








EST REPORT IEC 60335-2-64 Safety of household and similar electrical appliances Part 2: Particular requirements for commercial electric kitchen machines	
Report Number.:	102471582COQ-001
Date of issue	2016-04-21
Total number of pages.....	70
Name of Testing Laboratory preparing the Report.....:	Intertek Testing Services, NA Ltd.
Applicant's name.....:	Keirton Inc.
Address	#109 10425 173 St., Surrey BC V4N 5H3 Canada
Test specification:	
Standard	IEC 60335-2-64:2008 (Third Edition) +A1 in conjunction with IEC 60335-1:2010 (Fifth Edition) + A1:2013
Test procedure.....:	CE
Non-standard test method.....:	N/A
Test Report Form No.....:	IEC60335_2_64E
Test Report Form(s) Originator.....:	KTL
Master TRF	Dated 2015-06
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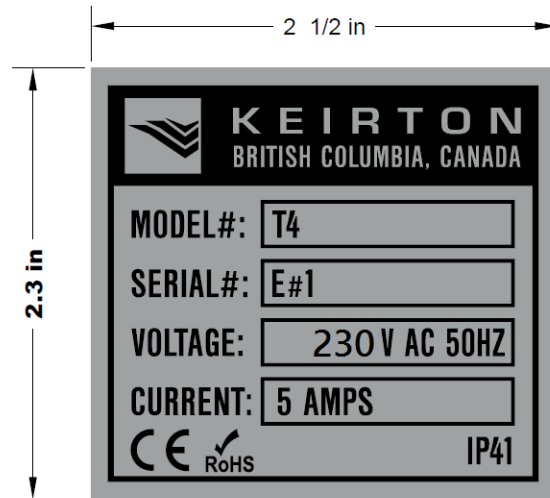
Test item description	Leaf trimming machine																																													
Trade Mark	 																																													
Manufacturer	Keirton Inc. #109 10425 173 St., Surrey BC V4N 5H3 Canada																																													
Model/Type reference	Twister T4, T4 Leaf Collector.																																													
Ratings	230VAC, 1A for T4 Twister, 230VAC, 5A for T4 Leaf Collector. Twister T4 Specifications: <table border="1"> <tr><td>Input Voltage</td><td>230V</td></tr> <tr><td>Current Draw</td><td>1A</td></tr> <tr><td>Blade Motor</td><td>200W / 0.25HP</td></tr> <tr><td>Tumbler Motor</td><td>6W / 1/125HP</td></tr> <tr><td>Cut Height</td><td>.040" / 1/25 / 1mm</td></tr> <tr><td>Weight</td><td>56lbs/25.4kg</td></tr> <tr><td>Shipping Weight (complete w/leaf collector)</td><td>120lbs/54.4kg</td></tr> <tr><td>Length</td><td>25in/63.5cm</td></tr> <tr><td>Width</td><td>15in/38.1cm</td></tr> <tr><td>Height</td><td>16.5in/42cm</td></tr> <tr><td>Discharge</td><td>5in/127mm</td></tr> </table> T4 Leaf Collector Specifications: <table border="1"> <tr><td>Input Voltage</td><td>230V</td></tr> <tr><td>Motor</td><td>1HP</td></tr> <tr><td>Amps (running)</td><td>5A (EURO)</td></tr> <tr><td>Amps (startup)</td><td>26.5A (EURO)</td></tr> <tr><td>Motor Speed</td><td>3450RPM</td></tr> <tr><td>Airflow Capacity</td><td>1190 CFM</td></tr> <tr><td>Static Pressure</td><td>6.45in of H2O</td></tr> <tr><td>Impeller</td><td>10" / 25.4cm</td></tr> <tr><td>Inlet</td><td>5 1/2" / 139.7mm</td></tr> <tr><td>Height</td><td>19in / 48.3cm</td></tr> <tr><td>Weight</td><td>58lbs / 26.3kg</td></tr> </table>		Input Voltage	230V	Current Draw	1A	Blade Motor	200W / 0.25HP	Tumbler Motor	6W / 1/125HP	Cut Height	.040" / 1/25 / 1mm	Weight	56lbs/25.4kg	Shipping Weight (complete w/leaf collector)	120lbs/54.4kg	Length	25in/63.5cm	Width	15in/38.1cm	Height	16.5in/42cm	Discharge	5in/127mm	Input Voltage	230V	Motor	1HP	Amps (running)	5A (EURO)	Amps (startup)	26.5A (EURO)	Motor Speed	3450RPM	Airflow Capacity	1190 CFM	Static Pressure	6.45in of H2O	Impeller	10" / 25.4cm	Inlet	5 1/2" / 139.7mm	Height	19in / 48.3cm	Weight	58lbs / 26.3kg
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Testing procedure and testing location:																																														
<input checked="" type="checkbox"/> CE Testing Laboratory:	Intertek Testing Services NA Ltd.																																													
Testing location/ address	1500 Brigantine Drive, Coquitlam, BC, V3K 7C1, Canada																																													
Tested by (name + signature)	Jamie Mills																																													
Reported by (name + signature)	Peter Law																																													
Approved by (name + signature)	Michel Therrien																																													

<input type="checkbox"/>	Testing procedure: TMP/CTF Stage 1:		
Testing location/ address			
Tested by (name + signature).....			
Approved by (name + signature).....			
<input type="checkbox"/>	Testing procedure: WMT/CTF Stage 2:		
Testing location/ address			
Tested by (name + signature).....			
Witnessed by (name + signature)			
Approved by (name + signature).....			
<input type="checkbox"/>	Testing procedure: SMT/CTF Stage 3 or 4:		
Testing location/ address			
Tested by (name + signature).....			
Witnessed by (name + signature)			
Approved by (name + signature).....			
Supervised by (name + signature).....			

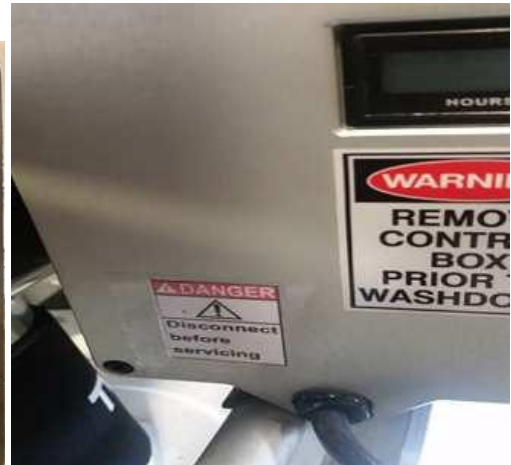
List of Attachments (including a total number of pages in each attachment): 1.Photos 2.Illustrations	
Summary of testing:	
Tests performed (name of test and test clause): Marking and instructions 7.14 Power input and current 10.1, 10.2 Heating 11.8 Leakage current 13.2 electric strength 13.3 Moisture resistance 15 Leakage current 16.2 Electric strength. 16.3 Abnormal operation 19 Stability and mechanical hazards 20.1 Mechanical strength 21.1 Capacitor Discharge 22.5 Clearance & Creepage 29	Testing location: Intertek Testing Services NA Ltd. 1500 Brigantine Drive, Coquitlam, BC, V3K 7C1, Canada

Copy of marking plate:

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



“Warning: Disconnect all supply sources before servicing.”



Test item particulars :	
Classification of installation and use : Class 1, Stationary (over 18KG)	
Supply Connection : Type Y. Non-detachable cord with plug	
Possible test case verdicts: - test case does not apply to the test object..... N/A - test object does meet the requirement P (Pass) - test object does not meet the requirement..... F (Fail)	
Testing : Standard Date of receipt of test item : August 2015 Date (s) of performance of tests..... : August 2015 to April 20, 2016	
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-1:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies) Keirton Inc. #109 10425 173 St., Surrey BC V4N 5H3 Canada	
General product information:	
The product covered by this report is a commercial, indoor use, cord connected electric leaf trimmer.	

