tests of 19.11.3 and 19.11.4 (EN60335-1/A1)		N
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly are subjected to the test of 19.11.4.8, unless restarting at any point in the operating cycle after interruption of operation due to a supply voltage dip will not result in a hazard. (EN60335-1/A2)		N
	The test is carried out after removal of all batteries and other components intended to		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	maintain the programmable component supply voltage during mains supply voltage dips, interruptions and variations. (EN60335-1/A2)		
	During and after each test the following is checked:		P
	- the temperature rise of the windings do not exceed the values specified in table 8		P
	- the appliance complies with the conditions specified in 19.13		P
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4		P
	- the appliance withstands the tests of 19.11.2 with open-circuited conductor bridged		N
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided all three of the following conditions are met:		N
	- the material of the printed circuit board withstands the burning test of annex E		N
	- any loosened conductor does not reduce the clearances or creepage distances between live parts and accessible metal parts below the values specified in cl. 29		N
19.11.1	Before applying the fault conditions a) to f) in 19.11.2, it is checked if circuits or parts of circuit meet both of the following conditions:		N
	- 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		N
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:		P
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in 29		P
	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		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	between the two circuits of an optocoupler		
	e) failure of triacs in the diode mode		P
	f) failure of an integrated circuit. The possible hazardous situations of the appliance are assessed to ensure that safety does not rely on the correct functioning of such a component		P
	g) failure of an electronic power switching device in a partial turn-on mode with loss of gate (base) control. During the test, winding temperatures shall not exceed the values given in 19.7 (EN60335-1/A2)		P
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 f) of 19.11.2		N
19.11.4	Appliances having a device with an off position or placed in the stand-by mode are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out with rated voltage and switch being set in off position or stand-by mode.		P
	Appliances incorporating a protective electronic circuit are subjected to the tests of 19.11.4.1 to 19.11.4.7. The tests are carried out after the protective electronic circuit has operated during the relevant tests.		P
	The tests are carried out with surge protective device disconnected, unless they incorporate spark gaps.		P
19.11.4.1	The appliance is subjected to electrostatic discharge, in accordance with IEC61000-4-2, test level 4		P
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, test level 3 being applicable.		P
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC61000-4-4. test level 3 or 4 as specified		P
19.11.4.4	The power supply terminals of the appliance are subjected to voltage surges in accordance with IEC 61000-4-5, five positive and five negative impulses being applied at the selected points. test level 3 or 4 as specified		P
	Earthed heating elements in class I appliance disconnected.		P
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3 being applicable. During the test, all frequencies between 0.15MHz to 80 MHz are covered.		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
19.11.4.6	The appliance is subjected to voltage dips and interruptions in accordance with IEC 61000-4-11. The values specified in Table 1 and Table 2 of IEC 61000-4-11 are applied at zero crossing of the supply voltage. (IEC 60335-1/A2)		P
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2 being applicable.		P
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After approximately 60 s, the power supply voltage is reduced to a level such that the appliance ceases to respond to user inputs or parts controlled by the programmable component cease to operate, whichever occurs first. This value of supply voltage is recorded. The appliance is supplied at rated voltage and operated under normal operation. The voltage is then reduced to a value of approximately 10 % less than the recorded voltage. It is held at this value for approximately 60 s and then increased to rated voltage. The rate of decrease and increase of the power supply voltage is to be approximately 10 V/s. (IEC 60335-1/A2)		N
	The appliance shall continue to either operate normally from the same point in its operating cycle		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):		N
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 appendex table)	P
	After the tests, when the appliance has cooled to approximately room temperature, compliance with clause 8 shall not be impaired and the appliance shall comply with 20.2 (IEC 60335-1/A2)		P
	After the operation or interruption of a control, clearances and creepage distances across the functional insulation shall withstand the electric strength test of 16.3 , the test voltage being twice the working voltage		P
	Enclosures not deformed to such an extent that compliance with cl. 8 is impaired		P
	If the appliance can still be operated it complies		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	with 20.2		
	Insulation, other than of class III appliance, withstand the electric strength test of 16.3, the test voltage specified in table 4:		P
	- basic insulation :	1250	P
	- supplementary insulation :	1750	P
	- reinforced insulation :	3000	P
	The appliance shall not undergo a dangerous malfunction and there shall be no failure of protective electronic circuits if the appliance is still operable		P
	Appliance tested with an electronic switch in the off position or stand-by mode shall: (IEC 60335-1/A2)		N
	-not become operational or (IEC 60335-1/A2)		N
	-if they become operational not result in a dangerous malfunction during or after the tests of 19.11.4 (IEC 60335-1/A2)		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 short-circuited (IEC 60335-1/A14)		N
19.101	Fans incorporating shutters or similar that are operated automatically are supplied at rated voltage in the closed or open position, whichever is more unfavourable		N
20	**STABILITY AND MECHANICAL HAZARDS**		--
20.1	Adequate stability		P
	Tilting test through an angle of 10° (appliance placed on an inclined plane/horizontal plane); appliance does not overturn		P
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		P
	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
	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		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	with test probe		
21	**MECHANICAL STRENGTH**		--
	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	No damage after three blows applied to various parts of the enclosure, impact energy 0,5 ± 0,04 J	0.5J	P
	If necessary, supplementary or reinforced insulation subjected to the electric strength test of 16.3	Not necessary	N
	If necessary, repetition of groups of three blows on a new sample		N
21.2	Accessible parts of solid insulation shall have sufficient strength to prevent penetration by sharp implements. The parts are scratched with a hardened steel pin. After the test there shall be no damage and the insulation shall withstand the tests of clause 16.3		P
22	**CONSTRUCTION**		--
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IPX2	P
22.2	Stationary appliance: means to provide all-pole disconnection from the supply provided, the following means being available:		P
	- a supply cord fitted with a plug		P
	- a switch complying with 24.3		P
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided		P
	- an appliance inlet		P
	Singe-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase permanently connected class I appliances, connected in the phase conductor (IEC 60335-1/A2)		P
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 torque of 0.4Nm; the		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	pins are not rotating unless rotating does not impair compliance with the standard		
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		P
22.5	No risk of electric shock when touching the pins of the plug		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
22.7	Adequate safeguards against the risk of excessive pressure in appliances provided with steam-producing devices		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		N
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances		P
	Adequate insulating properties of oil or grease to which insulation is exposed		N
22.10	Location or protection of reset buttons of non-self-resetting controls is so that accidental resetting is unlikely		N
	It shall not be possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device		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		N
	Obvious locked position of snap-in devices used for fixing such parts		N
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		N
	Tests as described		N
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		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	being so that an axial pull is likely to be applied		
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	No such handles	N
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	No exposed pointed ends of self tapping screws etc., liable to be touched by the user in normal use or during user maintenance		P
22.15	Storage hooks and the like for flexible cords smooth and well rounded		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		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		P
22.18	Current-carrying parts and other metal parts resistant to corrosion under normal conditions of use		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		N
	Compliance is checked by inspection and, if necessary, by appropriate test		N
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless impregnated		P
22.22	Appliances not containing asbestos		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements adequately supported		P
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		P
22.25	Sagging heating conductors cannot come into contact with accessible metal parts		P
22.26	The insulation between parts operating at safety extra-low voltage and other live parts complies		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	with the requirements for double or reinforced insulation		
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		N
	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	Clearances and creepage distances over supplementary and reinforced insulation not reduced below values specified for supplementary insulation		P
	Creepage distances and clearances over supplementary or reinforced insulation not reduced to less than 50% of values specified in 29 if wires, screws etc. becomes 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
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N
22.33	Conductive liquids that are or may become accessible in normal use 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, not in direct contact with basic or reinforced insulation		N
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
22.34	Shafts of operating knobs, handles, levers etc. not live, unless the shaft is not accessible when the part is removed		N
22.35	Handles, levers and knobs, held or actuated in normal use, not becoming live in the event of an insulation fault		N
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of an insulation fault, they are either adequately covered by insulation material, or their accessible parts are separated from their shafts or fixings by supplementary insulation (EN60335-1/A2)	No such parts	N
	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		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		N
22.39	Lamp holders used only for the connection of lamps		N
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		P
	Unless the appliance can operate continuously, automatically or remotely without giving rise to a hazard, appliance for remote operation shall be fitted with a switch for stopping the operation for the appliance. The actuating member of this switch shall be easily visible and accessible (EN60335-1/A2)		P
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	separate components		
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N
22.44	Appliances are not allowed to have an enclosure that is shaped and decorated so that the appliance is likely to be treated as a toy by children		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	Software used in protective electronic circuits shall be software class B or software class C. (EN60335-1/A2)		N
22.47	Appliances intended to be connected to the water mains shall withstand the water pressure excepted in normal use. (EN60335-1/A2)		N
	No leakage from any part, including any inlet water hose		N
22.48	Appliances intended to be connected to the water mains shall be constructed to prevent backsiphonage of non-potable water into the water mains. (EN60335-1/A2)		N
22.49	For remote operation, the duration of operation 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. (EN60335-1/A2)		N
22.50	Controls incorporated in the appliance, if any, shall take priority over controls actuated by remote operation. (EN60335-1/A2)		N
22.51	A control on the appliance shall be manually adjusted to the setting for remote operation before the appliance can be operated in this mode. There shall be a visual indication on the appliance showing that the appliance is adjusted for remote operation. The manual setting and the visual indication of the remote mode are not necessary on appliances that can - operate continuously, or - operate automatically, or - be operated remotely, without giving rise to a hazard. (IEC 60335-1/A2)		N
22.52	Socket-outlets on appliances accessible to the user shall be in accordance with the socket		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	system used in the country in which the appliance is sold (IEC 60335-1/A2)		
22.101	Appliances shall not have openings on the underside that would allow small items to penetrate and touch live parts (EN 60 335-2-65: 2003)	No openings on the bottom enclosure	P
22.102	Interlock switch that prevent access to live parts during user maintenance shall be connected in the input circuit and located to prevent unintentional operation.	No interlock switch provided	N
23	**INTERNAL WIRING**		--
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		P
	Flexible metallic tubes not causing damage to insulation of conductors		N
	Open-coil springs not used		N
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N
	No damage after 10 000 flexings for conductors flexed during normal use or 100 flexings for conductors flexed during user maintenance		N
	No damage after 100 000 flexings for conductors flexed during normal use and at rated voltage (IEC 60335-2-80:2008)		P
	Electric strength test, 1000 V between live parts and accessible metal parts		P
23.4	Bare internal wiring sufficiently rigid and fixed		N
23.5	The insulation of internal wiring withstanding the electrical stress likely to occur in normal use		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

