



TEST REPORT IEC 60335-2-85 Safety of household and similar electrical appliances Part 2: Particular requirements for fabric steamers	
Report Number.....:	NBES181100318003-M1
Date of issue	2021-12-14
Total number of pages.....	52
Applicant's name	Ningbo Hanya Electrical Appliance Co., Ltd.
Address	59, Cizhang East Road, Zhangqi Town, Cixi, 315313 Zhejiang, China
Test specification:	
Standard.....:	EN 60335-2-85:2003 + A1:2008 + A11:2018 + A2:2020 EN 60335-1:2012 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 EN 62233:2008
Test procedure.....:	GS scheme
Non-standard test method.....:	N/A
Test Report Form No.:	IEC60335_2_85H
Test Report Form(s) Originator:	SLG
Master TRF	Dated 2018-09-04
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Test item description	Handheld Garment Steamer	
Trade Mark.....	None	
Manufacturer	Same as applicant	
Model/Type reference	HY-106 , HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136 , HY-139 , HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E	
Ratings	220 V - 240 V; 50 Hz / 60 Hz; Class I; HY-128, HY-128E, HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E: 1640 W; HY-106 , HY-118, HY-108: 880 W; HY-119: 1200 W; HY-136 , HY-139 : 1400 W	
Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):		
<input checked="" type="checkbox"/>	Testing Laboratory:	SGS-CSTC Standards Technical Services Co., Ltd. Ningbo Branch
Testing location/ address		No.1177, Lingyun Road, Hi-Tech Zone, Ningbo, Zhejiang, China
Tested by (name, function, signature)		Gavin Yang, PE <i>Gavin Yang</i>
Approved by (name, function, signature) ..		Louis Mao, Reviewer <i>Louis Mao</i>
<input type="checkbox"/>	Testing procedure: CTF Stage 1:	N/A
Testing location/ address		
Tested by (name, function, signature)		
Approved by (name, function, signature) ..		
<input type="checkbox"/>	Testing procedure: CTF Stage 2:	N/A
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) .:		
Approved by (name, function, signature) ..		
<input type="checkbox"/>	Testing procedure: CTF Stage 3:	N/A
<input type="checkbox"/>	Testing procedure: CTF Stage 4:	N/A
Testing location/ address		
Tested by (name, function, signature)		
Witnessed by (name, function, signature) .:		
Approved by (name, function, signature) ..		
Supervised by (name, function, signature) :		

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

1. Annex I – European Group Differences and National Differences – attachment 2 pages.
2. Annex II – The requirements of EN 60335-1:2012/ A1:2019 + A14:2019 + A2:2019 – attachment 5 pages
3. Annex III –The requirements of EN 60335-2-85:2003/A11:2018 + A2 :2020 – attachment 1 page
4. Annex IV – Photo Documentation – attachment 10 pages.
5. Annex V– Circuit Diagram – attachment 2 pages.

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

The tested samples complied with the requirements of the test specification.

After review, tests of clause 10, 11, 13, 15, 16, 19, 25.14, 25.15, 30 and construction check were performed on model HY-136 and HY-139; tests of construction check were performed on HY-106.

Testing location:

SGS-CSTC Standards Technical Services Co., Ltd.
Ningbo Branch
No.1177, Lingyun Road, Hi-Tech Zone, Ningbo,
Zhejiang, China

Summary of compliance with National Differences:**List of countries addressed**

- EU Group Differences
- Germany
- GB National Differences

EK decisions according to German ProdSG have been taken into account. PAH risk evaluation according to AfPS GS 2019:01 PAK: see PAH risk assessment report No. NBES181100318003-M1/PAH.

The following EK decisions were considered applicable: EK1 479-10, EK1 601-15 Rev.3

☒ **The product fulfils the requirements of**

EN 60335-2-85:2003 + A1:2008 + A11:2018 + A2:2020

EN 60335-1:2012 + A11:2014 + A13:2017 + A1:2019 +A14:2019 + A2:2019

EN 62233:2008

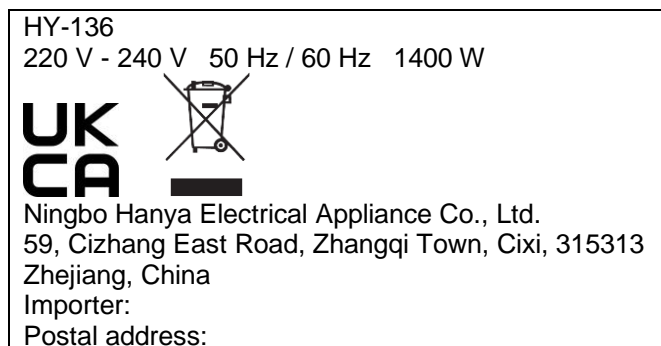
Copy of marking plate:

For GS & CE & CB:

Copies of marking plate for original models were not changed.

Copies of marking plate for new models were same as original model HY-108 except model name and rated power.

For UKCA:



1. As declared by the applicant, the importer's name, registered trade name or registered trade mark and the postal address were not decided at the time of application, but will be marked on the products before being placed on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

2. Marking on the packaging or in a document accompanying the electrical equipment is only acceptable if it is not possible to place such markings on the product.

Copies of marking plate for other models were same as model HY-136 except model name and rated power.

Test item particulars :	
Classification of installation and use : Hand-held appliance	
Supply Connection : Flexible cord with plug. Type Y attachment :	
Possible test case verdicts:	
- test case does not apply to the test object : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement : F (Fail)	
Testing :	
Date of receipt of test item : 2021-07-07	
Date (s) of performance of tests : 2021-07-07 to 2021-12-14	
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator. This document is issued by the Company subject to its General Conditions of Service, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.</p> <p>Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-2-85:	
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)	Same as applicant
General product information:	
Appliances were for household and indoor use only.	
<p>There were seven models in the report: HY-168, HY-188, HY-128, HY-158, HY-118, HY-108, HY-119. HY-168, HY-188, HY-128, HY-158 shared the same construction and components except for the appearance. All of them had one pump in the appliance. The rest models didn't have such pump. Refer to following table for details:</p>	

No.	Model name	Rated power	Appearance	Pump	Colour	Remark
1	HY-168	1640 W		Yes	Purple	HY-168 was same as HY-188 except for the colour.
2	HY-188				Golden	
3	HY-128	1640 W			Pink + white	HY-128 was same as HY-158 except for the colour
4	HY-158				Blue + white	
5	HY-118	880 W		No	Purple+ pink	HY-118 was same as HY-108 except for the colour
6	HY-108				White+ green	
7	HY-119	1200 W			Black+ orange	HY-119 shared the similar construction with HY-108.