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
5.6	Speed controls are set in accordance with the instruction for use (IEC 60335-2-64)		P
5.10	Appliances intended for installation in a bank of other appliances and appliances intended to be fixed to an installation wall are enclosed to obtain protection against electric shock and harmful ingress of water equivalent to that when installed in accordance with the instructions provided with the appliance (IEC 60335-2-64)	Not intended to be fixed to an installation wall are enclosed to obtain protection against electric shock and harmful ingress of water	N/A
5.101	Appliances are tested as motor-operated appliances, even if they incorporated a heating element (IEC 60335-2-64)	tested as motor-operated appliances	P
5.102	Appliances, when assembled in combination with or incorporating other appliances, are tested in accordance with the requirements of this standard. (IEC 60335-2-64)	Not assembled in combination with or incorporating other appliances	N/A
	The other appliances are operated simultaneously in accordance with the requirements of the relevant standards (IEC 60335-2-64)	Not assembled in combination with or incorporating other appliances	N/A
6	CLASSIFICATION		
6.1	Hand-held appliances shall be class II or class III (IEC 60335-2-64)		N/A
	Other appliances shall be class I, class II or class III (IEC 60335-2-64)	Class I	P
6.2	Appliances shall be at least IPX1 (IEC 60335-2-64)	IP 41 rating marked.	P
7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V).....:	See nameplate provided.	P
	Symbol for nature of supply, or.....:	See above	P
	Rated frequency (Hz)	See above	P
	Rated power input (W), or	See above	P
	Rated current (A)	See above	P
	Manufacturer's or responsible vendor's name, trademark or identification mark	See above	P
	Model or type reference.....:	See above	P
	Symbol IEC 60417-5172, for class II appliances		N/A
	IP number, other than IPX0	IP41	P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only		N/A
	Symbol IEC 60417-5018, for class II and class III appliances incorporating a functional earth		N/A
	Symbol IEC 60417-5036, for the enclosure of electrically-operated water valves in external hose-sets for connection of an appliance to the water mains, if the working voltage exceeds extra-low voltage		N/A
	Appliance with rated "ON" and "OFF" periods, the marking shall correspond to normal use. (IEC 60335-2-64)		P
	"ON" period shall precede the "OFF" period, both markings being separated by an oblique stroke (IEC 60335-2-64)		P
	the water pressure in kilopascals (kPa), for appliances intended to be connected to a water supply (IEC 60335-2-64)		N/A
	If the reversal of a motor could cause a hazard, direction of rotation should be clearly indicated (IEC 60335-2-64)		N/A
7.2	Warning for stationary appliances for multiple supply	Warning: Disconnect all supply sources before servicing	P
	Warning placed in vicinity of terminal cover	See warning label provided.	P
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/A
7.4	Appliances adjustable for different rated voltages or rated frequencies, the voltage or the frequency setting is clearly discernible	Not adjustable	N/A
	Requirement met if frequent changes are not required and the rated voltage or rated frequency to which the appliance is to be adjusted is determined from a wiring diagram		N/A
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	Not adjustable	N/A
	the power input or current are related to the arithmetic mean value of the rated voltage range		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		N/A
7.6	Correct symbols used	See nameplate provided.	P
	Symbol for nature of supply placed next to rated voltage		P
	Symbol for class II appliances placed unlikely to be confused with other marking		N/A
	Units of physical quantities and their symbols according to international standardized system		P
	Symbol equipotentiality (IEC 60335-2-64)		P
7.7	Connection diagram fixed to appliances to be connected to more than two supply conductors and appliances for multiple supply, unless		P
	correct mode of connection is obvious		P
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		N/A
	- marking of terminals exclusively for the neutral conductor (letter N)	No dedicated neutral terminal	N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		N/A
	- marking of functional earthing terminals (symbol IEC 60417-5018)		N/A
	- marking not placed on removable parts	See above	N/A
7.9	Marking or placing of switches which may cause a hazard	See above	N/A
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means	See above	N/A
	This applies also to switches which are part of a control		N/A
	If figures are used, the off position indicated by the figure 0		N/A
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		N/A
7.11	Indication for direction of adjustment of controls	See above	N/A
7.12	Instructions for safe use provided	Instruction manual "T4 MANUAL - V0.81 (EURO)" provided	P
	Details concerning precautions during user maintenance		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	The instructions state that:		
	- the appliance is not to be used 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	Page 2-3 of Instruction manual	P
	- children being supervised not to play with the appliance	Not such equipment	N/A
	For a part of class III construction supplied from a detachable power supply unit, the instructions state that the appliance is only to be used with the unit provided	Not such equipment	N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless	Not such equipment	N/A
	it is a battery-operated appliance, the battery being charged outside the appliance	Not such equipment	N/A
	For appliances for altitudes exceeding 2000 m, the maximum altitude is stated.....:	Not such equipment	N/A
	The instructions for appliances incorporating a functional earth states that the appliance incorporates an earth connection for functional purposes only	Not such equipment	N/A
	Instructions shall include operating times and speed settings for accessories (IEC 60335-2-64)	Not such settings	N/A
	Instructions shall warn against misuse, and care is needed when handling cutting blades during cleaning (IEC 60335-2-64)	Page 18 of Instruction manual	P
	Instructions shall contain instructions for cleaning of all surfaces coming into contact with food (IEC 60335-2-64)	Page 19, 20 of Instruction manual	P
	Operating manual indicate how to use safeguards (IEC 60335-2-64)	Page 17 of Instruction manual	P
	Information shall be given about the correct assembly and safe use of accessories (IEC 60335-2-64)	Figure 24 and 28 of Instruction manual	P
	Instructions for hand-held blenders shall contain warning against the use when not in contact with the product (IEC 60335-2-64)	Not such equipment	N/A
	Instructions for food processors shall state that care is needed when handling cutting blades (IEC 60335-2-64)	Not such equipment	N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	Instructions for mincers shall contain a warning against use of perforated discs with oval shaped holes or holes of a greater diameter (IEC 60335-2-64)	Not such equipment	N/A
	Instructions for slicers shall give details for assembly and removal of blades (IEC 60335-2-64)	Not such equipment	N/A
	Instructions shall identify sharpening devices and shall state only those devices shall be used (IEC 60335-2-64)	Not such equipment	N/A
	If symbol 5021 is marked on the appliance its meaning shall be explained (IEC 60335-2-64)	Not such equipment	N/A
7.12.1	Instruction sheet detailing any special precautions necessary for installation (IEC 60335-2-64)	Not such equipment	N/A
	Instructions shall include a statement that appliance is not be cleaned with a water jet (IEC 60335-2-64)	Page 20 gives instruction on what can and cannot be pressure washed	P
	Appliances permanently connected to fixed wiring, (leakage currents may exceed 10 mA) (IEC 60335-2-64)	Not such equipment	N/A
	Instruction sheet shall give recommendations regarding the rating of protective devices (IEC 60335-2-64)	Not such equipment	N/A
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	Not such equipment	N/A
7.12.3	Insulation of the fixed wiring in contact with parts exceeding 50 K during clause 11; instructions state that the fixed wiring must be protected	Not such equipment	N/A
7.12.4	Instructions for built-in appliances:		N/A
	- dimensions of space	Not a built-in appliances:	N/A
	- dimensions and position of supporting and fixing		N/A
	- minimum distances between parts and surrounding structure		N/A
	- minimum dimensions of ventilating openings and arrangement		N/A
	- connection to supply mains and interconnection of separate components		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	- allow disconnection of the appliance after installation, by accessible plug or a switch in the fixed wiring, unless		N/A
	a switch complying with 24.3		N/A
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		N/A
7.12.6	Caution in the instructions for appliances incorporating a non-self-resetting thermal cut-out that is reset by disconnection of the supply mains, if this cut-out is required to comply with the standard		N/A
7.12.7	Instructions for fixed appliances stating how the appliance is to be fixed		N/A
7.12.8	Instructions for appliances connected to the water mains:		N/A
	- max. inlet water pressure (Pa):		N/A
	- min. inlet water pressure, if necessary (Pa):		N/A
	Instructions concerning new and old hose-sets for appliances connected to the water mains by detachable hose-sets		N/A
7.13	Instructions and other texts in an official language	English provided	P
7.14	Marking clearly legible and durable, rubbing test as specified	Rubbing the marking by hand for 15 s with a piece of cloth soaked with water and again for 15 s with a piece of cloth soaked with petroleum spirit	P
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover	Visible from outside	P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		P
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		N/A
	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