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by positive means		P
23.7	The colour combination green/yellow used only for earthing conductors		N
23.8	Aluminium wires not used for internal wiring		P
23.9	No lead-tin soldering of stranded conductors where they are subject to contact pressure, unless		P
	clamping means so constructed that there is no risk of bad contact due to cold flow of the solder		N
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, shall be at least equivalent to that of light polyvinyl chloride sheathed flexible cord (code designation 60227 IEC 52). (IEC 60335-1/A1)		P
24	**COMPONENTS**		--
24.1	Components comply with safety requirements in relevant IEC standards (IEC 60335-1/A14)		P
	List of components	(see appendex table)	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. (IEC 60335-1/A14)		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. (IEC 60335-1/A14)		P
	Components not tested and found to comply with relevant IEC standard for the number of cycles specified are tested in accordance with 24.1.1 to 24.1.9		P
	Components not tested and found to comply with relevant IEC standard, components not marked or not used in accordance with its marking, tested under the conditions occurring in the appliance (IEC 60335-1/A14)		P
	Lamp holders and starter holders that have not been previously tested and found to comply with the relevant IEC standard are tested as a part of the appliance and shall additionally comply with the gauging and interchangeability requirements of the relevant IEC standard under the conditions occurring in the appliance Where the		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	relevant standard for lamp holders and starter holders specifies gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of Clause 11 are used. (IEC 60335-1/A14)		
24.101	Interlock switches that prevent accessible to live parts during user maintenance shall: - disconnect all poles, unless the secondary circuit is supplied through an isolating transformer; - have a contact separation that provides full disconnection in accordance with IEC61058-1.	No interlock switches provided	N
25	**SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS**		--
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		P
	- supply cord fitted with a plug		N
	- 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	Appliance not provided with more than one means of connection to the supply mains		P
	Stationary appliance for multiple supply may be provided with more than one means of connection, provided electric strength test of 1250 V for 1 min between each means of connection causes no breakdown		P
25.3	Connection of supply conductors for appliance intended to be permanently connected to fixed wiring possible after the appliance has been fixed to its support		P
	Appliance provided with a set of terminals for the connection of cables or fixed wiring, cross-sectional areas specified in 26.6		P
	Appliance provided with a set of terminals allowing the connection of a flexible cord		P
	Appliance provided with a set of supply leads accommodated in a suitable compartment		P
	Appliance provided with a set of terminals and cable entries, conduit entries, knock-outs or glands, allowing connection of appropriate type of cable or conduit		P
25.4	Cable and conduit entries, rated current of		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	appliance not exceeding 16 A, dimensions according to table 10		
	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:		P
	- type X attachment		P
	- type Y attachment		N
	- type Z attachment is allowed for portable fans		N
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		P
	Type Z attachment is allowed for appliances having a mass not exceeding 3Kg. (IEC60335-2-65: 2003)		N
25.6	Plugs fitted with only one flexible cord		N
	Supply cords of single-phase portable appliances having a rated current not exceeding 16A: plug complying with the following standard sheets of IEC 60083:1975		N
	- class I appliances: standard sheet C2b, C3b or C4		N
	- class II appliances: standard sheet C5 or C6		N
25.7	Supply cord not lighter than:		P
	Supply cords shall be one of the following types: (IEC 60335-1/A2)		P
	-ordinary though rubber sheathed cords (60245 IEC 53)		N
	Their properties shall be at least those of ordinary tough rubber sheathed cords (code designation 60245 IEC 53); These cords are not suitable for appliances intended to be used outdoors or when they are liable to be exposed to significant amounts of ultraviolet radiation. (IEC 60335-1/A14)		N
	- ordinary polychloroprene sheathed cord (60245 IEC 57)		N
	- cross-linked polyvinyl chloride sheathed cords (60227 IEC 41)		N
	Temperature rise of external metal parts exceeding 75 K, PVC cord not used, unless		N
	- ordinary polyvinyl chloride sheathed cord (60227 IEC 53), appliance exceeding 3 kg		P
	- ordinary polychloroprene sheathed flexible cord (60245 IEC 57)		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	-Sheathed cord and rubber isolation [60245 IEC 86]		N
	-Polyvinyl chloride reticulated sheathed cord and rubber isolation [60245 IEC 87]		N
	-Sheathed cord and polyvinyl chloride reticulated insulation (60245 IEC 88]		N
	Temperature rise of external metal parts exceeding 75 K, PVC cord not used, unless		N
	appliance so constructed that the supply cord is not likely to touch external metal parts in normal use or		N
	the supply cord is appropriate for higher temperatures, type Y or type Z attachment used		N
25.8	Nominal cross-sectional area of supply cords according to table 11; rated current (A); cross-sectional area (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 lead-tin soldering where they are subject to contact pressure, unless		P
	clamping means so constructed that there is no risk of bad contacts due to cold flow of the solder		P
25.12	Moulding the cord to part of the enclosure does not damage the insulation of the supply cord		P
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		P
	If unsheathed supply cord, a similar additional bushing or lining is required, unless		P
	the appliance is class 0		N
25.14	Supply cords adequately protected against excessive flexing		P
	Flexing test:		P
	- applied force (N) :		P
	- number of flexings:	15000	P
	The test does not result in:		P
	- short circuit between the conductors		P
	- breakage of more than 10% of the strands of any conductor		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	- separation of the conductor from its terminal		P
	- loosening of any cord guard		P
	- damage, within the meaning of the standard, to the cord or the cord guard		P
	- broken strands piercing the insulation and becoming accessible		P
25.15	Conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage		N
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		N
	Pull and torque test of supply cord, values shown in table 10: pull (N); torque (not on automatic cord reel) (Nm) :		N
	Max. 2 mm displacement of the cord, and conductors not moved more than 1 mm in the terminals		N
	Creepage distances and clearances not reduced below values specified in 29.1		N
25.16	Cord anchorages for type X attachments constructed and located so that:		P
	- replacement of the cord is easily possible		P
	- it is clear how the relief from strain and the prevention of twisting are obtained		P
	- they are suitable for different types of cord		P
	- cord cannot touch the clamping screws of cord anchorage if these screws are accessible, unless separated from accessible metal parts by supplementary insulation		P
	- the cord is not clamped by a metal screw which bears directly on the cord		P
	- at least one part of the cord anchorage securely fixed to the appliance, unless part of a specially prepared cord		P
	- screws which have to be operated when replacing the cord do not fix any other component, if applicable		P
	- if labyrinths can be bypassed the test of 25.15 is nevertheless withstood		P
	- 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		P
	- for Class II appliances: they are of insulating material, or if of metal, they are insulated from accessible metal parts by supplementary		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	insulation		
25.17	Adequate cord anchorages for type Y and Z attachment		N
25.18	Cord anchorages only accessible with the aid of a tool, or		P
	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		P
	Tying the cord into a knot or tying the cord with string not used		P
25.20	Conductors of the supply cord for type Y and Z attachment adequately additionally insulated		N
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.		P
	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:		N
	- live parts not accessible during insertion or removal		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
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		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
26	**TERMINALS FOR EXTERNAL CONDUCTORS**		--
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors		N
	Terminals only accessible after removal of a non-detachable cover		N
	Only the earthing terminal may be accessible if a tool is required to make the connections and means to provide to clamp the wire independently from its connection		N
26.2	Appliances with type X attachment and appliances for connection 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		N
	Soldering alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free at the soldered joint		N
	Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain it in position unless they are held in place near the terminals independently of the solder(IEC 60335-1/A14)		N
26.3	Terminals for type X attachment and for connection to fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure and without damaging the conductor		N
	Terminals for type X attachment and those for connection to fixed wiring so fixed that when tightening or loosening the clamping means:		N
	- the terminal does not loosen		N
	- internal wiring is not subjected to stress		N
	- clearances and creepage distances are not reduced below the values in 29		N
	Compliance checked by inspection and by the test of subclause 8.6 of IEC 60999-1, the torque applied being equal to two-thirds of the torque specified. Nominal diameter of thread (mm); screw category; torque (Nm) :		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
26.4	Terminals for type X attachment, except those with a specially prepared cord, and those for connection to fixed wiring, no special preparation of conductors required, and so constructed or placed that conductors prevented from slipping out		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 connection to 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 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		N
	Pull test of 5 N to the connection		N
26.11	For type Y and Z attachment: soldered, welded, crimped and similar connections may be used		N
	For Class II appliances: the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone		N
	For Class II appliances: soldering, welding or crimping alone used, barriers provided, clearances and creepage distances satisfactory if the conductor becomes free		N
	Conductors connected by soldering are not considered to be positioned or fixed so that reliance is not placed upon the soldering alone to maintain it in position unless they are held in place near the terminals independently of the		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	solder(IEC 60335-1/A14)		
27	**PROVISION FOR EARTHING**		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		P
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 mm^2, and		P
	do not provide earthing continuity between different parts of the appliance		P
	Conductors cannot be loosened without the aid of a tool		P
27.3	For appliances with supply cord, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		P
	If a detachable part having an earth connection is plugged into another part of the appliance, the earth connection shall be made before the current-carrying connections are established and the current carrying connections shall be separated before the earth connection when removing the part		P
27.4	No risk of corrosion resulting from contact between metal of earthing terminal and other metal		P
	Adequate resistance to corrosion of coated or uncoated parts providing earthing continuity, other than parts of a metal frame or enclosure		P
	Parts of steel providing earthing continuity provided at the essential areas with an electroplated coating, 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		P
	In case of aluminium alloys precautions taken to avoid risk of corrosion		P
27.5	Low resistance of connection between earthing		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	terminal and earthed metal parts		
	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		P
	Resistance not exceeding 0,1 Ω at the specified low-resistance test	0.01Ω	P
27.6	The printed conductors of printed circuit boards shall not be used to provide earthing continuity in hand-held appliances (IEC 60335-1/A2)		P
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the complies with 27.5 for each circuit (IEC 60335-1/A2)		P
28	**SCREWS AND CONNECTIONS**		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 not of screws of insulating material min. 3 mm	No screws of insulating material used	N
	Screws of insulating material not used for any electrical connection or connections providing earthing continuity		P
	Screws used for electrical connections or connections providing earthing continuity screw into metal		N
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation		N
	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		P
	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 not transmitted through insulating material liable to shrink or distort, unless shrinkage or distortion compensated		N
	This requirement does not apply to electrical connections in circuits carrying a current not exceeding 0.5A		N
28.3	Space-threaded (sheet metal) screws only used		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	for electrical connections if they clamp the parts together		
	Thread-cutting (self-tapping) screws only used for electrical connections if they generate a full form standard machine screw thread (IEC 60335-1/A2)		N
	However thread-cutting (self-tapping) screws shall not be used if they are likely to be operated by the user or installer (IEC 60335-1/A2)		N
	Such screws not used if they are likely to be operated by the user or installer unless the thread is formed by a swaging action		N
	Thread-cutting and space-threaded screws may be used in connections providing earthing continuity, provided unnecessary to disturb the connection and at least two screws are used for each 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 (IEC 60335-1/A2)		N
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		N
	Rivets for electrical connections or connections providing earthing continuity secured against loosening if subjected to torsion		N
29	**CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION**		--
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment or to provide basic insulation, annex J applies the microenvironment is pollution degress 1 under type 1 coating. There are no cleatance or creepage diatance requirements under type 2 coating(EN60335-1/A2)		P
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 (EN60335-1/A1)	(see appended table)	P
	The values specified may be smaller for basic insulation and functional insulation if the clearance meets the impulse voltage test of clause 14 (EN60335-1/A1)		P
	Appliances are in overvoltage category II		P
	Clearances less than specified in table 16 not		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	allowed for basic insulation of class 0 and class 0I appliances,		
	or if pollution degree 3 is applicable		N
	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(IEC 60335-1/A2)		P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1mm if the microenvironment is pollution degree 1(IEC 60335-1/A2)		N
	Lacquered conductors of windings assumed to be bare conductors, but the clearances specified in table 16 are reduced by 0.5mm for rated impulse voltages of at least 1500V(IEC 60335-1/A2)		P
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16		N
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
29.1.4	For functional insulation, the values of table 16 are applicable, unless		N
	the appliance complies with clause 19 with the functional insulation short-circuited(EN60335-1/A1)		N
	Clearances at crossover points of lacquered conductors not measured(EN60335-1/A1)		N
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N
	Lacquered conductors of windings assumed to be bare conductors, but the clearances specified in table 16 are reduced by 0.5mm for rated impulse voltages of at least 1500V		N
29.1.5	Appliances having higher working voltage than rated voltage, the voltage used for determining clearances from table 16 is the sum of the rated impulse voltage and the difference between the peak value of the working voltage and the peak value of the rated voltage		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

