

<b>TEST REPORT</b> <b>IEC 60335-2-15</b> <b>Safety of household and similar electrical appliances</b> <b>Part 2: Particular requirements for appliances for heating liquids</b>	
<b>Report Number</b> .....	160501336SHA-001
<b>Date of issue</b> .....	2016-05-23; Amendment 10: 2024-04-10
<b>Total number of pages</b> .....	49 pages test report (include 17 pages of photographs)
<b>Applicant's name</b> .....	Ningbo Poogoo Electrical Appliance Co., Ltd.
<b>Address</b> .....	Puyan Village Ditung Street Yuyao Zhejiang China
<b>Test specification:</b>	
<b>Standard</b> .....	EN 60335-2-15:2016+A11:2018+A1:2021+A2:2021+A12:2021 EN 60335-1:2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019+A15:2021+A16:2023 EN 62233:2008
<b>Test procedure</b> .....	--
<b>Non-standard test method</b> .....	N/A
<b>Test Report Form No.</b> .....	IEC60335_2_15I
<b>Test Report Form(s) Originator</b> .....	IMQ S.p.A.
<b>Master TRF</b> .....	Dated 2012-03
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<b>Test item description</b> .....	Water Kettle
<b>Trade Mark</b> .....	-
<b>Manufacturer</b> .....	Same as applicant
<b>Model/Type reference</b> .....	PK-1001, PK-1008, PK-1010, PK-1008C, PK-1009, PK-1009C, PK-3008, PK-3010, PK-S1401, PK-S1401E, PK-S1408, PK-S1406, PK-3018, PK-3068, PK-S1468, PK-S1468E, PK-S1478, PK-S1428, PK-S1458, PK-S1488
<b>Ratings</b> .....	220-240V~, 50/60Hz, Class I PK-1001: 750-900W; PK-1008, PK-1010, PK-1008C, PK-1009, PK-1009C, PK-3008, PK-3010, PK-S1406, PK-3018, PK-S1468, PK-S1468E, PK-S1478, PK-S1428, PK-S1458, PK-S1488: 1850-2200W PK-S1401, PK-S1401E: 1680-2000W; PK-S1408, PK-3068: 1350-1600W

<b>Testing procedure and testing location:</b>		
<input checked="" type="checkbox"/>	<b>Testing Laboratory:</b>	Intertek Testing Services Shanghai
<b>Testing location/ address .....</b>		Building No.86, 1198 Qinzhou Road (North), Shanghai, 200233, China
<input type="checkbox"/>	<b>Associated CB Laboratory:</b>	N/A
<b>Testing location/ address .....</b>		
<b>Tested by (name + signature).....:</b>		Andy Huo 
<b>Approved by (name + signature) ..:</b>		Wayle Chen 
<input type="checkbox"/>	<b>Testing procedure: TMP</b>	N/A
<b>Testing location/ address .....</b>		
<b>Tested by (name + signature).....:</b>		N/A
<b>Approved by (name + signature) ..:</b>		N/A
<input type="checkbox"/>	<b>Testing procedure: WMT</b>	N/A
<b>Testing location/ address .....</b>		
<b>Tested by (name + signature).....:</b>		N/A
<b>Witnessed by (name + signature) ..:</b>		N/A
<b>Approved by (name + signature) ..:</b>		N/A
<input type="checkbox"/>	<b>Testing procedure: SMT</b>	N/A
<b>Testing location/ address .....</b>		
<b>Tested by (name + signature).....:</b>		N/A
<b>Approved by (name + signature) ..:</b>		N/A
<b>Supervised by (name + signature):</b>		N/A
<input type="checkbox"/>	<b>Testing procedure: RMT</b>	N/A
<b>Testing location/ address .....</b>		
<b>Tested by (name + signature).....:</b>		N/A
<b>Approved by (name + signature) ..:</b>		N/A
<b>Supervised by (name + signature):</b>		N/A

<b>List of Attachments (including a total number of pages in each attachment):</b>	
None	
<b>Summary of testing:</b>	
From the result of our inspection and tests on the submitted samples, we conclude that they comply with the requirements of the standards.	
Determination of the test conclusion is based on IEC Guide 115 in consideration of measurement uncertainty	
The (EU) 2015/1143 has been considered, the appliance is not intended to heat milk, coffee, or similar and there is no overflow risk during normal operation.	
<b>Tests performed (name of test and test clause):</b>	<b>Testing location:</b>
Refer to description for Amendment 10 (page 5) for details.	Building No.86, 1198 Qinzhou Road (North), Shanghai, 200233, China
<b>Summary of compliance with National Differences</b>	
<b>List of countries addressed: Germany, UK, Italy</b>	
<input checked="" type="checkbox"/> <b>The product fulfils the requirements of <u>EN 60335-2-15:2016+A11:2018+A1:2021+A2:2021+A12:2021 used in conjunction with EN 60335-1:2012+A11:2014+A13:2017+ A1:2019+A2:2019+A14:2019+A15:2021+A16:2023 and EN 62233:2008</u></b>	
<b>Copy of marking plate:</b> (representative)	
Marking of kettle body and its stand:	
<div data-bbox="550 1164 1193 1541" data-label="Image"> </div>	
<b>Remark:</b> When the equipment is vended to EU, then name and address of the importer or authorized representative within the EEA shall be added on the equipment.	