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	The symbol IEC 60417-5018 placed next to the symbol IEC 60417-5172 or IEC 60417-5180		P
7.16	Marking of a possible replaceable thermal link or fuse link clearly visible with regard to replacing the link		P
7.101	Equipotential bonding terminals shall be indicated by symbol (IEC 60335-2-64)		P
7.102	Appliances filled by hand shall marked with an indicated level (IEC 60335-2-64)		N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		P
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Lamps behind a detachable cover not removed, if conditions met	No lamps	NA
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap	No lamps	NA
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts	No openings in all electrical compartments housing live parts.	NA
	Use of test probe B of IEC 61032 through openings, with a force of 20N: no contact with live parts	No openings in all electrical compartments housing live parts.	NA
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts	Not class 0 appliances and class II appliances/constructions	N/A
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts	Not accessible with Test Probe 13	P
8.1.3	For appliances other than class II, use of test probe 41 of IEC 61032, with a force not exceeding 1 N: no contact with live parts of visible glowing heating elements	No live parts of visible glowing heating element. Not a heating appliance.	N/A
8.1.4	Accessible part not considered live if:		N/A
	- safety extra-low a.c. voltage: peak value not exceeding 42.4 V		N/A
	- safety extra-low d.c. voltage: not exceeding 42.4 V		N/A
	- or separated from live parts by protective impedance		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	If protective impedance: d.c. current not exceeding 2 mA, and		N/A
	a.c. peak value not exceeding 0.7 mA		N/A
	- for peak values over 42.4 V up to and including 450 V, capacitance not exceeding 0,1 μ F		N/A
	- for peak values over 450 V up to and including 15 kV, discharge not exceeding 45 μ C		N/A
	- for peak values over 15kV, the energy in the discharge not exceeding 350 mJ		N/A
8.1.5	Live parts protected at least by basic insulation before installation or assembly:		N/A
	- built-in appliances		N/A
	- fixed appliances		N/A
	- appliances delivered in separate units		N/A
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	Not a Class II appliances	N/A
	Only possible to touch parts separated from live parts by double or reinforced insulation		N/A
9	STARTING OF MOTOR-OPERATED APPLIANCES		N/A
9.101	Motors shall start within three seconds (IEC 60335-2-64)	Met requirements	P
	Fan motors, providing a cooling effect in order to comply with the requirements of clause 11, shall start under all voltage conditions (IEC 60335-2-64)		N/A
10	POWER INPUT AND CURRENT		
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 ..:	(see appended table)	P
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2	(see appended table)	P
11	HEATING		P
11.1	No excessive temperatures in normal use		P
11.2	The appliance is held, placed or fixed in position as described		P
	Appliances intended to be fixed to the floor, and appliances with a mass greater than 40 kg, are installed in accordance with the manufacturer's instructions (IEC 60335-2-64)		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		P
	the windings are non-uniform or it is difficult to make the necessary connections		N/A
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W)		N/A
11.5	Motor-operated appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)		P
11.6	Combined appliances operated under normal operation at most unfavourable voltage between 0.94 and 1.06 times rated voltage (V)		N/A
11.7	Appliances are operated until steady conditions are established (IEC 60335-2-64)		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3	(see appended table)	P
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		P
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times the rated power input (W).....	Not a heating appliance.	N/A
	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V).....	243.8V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		P
13.2	For class 0, class II and class III appliances, and class II constructions, leakage current measured by means of the circuit described in figure 4 of IEC 60990		P
	Leakage current measurements	(see appended table)	P
	Leakage current for stationary class I appliances (IEC 60335-2-64) :		P
	- for appliances without heating elements: 3.5 mA		P
	- for appliances with heating elements, cord and plug connected: 1 mA per kW maximum of 10 mA		N/A
	- for other appliances with heating elements: 1 mA per kW rated power input no maximum		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4.....:	(see appended table)	P
	No breakdown during the tests		P
14	TRANSIENT OVERVOLTAGES		N/A
	Appliances withstand the transient over-voltages to which they may be subjected		N/A
	Clearances having a value less than specified in table 16 subjected to an impulse voltage test, the test voltage specified in table 6	(see appended table)	N/A
	No flashover during the test, unless		N/A
	of functional insulation if the appliance complies with clause 19 with the clearance short-circuited		N/A
15	MOISTURE RESISTANCE		
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance	IP41 marked. See test data.	P
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3	Live parts and non- current-carrying conductive parts, which may become grounded (chassis) . 1250 Vac 1 min.	P
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29		P
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529.....:	IP41 marked. See test data.	P
	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances	None provided	N/A
	IPX1, IPX2, IPX3 and IPX4 appliances are subjected for 5 min to the splash test (IEC 60335-2-64)	IP41 marked. See test data.	P
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test	Not Hand-held appliance	N/A
	Built-in appliances installed according to the instructions		N/A
	Appliances placed or used on the floor or table placed on a horizontal unperforated support		P
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	For IPX3 appliances, the base of wall mounted appliances is placed at the same level as the pivot axis of the oscillating tube		N/A
	For IPX4 appliances, the horizontal centre line of the appliance is aligned with the pivot axis of the oscillating tube, and		N/A
	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/A
	Appliances normally used on a table are placed on a support having dimensions as specified (IEC 60335-2-64)		N/A
	Wall-mounted appliances, take into account the distance to the floor stated in the instructions		N/A
	Appliances normally fixed to a ceiling are mounted underneath a horizontal unperforated support, the pivot axis of the oscillating tube located at the level of the underside of the support, and		N/A
	for IPX4 appliances, the movement of the tube is limited to two times 90° from the vertical for a period of 5 min		N/A
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Detachable parts subjected to the relevant treatment with the main part		P
	However, if a part has to be removed for user maintenance and a tool is needed, this part is not removed		N/A
15.2	Appliances shall be constructed that spillage of liquid, does not affect their electrical insulation (IEC 60335-2-64)		N/A
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part		P
	Humidity test for 48 h in a humidity cabinet	Humidity conditioned 48 hours	P
	Reassembly of those parts that may have been removed		P
	The appliance withstands the tests of clause 16	See clause 16 Appended tables	P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	See Note 101 (IEC 60335-2-64)		N/A
15.101	Appliances which are provided with a tap shall be constructed that water cannot come into contact with live parts (IEC 60335-2-64)		N/A
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		P
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		P
	Tests carried out at room temperature and not connected to the supply		P
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)	243.8V	P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V)		N/A
	Leakage current measurements	(see appended table)	P
	Leakage current for stationary class I appliances (IEC 60335-2-64) :		P
	- for appliances without heating elements: 3.5 mA		P
	- for appliances with heating elements, cord and plug connected: 2 mA per kW rated power input of the appliance with a maximum of 10 mA		N/A
	- for other appliances with heating elements: 2 mA per kW rated power input appliance with no maximum		N/A
16.3	Electric strength tests according to table 7.....	(see appended table)	P
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified	(see appended table)	P
	No breakdown during the tests		P
17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS		N/A
	No excessive temperatures in transformer or associated circuits in event of short-circuits likely to occur in normal use	No transformer	N/A
18	ENDURANCE		N/A
	Requirements and tests are specified in part 2 when necessary		N/A
19	ABNORMAL OPERATION		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe	(see appended table)	P
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and		N/A
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		N/A
	A control or switching device (IEC 60335-2-64)		N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W)	No heating elements	N/A
	Appliances are operated with empty heated containers (IEC 60335-2-64)		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W)	No heating elements	N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited	No heating elements	N/A
	See Note 101 (IEC 60335-2-64)		N/A
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 sheath	No heating elements	N/A
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		N/A
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		N/A
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions	No heating elements	N/A
	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 (V).....		N/A
19.7	Stalling test by locking the rotor if the locked rotor torque is smaller than the full load torque, or		P
	locking moving parts of other appliances		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	Locked rotor, capacitors open-circuited one at a time		P
	Winding temperatures not exceeding values specified in table 8.....:	(see appended table)	P
19.8	Multi-phase motors operated at rated voltage with one phase disconnected		N/A
19.9	Running overload test on appliances incorporating motors intended to be remotely or automatically controlled or liable to be operated continuously	Not intended to be remotely or automatically controlled	N/A
19.10	Series motor operated at 1.3 times rated voltage for 1 min (V).....:		N/A
19.11	Electronic circuits, compliance checked by evaluation of the fault conditions specified in 19.11.2 for all circuits or parts of circuits		P
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/A
19.13	If the appliance can still be operated it complies with 20.2		N/A
19.14	Appliances operated under the conditions of clause 11, any contactor or relay contact operating under the conditions of clause 11 being short-circuited		P
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied	No mains voltage selector switch	N/A
20	STABILITY AND MECHANICAL HAZARDS		P
20.1	Appliances having adequate stability		P
	Tilting test through an angle of 10°, appliance placed on an inclined plane/horizontal support, not connected to the supply mains; appliance does not overturn	With the feet on the feed side (the side with the leaf collector switch and the T4's hopper) extended 5 cm (2 inch) longer than the feet on the output side, the unit was tilted 10°.	P
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°	No heating elements	NA
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9	See above	NA
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury	Guarding and warning provided	P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	Protective enclosures, guards and similar parts are non-detachable, and		P
	have adequate mechanical strength		P
	Enclosures that can be opened by overriding an interlock are considered to be detachable parts		N/A
	Self-resetting thermal cut-outs and overcurrent protective devices not causing a hazard by unexpected closure		N/A
	Not possible to touch dangerous moving parts with the test probe described	Guarding and warning provided	P
	Covers and the like, protecting danger zones within the operation range of the appliance, shall be detachable (IEC 60335-2-64)		N/A
20.101	Locking devices shall be constructed that cannot be actuated accidentally (IEC 60335-2-64)		N/A
20.102	Fixing devices (attachable accessories), shall not work loose unintentionally (IEC 60335-2-64)		N/A
20.103	Appliances which are designed to tilt shall not give rise to any hazard. (IEC 60335-2-64)		N/A
	If the appliance or part is tilted manually, it shall not be possible to adversely influence the tilting action other than by the intended means (IEC 60335-2-64)		N/A
	Applying a force of 340 N at any point on the tiltable part (IEC 60335-2-64)		N/A
20.104	Moving rollers shall be protected at their drawing-in zones, unless they are spring-loaded with a maximum pressure of 50 kPa, with an emergency switching device, and that the gap between the pair of rollers is at least 60 mm (IEC 60335-2-64)	Moving rollers not provided	N/A
20.105	Switches shall be positioned within easy reach (IEC 60335-2-64)		P
	Start switches shall be secured against accidental actuation (IEC 60335-2-64)		N/A
20.106	Devices, such as sliding feed tables, shall ensure safe working within the operating range (IEC 60335-2-64)	Moving rollers not provided	N/A
20.107	Accidental contact with devices of driven shafts which engage on attachable accessories shall be prevented (IEC 60335-2-64)		P
20.108	Circular saws shall be provided with covers (IEC 60335-2-64)		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
20.109	Blades of hand-held blenders shall be completely screened (IEC 60335-2-64)	Moving rollers not provided	N/A
20.110	Appliances which have a rotating drum with a kinetic energy > 200 J, shall be provided with a cover (stop within 2 s) (IEC 60335-2-64)	Not an Appliance for washing and drying foodstuff	N/A
20.111	Dangerous moving parts shall stop within 2 s after the cover removed (IEC 60335-2-64)	Warning provided "Do not operate without guards in place." Test exempted per note 103 for "appliances complete protection is impracticable".	N/A
20.112	Appliances shall be constructed that the omission in an incorrect position of detachable parts will not result in a hazard (IEC 60335-2-64)		P
20.113	Hand-held whisks shall be provided with a guard to avoid accidental slipping of the hand into the tool (least 30 mm) (IEC 60335-2-64)		N/A
20.114	Beam mixers shall automatically switch off (height of 300 mm) (IEC 60335-2-64)		N/A
20.115	Unloading of the product from peelers shall not cause a hazard (IEC 60335-2-64)		N/A
20.116	Slicing machines shall be stable when in use (IEC 60335-2-64)		N/A
20.117	Blades of slicing machines shall be adequately protected (IEC 60335-2-64)		N/A
20.117.1	A guard surrounding the circular blade shall be provided (IEC 60335-2-64)		N/A
20.117.2	When the slice thickness plate is set to the zero position, distance c shall not exceed 6 mm and thickness plate shall project at least 1 mm (IEC 60335-2-64)		N/A
20.117.3	Slicing machines shall incorporate a sliding feed table, a thumb guard and a product holder (IEC 60335-2-64)		N/A
20.117.4	Sharpening devices shall be constructed that a cover over the blade is ensured (IEC 60335-2-64)		N/A
20.117.5	Pushers of slicing machines shall cover the exposed cutting sector or protective plate which is always at least 150 mm from the blade (IEC 60335-2-64)		N/A
20.117.6	Manual feed carriages shall be provided with a handle meeting the same requirements of 20.117.3 or 20.117.5 (IEC 60335-2-64)		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
20.117.7	Slicing machines with automatic product feeding shall incorporate a guard plate which covers the cutting sector at least 10 mm (IEC 60335-2-64)		N/A
20.117.8	Slicing machines with a power-driven sliding feed table shall be constructed that gaps do not give hazards (IEC 60335-2-64)		N/A
20.118	The discharge apertures of mincers shall be adequately protected (IEC 60335-2-64)		N/A
20.119	Knife sharpeners shall not rotate at a speed exceeding 200 rev/min. (IEC 60335-2-64)		N/A
20.120	Hazardous moving parts of bone saws shall be adequately protected (IEC 60335-2-64)		N/A
	When these parts are accessible after lids, requirements of 20.111 apply (IEC 60335-2-64)		N/A
21	MECHANICAL STRENGTH		P
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J	see appended table 21.1	P
	The appliance shows no damage impairing compliance with this standard, and	No damage	P
	compliance with 8.1, 15.1 and clause 29 not impaired		P
	If doubt, supplementary or reinforced insulation subjected to the electric strength test of 16.3		NA
	If necessary, repetition of groups of three blows on a new sample		NA
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements		P
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		P
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		P
21.101	Detachable and non-detachable parts which are necessary for protection against mechanical hazards shall have adequate resistance to distortion (IEC 60335-2-64)		P
22	CONSTRUCTION		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled	IP41 marked. See test data.	P
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		P
	- a supply cord fitted with a plug, or		P
	- a switch complying with 24.3, or		N/A
	- a statement in the instruction sheet that a disconnection incorporated in the fixed wiring is to be provided, or		N/A
	- an appliance inlet		N/A
	Single-pole switches and single-pole protective devices for the disconnection of heating elements in single-phase, permanently connected class 01 and class I appliances, connected to the phase conductor		N/A
22.3	Appliance provided with pins: no undue strain on socket-outlets		P
	Applied torque not exceeding 0.25 Nm		P
	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		P
	Each pin subjected to a torque of 0.4Nm; the pins are not rotating, unless		P
	rotating does not impair compliance with this standard		P
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		N/A
22.5	No risk of electric shock when touching the pins of the plug, for appliances having a capacitor with rated capacitance equal to or greater than 0,1μF, the appliance being disconnected from the supply at the instant of voltage peak	See Below	P
	Voltage not exceeding 34 V (V).....:	L-N-complete unit- 0 V	P
		L-G-complete unit- 8 V	P
		N-G-complete unit- 8V	P
	If compliance relies on the operation of an electronic circuit, the electromagnetic phenomena tests of 19.11.4.3 and 19.11.4.4 are applied		

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Clause	Requirement + Test	Result - Remark	Verdict
	The discharge test is then repeated three times, voltage not exceeding 34 V (V)		
22.6	Electrical insulation not affected by condensing water or leaking liquid	Not effected by condensation or liquids, electrical circuitry mounted in top enclosure away from working area	P
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks	Class I	N/A
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		N/A
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	No compartments with electrical connections	N/A
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless	No likely exposure to oil or similar substances during normal use	P
	the substance has adequate insulating properties	Not exposed to oil or similar substances during normal use	N/A
22.10	Not possible to reset voltage-maintained non-self-resetting thermal cut-outs by the operation of an automatic switching device incorporated within the appliance, if:	No voltage-maintained nonself-resetting thermal cutouts	N/A
	- a non-self-resetting thermal cut-out is required by the standard, and		N/A
	- a voltage maintained non-self-resetting thermal cut-out is used to meet it		N/A
	Non-self-resetting thermal motor protectors have a trip-free action, unless		N/A
	they are voltage maintained		N/A
	Reset buttons of non-self-resetting controls so located or protected that accidental resetting is unlikely		N/A
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts	Non-detachable parts reliably fixed	P
	Obvious locked position of snap-in devices used for fixing such parts	No snap-in	N/A
	No deterioration of the fixing properties of snap-in devices used in parts that are likely to be removed during installation or servicing		N/A
22.12	Handles, knobs etc. fixed in a reliable manner	No Handles, knobs	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
22.13	Unlikely that handles, when gripped as in normal use, make the operator's hand touch parts having a temperature rise exceeding the value specified for handles which are held for short periods only	No Handles, knobs	N/A
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 or other fasteners, likely 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	No storage hooks	N/A
22.16	Automatic cord reels cause no undue abrasion or damage to the sheath of the flexible cord, no breakage of conductors strands and no undue wear of contacts	No automatic cord reels	N/A
	Cord reel tested with 6000 operations, as specified		N/A
	Electric strength test of 16.3, voltage of 1000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner	No spacers	N/A
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.19	Driving belts not relied upon to provide the required level of insulation, unless	No driving belts	N/A
	constructed to prevent inappropriate replacement		N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless	No thermal insulation	N/A
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	Not used as insulation, gaskets and foams used to form moisture resistant seals	P
22.22	Appliances not containing asbestos	Asbestos not used	P
22.23	Oils containing polychlorinated biphenyl (PCB) not used	No oils containing PCBs	P
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported	No heating elements	N/A
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
22.25	Sagging heating conductors, except in class III appliances or class III constructions that do not contain live parts, cannot come into contact with accessible metal parts	No sagging heating elements	N/A
22.26	For class III constructions the insulation between parts operating at safety extra-low voltage and other live parts complies with the requirements for double or reinforced insulation	No parts operating at safety extra-low voltage	N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation	No protective impedance	N/A
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	Class I	N/A
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	Class I	N/A
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or	Not class II construction	N/A
	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		N/A
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear	No supplementary or reinforced insulation	N/A
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		N/A
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29	No supplementary or reinforced insulation	N/A
	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	Natural or synthetic rubber not used	N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation	No ceramic material used	N/A
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature	No rubber parts	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts, or	No Conductive liquids used	N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		N/A
	the shaft is not accessible when the part is removed		N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation		N/A
22.36	For appliances other than class III, handles continuously held in the hand in normal use so constructed that when gripped as in normal use, the operators hand is not likely to touch metal parts, unless	No parts continuously held during normal use	N/A
22.37	Capacitors in Class II appliances not connected to accessible metal parts and their casings, if of metal, separated from accessible metal parts by supplementary insulation, unless	Class I	N/A
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out	No thermal cut-out	N/A
22.39	Lamp holders used only for the connection of lamps	No lamp holders	N/A
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	Switch with a visible and easily accessible actuator used to control motor	P
22.41	No components, other than lamps, containing mercury	No components containing mercury	P
22.42	Protective impedance consisting of at least two separate components	No protective impedance	N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur	Not adjustable	N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy	Not shaped or decorated like a toy	P