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	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
	The working voltage for parts connected to the neutral is the same as for parts connected to the phase and this is the working voltage for basic insulation (IEC 60335-1/A2)		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		N
	Compliance is checked by inspection and measurements as specified		P
	In a double insulation system, the working voltage for both the basic insulation and supplementary insulation is taken as the working voltage across the complete double insulation system. It is not divided according to thickness and dielectric contact of the basic insulation and supplementary insulation (IEC 60335-1/A14)		N
29.2.1	Creepage distances of basic insulation not less than specified in table 17		P
	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		P
29.2.3	Creepage distances of reinforced insulation at least double as specified for basic insulation in table 17		P
29.2.4	Creepage distances of functional insulation not less than specified 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	Solid insulation having a minimum thickness of 1mm for supplementary insulation,		P
	and 2mm for reinforced insulation		P
	This requirement does not apply if the supplementary insulation, other than mica or similar scaly material, consists of at least two		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	layers, each of the layers withstands the electric strength test of 16.3		
	This requirement does not apply if the reinforced insulation, other than mica or similar scaly material, consists of at least three layers, any two layers together withstand the electric strength test of 16.3		N
	This requirement also does not apply to inaccessible insulation and does not exceed the maximum permissible temperature values, or		N
	if the insulation, after conditioning as specified, withstands the electric strength test of 16.3		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 tests of clause 16.3. Supplementary insulation shall consist of at least 2 layer and reinforced insulation 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 hours at a temperature of 50 K in excess of the maximum temperature rise during clause 19 and withstand the tests of clause 16.3		N
29.3.Z1	If accessible reinforced insulation consists of a single layer, the thickness of this layer shall comply with Table Z.1. (IEC 60335-1/A12)		N
30	**RESISTANCE TO HEAT AND FIRE**		--
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		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; temperature (°C) :	(see appended table)	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; temperature (°C) :	(see appended table)	P
	Parts of thermoplastic material providing supplementary or reinforced insulation, 25°C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C) :		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
30.2	Parts of non-metallic material shall be resistant to ignition and spread of fire (IEC 60335-1/A2)	See appended table 30.2	P
	This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance. (IEC 60335-1/A2)		P
	Compliance is checked by the test of 30.2.1. In addition, (IEC 60335-1/A2)		P
	– for attended appliances, 30.2.2 is applicable; (IEC 60335-1/A2)		P
	– for unattended appliances, 30.2.3 is applicable. (IEC 60335-1/A2)		N
	Appliances for remote operation are considered to be appliances that are operated while unattended and consequently are subjected the test of 30.2.3 (IEC 60335-1/A2)		N
	For the base material of printed circuit boards, compliance is checked by the test 30.2.4 (IEC 60335-1/A2)		P
	The tests are carried out on parts of non-metallic material that have been removed from the appliance when the glow-wire test is carried out, the parts are placed in the same orientation as they would be in normal use(IEC 60335-1/A2)		P
30.2.1	Parts of non-metallic material are subjected to the glow-wire test of IEC 60695-2-11, which is carried out at 550°C.(IEC 60335-1/A2)	Enclosure	P
	The glow-wire test is not carried out on parts of material classified at least HB40 according to IEC 60695-11-10 provided that the test sample use for the classification was no thicker than the relevant part of the appliance. (IEC 60335-1/A2)		N
	Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for material classified HBF, the test sample used for the classification being no thicker than the relevant part of the appliance. (IEC 60335-1/A2)		N
30.2.2	Appliances operated while attended, parts of non-metallic material supporting current-carrying and parts of non-metallic material within a distance of 3mm of such connections are subjected to the glow-wire test of IEC 60695-2-11 however the glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC60695-2-12 of at least: (IEC 60335-1/A2)		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	-750°C, for connections carrying a current exceeding 0,5A during normal operation (IEC 60335-1/A2)		N
	-650°C, for other connections (IEC 60335-1/A2)		N
	If the glow-wire flammability index is not available for a sample with a thickness within ± 0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-12 that is no thicker than the relevant part. (IEC 60335-1/A2)		N
	Where non-metallic material is within 3mm of current carrying connection, but is shielded from the connection by a different material, the glow-wire test of IEC60695-2-11 is carried out with the tip of the glow-wire applied to the interposed shielding material with the shielded material in place and not directly to the shielded material (IEC 60335-1/A2)		N
	Where the glow-wire test of IEC 60695-2-11 is carried out. The temperatures are (IEC 60335-1/A2)		N
	-750 oC for connections that carry a current exceeding 0.5A during normal operation		N
	650oC for other connections		N
	This test is not applicable to: (IEC 60335-1/A2)		N
	– parts supporting welded connections; (IEC 60335-1/A2)		N
	– parts supporting connections in low-power circuits described in 19.11.1; (IEC 60335-1/A2)		N
	– soldered connections on printed circuit boards; (IEC 60335-1/A2)		N
	– connections on small components on printed circuit boards; (IEC 60335-1/A2)		N
	and parts within 3 mm of any of these connections. (IEC 60335-1/A2)		N
	It is also not applicable to (IEC 60335-1/A2)		N
	– hand-held appliances; (IEC 60335-1/A2)		P
	– appliances that have to be kept switched on by hand or foot; (IEC 60335-1/A2)		N
	– appliances that are continuously loaded by hand. (IEC 60335-1/A2)		N
30.2.3	Appliances that are operated while unattended are tested as specified in 30.2.3.1 and 30.2.3.2. however, the are not applicable to (IEC 60335-1/A2)		N
	– parts supporting welded connections, (IEC 60335-1/A2)		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	– parts supporting connections in low-power circuits described in 19.11.1, (IEC 60335-1/A1)		N
	– soldered connections on printed circuit boards, (IEC 60335-1/A1)		N
	– connections on small components that are mounted on printed circuit boards (IEC 60335-1/A1)		N
	and parts within 3 mm of any of these connections. (IEC 60335-1/A1)		N
30.2.3.1	Non-metallic material supporting connections carry a current exceeding 0.2A and within a distance of 3mm of such connection, are subjected to the glow-wire test of IEC60695-2-11 with 850oC (IEC 60335-1/A2)		N
	If the glow-wire flammability index is not available for a sample with a thickness within ± 0,1 mm of the relevant part, then the test sample shall have a thickness equal to the nearest preferred value specified in IEC 60695-2-12 that is no thicker than the relevant part. (IEC 60335-1/A2)		N
	The glow-wire test is not carried out on small parts that comply with the needle-flame test of Annex E or on small parts of material as V-0 or V-1 according to IEC60695-11-10 provided that the test sample used for the classification was no thicker than the relevant part of the appliance		N
	Where a non-metallic material is within 3 mm of a current carrying connection, but is shielded from the connection by a different material, the glow-wire test of IEC 60695-2-11 is carried out at the relevant temperature with the tip of the glow-wire applied to the interposed shielding material with the shielded material in place and not directly to the shielded material. (IEC 60335-1/A2)		N
30.2.3.2	Non-metallic material supporting current-carrying connections and parts of within a distance of 3mm of such connections, are subjected to the glow-wire test of IEC60695-2-11, but is not carried out on material classified as having a glow-wire ignition temperature according to IEC60695-2-13 of at least (IEC 60335-1/A2)		N
	- 775oC, for connections carry a current exceeding 0.2A in normal operation - 675 oC, for other connections		N
	Non-metallic material is within 3mm of a current carrying connection, but is shielded from the connection by a different material, the glow-test		N