<b>Test item particulars</b> .....	
<b>Classification of installation and use</b> .....	Class I, household and similar application
<b>Supply Connection</b> .....	Cord connection, type Y attachment
<b>Possible test case verdicts:</b>	
- 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)
<b>Testing</b> .....	
<b>Date of receipt of test item</b> .....	2024-02-05
<b>Date (s) of performance of tests</b> .....	2024-02-05 to 2024-04-07
<b>General remarks:</b>	
<p>The test results presented in this report relate only to the object tested.  This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.  "(see Enclosure #)" refers to additional information appended to the report.  "(see appended table)" refers to a table appended to the report.  Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p> <p><b>This test report should be read in conjunction with the Construction Data Form (CDF).</b>  Appendix: Constructional Data Form (CDF)</p> <p>AfPS GS 2019:01 PAK is considered and passed, please refer to PAH test report 200601844SHA-001-PAH, 200601844SHA-001-PAH+A1, 200601844SHA-001-PAH+A2, 200601844SHA-001-PAH+A3, 200601844SHA-001-PAH+A4 for detail.</p> <p>No obvious or conspicuous PAK/PAH issues was observed.</p> <p>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</p>	
<b>Manufacturer's Declaration per sub-clause 6.2.5 of IEC60335-1:</b>	
<p>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 .....</p> <p><input type="checkbox"/> Yes  <input checked="" type="checkbox"/> Not applicable</p>	
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies)</b> .....	Ningbo Poogoo Electrical Appliance Co., Ltd Puyan Village Ditang Street Yuyao Zhejiang China

**General product information:**

The appliance covered in this report is water kettle for household and similar application. All models incorporate temperature limiter and temperature controller to safeguard the appliances to safeguard itself.

All models characteristic refer to the following description:

1. PK-1008C, PK-1009C, PK-1001 has no base and others have.
2. As capacity:
  - PK-S1401, PK-1001, PK-S1401E, PK-3068 which capacity are 1, 0 litre.
  - PK-S1408, which capacity is Max.1, 0 litre and Min.0, 5 litre
  - PK-1008, PK-1010, PK-1008C, PK-1009, PK-1009C, PK-3008, PK-3010, PK-3018, PK-S1406, PK-S1478, PK-S1428, PK-S1458, PK-S1488 which capacity are 1, 7 litre.
  - PK-S1468, PK-S1468E, which capacity are 2, 0 litre.
3. PK-S1401 is same as PK-S1401E. Except for PK-S1401E has a mechanical thermometer. Same as PK-S1468 and PK-S1468E.
4. PK-1001, PK-1008, PK-1010, PK-3018, PK-1008C, PK-1009, PK-1009C, PK-3008, PK-3010, PK-S1468 are different at the appearance and heating element.
5. PK-S1406 is same as PK-S1408 except the different appearance.
6. PK-S1478 has stainless steel bottle with plastic enclosure, other models have same material for bottle and enclosure.
7. PK-S1458 is same as PK-S1488, except lid, hand and base.
8. PK-S1428 is same as PK-S1458, except appearance and temperature limiter position.

**Amendment 10:**

The original test report ref. 160501336SHA-001 issued on 2016-05-23, with amendment 1 dated on 2016-11-01, with amendment 2 dated on 2018-07-05, with amendment 3 dated 2019-04-16, with amendment 4 dated 2019-10-17, with amendment 5 dated 2020-06-22, with amendment 6 dated 2021-03-22, with amendment 7 dated 2023-04-23, with amendment 8 dated 2023-09-18, with amendment 9 dated 2023-10-12, was modified on 2024-04-10 to include the following changes and additions:

1. Added 3 new models PK-S1428, PK-S1458, PK-S1488.
2. Changed the base enclosure structure for all models (detail refer to photo).
3. Added alternative Thermal control, Cordless connector system, Temperature limiter made by Wenzhou Henglai for PK-S1428; alternative Thermal control, Cordless connector system made by Wenzhou Henglai for PK-S1401, PK-S1401E, PK-S1408, PK-S1406, PK-S1458, PK-S1488, PK-S1478.
4. Updated standard EN 60335-1 from "EN 60335-1: 2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019+A15:2021" to "EN 60335-1: 2012+A11:2014+A13:2017+A1:2019+A2:2019+A14:2019+A15:2021+A16:2023".
5. Updated PAH report and table 24.1.

After review and checking, select PK-S1428 and PK-S1488 as representative models with thermal control made by Strix, Fada and Henglai subjected to all tests, and PK-S1458 is also tested for relevant tests if mentioned, only the most unfavourable result recorded. The distance of enclosure of base to connection of connector is larger than 3mm for all models,

Clauses Concerned: Cl.7, Cl.8, Cl.10, Cl.11, Cl.13, Cl.15, Cl.16, Cl.19, Cl. 20, Cl.21, Cl.22, Cl.23, Cl.25, Cl.27 new standard and 33 photos need to be concerned. Other clause which not mentioned in the report was referred to original test report.

Tables Concerned: 10.1, 11.8, 11.Z101, 13.2, 13.3, 16.2, 16.3, 19, 19.13, 24.1, 29.1, 29.2, 30.

All temperature rises for Cl30.1 are lower than tested in original test report.

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V) ..... :	Refer to marking	P
	Symbol for nature of supply, or ..... :	Refer to marking	P
	Rated frequency (Hz) ..... :	Refer to marking	P
	Rated power input (W), or ..... :	Refer to marking	P
	Rated current (A) ..... :		N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark ..... :	Refer to marking	P
	Model or type reference ..... :	Refer to marking	P
	Symbol IEC 60417-5172, for class II appliances		N/A
	IP number, other than IPX0..... :		N/A
	Symbol IEC 60417-5180, for class III appliances, unless		N/A
	the appliance is operated by batteries only		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
	Appliances intended to be partially immersed in water for cleaning, marked with the maximum level of immersion and with the substance of the following: "Do not immerse beyond this level" (IEC 60335-2-15:2002)		N/A
	For kettles : level mark or other means which indicate the rated capacity (IEC 60335-2-15:2002)		P
	Unless they cannot be filled beyond their rated capacity (IEC 60335-2-15:2002)		N/A
	Mark outside of the kettle if the level is not self-evident (IEC 60335-2-15:2002)		P
	Marking on the appliance of the closed position of the lid of pressure cooker, if it is not obvious (IEC 60335-2-15:2002)		N/A
	Identification mark and model or type reference of stand for cordless kettles (IEC 60335-2-15:2002)		P
7.3	Range of rated values marked with the lower and upper limits separated by a hyphen	Refer to marking	P
	Different rated values marked with the values separated by an oblique stroke	Refer to marking	P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
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		P
	the power input is related to the arithmetic mean value of the rated voltage range		N/A
	Relation between marking for upper and lower limits of rated power input or rated current and voltage is clear		P
7.6	Correct symbols used		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
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		
	- marking of terminals exclusively for the neutral conductor (letter N)		N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		P
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard		P
7.10	Indications of switches on stationary appliances and controls on all appliances by use of figures, letters or other visual means .....	Use figures "0" and "1"	P
	This applies also to switches which are part of a control		P
	If figures are used, the off position indicated by the figure 0		P
	The figure 0 indicates only OFF position, unless no confusion with the OFF position		P
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions state that:		