Modification 1 Report NBES181100318002-M1:

The original test report Ref. No.: NBES181100318001 dated 2019-02-28 was modified on 2019-09-30 to include the following changes and additions, which were considered technical modifications:

1. Four new model HY-128E, HY-158E, HY-168E, HY-188E were added into the report, which were same as original model HY-128, HY-158, HY-168, HY-188 except for the PCB: one same PCB was added into the appliances to control pump for all the new models, see photo document for details.

2. Alternative component (plug, supply cord, internal wire and micro switch) which were certified and used with their specified ratings were listed in table 24.1 in bold.



Modification 2 Report NBES181100318002-M1:




The original test report Ref. No.: NBES181100318001 dated 2019-02-28, No.: NBES181100318002-M1 dated 2019-09-30 were modified on 2021-12-14 to include the following changes and additions, which were considered technical modifications:

1. 3 new model HY-136, HY-139, HY-106 were added into the report.

HY-106 was same as original model HY-108 except shape of external enclosure.

HY-136 and HY-139 shared the same working principle HY-168 but with different appearance and heating element. Details refer to below table photo documentation.

No.	Model name	Rated power	Appearance	Pump	Colour	Remark
1	HY-168	1640 W		Yes	Purple	HY-168 was same as HY-188 except for the colour.
2	HY-188				Golden	
3	HY-128	1640 W			Pink + white	HY-128 was same as HY-158 except for the colour
4	HY-158				Blue + white	
5	HY-118	880 W		No	Purple+ pink	HY-118 was same as HY-108 except for the colour
6	HY-108				White+ green	
7	HY-106				Purple+ White	HY-106 was same as HY-108 except shape of external enclosure.

8	HY-119	1200 W			Black+ orange	HY-119 shared the similar construction with HY-108.
9	HY-136	1400 W		Yes	Green+ Golden	--
10	HY-139				White+ Golden	--

2. The PAH risk evaluation was updated to AfPS GS 2019:01 PAK but without additional test.
3. The requirements of EN 60335-1:2012/ A1:2019 + A14:2019 + A2:2019 were evaluated.
4. The requirements of EN 60335-2-85:2003/ A11:2018 + A2:2020 were evaluated.
5. Alternative components (plug) which were certified and used with their specified ratings were listed in table 24.1 in bold.

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
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
	Use of test probe B of IEC 61032 through openings, with a force of 20N: 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
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 or supporting parts		P
	For a single switching action obtained by a switching device, requirements as specified		N/A
	For appliances with a supply cord and without a switching device, the single switching action may be obtained by the withdrawal of the plug		N/A
8.1.4	Accessible part not considered live if:		—
	- 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
	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

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	- for peak values over 15 kV, 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:		—
	- 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		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P
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
	If the power input varies throughout the operating cycle and the maximum value of the power input exceeds, by a factor greater than two, the arithmetic mean value of the power input occurring during a representative period, the power input is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the power input is the arithmetic mean value		N/A
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated power input is related to the arithmetic mean value		P
	NOTE 101: For electrode-type appliances, the negative deviation is not limited (IEC 60335-2-85:2002)		N/A
10.2	Current at normal operating temperature, rated voltage and normal operation not deviating from rated current by more than shown in table 2		N/A
	If the current varies throughout the operating cycle and the maximum value of the current exceeds, by a factor greater than two, the arithmetic mean value of the current occurring during a representative period, the current is the maximum value that is exceeded for more than 10 % of the representative period		N/A
	Otherwise the current is the arithmetic mean value		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		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	held in normal use position	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		P
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W)	(see appended table)	P
	Electrode-type appliances are supplied at the most unfavourable voltage between 0,94 and 1,06 times rated voltage (IEC 60335-2-85:2002)		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)		N/A
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 60335-2-85:2002)		P
	Container of electrode-type appliances is refilled as quickly as possible and as many times as necessary (IEC 60335-2-85:2002)		N/A
11.8	Temperature rises monitored continuously and not exceeding the values in table 3	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
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)	(see appended table)	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
	Electrode-type appliances are supplied at 1,06 times rated voltage (IEC 60335-2-85:2002) ...		N/A
13.2	The leakage current is measured by means of the circuit described in Figure 4 of IEC 60990:1999		P
	For class 0I appliances and class I appliances, except parts of class II construction, C may be replaced by a low impedance ammeter		P
	Leakage current measurements	(see appended table)	P
	For electrode-type appliances and appliances having bare heating elements, the leakage current is measured between a metallic mesh placed in the steam 10 mm from the outlet, and accessible metal parts. Leakage current shall not exceed 0,25 mA (IEC 60335-2-85:2002)		N/A
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		—
15.1	Enclosure provides the degree of moisture protection according to classification of the appliance		N/A
	Compliance checked as specified in 15.1.1, taking into account 15.1.2, followed by the electric strength test of 16.3		N/A
	No trace of water on insulation which can result in a reduction of clearances or creepage distances below values specified in clause 29		N/A
15.1.1	Appliances, other than IPX0, subjected to tests as specified in IEC 60529		N/A
	Water valves containing live parts in external hoses for connection of an appliance to the water mains tested as specified for IPX7 appliances		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
15.1.2	Hand-held appliance turned continuously through the most unfavourable positions during the test		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		N/A
	Appliances normally fixed to a wall and appliances with pins for insertion into socket-outlets are mounted on a wooden board		N/A
	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
	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		N/A
	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	Spillage of liquid does not affect the electrical insulation		P
	Spillage solution comprising water containing approximately 1 % NaCl and 0,6 % rinsing agent		P
	Appliances with type X attachment fitted with a flexible cord as described		N/A
	Appliances incorporating an appliance inlet tested with or without an connector, whichever is most unfavourable		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	Detachable parts are removed		P
	Overfilling test with additional amount of the solution, over a period of 1 min (l)	0,25 L	P
	The appliance withstands the electric strength test of 16.3		P
	No trace of water on insulation that can result in a reduction of clearances or creepage distances below values specified in clause 29		P
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	25,0 °C, 93,0 % R.H.	P
	Reassembly of those parts that may have been removed		P
	The appliance withstands the tests of clause 16		P
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		—
16.1	Leakage current not excessive and electric strength adequate		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)	1,06 x 240=254,4 V	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		N/A
16.3	Electric strength tests according to table 7	(see appended table)	P