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	of IEC60695-2-11 is carried out at the relevant temperature with the tip of the glow-wire applied to the interposed shielding material with the shielded material in place and not directly to the shielded material		
	- 750 oC, for connections carry a current exceeding 0.2A in normal operation - 650 oC, for other connections		N
	Parts withstand the glow-wire test of IEC60695-2-11, but during the test produce a flame for longer than 2s, and then these parts and adjacent parts are further tested. Parts above the connection within the envelope of a vertical cylinder having a diameter of 20mm and a height of 50mm are subjected to the needle-flame test of Annex E. however parts shielded by a flame barrier that meets the needle-flame test of Annex E are not tested		N
	Needle-flame test is not carried out on material classified as V-0 or V-1 according to IEC60695-11-10 provided that the test sample used for the classification was no thicker than the relevant part of the appliance		N
30.2.4	Base material of printed circuit boards is subjected to the needle-flame test of Annex E, the flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use		N
	the test is not carried out: (IEC 60335-1/A2)		N
	- on printed circuit boards of low-power circuits described in 19.11.1 (IEC 60335-1/A2)		N
	- on the printed circuit boards in a metal enclosure that confines flames or burning droplets hand-held appliances appliances that have to be kept switched on by hand or foot appliances that are continuously loaded by hand - on a base material classification as V-0 according to IEC 60695-11-10 provided that the test sample used for the classification was no thicker than the printed circuit board (IEC 60335-1/A2)		N
31	**RESISTANCE TO RUSTING**		--
	Relevant ferrous parts adequately protected against rusting		P
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		--
	Appliance does not emit harmful radiation		P