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Clause	Requirement - Test	Result - Remark	Verdict
	- 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	Replaced by of EN60335-2-15/A11:2012	N/A
	- children being supervised not to play with the appliance	Replaced by of EN60335-2-15/A11:2012	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		N/A
	Instructions for class III appliances state that it must only be supplied at SELV, unless		N/A
	it is a battery-operated appliance, the battery being charged outside the appliance		N/A
	Appliance incorporating an appliance inlet and intended to be immersed for cleaning, instructions include the following : (IEC 60335-2-15:2002)		
	- the connector must be remove before cleaning		N/A
	- the appliance inlet must be dried before the appliance is used again		N/A
	The instructions for use for appliances intended to be used with a connector incorporating a thermostat, state that only the appropriate connector must be used (IEC 60335-2-15:2002)		N/A
	Unless, kettles are constructed so that a hazard cannot arise from boiling water being ejected, the instructions for use include the following: (IEC 60335-2-15:2002)		
	- if the kettle is overfilled, boiling water may be ejected		P
	The instructions for use for kettles filled through a lid aperture which is situated below the handle, include the substance of the following: (IEC 60335-2-15:2002)		
	- Warning: "Position the lid so that steam is directed away from the handle"		N/A
	- Warning: "Do not remove the lid while the water is boiling"		N/A
	Instructions for cordless kettles state that the kettle is only to be used with the stand provided (IEC 60335-2-15:2002)		P
	If the kettle and stand of cordless kettles can be lifted together by gripping the handle of the kettle, the instructions for use include the substance of the following: (IEC 60335-2-15:2002)		
	- "Caution - Ensure that the kettle is switched off before removing it from its stand"		N/A
	Instructions for feeding bottle heaters:		

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Clause	Requirement - Test	Result - Remark	Verdict
	- state that the food should not be heated for too long a period		N/A
	- state how to check that the correct food temperature has not been exceeded		N/A
	The instructions for use for appliances normally cleaned after use and not intended to be immersed in water for cleaning, state that the appliance must not be immersed (IEC 60335-2-15:2002)		P
	Instruction for pressure cooker : (IEC 60335-2-15:2002)		
	- state that the ducts in the pressure regulator allowing the escape of steam should be checked regularly to ensure that they are not blocked		N/A
	- give details of how to open the container safely, and		N/A
	- state that the container must not be opened until the pressure has decreased sufficiently		N/A
	The instructions for use for egg boilers provided with a pricking device contain the substance of the following : (IEC 60335-2-15:2002)		
	- Caution: "Avoid injuries from the egg pricker"		N/A
	Instructions for espresso coffee-makers incorporating a pressurized reservoir filled by the user: (IEC 60335-2-15:2002)		
	- contain information for the safe refilling of the water reservoir and the substance of the following: (IEC 60335-2-15/A1:2005)		N/A
	- WARNING: The filling aperture must not be opened during use		N/A
	The instructions including the substance of the following : (IEC 60335-2-15/A2:2008)		
	This appliance is intended to be used in household and similar applications as:		
	- staff kitchen areas in shops, offices and other working environments		P
	- farm houses		P
	- by clients in hotels, motels and other residential type environments		P
	- bed and breakfast type environments		P
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
7.13	Instructions and other texts in an official language	English & German	P

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Clause	Requirement - Test	Result - Remark	Verdict
7.14	Marking clearly legible and durable, rubbing test as specified		P
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		N/A
	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
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts		P
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		P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
	See Note 101 (IEC 60335-2-15:2002)		P
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
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
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		P
	the rated power input is related to the arithmetic mean value		N/A
11	HEATING		
11.1	No excessive temperatures in normal use		P
11.2	The appliance is held, placed or fixed in position as described .....	Tested away from the walls of the test corner	P
	Portable appliances are tested away from the walls of the test corner (IEC 60335-2-15:2002)		P
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		N/A
	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) .... :	(see appended table)	P
	If the temperature rise limits are exceeded in appliances incorporating motors, transformers or electronic circuits and if the power input is lower than the rated power input, the test is repeated with the appliance supplied at 1,06 times rated voltage (IEC 60335-2-15:2002)		N/A
11.7	Appliances are operated for the duration specified in 11.7.101 to 11.7.105 (IEC 60335-2-15:2002)		P
11.7.101	For kettles with temperature limiter : test terminated after second operation of temperature limiter (IEC 60335-2-15:2002)		P
	For kettles with thermostat : test terminated 15 min after the water has attained 95 °C and 5 min after for others kettles		N/A
11.8	Temperature rises monitored continuously and not exceeding the values in table 3 :	(see appended table)	P
	When an appliance connector incorporates a thermostat, the temperature rise limit for the pins of the inlet does not apply (IEC 60335-2-15:2002)		N/A