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	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	ABNORMAL OPERATION		—
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		N/A
	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		P
	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		P
	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
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)	(see appended table)	P
	Appliances are placed in any stable position on a black-painted plywood board. They are filled or empty, whichever is more unfavourable (IEC 60335-2-85:2002)		P

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	Container of electrode-type appliances is filled with a saturated solution of NaCl at 20 °C ± 5 °C, appliance being supplied at rated voltage (IEC 60335-2-85:2002)		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1,24 times rated power input (W)	(see appended table)	P
	This test is not applicable to electrode-type appliances (IEC 60335-2-85:2002)		N/A
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		P
19.5	Test of 19.4 repeated on Class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath	The tests results were covered by tests of clause 11.8 and 19.4	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
19.6	Appliances with PTC heating elements tested at rated voltage, establishing steady conditions		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		N/A
	locking moving parts of other appliances		P
	Locked rotor, capacitors open-circuited one at a time		N/A
	Test repeated with capacitors short-circuited one at a time, unless		N/A
	the capacitor is of class S2 or S3 of IEC 60252-1		N/A
	Appliances with timer or programmer supplied with rated voltage for each of the tests, for a period equal to the maximum period allowed		N/A
	An electronic timer or programmer that operates to ensure compliance with the test before the maximum period under the conditions of Clause 11 is reached, is a protective electronic circuit		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	Other appliances supplied with rated voltage for a period as specified	30 s	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		N/A
	Motor-operated and combined appliances for which 30.2.3 is applicable and that use overload protective devices relying on electronic circuits to protect the motor windings, are also subjected to the test		N/A
	Winding temperatures not exceeding values as specified		N/A
19.10	Series motor operated at 1.3 times rated voltage for 1 min (V)		N/A
	During the test, parts not being ejected from the appliance		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, unless		N/A
	they comply with the conditions specified in 19.11.1		N/A
	Appliances incorporating an electronic circuit that relies upon a programmable component to function correctly, subjected to the test of 19.11.4.8, unless		N/A
	restarting does not result in a hazard		N/A
	Appliances having a device with an off position obtained by electronic disconnection, or a device placing the appliance in a stand-by mode, subjected to the tests of 19.11.4		N/A
	If the safety of the appliance under any of the fault conditions depends on the operation of a miniature fuse-link complying with IEC 60127, the test of 19.12 is carried out		N/A
	During and after each test the following is checked:		—
	- the temperature of the windings do not exceed the values specified in table 8		N/A
	- the appliance complies with the conditions specified in 19.13		N/A
	- any current flowing through protective impedance not exceeding the limits specified in 8.1.4		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	If a conductor of a printed board becomes open-circuited, the appliance is considered to have withstood the particular test, provided both of the following conditions are met:		—
	- the base material of the printed circuit board withstands the test of Annex E		N/A
	- any loosened conductor does not reduce clearance or creepage distances between live parts and accessible metal parts below the values specified in clause 29		N/A
19.11.1	Fault conditions a) to g) in 19.11.2 are not applied to circuits or parts of circuits meeting both of the following conditions:		—
	- the electronic circuit is a low-power circuit, that is, the maximum power at low-power points does not exceed 15 W according to the tests specified		N/A
	- the protection against electric shock, fire hazard, mechanical hazard or dangerous malfunction of other parts of the appliance does not rely on the correct functioning of the electronic circuit		N/A
19.11.2	Fault conditions applied one at a time, the appliance operating under conditions specified in clause 11, but supplied at rated voltage, duration of the tests as specified:		—
	a) short circuit of functional insulation if clearances or creepage distances are less than the values specified in clause 29		N/A
	b) open circuit at the terminals of any component		N/A
	c) short circuit of capacitors, unless		N/A
	they comply with IEC 60384-14		N/A
	d) short circuit of any two terminals of an electronic component, other than integrated circuits		N/A
	This fault condition is not applied between the two circuits of an optocoupler		N/A
	e) failure of triacs in the diode mode		N/A
	f) failure of microprocessors and integrated circuits		N/A
	g) failure of an electronic power switching device		N/A
	Each low power circuit is short-circuited by connecting the low-power point to the pole of the supply source from which the measurements were made		N/A
19.11.3	If the appliance incorporates a protective electronic circuit that operates to ensure compliance with Clause 19, the appliance is tested as specified.		N/A
19.11.4	Appliances having a device with an off position obtained by electronic disconnection, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	a device that can be placed in the stand-by mode,		N/A
	subjected to the tests of 19.11.4.1 to 19.11.4.7, the device being set in the off position or in the stand-by mode		N/A
	Appliances incorporating a protective electronic circuit subjected to the tests of 19.11.4.1 to 19.11.4.7, the tests being carried out after the protective electronic circuit has operated, except that		N/A
	appliances operated for 30 s or 5 min during the test of 19.7 are not subjected to the tests for electromagnetic phenomena.		N/A
	Surge protective devices disconnected, unless		N/A
	They incorporate spark gaps		N/A
19.11.4.1	The appliance is subjected to electrostatic discharges in accordance with IEC 61000-4-2, test level 4		N/A
19.11.4.2	The appliance is subjected to radiated fields in accordance with IEC 61000-4-3, at frequency ranges specified		N/A
19.11.4.3	The appliance is subjected to fast transient bursts in accordance with IEC 61000-4-4, test level 3 or 4 as specified		N/A
19.11.4.4	The power supply terminals of the appliance subjected to voltage surges in accordance with IEC 61000-4-5, test level 3 or 4 as specified		N/A
	An open circuit test voltage of 2 kV is applicable for the line-to-line coupling mode		N/A
	An open circuit test voltage of 4 kV is applicable for the line-to-earth coupling		N/A
	Earthed heating elements in class I appliances disconnected		N/A
19.11.4.5	The appliance is subjected to injected currents in accordance with IEC 61000-4-6, test level 3		N/A
19.11.4.6	Appliances having a rated current not exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-11		N/A
	Appliances having a rated current exceeding 16 A are subjected to the Class 3 voltage dips and interruptions in accordance with IEC 61000-4-34		N/A
19.11.4.7	The appliance is subjected to mains signals in accordance with IEC 61000-4-13, test level class 2		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
19.11.4.8	The appliance is supplied at rated voltage and operated under normal operation. After 60 s the power supply is reduced to a level such that the appliance ceases to respond or parts controlled by the programmable component cease to operate		N/A
	The appliance continues to operate normally, or		N/A
	requires a manual operation to restart		N/A
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	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		N/A
	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)	1000	P
	- supplementary insulation (V)	1750	P
	- reinforced insulation (V)	3000	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		N/A
	The appliance does not undergo a dangerous malfunction, and		P
	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:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- 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
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		N/A
	For a relay or contactor with more than one contact, all contacts are short-circuited at the same time		N/A
	A relay or contactor operating only to ensure the appliance is energized for normal use is not short-circuited		N/A
	If more than one relay or contactor operates in clause 11, they are short-circuited in turn		N/A
19.15	For appliances with a mains voltage selector switch, the switch is set to the lowest rated voltage position and the highest value of rated voltage is applied		N/A
20	STABILITY AND MECHANICAL HAZARDS		—
20.1	Appliances having adequate stability	Handheld appliance	N/A
	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		N/A
	Tilting test repeated on appliances with heating elements, angle of inclination increased to 15°		N/A
	Possible heating test in overturned position; temperature rise does not exceed values shown in table 9		N/A
20.2	Moving parts adequately arranged or enclosed as to provide protection against personal injury	No dangerous moving parts	N/A
	Protective enclosures, guards and similar parts are non-detachable, and		N/A
	have adequate mechanical strength		N/A
	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		N/A
21	MECHANICAL STRENGTH		—
21.1	Appliance has adequate mechanical strength and is constructed as to withstand rough handling		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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	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
21.2	Accessible parts of solid insulation having strength to prevent penetration by sharp implements		N/A
	Test not applicable if the thickness of supplementary insulation is at least 1 mm and reinforced insulation at least 2 mm		N/A
	The insulation is tested as specified, and does withstand the electric strength test of 16.3		N/A
22	CONSTRUCTION		—
22.1	Appliance marked with the first numeral of the IP system, relevant requirements of IEC 60529 are fulfilled		N/A
22.2	Stationary appliance: means to ensure all-pole disconnection from the supply being provided:		—
	- a supply cord fitted with a plug, or		N/A
	- 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		N/A
	Applied torque not exceeding 0,25 Nm		N/A
	Pull force of 50N to each pin after the appliance has being placed in the heating cabinet; when cooled to room temperature the pins are not displaced by more than 1mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Each pin subjected to a torque of 0,4 Nm; the pins are not rotating, unless		N/A
	rotating does not impair compliance with this standard		N/A
22.4	Appliance for heating liquids and appliance causing undue vibration not provided with pins for insertion into socket-outlets		P
22.5	No risk of electric shock when touching pins and pins of plugs, for appliances having a capacitor with rated capacitance equal to or greater than 0,1 μ F, the appliance being disconnected from the supply at the instant of voltage peak		N/A
	Voltage not exceeding 34 V (V)		N/A
	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		N/A
	The discharge test is then repeated three times, voltage not exceeding 34 V (V)		N/A
22.6	Electrical insulation not affected by condensing water or leaking liquid		P
	Electrical insulation of Class II appliances not affected if a hose ruptures or seal leaks	Class II construction	P
	In case of doubt, test as described		P
22.7	Adequate safeguards against the risk of excessive pressure in appliances containing liquid or gases or having steam-producing devices		P
22.8	Electrical connections not subject to pulling during cleaning of compartments to which access can be gained without the aid of a tool, and that are likely to be cleaned in normal use		P
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless		P
	the substance has adequate insulating properties		N/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:		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