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Clause	Requirement + Test	Result - Remark	Verdict
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure	No reinforced insulation	N/A
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1	No software	N/A
	Software that contains measures to control the fault/error conditions specified in table R.2 is to be specified in parts 2 for particular constructions or to address specific hazards		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use	Appliance not connected to the water mains	N/A
	No leakage from any part, including any inlet water hose		N/A
22.48	Appliances connected to the water mains constructed to prevent backsiphonage of non-potable water	Appliance not connected to the water mains	N/A
22.49	For remote operation, the duration of operation is to be set before the appliance can be started, unless		N/A
	the appliance switches off automatically or can operate continuously without hazard		N/A
22.50	Controls incorporated in the appliance take priority over controls actuated by remote operation	No remote operation	N/A
22.51	There is a control on the appliance manually adjusted to the setting for remote operation before the appliance can be operated in this mode	No remote operation	N/A
22.52	Socket-outlets on appliances accessible to the user in accordance with the socket-outlet system used in the country in which the appliance is sold	One type of European socket outlet was provided & evaluated. See photos in Illustrations.	P
22.53	Class II appliances and class III appliances that incorporate functionally earthed parts have at least double insulation or reinforced insulation between live parts and the functionally earthed parts		N/A
22.54	Button cells and batteries designated R1 not accessible without the aid of a tool, unless		N/A
	the cover of their compartment can only be opened after at least two independent movements have been applied simultaneously		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
22.101	For 3-phase appliances, thermal cut-out protecting circuits with heating elements, and those for motors shall be of the non-self-resetting, trip-free type and shall provide all-pole disconnection (IEC 60335-2-64)	Single-phase appliance	N/A
	For single-phase appliances and for single-phase heating elements and/or motors connected between one phase and neutral or between phase and phase, thermal cut-out protecting circuits with heating elements, and those for motors shall be of the non-self-resetting, trip-free type and shall provide at least one-pole disconnection (IEC 60335-2-64)	Unexpected starting of the motor not cause a hazard.	P
	If the non-self-resetting thermal cut-out is only accessible after removing parts with the aid of a tool, the trip-free type is not required (IEC 60335-2-64)		N/A
22.102	Lights, switches shall only be coloured red for indication danger (IEC 60335-2-64)	No lights. Stop-switch is coloured red	P
22.103	Drain cocks for hot liquids cannot be opened inadvertently (IEC 60335-2-64)	No hot liquid	N/A
22.104	Means provided to allow drainage of liquid from appliances shall discharge the liquid in such a manner that electrical insulation is not affected (IEC 60335-2-64)		N/A
22.105	Accessories requiring an electrical supply shall have that supply derived from the appliance (IEC 60335-2-64)		N/A
22.106	Appliances shall be constructed so that lubricants cannot come into contact with the ingredients (IEC 60335-2-64)		N/A
22.107	Portable appliances shall be constructed to prevent a hazard resulting from objects placed on the table or floor penetrating the bottom surface (IEC 60335-2-64)		N/A
22.108	The level shall be so located as to be readily visible when filling (IEC 60335-2-64)		N/A
22.109	appliances shall be constructed so that food are prevented from penetrating places which could cause electrical or mechanical faults (IEC 60335-2-64)		P
22.110	Switches in the off position shall disconnect electronic circuits (IEC 60335-2-64)		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
22.111	The appliance shall not automatically restart when the supply is re-established after a temporary disconnection (IEC 60335-2-64)		P
22.112	Appliances shall be provided with a start switch and a stop switch (IEC 60335-2-64)	Separate start switch and stop switch provided	P
22.113	Appliances fitted with wheels shall be provided with means of locking (10 °) (IEC 60335-2-64)	Not fitted with wheels	N/A
23	INTERNAL WIRING		P
23.1	Wireways smooth and free from sharp edges	Smooth and free from sharp edge	P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well-rounded or provided with bushings	Well rounded and provided with bushing	P
	Wiring effectively prevented from coming into contact with moving parts	Wires are routed and length prevents contact with fan	P
23.2	Beads etc. on live wires cannot change their position, and are not resting on sharp edges	No beads	N/A
	Beads inside flexible metal conduits contained within an insulating sleeve		N/A
23.3	Electrical connections and internal conductors movable relatively to each other not exposed to undue stress		N/A
	Flexible metallic tubes not causing damage to insulation of conductors		N/A
	Open-coil springs not used		N/A
	Adequate insulating lining provided inside a coiled spring, the turns of which touch one another		N/A
23.4	Bare internal wiring sufficiently rigid and fixed	No bare internal wiring	N/A
23.5	The insulation of internal wiring subjected to the supply mains voltage withstanding the electrical stress likely to occur in normal use		P
	Basic insulation electrically equivalent to the basic insulation of cords complying with IEC 60227 or IEC 60245, or		P
23.6	Sleeving used as supplementary insulation on internal wiring retained in position by clamping at both ends, or	No sleeving used as supplementary insulation	N/A
23.7	The colour combination green/yellow only used for earthing conductors		P
23.8	Aluminium wires not used for internal wiring	No aluminium wires	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
23.9	Stranded conductors not consolidated by soldering where they are subjected to contact pressure, unless	Lead-tin soldering not used	N/A
	the contact pressure is provided by spring terminals		N/A
23.10	The insulation and sheath of internal wiring, incorporated in external hoses for the connection of an appliance to the water mains, at least equivalent to that of light polyvinyl chloride sheathed flexible cord (60227 IEC 52)	No hoses	N/A
24	COMPONENTS		P
24.1	Components comply with safety requirements in relevant IEC standards		P
	List of components	(see appended table)	P
24.1.1	Capacitors likely to be permanently subjected to the supply voltage and used for radio interference suppression or for voltage dividing, comply with IEC 60384-14	Capacitor used inside the certified filter	P
	If the capacitors have to be tested, they are tested according to Annex F		N/A
24.1.2	Transformers in associated switch mode power supplies comply with Annex BB of IEC 61558-2-16	No discrete transformer	N/A
	Safety isolating transformers comply with IEC 61558-2-6		N/A
	If they have to be tested, they are tested according to Annex G		N/A
24.1.3	Switches comply with IEC 61058-1, the number of cycles of operation being at least 10 000		P
	If they have to be tested, they are tested according to Annex H		P
	If the switch operates a relay or contactor, the complete switching system is subjected to the test		P
	If the switch only operates a motor starting relay complying with IEC 60730-2-10 with the number of cycles of a least 10 000 as specified, the complete switching system need not be tested		P
	Switches operating during each cycle of operation of the appliance are tested for 50 000 cycles (IEC 60335-2-64)		P
	Other switches are tested for 10 000 cycles (IEC 60335-2-64)		P
24.1.4	Automatic controls comply with IEC 60730-1 with the relevant part 2. The number of cycles of operation being at least:		N/A

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Clause	Requirement + Test		Result - Remark	Verdict
	- thermostats:	10 000		N/A
	- temperature limiters:	1 000		N/A
	- self-resetting thermal cut-outs:	300		N/A
	- voltage maintained non-self-resetting thermal cut-outs:	1 000		N/A
	- other non-self-resetting thermal cut-outs:	30		N/A
	- timers:	3 000		N/A
	- energy regulators:	10 000		N/A
24.1.5	Appliance couplers comply with IEC 60320-1		None provided	N/A
	However, for class II appliances classified higher than IPX0, the appliance couplers comply with IEC 60320-2-3			N/A
	Interconnection couplers comply with IEC 60320-2-2			N/A
24.1.6	Small lamp holders similar to E10 lampholders comply with IEC 60238, the requirements for E10 lampholders being applicable		None provided	N/A
24.1.7	For remote operation of the appliance via a telecommunication network, the relevant standard for the telecommunication interface circuitry in the appliance is IEC 62151			N/A
24.1.8	The relevant standard for thermal links is IEC 60691		None provided	N/A
	Thermal links not complying with IEC 60691 are considered to be an intentionally weak part for the purposes of Clause 19			N/A
24.1.9	Contactors and relays, other than motor starting relays, tested as part of the appliance			N/A
	They are also tested in accordance with Clause 17 of IEC 60730-1, the number of cycles of operations in 24.1.4 selected according to the contactor or relay function in the appliance			N/A
24.2	Appliances not fitted with:			N/A
	- switches or automatic controls in flexible cords		None provided	N/A
	- devices causing the protective device in the fixed wiring to operate in the event of a fault in the appliance			N/A
	- thermal cut-outs that can be reset by soldering, unless			N/A
	the solder has a melting point of at least 230 °C			N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
24.3	Switches intended for all-pole disconnection of stationary appliances are directly connected to the supply terminals and have a contact separation in all poles, providing full disconnection under overvoltage category III conditions		N/A
24.4	Plugs and socket-outlets for extra-low voltage circuits and heating elements, not interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1 or with connectors and appliance inlets complying with the standard sheets of IEC 60320-1		N/A
	Socket-outlets accessories shall be protected against short circuit and/or overload (IEC 60335-2-64)		N/A
24.5	Capacitors in auxiliary windings of motors marked with their rated voltage and capacitance, and used accordingly		N/A
	Voltage across capacitors in series with a motor winding does not exceed 1,1 times rated voltage, when the appliance is supplied at 1,1 times rated voltage under minimum load		N/A
24.6	Working voltage of motors connected to the supply mains and having basic insulation that is inadequate for the rated voltage of the appliance, not exceeding 42 V		N/A
	In addition, the motors comply with the requirements of Annex I		N/A
24.7	Detachable hose-sets for connection of appliances to the water mains comply with IEC 61770		N/A
24.8	Motor running capacitors in appliances for which 30.2.3 is applicable and that are permanently connected in series with a motor winding, not causing a hazard in event of a failure	Part of a certified motor	N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		P
25.1	Appliance not intended for permanent connection to fixed wiring, means for connection to the supply:		P
	- supply cord fitted with a plug, the current rating and voltage rating of the plug being not less than the corresponding ratings of its associated appliance	Supply cord fitted with a plug	P
	- an appliance inlet having at least the same degree of protection against moisture as required for the appliance, or	No appliance inlet	N/A
	- pins for insertion into socket-outlets		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Appliances shall not be provided with an appliance inlet (IEC 60335-2-64)	Appliance not provided with appliance inlet	N/A
25.2	Appliance not provided with more than one means of connection to the supply mains	Single means of connection	N/A
	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		N/A
25.3	Appliance intended to be permanently connected to fixed wiring provided with one of the following means for connection to the supply mains:		N/A
	- a set of terminals allowing the connection of a flexible cord	Not permanently connected	N/A
25.4	Cable and conduit entries, rated current of appliance not exceeding 16 A, dimension according to table 10 (mm).....:		N/A
	Introduction of conduit or cable does not reduce clearances or creepage distances below values specified in clause 29		N/A
25.5	Method for assembling the supply cord to the appliance:		P
	- type X attachment		N/A
	- type Y attachment		P
	- type Z attachment, if allowed in relevant part 2		N/A
	Type X attachment, other than those with a specially prepared cord, not used for flat twin tinsel cords		N/A
	For multi-phase appliances supplied with a supply cord and that are intended to be permanently connected to fixed wiring, the supply cord is assembled to the appliance by type Y attachment		N/A
25.6	Plugs fitted with only one flexible cord		P
25.7	Supply cords shall be oil-resistant, sheathed flexible cable not lighter than ordinary polychloroprene sheathed cord (60245 IEC 57) (IEC 60335-2-64)		N/A
25.8	Nominal cross-sectional area of supply cords not less than table 11; rated current (A); cross-sectional area (mm ²):		N/A
25.9	Supply cords not in contact with sharp points or edges	Not in contact with sharp points or edges	P
25.10	Supply cord of class I appliances have a green/yellow core for earthing		P