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	The temperature rise limits of motors, transformers, components of electronic circuit and parts directly influenced by them may be exceeded when the appliance is operated at 1,15 times rated power input (IEC 60335-2-15:2002)		N/A
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times the rated power input (W):	Same as Cl.11.4	P
	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V):		N/A
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990	Class II construction	P
	For other appliances, a low impedance ammeter may be used	Class I	P
	Leakage current measurements:	(see appended table)	P
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
15	MOISTURE RESISTANCE		
15.2	Spillage of liquid does not affect the electrical insulation		P
	Appliances with type X attachment fitted with a flexible cord as described		N/A

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		N/A
	The test is only carried out with the appliance connector in position (IEC 60335-2-15:2002)		P
	For cordless kettles, the test with the kettle on horizontal plane carried out with the kettle both on and off its stand (IEC 60335-2-15:2002)		P
	For rice cookers, the test carried out with the rice container in place (IEC 60335-2-15/A2:2008)		N/A
	In case of doubt, spillage tests carried out with the appliance deviating from the normal position by an angle not exceeding 5° (IEC 60335-2-15:2002)		P
	Detachable parts are removed		P
	Overfilling test with additional amount of water, over a period of 1 min (l):	0,26L	P
	The appliance withstands the electric strength test of 16.3		P
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29		P
	Kettles that can be filled through the spout: additional overfilling test in conditions as specified (IEC 60335-2-15:2002, IEC 60335-2-15/A1:2005)		N/A
	For cordless kettles, the additional test carried out only with the cordless kettle off its stand, the kettle being replaced on its stand in order to carry out the electric strength test of 16.3 (IEC 60335-2-15:2002)		P
	Steam sterilizers : particular overfilling test in conditions as specified (IEC 60335-2-15/A1:2005)		N/A
	Espresso coffee makers provided with a removable coffee pot: particular overfilling test in conditions as specified (IEC 60335-2-15/A2:2008)		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		N/A
	Humidity test for 48 h in a humidity cabinet	93%RH, 23°C	P
	Reassembly of those parts that may have been removed		N/A
	The appliance withstands the tests of clause 16		P

<b>IEC 60335-2-15</b>			
Clause	Requirement - Test	Result - Remark	Verdict
15.102	Connecting device of stands for cordless kettles not affected by water : particular electric strength test in conditions as specified (IEC 60335-2-15:2002)		P
	Compliance is checked by the test in conditions as specified (IEC 60335-2-15/A1:2005)		P
	Stand withstanding the test of 16.3 with voltage reduced to 2500 V for reinforced insulation (IEC 60335-2-15:2002)		P
16	<b>LEAKAGE CURRENT AND ELECTRIC STRENGTH</b>		
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		N/A
	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):	254,4V	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
	Limit values doubled if:		
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified .... :	(see appended table)	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
19	<b>ABNORMAL OPERATION</b>		
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)	N/A

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and		P
	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and		P
	if applicable, to the test of 19.5		P
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6		N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable		N/A
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		N/A
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		N/A
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		N/A
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		N/A
	Kettles are not subjected to the test of 19.2 (IEC 60335-2-15:2002)		P
	Kettles also subjected to the test of 19.101, unless the appliance incorporates a non-self-resetting thermal cut-out, in order to comply with 19.4 (IEC 60335-2-15:2002)		P
	Kettles for which compliance with 19.101 relies on the operation of a non-self-resetting thermal cut-out are subjected to the test of 19.102 (IEC 60335-2-15:2002)		P
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W) .....		N/A
	Kettles are operated empty at 1.15 times rated power input (IEC 60335-2-15:2002)	Same as cl.11.4	P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	The test is carried out with the kettle filled with sufficient water to cover the heating element or if the heating element is not positioned inside the container, to a depth of 10 mm : (IEC 60335-2-15:2002)	Depth of 10 mm	P
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		P
	Pressure regulators of pressure cookers are rendered inoperative together with each protective device in turn (IEC 60335-2-15:2002)		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	Two thermal cut-out at each end of the heating element.	P
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		P
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9:	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		N/A
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		
	- basic insulation (V):	1000V/1min	P
	- supplementary insulation (V):	1750V/1min	P
	- reinforced insulation (V):	3000V/1min	P
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage	480V	P
	The appliance does not undergo a dangerous malfunction, and		N/A