EN60335-1, EN60335-2-40, EN60335-2-65			
Clause	**Requirement – Test**	**Result - Remark**	**Verdict**
	Appliance does not present a toxic or similar hazard		P
	The ozone concentration produced by ionization shall not be excessive.	Less than 5×10^{-8}	P

A	**ANNEX A (INFORMATIVE)** **ROUTINE TESTS**		**--**
	Description of routine tests to be carried out by the manufacturer		P

B	**ANNEX B (NORMATIVE)** **APPLIANCES POWERED BY RECHARGEABLE BATTERIES**		**--**
	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:		N
	-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
	-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
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
	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:		N/A
	- 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**		**--**
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		P

D	**ANNEX D (NORMATIVE) ALTERNATIVE REQUIREMENTS FOR PROTECTED MOTORS**		**--**
	Applicable to motors that incorporate thermal motor protectors (IEC 60335-1, A1)		N
	- self-resetting thermal motor protectors for 300 cycles or for 72 hours		N
	- non-self-resetting thermal motor protectors for 30 cycles		N
	During the test temperatures shall not exceed the values specified in 19.7 and the appliance shall comply with 19.13		N

E	**ANNEX E (NORMATIVE) NEEDLE-FLAME TEST**		**--**
	Needle-flame test carried out in accordance with IEC 60695-2-2, with the following modifications:		N
5	Severities		N
	The duration of application of the test flame is 30 s ± 1 s		N
8	Test procedure		N
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		N
8.4	The first paragraph does not apply		N
	If possible, the flame is applied at least 10 mm from a corner		N
8.5	The test is carried out on one specimen		N
	If the specimen does not withstand the test, the test may be repeated on two further specimens, both withstanding the test		N
10	Evaluation of test results		N
	The duration of burning not exceeding 30 s		N
	However, for printed circuit boards, the duration of burning not exceeding 15 s		N

F	**ANNEX F (NORMATIVE) CAPACITORS**		**--**
	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:		N
1.5	Terminology		N
1.5.3	Class X capacitors tested according to subclass X2		N
1.5.4	This subclause is applicable		N
1.6	Marking		N
	Items a) and b) are applicable		N
3.4	Approval testing		N
3.4.3.2	Table II is applicable as described		N
4.1	Visual examination and check of dimensions		N
	This subclause is applicable		N
4.2	Electrical tests		N
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		N
	This subclause is applicable		N
	Only insulation resistance and voltage proof are checked		N
4.13	Impulse voltage		N
	This subclause is applicable		N
4.14	Endurance		N
	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		N
	This subclause is applicable		N
4.18	Active flammability test		N
	This subclause is applicable		N

H	**ANNEX H (NORMATIVE) SWITCHES**		**--**
	Switches comply with the following clauses of IEC 61058-1, as modified:		N
	-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		N
	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		N
	The tests may be carried out on a separate sample		N
15	Insulation resistance and dielectric strength		N
15.1	Not applicable		N
15.2	Not applicable		N
15.3	Applicable for full disconnection and micro-disconnection		N
17	Endurance		N
	Compliance is checked on three separate appliances or switches		N

	For 17.2.4.4, the number of cycles is 10 000, unless 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 switches operated by hand that are interlocked so that they cannot be operated under load, are not subjected to the tests		N
	Subclause 17.2.5.2 is not applicable		N
	Temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1		N
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		N
	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**		**--**
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:		N
8	Protection against access to live parts		N
8.1	Metal parts of the motor are considered to be bare live parts		N
11	Heating		N
11.3	Temperature rise of the body of the motor is determined instead of the temperature rise of the windings		N
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		N
16.3	Insulation between live parts of the motor and its other metal parts not subjected to the test		N
19	Abnormal operation		N
19.1	The tests of 19.7 to 19.9 not carried out		N
19.101	Appliance operated at rated voltage with each of the following fault conditions:		N
	- 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
22	Construction		N
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**		**--**
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		N
6.6	Climatic sequence		N
	When production samples are used, three samples of the printed circuit board are tested		N
6.6.1	Cold		N
	The test is carried out at -25°C		N
6.6.3	Rapid change of temperature		N
	Severity 1 is specified		N
6.8.6	Partial discharge extinction voltage		N
	Type A coatings not subjected to a partial discharge test		N
6.9	Additional tests		N
	This subclause is not applicable		N

K	**ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES**		**--**
	The information on overvoltage categories is extracted from IEC 60664-1		P
	Overvoltage category is a numeral defining a transient overvoltage condition		P
	Equipment of overvoltage category IV is for use at the origin of the installation		N
	Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements		N
	Equipment of overvoltage category II is energy consuming equipment to be supplied from the fixed installation		P
	If such equipment is subjected to special requirements with regard to reliability and availability, overvoltage category III applies		N

	Equipment of overvoltage category I is equipment for connection to circuits in which measures are taken to limit transient overvoltages to an appropriate low level		N

L	**ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES**		**--**
	Sequences for the determination of clearances and creepage distances		P

M	**ANNEX M (NORMATIVE) POLLUTION DEGREE**		**--**
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		P
	The microenvironment determines the effect of pollution on the insulation, taking into account the microenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		P
	Minimum clearances specified where pollution may be present in the microenvironment		P
	Degrees of pollution in the microenvironment		P
	For evaluating creepage distances, the following degrees of pollution in the microenvironment are established:		P
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected		P
	- pollution degree 3: conductive pollution occurs or dry non-conductive pollution occurs that becomes conductive due to condensation that is to be expected		N
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N

N	**ANNEX N (NORMATIVE) PROOF TRACKING TEST**		**--**
	The proof tracking test is carried out in accordance with IEC 60112 with the following modifications:		N
5	Test apparatus		N
5.1	Electrodes		N
	The note does not apply		N

5.4	Test solutions		N
	Test solution A is used		N
6	Procedure		N
6.3	Proof tracking test		N
	Voltage is 100V, 175V, 400V or 600V :		N
	Note 3 of clause 3 applies		N
	The test is carried out on five specimens		N
	In case of doubt, additional test with voltage reduced by 25V, the number of drops increased to 100		N
7	Report		N
	The report stating if the PTI value was based on a test using 100 drops with a test voltage of (PTI-25) V		N
10.1	The proof voltage is 100 V, 175 V, 400 V or 600 V		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) V		N

O	**ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30**		**--**
	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**		**--**
5.7	Ambient temperature during tests of clause 11 and 13 is 40 +/- 3 °C		N
7.1	The appliance shall be marked with the letters WDaE		N
7.12	The instructions shall state that the appliance is to be supplied trough a residual current device (RCD) not exceeding 30 mA		N
15.3	The value of t is 37 °C		N
19.13	The leakage current test of clause 16.2 is applied		N

R	**ANNEX R (INFORMATIVE) SOFTWARE EVALUATION ACCORDING TO IEC 60730-1**		**--**
H.2	Only definitions H.2.16 to H.2.20 are applicable		N
H.11.12	All the subclauses of H.11.12 as modified are applicable		N