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Clause	Requirement + Test	Result - Remark	Verdict
	In multi-phase appliances, the colour of the neutral conductor of the supply cord is blue.		P
25.11	Conductors of supply cords not consolidated by soldering where they are subject to contact pressure, unless	No contact pressure	N/A
	the contact pressure is provided by spring terminals	No clamping means used	N/A
25.12	Insulation of the supply cord not damaged when moulding the cord to part of the enclosure	Strain relief used	P
25.13	Inlet openings so constructed as to prevent damage to the supply cord	Opening fitted with strain relief bushing	P
	If it is not evident that the supply cord can be introduced without risk of damage, a non-detachable lining or bushing complying with 29.3 for supplementary insulation provided		N/A
	If unsheathed supply cord, a similar additional bushing or lining is required, unless the appliance is		N/A
	class 0, or	Class I	N/A
	a class III appliance not containing live parts	Class I	N/A
25.14	Supply cords moved while in operation adequately protected against excessive flexing	Portable appliance, not being flexed while in operation.	N/A
25.15	For appliances with supply cord and appliances to be permanently connected to fixed wiring by a flexible cord, conductors of the supply cord relieved from strain, twisting and abrasion by use of cord anchorage	Appliance, supplied with a cord anchorage	P
25.16	Cord anchorages for type X attachments constructed and located so that:		N/A
25.17	Adequate cord anchorages for type Y and Z attachment, test with the cord supplied with the appliance		P
25.18	Cord anchorages only accessible with the aid of a tool, or	Accessible, but tool required for construction	N/A
	Constructed so that the cord can only be fitted with the aid of a tool	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	Type Y- attachment	N/A
	Tying the cord into a knot or tying the cord with string not used		N/A
25.20	The conductors of the supply cord for type Y and Z attachment insulated from accessible metal parts	Adequately additionally insulated	P

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Clause	Requirement + Test	Result - Remark	Verdict
25.21	Space for supply cord for type X attachment or for connection of fixed wiring constructed:		N/A
	- to permit checking of conductors with respect to correct positioning and connection before fitting any cover	Type Y- attachment	N/A
25.22	Appliance inlets:		N/A
	- live parts not accessible during insertion or removal		N/A
	Requirement not applicable to appliance inlets complying with IEC 60320-1		N/A
	- connector can be inserted without difficulty		N/A
	- the appliance is not supported by the connector		N/A
	- not for cold conditions if temp. rise of external metal parts exceeds 75 K during clause 11, unless		N/A
	the supply cord is unlikely to touch such metal parts		N/A
25.23	Interconnection cords comply with the requirements for the supply cord, except that:		P
	- the cross-sectional area of the conductors is determined on the basis of the maximum current during clause 11		P
	- the thickness of the insulation may be reduced		P
	If necessary, electric strength test of 16.3		N/A
25.24	Interconnection cords not detachable without the aid of a tool if compliance with this standard is impaired when they are disconnected	The cord can only be fitted with the aid of a tool	P
25.25	Dimensions of pins that are inserted into socket-outlets compatible with the dimensions of the relevant socket-outlet.	Supply cord with plug provided	N/A
	Dimensions of pins and engagement face in accordance with the dimensions of the relevant plug in IEC/TR 60083		N/A
26	TERMINALS FOR EXTERNAL CONDUCTORS		
26.1	Appliances provided with terminals or equally effective devices for connection of external conductors	Supply cord with plug provided	N/A
	Terminals only accessible after removal of a non-detachable cover, except		N/A
	for class III appliances that do not contain live parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Earthing terminals may be accessible if a tool is required to make the connections and means are provided to clamp the wire independently from its connection		N/A
26.2	Appliances with type X attachment and appliances for the connection of cables to fixed wiring provided with terminals in which connections are made by means of screws, nuts or similar devices, unless	Type Y attachment	N/A
	the connections are soldered		N/A
	Screws and nuts not used to fix any other component, except		N/A
26.3	Terminals for type X attachment and for connection of cables of fixed wiring so constructed that the conductor is clamped between metal surfaces with sufficient contact pressure but without damaging the conductor	Type Y attachment	N/A
26.4	Terminals for type X attachment, except those having a specially prepared cord and those for the connection of cables of fixed wiring, no special preparation of conductors such as by soldering, use of cable lugs, eyelets or similar, and	Type Y attachment	N/A
	so constructed or placed that conductors prevented from slipping out when clamping screws or nuts are tightened	Type Y attachment	N/A
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	Type Y attachment	N/A
26.6	Terminals for type X attachment and for connection of cables of fixed wiring suitable for connection of conductors with cross-sectional area according to table 13; rated current (A); nominal cross-sectional area (mm ²).....:	Type Y attachment	N/A
26.7	Terminals for type X attachment, except in class III appliances not containing live parts, accessible after removal of a cover or part of the enclosure	Type Y attachment	N/A
26.8	Terminals for the connection of fixed wiring, including the earthing terminal, located close to each other	Supply cable with plug	N/A
26.9	Terminals of the pillar type constructed and located as specified		N/A
26.10	Terminals with screw clamping and screwless terminals not used for flat twin tinsel cords, unless		N/A
	conductors ends fitted with means suitable for screw terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
26.11	For type Y and Z attachment, soldered, welded, crimped or similar connections may be used		P
	For Class II appliances, the conductor so positioned or fixed that reliance is not placed on soldering, welding or crimping alone	Class I	N/A
	If soldering, welding or crimping alone used, barriers provided so that clearances and creepage distances between live parts and other metal parts are not reduced below the values for supplementary insulation if the conductor becomes free	Class I	N/A
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 earthing contact of the appliance inlet		P
	Earthing terminals and earthing contacts not connected to the neutral terminal		P
	Class 0, II and III appliances have no provision for protective earthing	Class I	N/A
	Class II appliances and class III appliances can incorporate an earth for functional purposes		N/A
	Safety extra-low voltage circuits not earthed, unless		N/A
	protective extra-low voltage circuits		N/A
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		P
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part	earth connection is made first	P
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		P
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal		P
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		P

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Clause	Requirement + Test	Result - Remark	Verdict
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 μm		N/A
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance		P
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		NA
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω)..... :	$R=V/I$ $R=1.42 \text{ Vac} / 25 \text{ A}$ $R=0.057 \Omega$	P
27.6	The printed conductors of printed circuit boards not used to provide earthing continuity in hand-held appliances.	Not hand held	N/A
	They may be used to provide earthing continuity in other appliances if at least two tracks are used with independent soldering points and the appliance complies with 27.5 for each circuit		N/A
	Requirements not applicable to class II appliances and class III appliances that incorporate an earth for functional purposes		N/A
28.1	SCREWS AND CONNECTIONS		
	Fixings, electrical connections and connections providing earthing continuity withstand mechanical stresses		P
	Screws not of soft metal liable to creep, such as zinc or aluminium		P
	Diameter of screws of insulating material min. 3 mm	Insulating material not used	P
	Screws of insulating material not used for any electrical connections or connections providing earthing continuity		N/A
	Screws used for electrical connections or connections providing earthing continuity screwed into metal	Screws into metal used for earthing connection	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Screws not of insulating material if their replacement by a metal screw can impair supplementary or reinforced insulation	Insulating material not used	N/A
	For 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 impairs basic insulation	Type Y attachment	N/A
28.2	Electrical connections and connections providing earthing continuity constructed so that contact pressure is not transmitted through non-ceramic insulating material liable to shrink or distort, unless		P
	there is resiliency in the metallic parts to compensate for shrinkage or distortion of the insulating material		N/A
28.3	Space-threaded (sheet metal) screws only used for electrical connections if they clamp the parts together	Space-threaded not used	N/A
	Thread-cutting (self-tapping) screws and thread rolling screws only used for electrical connections if they generate a full form standard machine screw thread	Thread-cutting not used	N/A
	Thread-cutting (self-tapping) screws not used if they are likely to be operated by the user or installer	No such screw used	N/A
28.4	Screws and nuts that make mechanical connection secured against loosening if they also make electrical connections or connections providing earthing continuity		P
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 (Type 1) or to provide basic insulation (Type 2), Annex J applies:	No coatings used on printed circuits boards	N/A
	The microenvironment is pollution degree 1 under type 1 protection	No coated	N/A
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3	No coated	N/A
	These values apply to functional, basic, supplementary and reinforced insulation.....:	No coated	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless	(see appended table)	P
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree	(see appended table)	P
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		P
30	RESISTANCE TO HEAT AND FIRE		P
30.1	External parts of non-metallic material,	Metallic housing is provided	N/A
	parts supporting live parts, and		N/A
	parts of thermoplastic material providing supplementary or reinforced insulation		N/A
	sufficiently resistant to heat		N/A
	Ball-pressure test according to IEC 60695-10-2		N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire	Metallic housing is provided	N/A
31	RESISTANCE TO RUSTING		P
	Relevant ferrous parts adequately protected against rusting	Aluminum housing is provided	P
	Tests specified in part 2 when necessary		P
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		P
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		P
	Compliance is checked by the limits or tests specified in part 2, if relevant		P
A	ANNEX A (INFORMATIVE) ROUTINE TESTS		P
	Description of routine tests to be carried out by the manufacturer		P
B	ANNEX B (NORMATIVE) APPLIANCES POWERED BY RECHARGEABLE BATTERIES THAT ARE RECHARGED IN THE APPLIANCE		N/A
C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Tests, as described, carried out when doubt with regard to the temperature classification of the insulation of a motor winding		N/A
	Test conditions as specified	Certified motors	N/A
D	ANNEX D (NORMATIVE) THERMAL MOTOR PROTECTORS		N/A
	Applicable to appliances having motors that incorporate thermal motor protectors necessary for compliance with the standard		N/A
	Test conditions as specified		N/A
E	ANNEX E (NORMATIVE) NEEDLE-FLAME TEST		N/A
	Needle-flame test carried out in accordance with IEC 60695-11-5, with the following modifications:		N/A
7	Severities		N/A
	The duration of application of the test flame is 30 s \pm 1 s		N/A
F	ANNEX F (NORMATIVE) CAPACITORS		N/A
	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/A
1.5	Terms and definitions		N/A
1.5.3	Class X capacitors tested according to subclass X2	Part of a certified filter	N/A
1.5.4	This subclause is applicable		N/A
1.6	Marking		
	Items a) and b) are applicable		N/A
3.4	Approval testing		
3.4.3.2	Table 3 is applicable as described		N/A
4.1	Visual examination and check of dimensions		
	This subclause is applicable		N/A
G	ANNEX G (NORMATIVE) SAFETY ISOLATING TRANSFORMERS		N/A
H	ANNEX H (NORMATIVE) SWITCHES		N/A
	Switches comply with the following clauses of IEC 61058-1, as modified below:		N/A
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
	Before being tested, switches are operated 20 times without load		N/A
8	Marking and documentation		N/A
	Switches are not required to be marked		N/A
	However, a switch that can be tested separately from the appliance marked with the manufacturer's name or trade mark and the type reference		N/A
13	Mechanism		
	The tests may be carried out on a separate sample		N/A
15	Insulation resistance and dielectric strength		
15.1	Not applicable		N/A
15.2	Not applicable		N/A
15.3	Applicable for full disconnection and micro-disconnection		N/A
17	Endurance		
	Compliance is checked on three separate appliances or switches		N/A
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		N/A
	otherwise specified in 24.1.3 of the relevant part 2 of IEC 60335.....:		N/A
	Switches for operation under no load and which can be operated only by a tool, and		N/A
	switches operated by hand that are interlocked so that they cannot be operated under load,		N/A
	are not subjected to the tests		N/A
	However, switches without this interlock are subjected to the test of 17.2.4.4 for 100 cycles of operation		N/A
	Subclauses 17.2.2 and 17.2.5.2 not applicable		N/A
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in IEC 60335-1		N/A
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)		N/A
20	Clearances, creepage distances, solid insulation and coatings of rigid printed board assemblies		
	Clause 20 is applicable to clearances across full disconnection and micro-disconnection		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	It is also applicable to creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in Table 24		N/A
I	ANNEX I (NORMATIVE) MOTORS HAVING BASIC INSULATION THAT IS INADEQUATE FOR THE RATED VOLTAGE OF THE APPLIANCE		N/A
	The following modifications to this standard are applicable for motors having basic insulation that is inadequate for the rated voltage of the appliance:		N/A
8	Protection against access to live parts		N/A
8.1	Metal parts of the motor are considered to be bare live parts		N/A
11	Heating		
11.3	The temperature rise of the body of the motor is determined instead of the temperature rise of the windings		N/A
11.8	The 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/A
16	Leakage current and electric strength		
16.3	Insulation between live parts of the motor and its other metal parts is not subjected to the test		N/A
19	Abnormal operation		
19.1	The tests of 19.7 to 19.9 are not carried out		N/A
19.I.101	Appliance operated at rated voltage with each of the following fault conditions:		
	- short circuit of the terminals of the motor, including any capacitor incorporated in the motor circuit		N/A
	- short circuit of each diode of the rectifier		N/A
	- open circuit of the supply to the motor		N/A
	- open circuit of any parallel resistor, the motor being in operation		N/A
	Only one fault simulated at a time, the tests carried out consecutively		N/A
22	Construction		
22.I.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/A
	Compliance checked by the tests specified for double and reinforced insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
J	ANNEX J (NORMATIVE) COATED PRINTED CIRCUIT BOARDS		N/A
	Testing of protective coatings of printed circuit boards carried out in accordance with IEC 60664-3 with the following modifications:		N/A
5.7	Conditioning of the test specimens		N/A
	When production samples are used, three samples of the printed circuit board are tested		N/A
5.7.1	Cold		N/A
	The test is carried out at -25 °C		N/A
5.7.3	Rapid change of temperature		N/A
	Severity 1 is specified		N/A
5.9	Additional tests		N/A
	This subclause is not applicable		N/A
K	ANNEX K (NORMATIVE) OVERVOLTAGE CATEGORIES		N/A
	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/A
	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/A
	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/A
	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/A
L	ANNEX L (INFORMATIVE) GUIDANCE FOR THE MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES		P
	Information for the determination of clearances and creepage distances		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
M	ANNEX M (NORMATIVE) POLLUTION DEGREE		P
	The information on pollution degrees is extracted from IEC 60664-1		P
	Pollution		P
	The microenvironment determines the effect of pollution on the insulation, taking into account the macroenvironment		P
	Means may be provided to reduce pollution at the insulation by effective enclosures or similar		N/A
	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:		N/A
	- pollution degree 1: no pollution or only dry, non-conductive pollution occurs. The pollution has no influence		N/A
	- pollution degree 2: only non-conductive pollution occurs, except that occasionally a temporary conductivity caused by condensation is to be expected	Appliance is degree 2, Per Clause 29.2	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/A
	- pollution degree 4: the pollution generates persistent conductivity caused by conductive dust or by rain or snow		N/A
N	ANNEX N (NORMATIVE) PROOF TRACKING TEST		N/A
O	ANNEX O (INFORMATIVE) SELECTION AND SEQUENCE OF THE TESTS OF CLAUSE 30		P
	Description of tests for determination of resistance to heat and fire		P
P	ANNEX P (INFORMATIVE) GUIDANCE FOR THE APPLICATION OF THIS STANDARD TO APPLIANCES USED IN WARM DAMP EQUABLE CLIMATES		N/A
Q	ANNEX Q (INFORMATIVE) SEQUENCE OF TESTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS		P
	Description of tests for appliances incorporating electronic circuits		P