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	no failure of protective electronic circuits, if the appliance is still operable		N/A
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		
	- do not become operational, or		N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		N/A
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
	During the test of 19.4, pressure relief devices of pressure cookers operate before pressure has reached 350 kPa (IEC 60335-2-15:2002)		N/A
	Temperature rise of windings of induction rice cookers not exceeding the values specified in 19.7 (IEC 60335-2-15/A2:2008)		N/A
	Induction rice cookers: the electric strength test is carried out immediately after switching off the appliance (IEC 60335-2-15/A2:2008)		N/A
19.101	Kettles operated empty at 0,85 times or 1,15 times rated power input, whichever is more unfavourable, thermal cut-out that operates during the test of 19.4 short circuited (IEC 60335-2-15:2002)	1,15 times is more unfavourable	P
	During the test, any flames keep within the enclosure of the kettle and supporting surface does not ignite (IEC 60335-2-15:2002)	No flames	P
	After the test, live parts not be accessible (IEC 60335-2-15:2002)		P
19.102	Kettles incorporating two self-resetting thermal cut-outs operated with one of the thermal cut-out short circuited, empty at 0.85 or 1.15 times rated power input, whichever is most unfavourable (IEC 60335-2-15:2002)	1,15 times rated power input	P
	Within 2 s of the thermal cut-out operating, the kettle is filled with water having a temperature of 15 °C ± 5 °C. After 1 min, the kettle is emptied (IEC 60335-2-15:2002)		P
	The test is carried out 100 times (IEC 60335-2-15:2002)		P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
20	STABILITY AND MECHANICAL HAZARDS		
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		P
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		P
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9		N/A
21	MECHANICAL STRENGTH		
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P
	Checked by applying 3 blows to every point of the enclosure like to be weak, in accordance with test Ehb of IEC 60068-2-75, spring hammer test, with an impact energy of 0,5 J		P
	The appliance shows no damage impairing compliance with this standard, and		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		N/A
	If necessary, repetition of groups of three blows on a new sample		N/A
	See Note 101 (IEC 60335-2-15:2002)		N/A
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		N/A
22	CONSTRUCTION		
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		P
22.6	Electrical insulation not affected by condensing water or leaking liquid		P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks		P
	In case of doubt, test as described		P
22.6	Drain holes shall be at least 5 mm in diameter or 20 mm <sup>2</sup> in area with a width of at least 3 mm (IEC 60335-2-15:2002)	5,2mm in diameter	P
22.11	Reliable fixing of non-detachable parts that provide the necessary degree of protection against electric shock, moisture or contact with moving parts		P
	Obvious locked position of snap-in devices used for fixing such parts		P
	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
	Tests as described	50N pull and push to enclosure and handle, 50N push and 30N pull to button	P
22.12	Handles, knobs etc. fixed in a reliable manner		P
	Fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible		P
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied	Knobs	P
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied	Handle	P
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		P
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		P
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		P
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless	No such material	P
	impregnated		N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		P
22.22	Appliances not containing asbestos	No asbestos	P
22.23	Oils containing polychlorinated biphenyl (PCB) not used	No oils	P
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		P
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		P
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		P
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29		P
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2		N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		N/A
	Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		P
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A
22.33	Conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts are not in direct contact with live parts		P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
	Electrodes not used for heating liquids	No electrode used	P
	For class II constructions, conductive liquids that are or may become accessible in normal use and conductive liquids that are in contact with unearthed accessible metal parts, not in direct contact with basic or reinforced insulation, unless		P
	the reinforced insulation consists of at least 3 layers		N/A
	For class II constructions, conductive liquids which are in contact with live parts, not in direct contact with reinforced insulation, unless		N/A
	the reinforced insulation consists of at least 3 layers		N/A
	An air layer not used as basic or supplementary insulation in a double insulation system if likely to be bridged by leaking liquid		P
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		P
	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		P
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation		P
	This requirement does not apply to handles, levers and knobs on stationary appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A
22.41	No components, other than lamps, containing mercury	No mercury contained	P
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		P

IEC 60335-2-15			
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		P
22.101	Kettles constructed so that the lid does not fall off when water is poured out (IEC 60335-2-15:2002)		P
	Compliance is checked by the test as specified (IEC 60335-2-15:2002)		P
	Lid not fall off and water only emitted from the spout (IEC 60335-2-15:2002)		P
22.102	Kettles so constructed that there are no sudden jets of steam or hot water likely to expose the user to a hazard when the appliance is used as in normal use (IEC 60335-2-15:2002)		P
	Compliance is checked by inspection during the test of clause 11		P
22.103	Appliance coupler of cordless kettles constructed to withstand the stresses occurring during normal use (IEC 60335-2-15:2002)	Certified component and test with appliance	P
	Kettle is inserted into and withdrawn from the stand 10 000 times (1,1 times the rated current) (10 times per min)		P
	The test is continued for a further 10 000 times without current flowing		P
	The kettle is suitable for further use and compliance with 8.1, 16.3, 27.5 and clause 29 not be impaired		P
23	INTERNAL WIRING		
23.1	Wireways smooth and free from sharp edges		P
	Wires protected against contact with burrs, cooling fins etc.		P
	Wire holes in metal well-rounded or provided with bushings		N/A
	Wiring effectively prevented from coming into contact with moving parts		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		N/A
	no breakdown when a voltage of 2000 V is applied for 15 min between the conductor and metal foil wrapped around the insulation		P

IEC 60335-2-15			
Clause	Requirement - Test	Result - Remark	Verdict
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		
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		P
	The cord cannot be pushed into the appliance to such an extent that the cord or internal parts of the appliance can be damaged		P
	Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)..... :	>1 and <4Kg, 60N pull and 0,25Nm torque	P
	Cord not damaged and max. 2 mm displacement of the cord	Max.0,8mm	P
27	PROVISION FOR EARTHING		
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		N/A
	Resistance not exceeding 0,1 $\Omega$ at the specified low-resistance test ( $\Omega$ )..... :	0,03 $\Omega$ (Max.)	P

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Clause	Requirement + Test	Result - Remark	Verdict
<b>22</b>	<b>Construction</b>		
22.44	<p>Modification:</p> <p>If the appliance is child-appealing and:</p> <ul style="list-style-type: none"> <li>— has a mass less than 4 kg; and</li> <li>— is mounted or normally intended for use at a height less than 850 mm,</li> </ul> <p>the following conditions shall be met:</p>		N/A
<b>ZE</b>	<b>Annex ZE (informative)</b> <b>Specific additional requirements for appliances and machines intended for commercial use</b>		-
22.ZE.5	<p>Modification:</p> <p>The fixing systems of fixed <b>guards</b> which prevent access to hazardous moving transmission parts shall only be removable with the use of tools.</p>		N/A
22.ZE.10	<p>Addition:</p> <p>Noise reduction is an integral part of the design process and shall be achieved by particularly applying measures at source to control noise, see for example EN ISO 11688-1:2009. The success of the applied noise reduction measures is assessed based on the actual noise emission values in relation to other machines of the same type with comparable non-acoustical technical data.</p> <p><i>Compliance is checked by the noise test code, if any, given in part 2.</i></p>		N/A