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Clause	Requirement + Test	Result - Remark	Verdict
	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		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		P
22.12	Handles, knobs etc. fixed in a reliable manner, if loosening result in a hazard		P
	Removing or fixing in wrong position of handles, knobs etc. indicating position of switches or similar components not possible, if resulting in a hazard		P
	A choking hazard does not apply to appliances for commercial use		N/A
	Axial force 15 N applied to parts, the shape being so that an axial pull is unlikely to be applied		P
	Axial force 30 N applied to parts, the shape being so that an axial pull is likely to be applied		P
	If the part is removed and can be contained within the small parts cylinder, it is considered to cause a choking hazard		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		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		N/A
	Cord reel tested with 6 000 operations, as specified		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Electric strength test of 16.3, voltage of 1 000 V applied		N/A
22.17	Spacers not removable from the outside by hand or by means of a screwdriver or a spanner		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		N/A
	constructed to prevent inappropriate replacement		N/A
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		N/A
	material used is non-corrosive, non-hygroscopic and non-combustible		P
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless		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		P
22.23	Oils containing polychlorinated biphenyl (PCB) not used		P
22.24	Bare heating elements, except in class III appliances or class III constructions that do not contain live parts, adequately supported		N/A
	In case of rupture, the heating conductor is unlikely to come in contact with accessible metal parts		N/A
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		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		N/A
22.27	Parts connected by protective impedance separated by double or reinforced insulation		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		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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
	Ceramic and similar porous material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		N/A
	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, or		P
	unearthed metal parts separated from live parts by basic insulation only		N/A
	Electrodes not used for heating liquids		N/A
	Liquids may be heated using electrodes and may be in direct contact with their live parts, and with live parts of bare heating elements (IEC 60335-2-85:2002)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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		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		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		N/A
	This requirement does not apply to handles, levers and knobs on stationary appliances and cordless 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
22.36	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		P
	they are separated from live parts by double or reinforced insulation		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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	the capacitors comply with 22.42		N/A
22.38	Capacitors not connected between the contacts of a thermal cut-out		N/A
22.39	Lamp holders used only for the connection of lamps		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		N/A
	If the appliance cannot operate continuously, automatically or remotely without giving rise to a hazard, appliances for remote operation being fitted with a switch for stopping the operation. The actuating member of the switch being easily visible and accessible		N/A
22.41	No components, other than lamps, containing mercury		P
22.42	Protective impedance consisting of at least two separate components		N/A
	Values specified in 8.1.4 not exceeded if any one of the components are short-circuited or open-circuited		N/A
	Resistors checked by the test of 14.1 a) in IEC 60065		N/A
	Capacitors checked by the tests for class Y capacitors in IEC 60384-14		N/A
22.43	Appliances adjustable for different voltages, accidental changing of the setting of the voltage unlikely to occur		N/A
22.44	Appliances not having an enclosure that is shaped or decorated like a toy		P
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		P
22.46	For programmable protective electronic circuits used to ensure compliance with the standard, the software contains measures to control the fault/error conditions in table R.1		N/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