H.11.12.7.1	For appliances using software class C having a single channel with self-test monitoring structure, the manufacturer shall provide measures		N
H.11.12.8	Software fault/error detection shall occur before compliance with clause 19.13 is impaired		N
H.11.12.13	Software and safety related hardware under its control shall initialize and terminate before compliance with clause 19.13 is impaired		N

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10.1	TABLE: Power input deviation				P
Input deviation of/at:	P rated (W)	P measured (W)	dP	Required dP	Remark
220V/50Hz	305	313	2.62%	±15%	--
242V/50Hz	305	324	6.22%	±15%	--

10.2	TABLE: Current deviation				N
Current deviation of/at:	I rated (A)	I measured (A)	dI	Required dI	Remark
--	--	--	--	--	--
--	--	--	--	--	--

11.8-1	TABLE: Heating test, thermocouples		P
	Condition	● Appliance is installed as normal use ● Supplied at 1,06 times rated voltage ● At highest setting	—
	Duration	Until steady conditions	—
	Test voltage (V) :	1,06 x 220V=233.2V	—
	Ambient t_1 (°C) :	24.5	—
	Ambient t_2 (°C) :	24.6	—

Thermocouple locations	dT (K)	Max. dT (K)
Appliance surface	14	60
Power input wires	8	60
Cabinet of transformer	14	For reference
Cabinet of tripler	11	For reference
PWB near DB1	43	110
Switching power surface	17	45
On/Off switch	5	60
Moto winding	51.5	105

	Winding temperature rise measurements, resistance method				—
	Insulation class:	Class A			
Temperature rise of winding		R_1 (Ω)	R_2 (Ω)	dT (K)	Max. dT (K)
--		--	--	--	--

13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input :	--	—
	Motor-operated and combined appliances: 1.06 x rated voltage :	233.2V	—

Leakage current between	I (mA)	Max. allowed I (mA)
Live parts and accessible metal parts	0.15	0.5
Live parts and accessible enclosure of unit	0.13	0.5

13.3	TABLE: Electric strength	P
Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Live parts and accessible metal parts	1500	No
Live parts and accessible enclosure of unit	1500	No

16.2	TABLE: Leakage current	P
	Single phase appliances: 1.06 x rated voltage:	233.2V	—
	Three phase appliances 1.06 x rated voltage divided by √3: :	--	—
Leakage current between	I (mA)	Max. allowed I (mA)
Live parts and accessible metal parts	0.11	0.5
Live parts and accessible enclosure of unit	0.13	0.5

16.3	Electric strength	P
Test voltage applied between:	Voltage (V)	Breakdown (Yes/No)
Live parts and accessible metal parts	1500	No
Live parts and accessible enclosure of unit	1500	No

17	TABLE: Overload protection, temperature rise	N
Temperature rise of part/at:	dT (K)	Max. dT (K)
---	---	---

19.7	TABLE1: temperature rise measurements: motor locked in high speed setting.		P
	Abnormal conditions:	Supplied at rated voltage; At highest setting; Until steady conditions; Locking moving parts	--
	test voltage (V) :	220V	--
	t1 (°C) :	24.2	--
	t2 (°C) :	24.4	--
Max. Temperature of part/at:	temp. (℃)	Required temp.(℃)	
Motor	84.1	105	
	Winding temperature rise measurements, resistance method		—
	Insulation class:	Class A	

temperature rise dT of winding:	R1 (Ω)	R2 (Ω)	Temperature (°C)	Required (°C)	Insulation class
--	--	--	--	--	--

Test voltage applied between:	Test voltage (V)	Breakdown (Yes / No)
Live parts and other accessible enclosure	-	-

24.1-1	TABLE: Components,				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
Fan	Various	ZW105C-2A04	310VAC, 50/60Hz, 180W, 0.8A; 1400rpm/min	IEC 60335-2-80 IEC 60335-1	CE
Internal wire	Various	Various	VW-1	UL758	UL
Contactor	Various	Various	20A, 300V	--	VDE
Enclosure plastic material, cabinet of transformer, cabinet of tripler	Chi Mei Corporation	PA-765A(+)	V-0, 85℃	UL94	UL
Motor start capacitor	Various	CBB65	30uF 450VAC	--	CE
Suppressor	Various	561KD14	--	--	VDE
Fuse	Various	Various	T8A /250V	IEC60127	VDE
Relay	Various	JQC-3FB-4	240VAC/7A	--	TUV
Relay	Various	JZC-32F	250V/5A	--	VDE
X capacitor	Various	Various	0.1uF, 275Vac	IEC60384	VDE
PCB	Various	Various	94V0	UL94	UL

25.15	**TABLE: Pull force and torque test**			**N**
Product	Mass (Kg)	Pull force (N)	Torque (N.m)	Result
XHBAQ-D1.5DCTPA	83.0	-	-	No damage, No appreciable strain at the terminals

28.1	**TABLE: Threaded part torque test**		**P**
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)
Metal screws used to fix enclosure	2.61	II	0.4

29.1	TABLE: Clearances					P
	Overvoltage category:	II				—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark
330	0,5	0,5	N	N	N	N
500	0,5	0,5	N	N	N	N
800	0,5	0,5	N	N	N	N
1 500	0,5	0,5	N	N	N	N
2 500	**1,5**	3.0	2.0	10	N	P
4 000	**3,0**	N	N	N	15	P
6 000	5,5	N	N	N	N	N
8 000	8,0	N	N	N	N	N
10 000	11,0	N	N	N	N	N

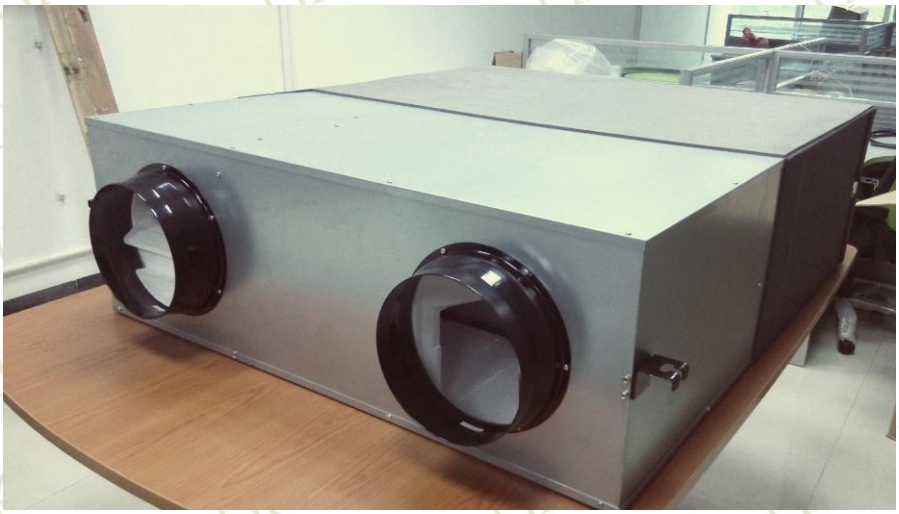
29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance(mm) Pollution degree							—			
	1	2			3			Type of insulation			—
		Material group			Material group						—
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B*)	S*)	R*)	Verdict
>50	0,2	0,6	0,9	1,2	1,5	1,7	1,9		—	—	N
>50	0,4	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	2.8	—	—	P
>125 and ≤250	0,6	1,3	1,8	**2,5**	3,2	3,6	4,0	—	10	—	P
>125 and ≤250	1,2	2,6	3,6	**5,0**	6,4	7,2	8,0	—	—	>15	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
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N

>500 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		N
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	N
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	N
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		N
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	N
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	N
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		N
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—	—		N
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	N
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		N
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	N
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	N
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		N
>2000 and ≤2500	7,5	10,0	14,0	20,0	25, 0	28,0	32,0		—	—	N
>2000 and ≤2500	7,5	10,0	14,0	20,0	25, 0	28,0	32,0	—		—	N
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		N
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	N
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	N
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		N
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	N
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	N
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		N
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	N
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	N
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		N
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	N
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	N
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		N
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	N
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	N
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		N
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	N
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	N
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		N
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	N
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	N
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		N
*), B=Basic, S=Supplementary and R=Reinforced											