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict
R	ANNEX R (NORMATIVE) SOFTWARE EVALUATION		N/A
	Programmable electronic circuits requiring software incorporating measures to control the fault/error conditions specified in table R.1 or R.2 validated in accordance with the requirements of this annex		N/A
S	ANNEX S (NORMATIVE) BATTERY OPERATED APPLIANCES POWERED BY BATTERIES THAT ARE NON-RECHARGEABLE OR NOT RECHARGED IN THE APPLIANCE		N/A

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

24.1 TABLE: Critical Components List
Vacuum – items no. 1 to 10

Item no.	Name	Manufacturer / trademark	Type / model	Technical data and securement means	Mark(s) of conformity
1	Vacuum Motor & Switch Box	Eastern Supply	T4LC	1 H, 50 Hz, 230V, 5A Induction Motor. 3450 RPM, 2 pole, Class E. CSA file LR 99553-1	CSA, CE
2	Receptacle	Schuko	70120-LFL-BLK	Euro Schuko CEE7 16 A 250V Outlet, Weatherproof. 2 Pole-3 Wire Grounding.	VDE
3	Power Cord	Schuko	81070	Euro Schuko CEE 7-7 Power Supply Cord, 16A 250V, 2 Pole-3 Wire Grounding, Stripped Ends, 2.5M long.	CE, VDE
4	Safety Switch	Kedu	1205001-16	220-240V AC 50-60Hz. Tested to 50000cycles IP54	CE,TUV,UR
5	Connector	Panduit	DNF18-250FIB-M	Female disconnect, nylon fully insulated, straight connector 18-22 American Wire G Red, 600V, Max. Oper. Temp: 105C	UL, CSA
6	Wire	ECS, Electrical Cable Supply	TEW14ST-00-300 14-1C BC TEW BLACK	14 Gauge Black Wire, Bare copper conductor, Max. Oper. Temp: 105C, 600V	UL, CSA
7	Wire	ECS, Electrical Cable Supply	TEW14ST-01-300 14-1C BC TEW WHITE	14 Gauge White Wire, Bare copper conductor, Max. Oper. Temp: 105C, 600V	UL, CSA
8	Wire	ECS, Electrical Cable Supply	TEW14ST-04-300 14-1C BC TEW GREEN	14 Gauge Green Wire, Bare copper conductor, Max. Oper. Temp: 105C, 600V	UL, CSA
9	Wire Stud	Gardner Bender	10-104	Ring Terminal 16-14 Wire Stud 3/16" - 600V, Max. Oper. Temp: 75C	UL, CSA
10	Wire Joint	Panduit	JN418-212-D	Wire Joint, nylon insulated, 4 #18 - 2#12 AWG, 600V, Max. Oper. Temp: 105C	UL, CSA

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

Control Box – items no. 11 to 30

Item no.	Name	Manufacture r/ trademark	Type / model	Technical data and securement means	Mark(s) of conformity
11	Tumbler Motor	Oriental Motor	2IK6GN-CW2E	AC Motor, 6W, Single Phase 220/230 VAC, 50 Hz, .107 A	UL, CSA, CE
12	Tumbler Motor Gearhead	Oriental Motor	2GN9SA	Gearhead for AC Motor	UL, CSA, CE
13	Reel Blade Motor	Oriental Motor	BLF6200C-A	Brushless DC Motor and Drive, 200W, Single Phase 200-24-VAC, Rated Torque 5.75 lb*in, Speed 80-4000 RPM	UL, CSA, CE
14	Tumbler Motor Capacitor	Oriental Motor	CH65CFAUL-C (OM)	Tumbler Motor Capacitor	UL, CSA, CE
15	Power Cord	Schuko	81040	10A, 250V, Straight Plug Power Cord 1.0MM 2.5M	CE, VDE
16	Spade Connector	Panduit	PV14-6F-M	16-14 American Wire Gauge (AWG) #4-6 Spade Connector Blue	UL, CSA
17	Right Angle Connector	Panduit	DNFR18-205FIB-M	18-22 AWG Right Angle Connector - Red	UL, CSA
18	Ferrule	Phoenix Contact	AI 1-8 RD - B	18 AWG Red Wire Ferrule Strip	CSA
19	Wire	ECS	TEW18ST-01-300	18 Gauge White Wire, Bare copper conductor, Max. Oper. Temp: 105C, 600V	UL, CSA
20	Wire	ECS	TEW18ST-00-300	18 Gauge White Wire, Bare copper conductor, Max. Oper. Temp: 105C, 600V	UL, CSA
21	Connector	WAGO	773-164	Pushwire Connector, 4 Conductor 400 V, 4kV surge, 24 A	CE
22	Data Cable	C2G	26687	CAT5e Data Cable, 24AWG, Max. Oper. Temp: 60C, 100MHz 10BASE-T, 100BASE-TX, 1000BASE-T	CSA, UL
23	Ferrule	Phoenix Contact	3201369	20 AWG Orange Wire Ferrule	CSA

IEC 60335-2-64					
Clause	Requirement + Test			Result - Remark	Verdict
Item no.	Name	Manufacturer / trademark	Type / model	Technical data and securement means	Mark(s) of conformity
24	Hour Meter	Trumeter Company Inc.	3410-2000	10-300VDC/20-300V AC Hour Meter Mini Flush Rectangular 1/4" Spade Connector, 8 digit display, self powered	UL, CE, NEMA
25	Membrane Switch	Padtech Industries	Custom	ELV, 5V control circuit.	NR
26	RFI Filter	TE Connectivity	B3	RFI Filter for High Impedance/Low Current ; 250 VAC 50 Hz	USL, VDE, CSA
27	PCB Board	CCI	various	1/6" Thickness Board, Sun Chemical XV501T-4 Series A Solder mask type, UL Flame Class V-0, Max. Temp: 288C, Max Oper. Temp: 130C, FR4 Tg170 S1000-2 Material Type, UL#E109769	UL
28	Enclosure - Upper Power Pack Housing	APEX	various	Aluminum extrusion upper housing with black anodize finish.	Tested in product
29	Enclosure - Lower Power Pack Housing	APEX	various	Aluminum extrusion lower housing with black anodize finish.	Tested in product
30	Label	Gerber Technology	Series 220	2-mil cast vinyl, 78-lb white kraft liner	Tested in product

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

10.1	TABLE: Power input deviation					P
Input deviation of/at:	P rated (W)	P measured (W)	ΔP	Required ΔP	Remark	
Twister T4 195.5 Vac	200	83	-58.5%	+ 20%		
Twister T4 230 Vac	200	83	-58.5%	+ 20%		
Twister T4 243.8. Vac	200	80	-60%	+ 20%		
Supplementary information:			Test Date: August 24, 2015			

10.2	TABLE: Current deviation					P
Current deviation of/at:	I rated (A)	I measured (A)	ΔI	Required ΔI	Remark	
T4 Leaf Collector 195.5 Vac	5	2.81	-43.8%	+ 20%		
T4 Leaf Collector 230 Vac	5	3.32	-33.6%	+ 20%		
T4 Leaf Collector 243.8 Vac	5	2.94	-41.2%	+ 20%		
Supplementary information:			Test Date: August 24, 2015			

11.8	TABLE: Heating test			P
	Test voltage (V)..... :	195.5	—	
	Ambient (°C)..... :	25	—	
Thermocouple locations:		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)	
VEXTA MOTOR DRIVE-ENCLOSURE		16	25	
VEXTA MOTOR -ENCLOSURE		16	25	
PWB POWER SUPPLY-ENCLOSURE		17	60	
RELAY-ENCLOSURE		12	60	
FILTER BODY		10		
Supplementary information:			Test Date: August 24, 2015	

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

11.8	TABLE: Heating test		P
	Test voltage (V)..... :	248.3	—
	Ambient (°C)..... :	25	—
Thermocouple locations:		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
VEXTA MOTOR DRIVE-ENCLOSURE		16	25
VEXTA MOTOR -ENCLOSURE		16	25
PWB POWER SUPPLY-ENCLOSURE		17	60
RELAY-ENCLOSURE		12	60
FILTER BODY		9	
Supplementary information: Test Date: August 24, 2015			

13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input (W)....:	NA	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V):	243.8	—
Leakage current between:		I (mA)	Max. allowed I (mA)
To motor control chassis – FWD		2.4	3.5
To motor control chassis - REV		2.4	3.5
Supplementary information: stationary class I motor-operated appliances.			
Test Date: August 24, 2015			