10.1	TABLE: Power input deviation					P
Input deviation of/at:	P rated (W)	P measured (W)	dP (W, %)	Required dP (W, %)	Remark	
PK-S1428	1850	1782	-3,7%	-10%~+5%	Supplied at 220V	
	2200	2108	-4,2%	-10%~+5%	Supplied at 240V	
PK-S1458	1850	1780	-3,8%	-10%~+5%	Supplied at 220V	
	2200	2110	-4,1%	-10%~+5%	Supplied at 240V	
PK-S1488	1850	1781	-3,7%	-10%~+5%	Supplied at 220V	
	2200	2111	-4,0%	-10%~+5%	Supplied at 240V	

11.8	TABLE: Heating test, thermocouples (PK-S1428)		P
	Test voltage (V).....:	2530W, 263V	—
	Ambient (°C).....:	23	—
Thermocouple locations		dT (K)	Max. dT (K)
Supply cord		28	50
Handle of kettle		28	60
Handle of lid		34	60
Internal wiring		60	80(T-25)
Wood support		6	65
Ambient of thermal cut out (Strix U7212)		81	100(T-25)
Ambient of temperature limiter (Strix R4803)		73	80(T-25)
Ambient of thermal cut out (Fada KSD-889C)		80	100(T-25)
Ambient of temperature limiter (Fada SL-888)		72	100(T-25)
Ambient of thermal cut out (Henglai KSD185-U)		80	100(T-25)
Ambient of temperature limiter (Henglai KSD588-A)		73	100(T-25)
Knob of temperature limiter		26	60
Indicator cover		32	--
Enclosure of stand		28	--
Enclosure of kettle		45	--
<b>Supplementary information:</b> three temperature controllers and couplers were tested and the most unfavourable results were recorded.			

11.Z101	TABLE: Heating test, thermocouples (PK-S1428)		P
	Test voltage (V).....:	240	—
	Ambient (°C).....:	23	—
Thermocouple locations		Dt (K)	Twice Max. Dt (K)

Surface of enclosure (Plastic)	41	65	--
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11.8	<b>TABLE: Heating test, thermocouples (PK-S1488)</b>		P
	Test voltage (V).....:	2530W, 262V	—
	Ambient (°C).....:	23	—
Thermocouple locations		dT (K)	Max. dT (K)
Supply cord		39	50
Handle of kettle		28	60
Knob of lid		27	60
Handle of kettle (PK-S1458)		27	60
handle of lid (PK-S1458)		32	60
Internal wiring		65	80(T-25)
Wood support		8	65
Ambient of thermal cut out (Strix U9201)		86	100(T-25)
Ambient of temperature limiter (Strix U9201)		69	100(T-25)
Ambient of thermal cut out (Fada KSD-889)		84	100(T-25)
Ambient of temperature limiter (Fada SL-888)		70	100(T-25)
Ambient of thermal cut out (Henglai KSD185-B3)		85	100(T-25)
Ambient of temperature limiter (Henglai KSD185-B3)		70	100(T-25)
Knob of temperature limiter		27	60
Water level		69	--
Enclosure of stand		32	--
Enclosure of kettle		49	--
<b>Supplementary information:</b> three temperature controllers and couplers were tested and the most unfavourable results were recorded.			

11.Z101	<b>TABLE: Heating test, thermocouples (PK-S1488)</b>		P
	Test voltage (V).....:	240	—
	Ambient (°C).....:	23	—
Thermocouple locations		Dt (K)	Max. Dt (K)
Surface of enclosure (Plastic)		47	65
			Twice Max. Dt (K)
			--

13.2	<b>TABLE: Leakage current</b>		P
	Heating appliances: 1.15 x rated input (W).....:	Refer to Cl.11.8	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V).....:	N/A	—
Leakage current between		I (mA)	Max. allowed I (mA)

L/N - Earthing metal parts	Max. 0,05	0,75
L/N - Non-earthing enclosure	Max. 0,01 peak	0,35 peak
L/N - Knob/handle	Max. 0,01 peak	0,35 peak

<b>13.3</b>	<b>TABLE: Electric strength</b>		P
Test voltage applied between:		Voltage (V)	Breakdown (Yes/No)
Parts isolated with basic insulation		1000	No
Parts isolated with supplement insulation		1750	No
Parts isolated with reinforced insulation		3000	No

<b>16.2</b>	<b>TABLE: Leakage current</b>		P
	Single phase appliances: 1.06 x rated voltage (V) .....:	254,4V	—
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V) .....	N/A	—
Leakage current between		I (mA)	Max. allowed I (mA)
Live parts - Earthing metal parts		Max. 0,08	0,75
Live parts - Non-earthing enclosure		Max. 0,01	0,25
Live parts - Knob/handle		Max. 0,01	0,25

<b>16.3</b>	<b>TABLE: Electric strength</b>		P
Test voltage applied between:		Voltage (V)	Breakdown (Yes/No)
Parts isolated with basic insulation		1250	No
Parts isolated with supplement insulation		1750	No
Parts isolated with reinforced insulation		3000	No

<b>19.13</b>	<b>TABLE: Abnormal operation, temperature rises (PK-S1428)</b>				P
Thermocouple locations	Max. temperature rise measured, dT (K)			Max.temperature rise limit, dT (K)	
	Cl.19.3		Cl.19.4	Cl.19.101/ Cl.19.102	
	Empty	With water			
Wooden support	16	16	41	34	150
Supply cord	26	23	78	48	150
Enclosure of kettle	51	47	--	65	—
Enclosure of stand	37	32	--	43	—
Indicator cover	36	34	--	47	—

19.13	TABLE: Abnormal operation, temperature rises (PK-S1488)					P
Thermocouple locations	Max. temperature rise measured, dT (K)				Max. temperature rise limit, dT (K)	
	Cl.19.3		Cl.19.4	Cl.19.101/ Cl.19.102		
	Empty	With water				
Wooden support	17	19	47	--	150	
Supply cord	47	43	79	--	150	
Enclosure of kettle	56	51	--	--	—	
Enclosure of stand	39	36	--	--	—	