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Clause	Requirement + Test	Result - Remark	Verdict
	These requirements are not applicable to software used for functional purpose or compliance with clause 11		N/A
22.47	Appliances connected to the water mains withstand the water pressure expected in normal use		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		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		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		N/A
	There is a visual indication showing that the appliance is adjusted for remote operation		N/A
	These requirements not necessary on appliances that can operate as follows, without giving rise to a hazard:		—
	- continuously, or		N/A
	- automatically, or		N/A
	- remotely		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		N/A
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
22.55	Devices that are operated to stop the intended function of the appliance, shall be distinguished from other manual devices by means of shape, size, surface texture or position	Shape	P
	The requirement concerning position does not preclude use of a push on push off switch		P

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Clause	Requirement + Test	Result - Remark	Verdict
	An indication when the device has been operated is given by:		—
	- tactile feedback from the actuator or from the appliance; or		P
	- reduction in heat output; or		N/A
	- audible and visible feedback		N/A
22.56	Detachable power supply part provided with the part of class III construction		N/A
22.57	The properties of non-metallic materials do not degrade from exposure to UV-C radiation, as specified in Annex T		N/A
	This requirement does not apply to glass, ceramics or similar materials		N/A
22.101	Appliances shall be constructed so 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 60335-2-85:2002)		P
22.102	Water containers shall be vented to the atmosphere. The aperture shall be at least 5 mm in diameter or 20 mm ² in area with a minimum dimension of at least 3 mm (IEC 60335-2-85:2002)		P
22.103	Electrode-type appliances shall be constructed to ensure that when the filling aperture of the container is open, both electrodes are disconnected to provide all-pole disconnection under overvoltage category III conditions (IEC 60335-2-85:2002)		N/A
22.104	Portable electrode-type appliances and portable appliances having bare heating elements shall be constructed so that they do not give rise to a hazard when they are overturned (IEC 60335-2-85:2002)		N/A
25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		—
25.14	Supply cords moved while in operation adequately protected against excessive flexing		P
	Flexing test, as described:		—
	- applied force (N)	5 N	P
	- number of flexings	20000	P
	Number for flexings for type Z attachments is 50 000 and for other attachments 20 000 (IEC 60335-2-85:2002)	20000	P
	The test does not result in:		—
	- short-circuit between the conductors, such that the current exceeds a value of twice the rated current		P
	- breakage of more than 10% of the strands of any conductor		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- separation of the conductor from its terminal		P
	- loosening of any cord guard		P
	- damage to the cord or the cord guard		P
	- broken strands piercing the insulation and becoming accessible		P
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:		—
	- fixed appliances: pull 100 N; torque (not on automatic cord reel) (Nm)		N/A
	- other appliances: values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)	0,6 kg, 30 N, 0,1 Nm	P
	Pull and torque test of supply cord, values shown in table 12: mass (kg); pull (N); torque (not on automatic cord reel) (Nm)	0,6 kg, 30 N, 0,1 Nm	P
	Cord not damaged and max. 2 mm displacement of the cord	0,7 mm	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		N/A
	The microenvironment is pollution degree 1 under type 1 protection		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		N/A
	These values apply to functional, basic, supplementary and reinforced insulation		N/A
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

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Clause	Requirement + Test	Result - Remark	Verdict
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		N/A
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1 500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
	For appliances intended for use at altitudes exceeding 2 000 m, the clearances in Table 16 is increased according to the relevant multiplier values in Table A.2 of IEC 60664-1		N/A
	Impulse voltage test is not applicable:		—
	- when the microenvironment is pollution degree 3, or		P
	- for basic insulation of class 0 and class 01 appliances, or		N/A
	- to appliances intended for use at altitudes exceeding 2 000 m		N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements		N/A
	A force of 30 N is applied to accessible surfaces		P
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		P
	The values of table 16 or the impulse voltage test of clause 14 are applicable.....:	(see appended table)	P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1	At the end terminal of heating element	P
	Lacquered conductors of windings considered to be bare conductors		P
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16:	(see appended table)	P
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage	(see appended table)	P
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation		P
29.1.4	Clearances for functional insulation are the largest values determined from:		—