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

13.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Live parts and non- current-carrying conductive parts, which may become grounded (chassis)		1000	No
Supplementary information: BI : >150 V and ≤250 V			
Test Date: August 24, 2015			

15	TABLE: Moisture resistance			P
TEST TYPE		DURATION	INGRESS	COMPLY
IPX1		10 min.	None	P

16.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Live parts and non- current-carrying conductive parts, which may become grounded (chassis)		1250	No
Supplementary information: BI >150 V and ≤250 V. Appliances other than those classified IPX0 are subjected to the tests of IEC 60529, CLAUSE 14.2.1. The turntable has a rotation speed of 1 r/min. All seams and holes were filled with silicone sealant prior to testing by the client.			
Test Date: Apr. 19, 2016			

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

16.2	TABLE: Leakage current		P
	Single phase appliances: 1.06 x rated voltage (V).....:	NA	—
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V).....:	243.8	—
Leakage current between:		I (mA)	Max. allowed I (mA)
To motor control chassis – FWD		1.8	3.5
To motor control chassis - REV		1.8	3.5
Supplementary information: stationary class I motor-operated appliances			
Test Date: August 24, 2015			

16.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Live parts and non- current-carrying conductive parts, which may become grounded (chassis)		1250	No
Supplementary information: BI >150 V and ≤250 V			
Test Date: August 24, 2015			

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

19.7	TABLE: Abnormal operation, locked rotor/moving parts					P
	Test voltage (V) :	230			—	
	Ambient, t1 (°C) :	20			—	
	Ambient, t2 (°C) :	20			—	
Temperature of winding:		R1 (Ω)	R2 (Ω)	Δ T(°C)	T (°C)	Max. T (°C)
Class 130 (B)		1435	1785	49.9	NA	165
Supplementary information: Class B insulation						
Test Date: August 24, 2015						

21.1	TABLE: Impact resistance			P
Impacts per surface	Surface tested	Impact energy (Nm)	Comments	
3	Control box	0.5	switch	
3	“Blower” switch box	0.5		
Supplementary information:				
Test Date: August 24, 2015				

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

29.1	TABLE: Clearances					P
	Overvoltage category : II					—
Basic Insulation		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark
330	0,2* / 0,5 / 0,8**					
500	0,2* / 0,5 / 0,8**					
800	0,2* / 0,5 / 0,8**					
1 500	0,5 / 0,8** / 1,0***					
2 500	1,5 / 2,0***	3.88	NA	NA	NA	PWB to chassis
4 000	3,0 / 3,5***					
6 000	5,5 / 6,0***					
8 000	8,0 / 8,5***					
10 000	11,0 / 11,5***					
Supplementary information: *) For tracks on printed circuit boards if pollution degree 1 and 2 **) For pollution degree 3 ***) If the construction is affected by wear, distortion, movement of the parts or during assembly Test Date: August 24, 2015						

IEC 60335-2-64			
Clause	Requirement + Test	Result - Remark	Verdict

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V):	Creepage distance (mm) Pollution degree							Type of insulation			
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	Verdict
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		—	—	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	4.66	—	—	P
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—		—	
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0	—	—		
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	

IEC 60335-2-64											
Clause	Requirement + Test							Result - Remark			Verdict
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		
Supplementary information: PWB female spade connectors to chassis.											
*) Material group IIIb is allowed if the working voltage does not exceed 50 V											
**) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation											
Test Date: August 24, 2015											

List of test equipment used:

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

Testing performed in August 2015.

Item	Equipment Type	Equipment #	Cal. Due Date
A	TEMPERATURE AND HUMIDITY DATALOGGER	P51519	02/12/2016
B	AMETEK PROGRAMMABLE POWER SUPPLY	P60451	10/01/2015
C	POWER ANALYZER	P60276	05/14/2016
D	MIDI LOGGER	P60583	11/04/2015
E	ENVIRONMENTAL CHAMBER	P52848	NA
F	TEMPERATURE CONTROLLER	P60130	07/08/2016
G	HUMIDITY CONTROLLER	P52881	05/26/2016
H	HUMIDITY SENSOR	P52846	05/26/2016
I	DWV TESTER	P51378	06/11/2016
J	STOP WATCH	P60037	07/10/2016
K	LEAKAGE METER	P60453	03/10/2016
L	AC CURRENT SUPPLY	P51299	09/25/2015
M	TRUE RMS MULTIMETER	P60090	10/09/2015
N	DIGITAL CALIPERS	34490	07/10/2016
O	100 MHz, 2.5 GS/s Digital Oscilloscope	P60594	05/08/2016
P	100:1 200MHz 10-25pF	P60574	NA
Q			
R			

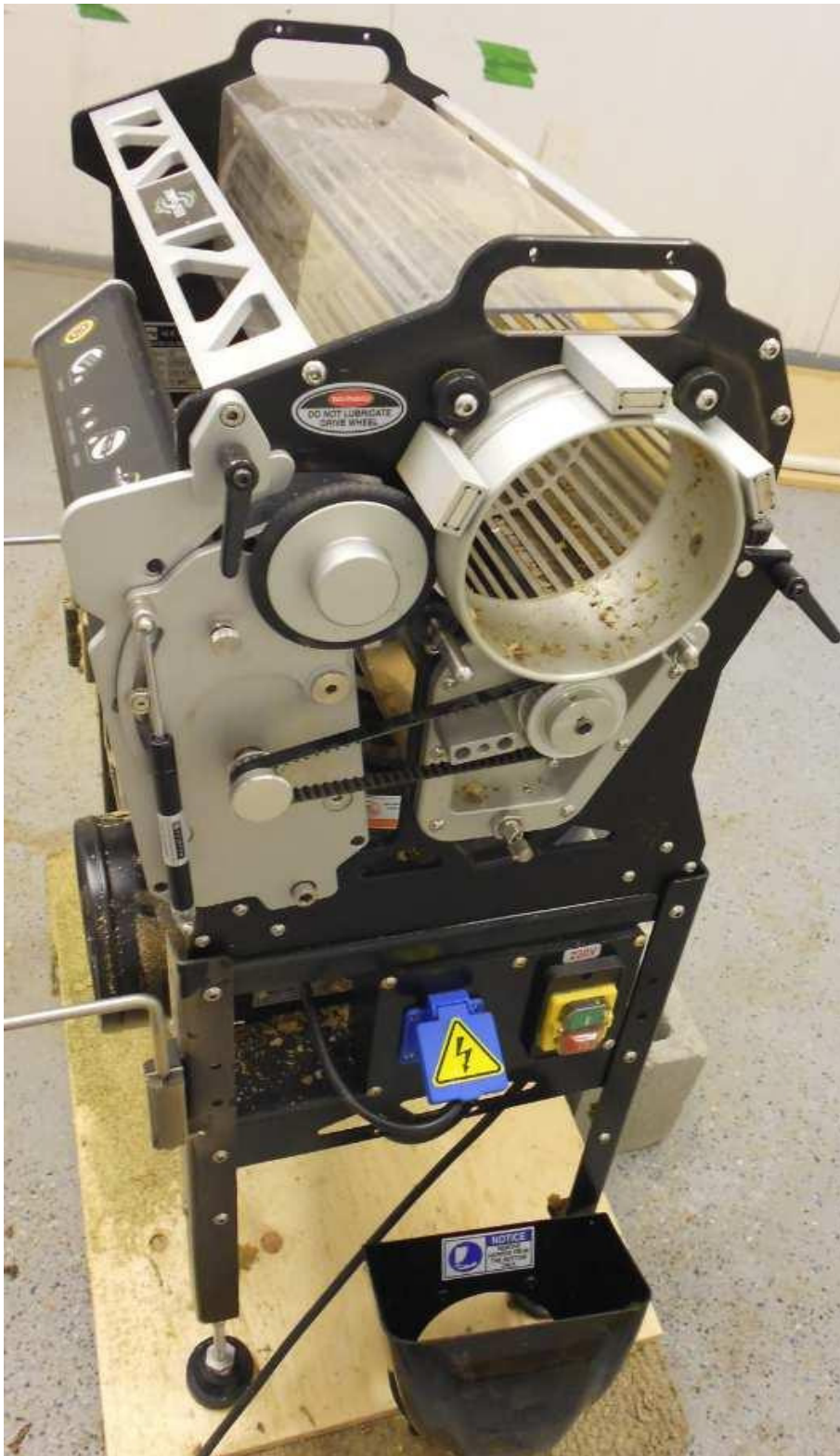
Retest for clauses 7.14, 15, 22.5, and 27 were performed in March 2016.

Item	Equipment Type	Equipment #	Cal. Due Date
A	TEMPERATURE AND HUMIDITY DATALOGGER	P51519	03/10/2017
B	STOP WATCH	P60037	07/10/2016
C	100 MHz, 2.5 GS/s Digital Oscilloscope	P60594	05/08/2016
D	100:1 200MHz 10-25pF	P60574	NA
E	AC CURRENT SUPPLY	P51299	10/08/2016
F	TRUE RMS MULTIMETER	P60090	10/07/2016
G	POWER SMART WAVE	P60123	03/31/2016
H	10m/33ft measuring tape	P60494	08/21/2016
I	DRIP BOX SYSTEM	P60094	11/03/2016
J	SPLASH TESTER	P60105	03/20/2017
K	n-HEXANE 95%	P60701	10/31/2016
L	DIELECTRIC STRENGTH TESTER	P60602	10/21/2016
M			
N			

Retest for clauses 15 and 16.3 were performed in Apr. 19, 2016

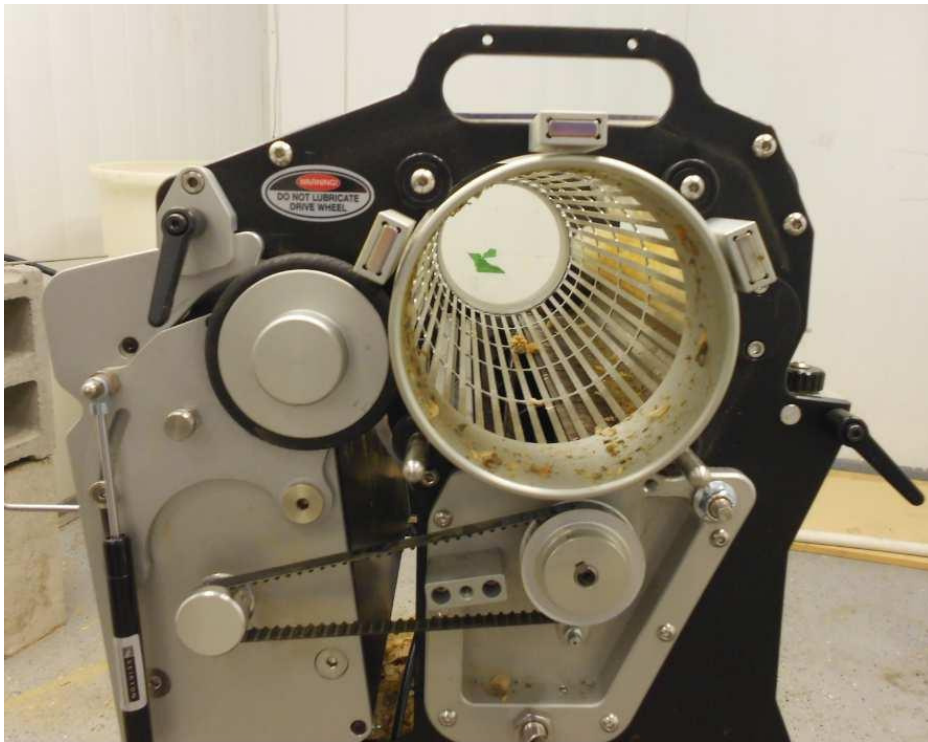
Item	Equipment Type	Equipment #	Cal. Due Date
A	TEMPERATURE AND HUMIDITY DATALOGGER	P51519	03/10/2017
B	STOP WATCH	P60037	07/10/2016
C	10m/33ft measuring tape	P60494	08/21/2016
D	DRIP BOX SYSTEM	P60094	11/03/2016
E	DIELECTRIC STRENGTH TESTER	P60602	10/21/2016
F			