24.1	TABLE: Components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity	
-alternative Thermal control for PK-S1428	Wenzhou Henglai New Energy Technology Co., Ltd.	KSD185-U	250V~, 10/13A, T125, Tf120, 1E4 cycles	EN 60730-1 EN 60730-2-9 EN 60335-2-15	TUVPS*/ B 102239 0003 Rev.02	
-alternative Cordless connector system	Wenzhou Henglai New Energy Technology Co., Ltd.	KSD185-K3	250V~, 13A, Class I	EN 60730-1 EN 60730-2-9 EN 60335-2-15	TUVPS*/B1 02239 0001 Rev.02	
-alternative Temperature limiter	Wenzhou Henglai New Energy Technology Co., Ltd.	KSD588-A	100-240V~, 10A/13A, T125, Tf80, 1E4 Cycles	EN 60730-1 EN 60730-2-9 EN 60335-2-15	TUVPS*/ B 102239 0005 Rev.01	
Thermal control for PK-S1401, PK-S1401E, PK-S1408, PK-S1406, PK-S1478, PK-S1458, PK-S1488	Wenzhou Henglai New Energy Technology Co., Ltd.	KSD185-B3	250V~, 10A/13A, T125, Temperature limiter: Tf75, 1E4 Thermal cut-out: Tf125, 1E4	EN 60730-1 EN 60730-2-9 EN 60335-2-15	TUVPS*/ B 102239 0003 Rev.01	
Cordless connector system	Wenzhou Henglai New Energy Technology Co., Ltd.	KSD185-K3	250V~, 10A/13A, Class I	EN 60320-1 EN 60335-1 EN 60335-2-15	TUVPS*/ B 102239 0001 Rev.01	
<b>Refer to last CDF for detail</b>						

29.1	TABLE: Clearances						P
	Overvoltage category .....					II	—
		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**	-	-	-	-	N/A	

500	0,2* / 0,5 / 0,8**	-	-	-	-	N/A
800	0,2* / 0,5 / 0,8**	-	-	-	-	N/A
1 500	0,5 / 0,8** / 1,0***	-	-	-	-	N/A
2 500	<b><u>1,5 / 2,0***</u></b>	X	X	-	X	P
4 000	<b><u>3,0 / 3,5***</u></b>	-	-	X	-	P
6 000	5,5 / 6,0***	-	-	-	-	N/A
8 000	8,0 / 8,5***	-	-	-	-	N/A
10 000	11,0 / 11,5***	-	-	-	-	N/A

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

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

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

Supplementary information:  
\*) Material group IIIb is allowed if the working voltage does not exceed 50 V  
\*\*) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation

29.2	TABLE: Creepage distances, functional insulation								P
Working voltage (V)	Creepage distance (mm)							Verdict / Remark	
	Pollution degree								
	1	2			3				
		Material group			Material group				
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*)		
≤50	0,2	0,6	0,8	1,1	1,4	1,6	1,8	N/A	
125	0,3	0,7	1,0	1,4	1,8	2,0	2,2	N/A	
250	0,4	1,0	1,4	<b>2,0</b>	2,5	2,8	<b>3,2</b>	P	
400	0,8	1,6	2,2	3,2	4,0	4,5	5,0	N/A	
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A	
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A	

Supplementary information:  
\*) Material group IIIb is allowed if the working voltage does not exceed 50 V

30																			TABLE: Resistance to heat and fire																		
Object/ part No.	Manufacture r/ trademark	Type/ model	Ball pressure test °C				Glow wire test (GWT) °C				Glow-wire flammability index (GWFI) °C				Glow- wire ignition temp. (GWIT) °C		Needle- flame test (NFT)	Verdict																			
			75	125	cl. 11 +40	cl. 19 +25	550	650		750		850	550	650	750	850			675	775																	
Enclosure of base	Refer to CDF	refer to CDF					X	te	ti	te	ti								P																		
<b>Supplementary information:</b> 1) Parts of material classified at least HB40 or if relevant HBF 2) Parts of material classified as V-0 or V-1 3) Flame persisting longer than 2 s (= te – ti) need only be reported for unattended appliances 4) Surrounding parts subjected to the needle-flame test of annex E 5) Base material classified as V-0 or if relevant VTM-0 6) The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not applicable for attended appliances																																					

Photo 1.

Description: Overall view of PK-S1428



Photo 2.

Description: Overall view of PK-S1428



Photo 3.

Description: Overall view of PK-S1428



Photo 4.

Description: Overall view of PK-S1428



Photo 5.

Description: Top view of PK-S1428



Photo 6.

Description: Bottom view of PK-S1428



Photo 7.

Description: Lid open view of PK-S1428



Photo 8.

Description: Water level view of PK- S1428



Photo 9.

Description: Temperature limiter knob view of PK- S1428



Photo 10.

Description: Internal view of PK-S1428



Photo 11.

Description: Internal of stand view for PK-S1428



Photo 12.

Description: Internal of base view for PK-S1428, PK-S1488



Photo 13.

Description: Internal of base view for all models

Cut off a piece of connector support, and then the distance between enclosure of base and connection of connector is larger than 3mm.



Photo 14.

Description: Internal of base view for all models



Photo 15.

Description: Overall view of PK- S1458



Photo 16.

Description: Overall view of PK- S1458



Photo 17.

Description: Overall view of PK- S1458



Photo 18.

Description: Overall view of PK- S1458



Photo 19.