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	- table 16 based on the rated impulse voltage	(see appended table)	P
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		N/A
	the microenvironment is pollution degree 3, or		P
	the distances can be affected by wear, distortion, movement of the parts or during assembly		N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
	Lacquered conductors of windings considered to be bare conductors		N/A
	However, clearances at crossover points are not measured		N/A
	Clearance between surfaces of PTC heating elements may be reduced to 1 mm		N/A
29.1.5	Appliances having higher working voltages than rated voltage, clearances for basic insulation are the largest values determined from:		—
	- table 16 based on the rated impulse voltage.....:		N/A
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1 or Clause 4 of IEC 60664-4, the clearances of supplementary insulation are not less than those specified for basic insulation		N/A
	If clearances for basic insulation are selected from Table F.7a of IEC 60664-1, the clearances of reinforced insulation dimensioned as specified in Table F.7a are to withstand 160 % of the withstand voltage required for basic insulation		N/A
	If clearances for basic insulation are selected from Clause 4 of IEC 60664-4, the clearances of reinforced insulation are twice the value required for basic insulation		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	If the secondary winding of a step-down transformer is earthed, or if there is an earthed screen between the primary and secondary windings, clearances of basic insulation on the secondary side not less than those specified in table 16, but using the next lower step for rated impulse voltage		N/A
	Circuits supplied with a voltage lower than rated voltage, clearances of functional insulation are based on the working voltage used as the rated voltage in table 15		N/A
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
	Pollution degree 2 applies, unless		N/A
	- precautions taken to protect the insulation; pollution degree 1	At the end terminal of heating element	P
	- insulation subjected to conductive pollution; pollution degree 3		P
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system		P
	For electrode-type appliances, the microenvironment of the insulation supporting the electrodes is pollution degree 3 (IEC 60335-2-85:2002)		N/A
29.2.1	Creepage distances of basic insulation not less than specified in table 17	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17		N/A
	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14		N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable		N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18		N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		—
	- by measurement, in accordance with 29.3.1, or		N/A
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- for insulation, other than single layer internal wiring insulation, by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A
	- by an assessment of the thermal quality of the material according to 29.3.3 combined with an electric strength test in accordance with 23.5, for each single layer internal wiring insulation touching each other, or		N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm		P
	Reinforced insulation have a thickness of at least 2 mm		N/A
29.3.2	Each layer of material withstand the electric strength test of 16.3 for supplementary insulation		N/A
	Supplementary insulation consist of at least 2 layers		N/A
	Reinforced insulation consist of at least 3 layers		N/A

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
29.3.3	The insulation is subjected to the dry heat test Bb of IEC 60068-2-2, followed by		N/A
	the electric strength test of 16.3		N/A
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out		N/A
29.3.4	Thickness of accessible parts of reinforced insulation consisting of a single layer not less than specified in table 19		N/A
30	RESISTANCE TO HEAT AND FIRE		—
30.1	External parts of non-metallic material,		P
	parts supporting live parts, and		P
	parts of thermoplastic material providing supplementary or reinforced insulation		P
	sufficiently resistant to heat		P
	Ball-pressure test according to IEC 60695-10-2		P
	External parts tested at 40 °C plus the maximum temperature rise determined during the test of clause 11, or at 75 °C, whichever is the higher; temperature (°C)	(see appended table 30.1)	P
	Parts supporting live parts tested at 40°C plus the maximum temperature rise determined during the test of clause 11, or at 125 °C, whichever is the higher; temperature (°C)	(see appended table 30.1)	P
	Parts of thermoplastic material providing supplementary or reinforced insulation tested at 25 °C plus the maximum temperature rise determined during clause 19, if higher; temperature (°C)		N/A
H	ANNEX H (NORMATIVE) SWITCHES		—
	Switches comply with the following clauses of IEC 61058-1, as modified below:		—
	The tests of IEC 61058-1 carried out under the conditions occurring in the appliance		P
	Before being tested, switches are operated 20 times without load		P
8	Marking and documentation		—
	Switches are not required to be marked		P
	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		—

IEC 60335-2-85			
Clause	Requirement + Test	Result - Remark	Verdict
	The tests may be carried out on a separate sample		P
15	Insulation resistance and dielectric strength		—
15.1	Not applicable		P
15.2	Not applicable		P
15.3	Applicable for full disconnection and micro-disconnection		P
17	Endurance		—
	Compliance is checked on three separate appliances or switches		P
	For 17.2.4.4, the number of cycles declared according to 7.1.4 is 10 000, unless		P
	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		P
	The ambient temperature during the test is that occurring in the appliance during the test of Clause 11 in IEC 60335-1		P
	The temperature rise of the terminals not more than 30 K above the temperature rise measured in clause 11 of IEC 60335-1 (K)	For HY-136: Sample 1: 8,9 K Sample 2: 9,3 K Sample 3: 8,4 K For HY-139: Sample 1: 7,1 K Sample 2: 7,2 K Sample 3: 7,2 K	P
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		P
	It is also applicable to creepage distances for functional insulation, across full disconnection and micro-disconnection, as stated in Table 24		P

10.1	TABLE: Power input deviation					P
Input deviation of/at:	P rated (W)	P measured (W)	ΔP	Required ΔP	Remark	
230 V, 50 Hz	1400	1439,4	+2,8 %	+5 %/-10 %	HY-136	
230 V, 60 Hz	1400	1436,8	+2,6 %	+5 %/-10 %	HY-136	
230 V, 50 Hz	1400	1451,9	+3,7 %	+5 %/-10 %	HY-139	
230 V, 60 Hz	1400	1448,7	+3,5 %	+5 %/-10 %	HY-139	

11.8	TABLE: Heating test (HY-136)			P
	Test voltage (V)	$1,15 \times (240^2 / 230^2) \times 1400 = 1753 \text{ W}, 253,7 \text{ V}$		—
	Ambient (°C)	T1: 23,9 °C, T2: 22,2 °C		—
Thermocouple locations:		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)	
Supply cord insulation		35,6	50	
Internal supply cord		20,6	50	
Internal wire to heating element		94,2	155(T180-25)	
Internal wire to pump		35,9	155(T180-25)	
Heat-shrinkable tube		73,9	100 (T125-25)	
Ambient of pump		111,4	Ref.	
Pump winding / bobbin		128,9	140 (Class 180) / Clause 30.1	
Ambient of thermal link/ Silicone tube for thermal link		109,1	Ref. / 145	
Ambient of thermostat		91,3	155(T180-25)	
Handle enclosure		29,8	Clause 30.1	
Upper enclosure		44,5	Clause 30.1	
Indicator cover		38,9	Clause 30.1	
Enclosure supporting heater		64,6	Clause 30.1	
Water tank		3,9	Clause 30.1	
Ambient of switch (for HY-136)		12,7	Annex H	
Switch enclosure		13,9	Clause 30.1	
Switch terminal		17,3	45	
Switch button		6,7	60	
Handle surface		26,9	50	
Test corner		2,1	65	