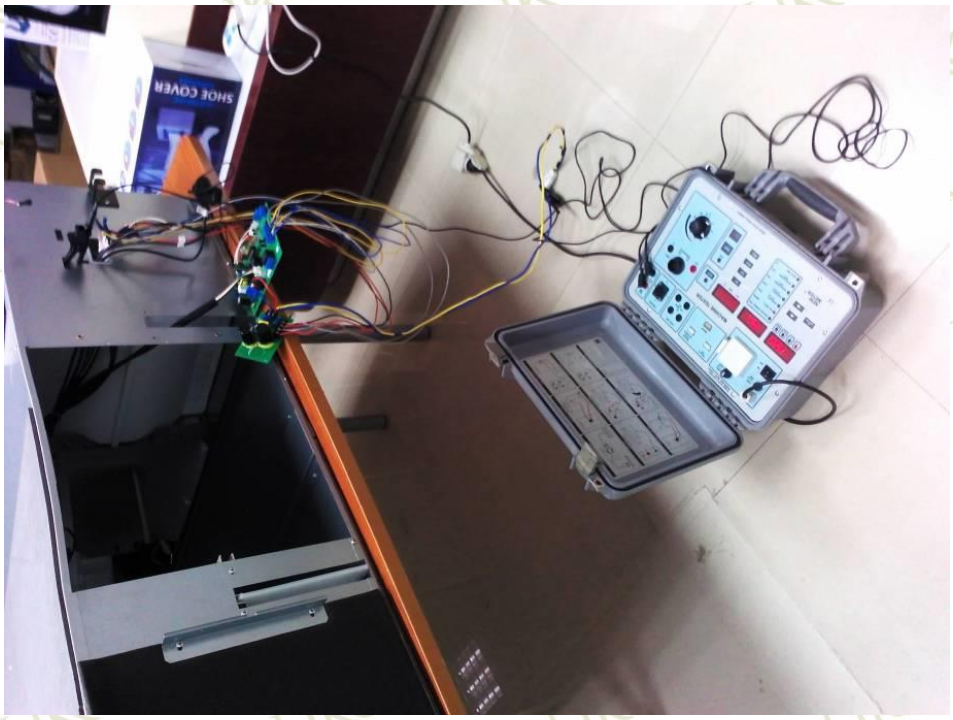
30.1	TABLE: Ball pressure		P
Part	Test Temperature (°C)	Impression diameter (mm)	Limit (mm)
Plastic screw base	75	1.0	2.0
Cabinet of tripler	125	1.2	2.0
Cabinet of transformer	125	1.2	2.0

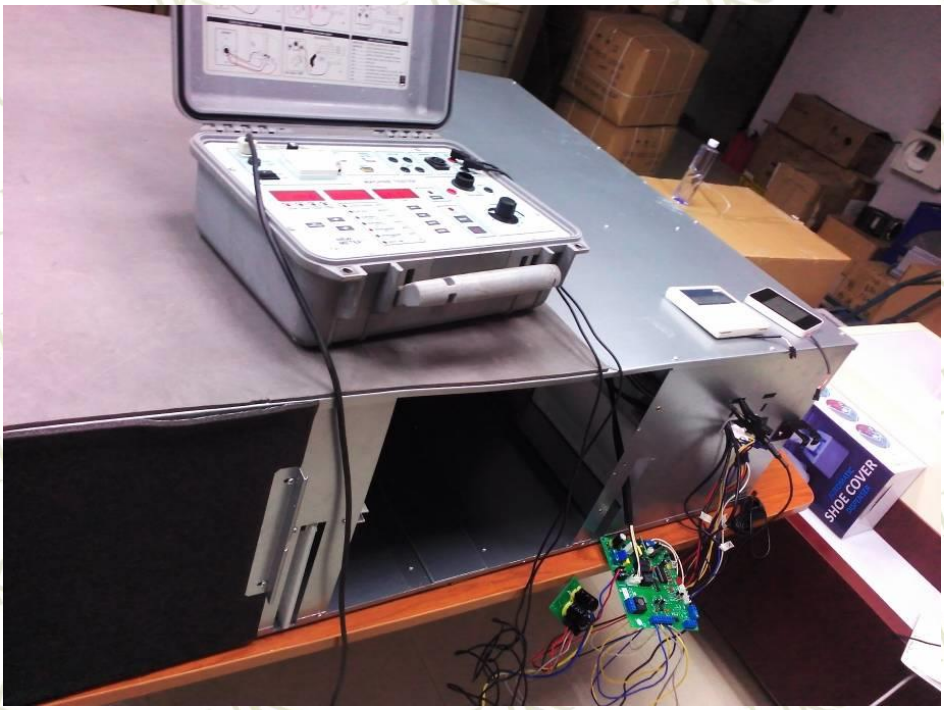
30.2	TABLE: resistance to heat, fire and tracking, glow-wire test						P
Part Name / Location	Test Temp. (550 / 650 / 750 / 850 / 960)	Ignition of test sample (Y/N)	Ignition of tissue paper (Y/N)	t_i	t_e	h_f	Result
Plastic enclosure	550	N	N	--	--	--	P
Cabinet of tripler	850	N	N	--	--	--	P
Cabinet of transformer	850	N	N	--	--	--	P
Remark: Ti = the time between glow wire touched the material and the material ignited Te = the time between glow wire touched the material and the flame extinguished							