Description: Top view of PK- S1458

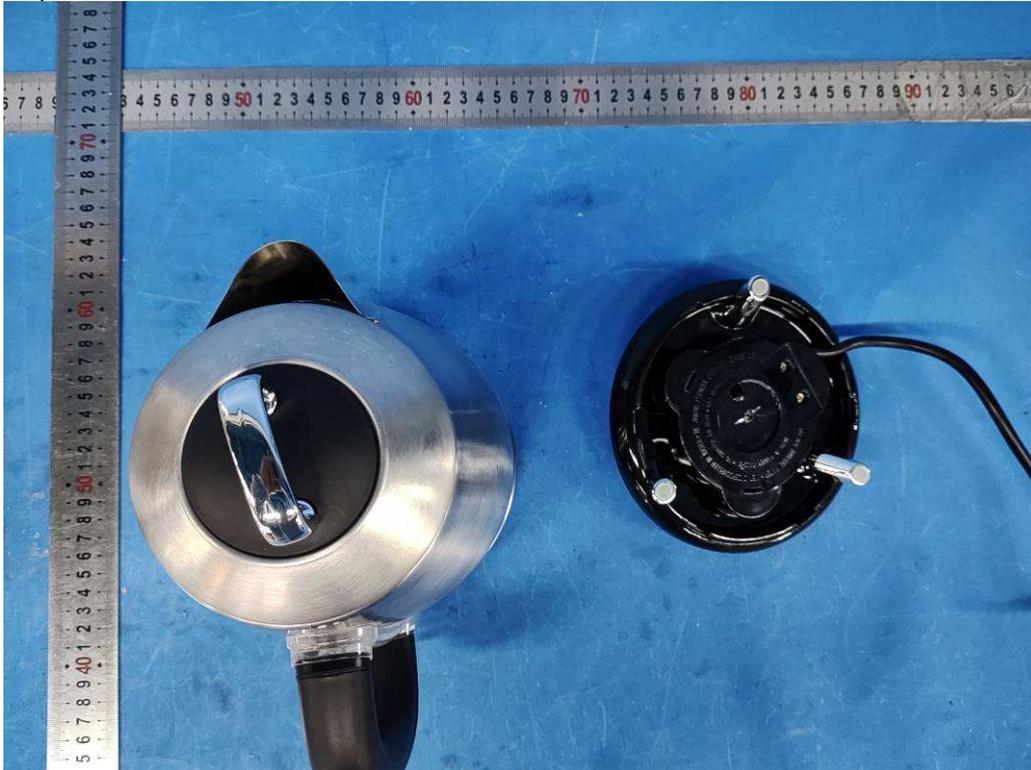


Photo 20.

Description: Bottom view of PK- S1458



Photo 21.

Description: Temperature limiter knob and water level view of PK- S1428



Photo 22.

Description: Lid open view of PK-S1458



Photo 23.

Description: Internal view of PK-S1458



Photo 24.

Description: Internal of base view for PK-S1458

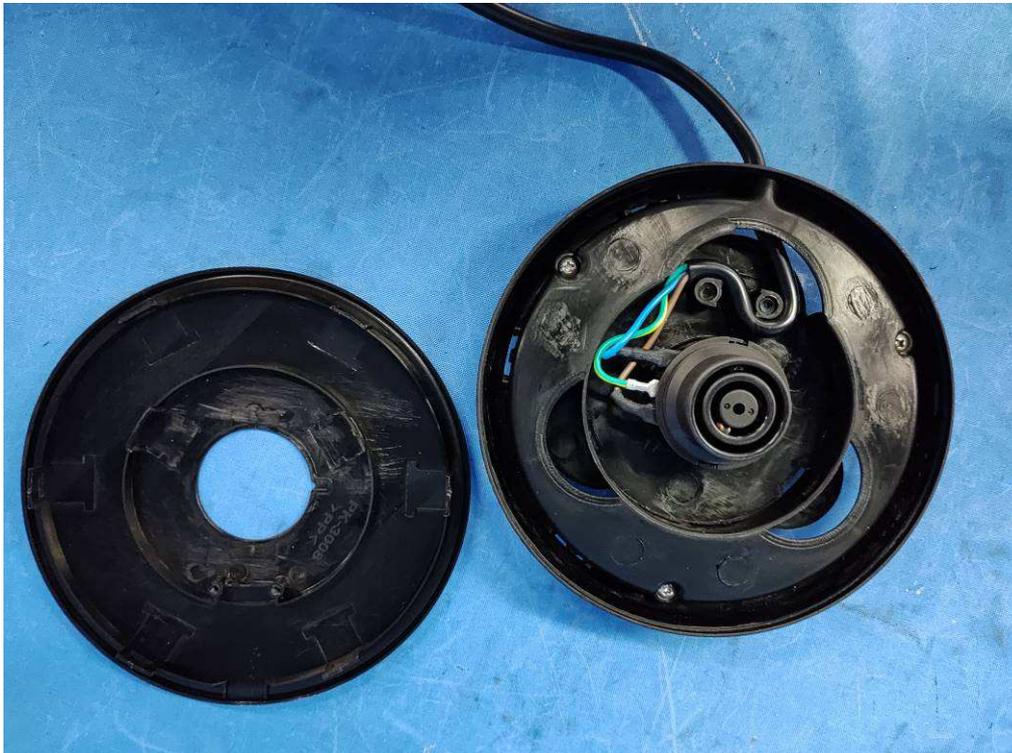


Photo 25.

Description: Overall view of PK- S1488



Photo 26.

Description: Overall view of PK- S1488



Photo 27.

Description: Overall view of PK- S1488



Photo 28.

Description: Overall view of PK- S1488





Photo 31.

Description: Internal view of PK- S1488



Photo 32.

Description: Alternative thermal control (KSD185-U), Cordless connector system (KSD185-K3), Temperature limiter (KSD588-A) view of PK-S1428



Photo 33.

Description: Alternative thermal control (KSD185-U), Cordless connector system (KSD185-K3), Temperature limiter (KSD588-A) view of PK-S1428