Photos – External View of product



TRF No. IEC60335_2_64E

Photos – External View of product



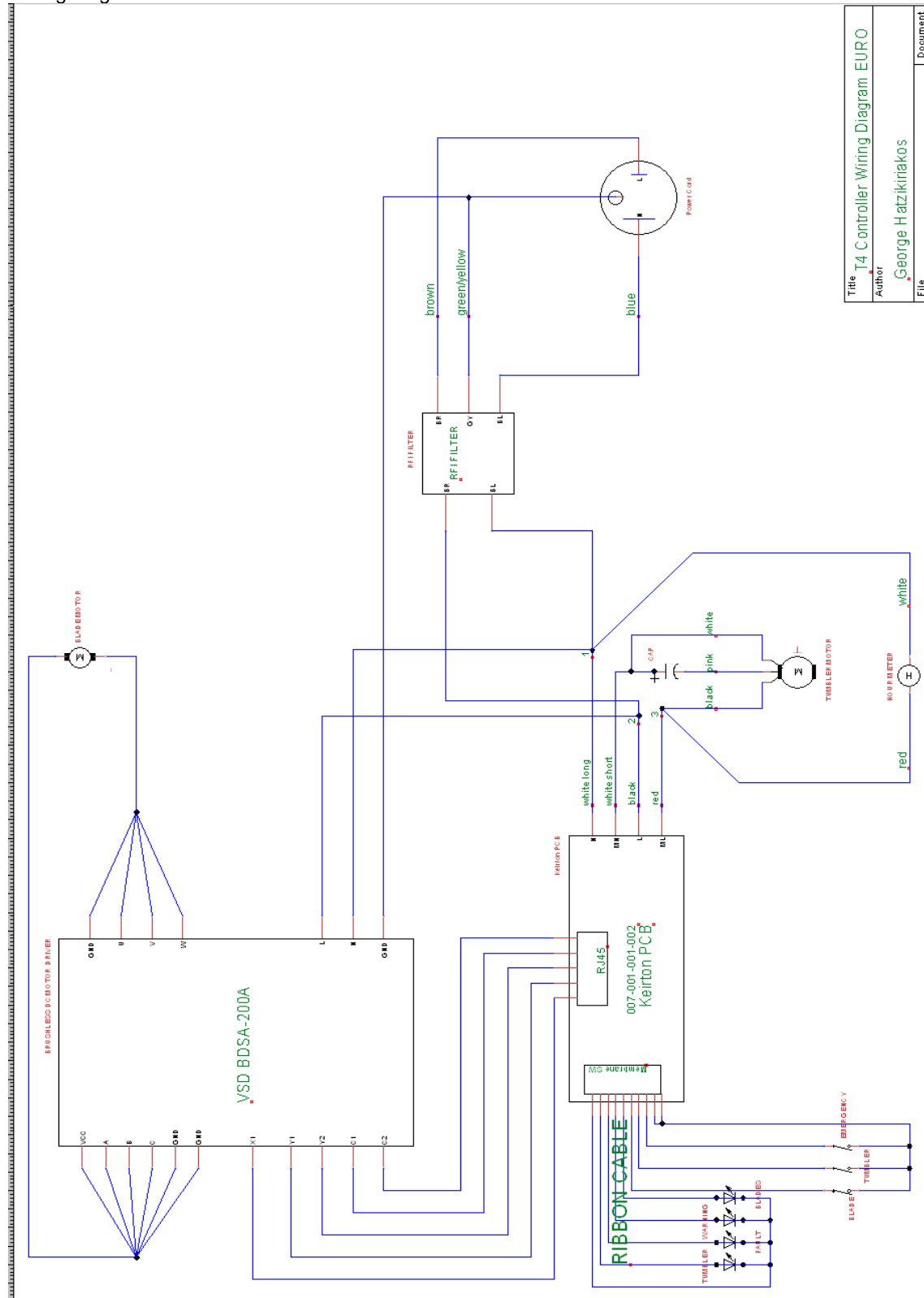
Photos – External View of product



Photos – External View of product

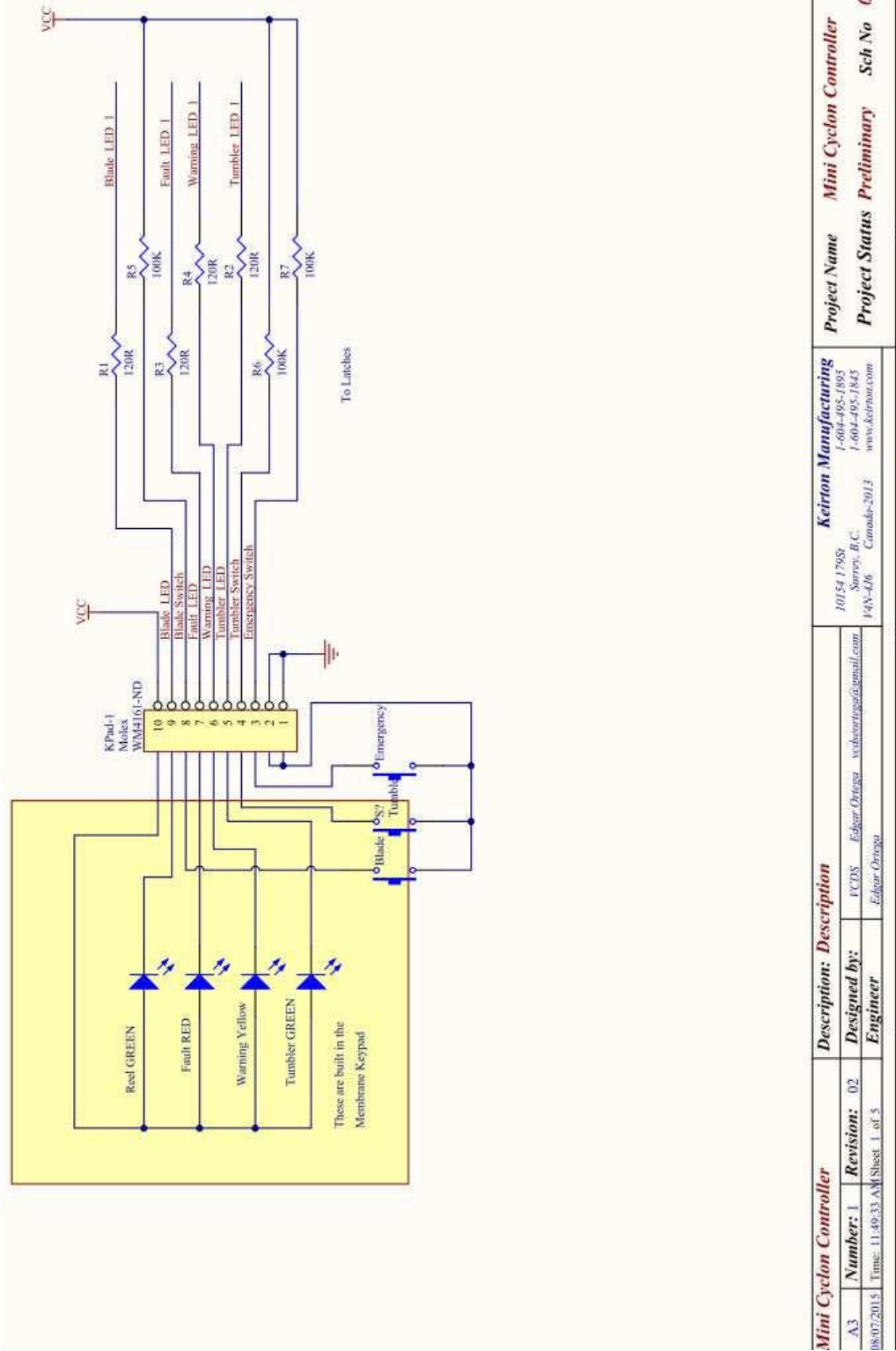


Wiring diagram

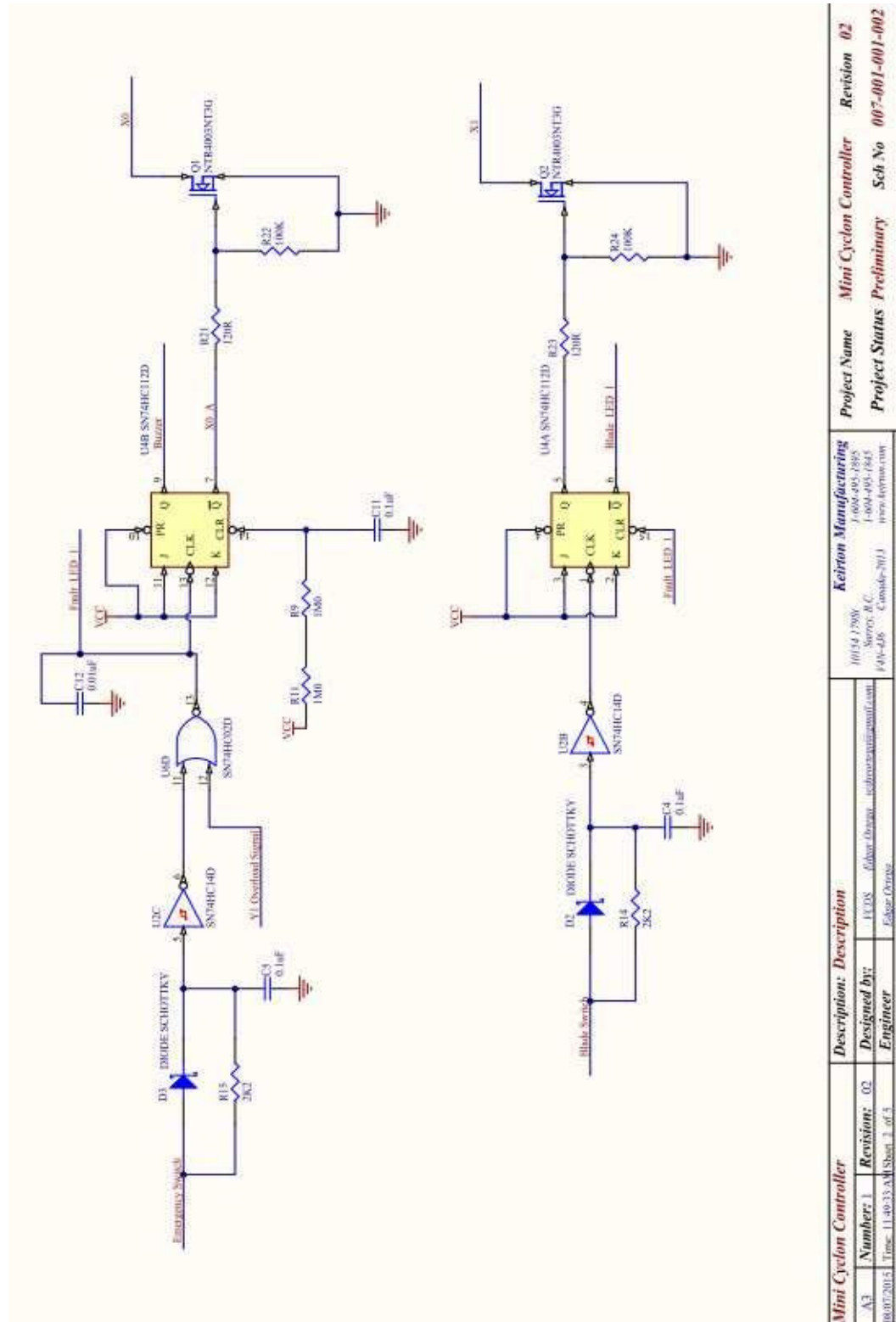


Title	T4 Controller Wiring Diagram EURO
Author	George Hatzikirakos
File	Document

schematic controller



schematic controller



schematic controller