11.8	TABLE: Heating test (HY-139)			P
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	Test voltage (V)	$1,15 \times (240^2/230^2) \times 1400 = 1753 \text{ W},$ 252,3 V	—
	Ambient (°C)	T1: 23,4 °C, T2: 23,2 °C	—
Thermocouple locations:		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
Supply cord insulation		7,5	50
Internal supply cord		61,7	145
Internal wire to heating element		81,6	155(T180-25)
Internal wire to pump		49,2	155(T180-25)
Heat-shrinkable tube		81,3	100 (T125-25)
Ambient of pump		93,7	Ref.
Pump winding / bobbin		116,0	140 (Class 180) / Clause 30.1
Ambient of thermal link/ Silicone tube for thermal link		101,1	Ref. / 145
Ambient of thermostat		75,2	155(T180-25)
Main enclosure		71,3	Clause 30.1
Handle cover		13,3	Clause 30.1
Indicator cover		27,5	Clause 30.1
Enclosure supporting heater		83,7	Clause 30.1
Ambient of switch (for HY-139)		20,4	Annex H
Switch enclosure		19,4	Clause 30.1
Switch terminal		4,0	45
Water tank		26,1	Clause 30.1
Switch button		23,2	60
Handle surface		3,4	50
Test corner		4,0	65

13.2	TABLE: Leakage current (HY-136)		P
	Heating appliances: 1.15 x rated input (W).. :	$(240^2/230^2) \times 1,15 \times 1640 = 2056 \text{ W}$	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V)..... :	—	—
Leakage current between:		I (mA)	Max. allowed I (mA)
L/N and accessible plastic parts (HY-136)		0,01	0,35 peak
L/N and earthed metal parts (HY-136)		0,04	0,75
L/N and accessible plastic parts (HY-139)		0,01	0,35 peak
L/N and earthed metal parts (HY-139)		0,05	0,75

13.3	TABLE: Dielectric strength (HY-136, HY-139)		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Between live part and earthed metal parts		1000	No
Between internal wire and accessible plastic parts		1750	No
Live parts and accessible plastic parts		3000	No

16.2	TABLE: Leakage current		P
	Single phase appliances: 1.06 x rated voltage (V)..... :	254,4 V	—
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V)..... :	—	—
Leakage current between:		I (mA)	Max. allowed I (mA)
L/N and accessible plastic parts (HY-136)		0,01	0,25
L/N and earthed metal parts (HY-136)		0,05	0,75
L/N and accessible plastic parts (HY-139)		0,01	0,25
L/N and earthed metal parts (HY-139)		0,05	0,75

16.3	TABLE: Electric strength (HY-136, HY-139)		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Between live part and earthed metal part		1250	No
Between internal wire and accessible plastic parts		1750	No
Between live part and accessible plastic parts		3000	No
Between supply cord and accessible metal part		1250	No

19	Abnormal operation conditions						P
Operational characteristics		YES/NO	Operational conditions				
Are there electronic circuits to control the appliance operation?		No	N/A				
Are there “off” or “stand-by” position?		No	N/A				
The unintended operation of the appliance results in dangerous malfunction?		N/A	N/A				
Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	0,85 rated power	No hazards	N/A	N/A	N/A	N/A	P
19.3	1,24 rated power	No hazards	N/A	N/A	N/A	N/A	P

19.4	1,15 rated power, thermostat short circuit	Thermal link operated	N/A	N/A	N/A	N/A	P
19.5	Same as cl.19.4	Test results covered by cl.11.8 and 19.4	N/A	N/A	N/A	N/A	P
19.7	240 V	No hazards	N/A	N/A	N/A	N/A	P

19.13	TABLE: Abnormal operation, temperature rises (HY-136)					P
Parts measured	Max. temperature rise measured (K/°C)				Limit temp. rise(K)	
	19.2	19.3	19.4	19.7		
Supply cord	27,6	38,4	40,4	--	150	
Test corner	36,7	48,1	42,2	--	150	
Main enclosure	57,9	60,6	--	--	Clause 30.1	
Handle cover	20,6	23,3	--	--	Clause 30.1	
Enclosure supporting heater	79,4	84,6	--	--	Clause 30.1	
Indicator cover	60,2	62,0	--	--	Clause 30.1	
Water tank	1,6	2,1	--	--	Clause 30.1	
Pump winding	106,9°C	145,0°C	143,7°C	35,9°C	210 °C	

19.13	TABLE: Abnormal operation, temperature rises (HY-139)					P
Parts measured	Max. temperature rise measured (K/°C)				Limit temp. rise(K)	
	19.2	19.3	19.4	19.7		
Supply cord	5,4	6,5	4,5	--	150	
Test corner	2,2	1,8	15,4	--	150	
Handle enclosure	11,4	15,1	--	--	Clause 30.1	
Upper enclosure	59,1	62,6	--	--	Clause 30.1	
Enclosure supporting heater	74,9	80,8	--	--	Clause 30.1	
Indicator cover	28,3	30,1	--	--	Clause 30.1	
Water tank	16,2	22,2	--	--	Clause 30.1	
Pump winding	114,2°C	156,6°C	145,6°C	40,1°C	210 °C	