Product Photos

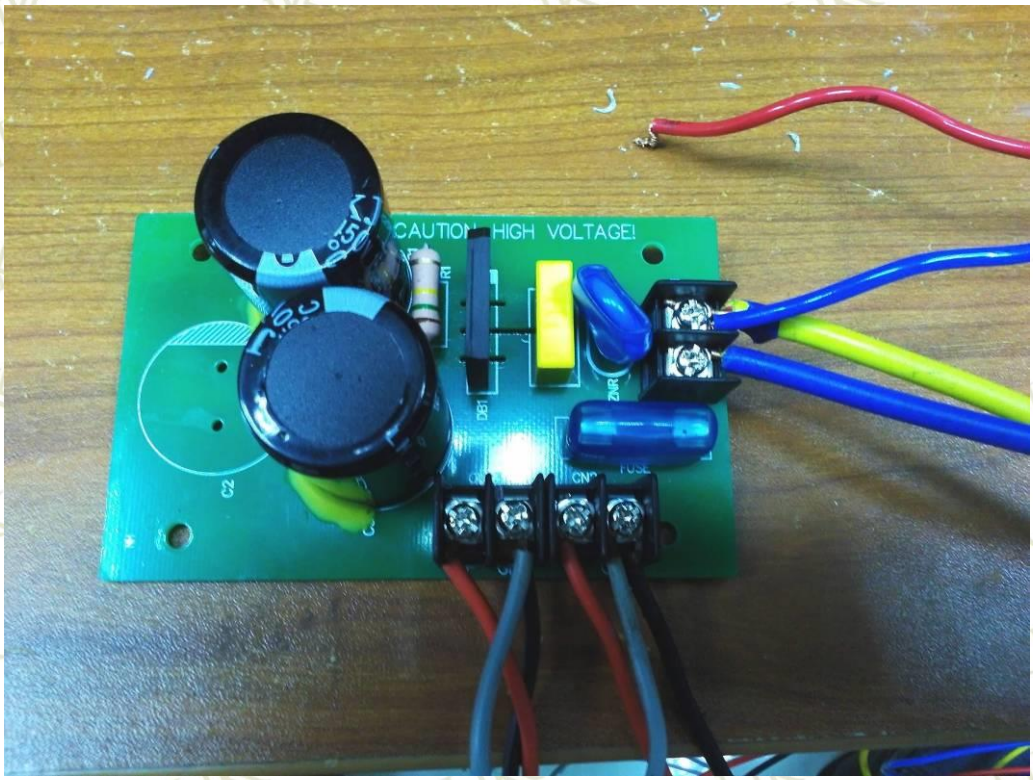


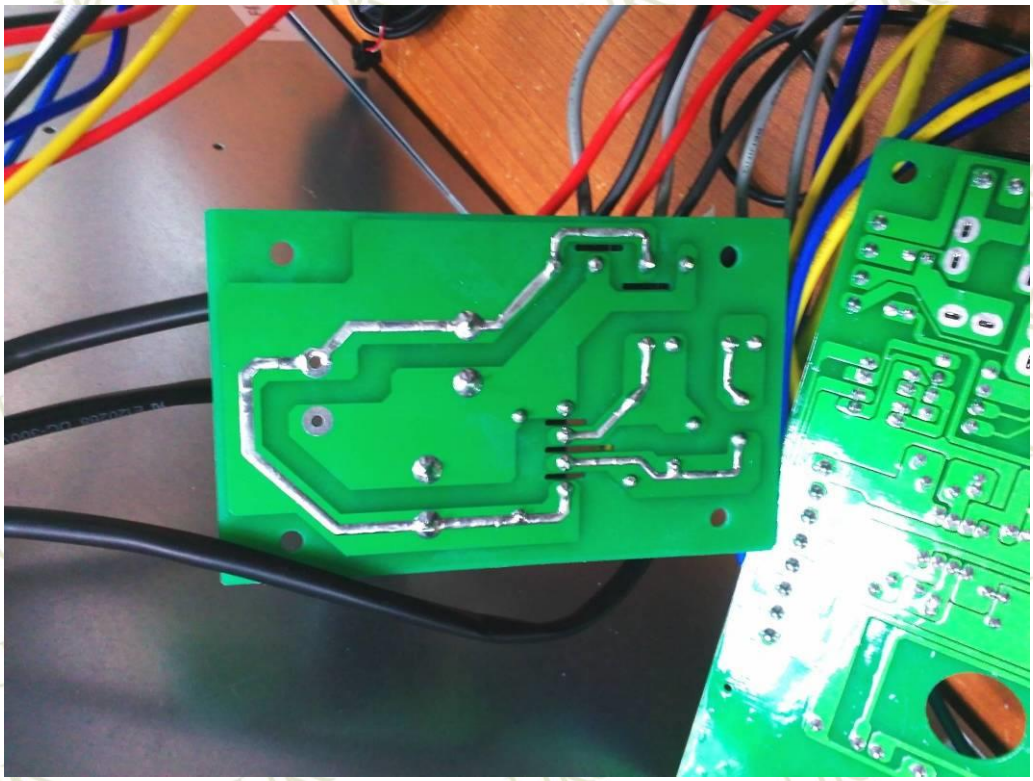
Product Photos





Product Photos





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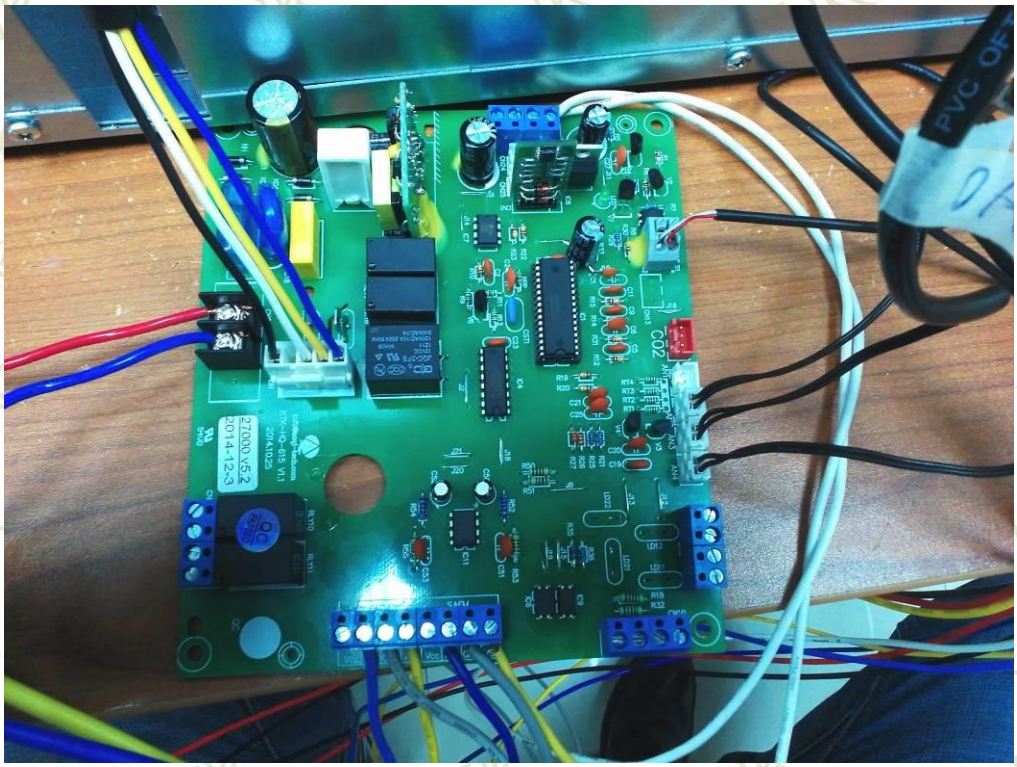

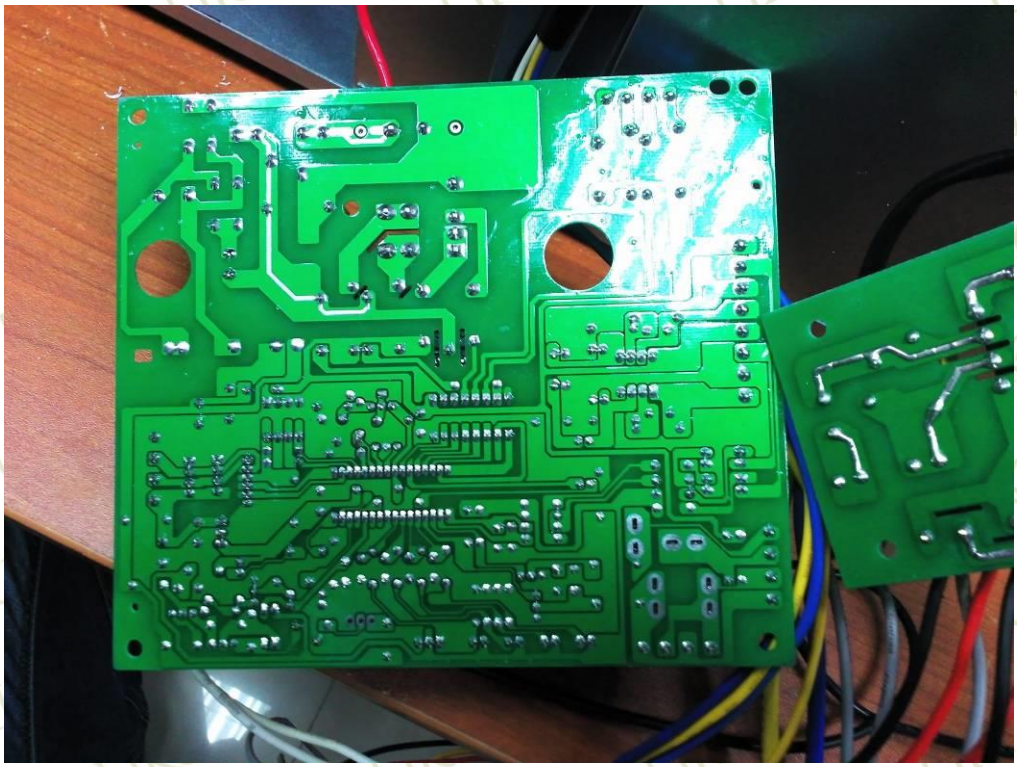

THE END OF REPORT