24.1	TABLE: Critical components information					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity ¹⁾	

Plug	Ningbo Qiaopu Electric Co., Ltd.	D03	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	TUV* (R 50286272)
(Alternative)	Ningbo Xuanhua Electronics Co., Ltd.	XH-03	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40019691)
(Alternative)	Ningbo Huangtai Industrial Co., Ltd	HT-3 HT-3A	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40006730)
(Alternative)	Ningbo Liansheng Wire & cable Co., Ltd	LS03-F	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40035039)
(Alternative)	Yuyao Yunbiao Electronics Co., Ltd.	YB003	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40004738)
(Alternative)	Yuyao Yunbiao Electronics Co., Ltd.	YB003-F	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40014639)
(Alternative)	Yuyao Yuxiang Electric Appliances Co., Ltd.	YXD-03A	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40010269)
(Alternative)	Yuyao Gangda Electric Co., Ltd.	AU-003	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40027097)
(Alternative)	Yuyao Gangda Electric Co., Ltd.	AU-003-B	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40033080)
(Alternative)	Ningbo Liansheng Wire & Cable Co., Ltd	LS03	AC 250 V, 16 A, 2P+E	DIN VDE 0620-2-1 IEC 60884-1	VDE* (40034732)
BS plug	Ningbo Qiaopu Electric Co., Ltd.	D09	250 V~	BS 1363-1 IEC 60884-1	ASTA* (930)
(Alternative)	Cixi Lujie Electric Appliances Co., Limited	LJ01 LJ01B	250 V~	BS 1363-1 IEC 60884-1	BSI* (KM 69196)
(Alternative)	Yuyao Yunbiao Electronics Co., Ltd.	YB006	250 V~	BS 1363-1 IEC 60884-1	BSI * (KM 73093)
(Alternative)	Scolmore International Ltd.	SW 368II	250 V~	BS 1363-1 IEC 60884-1	BSI* (KM 10807)
Korea plug	Ningbo Qiaopu Electric Co., Ltd.	K02	AC 250 V, 10 A	K60884-1 KSC8305	KC* (SU04048-5001B)
(Alternative)	Ningbo Qiaopu Electric Co., Ltd.	K03 K04	AC 250 V, 16 A	K60884-1 KSC8305	KC* (SU04048-5002C)

Supply cord	Ningbo Qiaopu Electric Co., Ltd.	H05VV-F	For HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E, HY-136, HY-139: 3G0,75 mm ² (length ≤ 2 m) 3G1,0 mm ²	EN50525-2-11 IEC 60227	TUV* (50279805)
(Alternative)	Ningbo Xuanhua Electronics Co., Ltd.	H05VV-F	For other models: 3G0,75 mm ² 3G1,0 mm ²	EN50525-2-11 IEC 60227	VDE* (40016531)
(Alternative)	Ningbo Jintao Electrical Co., Ltd	H05VV-F		EN50525-2-11 IEC 60227	VDE* (40024517)
(Alternative)	Ningbo Liansheng Wire & cable Co., Ltd	H05VV-F		EN50525-2-11 IEC 60227	VDE* (40022054)
(Alternative)	Yuyao Yunbiao Electronics Co., Ltd.	H05VV-F		EN50525-2-11 IEC 60227	VDE* (138242)
(Alternative)	Ningbo JinTing Nuclear Cable Co., Ltd	H05VV-F		EN50525-2-11 IEC 60227	VDE* (40033767)
(Alternative)	Ningbo Yuxin Electrical Appliance Co., Ltd.	H05VV-F		EN50525-2-11 IEC 60227	VDE* (40010786)
(Alternative)	Yuyao Siji Wire Industry Co., Ltd.	H05VV-F		EN50525-2-11 IEC 60227	VDE* (40001417)
(Alternative)	Hangzhou Hongshi Electrical Co., Ltd.	H05VV-F		EN50525-2-11 IEC 60227	VDE* (40010839)
(Alternative)	Cixi Shangen Car Parts Co., Ltd.	H05VV-F		EN50525-2-11 IEC 60227	VDE* (138127)
Supply cord for Korea	Ningbo Qiaopu Electric Co., Ltd.	H05VV-F	For HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E, HY-136, HY-139: 3G0,75 mm ² (length ≤ 2 m) 3G1,0 mm ² For other models: 3G0,75 mm ² 3G1,0 mm ²	K60227-5	KC* (SU01035-5002B)

Internal wire	Cixi Fuhai Jiteng Electric Fiting Factory	H05S-K, H05SJ-K	0,75 mm ² or 1,0 mm ² for others, 0,5 mm ² lead to PCB, T180	EN 50525-2-41 EN 60335-2-85 EN 60335-1 IEC 60335-2-85 IEC 60335-1	VDE* (40016339)
(Alternative)	Cixi Shuanghong Wire Co., Ltd.	H05S-K, H05SJ-K	0,75 mm ² or 1,0 mm ² for others, 0,5 mm ² lead to PCB, T180		VDE* (40017324)
(Alternative)	Cixi Haosheng Wire & Cable Co., Ltd.	H05S-K, H05SJ-K	0,75 mm ² or 1,0 mm ² for others, 0,5 mm ² lead to PCB, T180		VDE* (40020128)
(Alternative)	Cixi City Haoteng Cable Co., Ltd.	H05S-K, H05SJ-K	0,75 mm ² or 1,0 mm ² for others, 0,5 mm ² lead to PCB, T180		VDE* (40037535)
(Alternative)	Cixi Shuanghong Wire Co., Ltd	3122	300 V, 200°C, 24 AWG only lead to PCB, 18-20 AWG for others		UL* (E333296) Tested with appliance
(Alternative)	Ningbo Haoguang Electric Appliance Co., Ltd	3122	300 V, 200°C, 24 AWG only lead to PCB, 18-20 AWG for others	EN 60335-2-85 EN 60335-1 IEC 60335-2-85 IEC 60335-1 UL758	UL* (E192545) Tested with appliance
Thermostat	Shaoxing Zhongxin Electric Appliance Co., Ltd	KSD301C KSD301P	AC250 V, 10 A, 1E5, Tf145 T250 for KSD301C T180 for KSD301P	IEC 60730-1 EN 60730-1 IEC 60730-2-9 EN 60730-2-9	TUV* (R 50229791)
Thermal link For model HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E	Zhongshan Xiaolan Huasheng Heat Protection Equipment Co., Ltd	RY192 RY184	AC250 V, 10 A, Tf184 or Tf192	EN 60691 IEC 60691	VDE* (40020987)
(Alternative)	Zhongshan City Dongfeng Town Yan Chengwang Electronics Factory	RY192 RY184	AC250 V, 10 A, Tf184 or Tf192	EN 60691 IEC 60691	TUV (B 17 02 98069 001)
Thermal link For other models	Zhongshan Xiaolan Huasheng Heat Protection Equipment Co., Ltd	RY184	AC250 V, 10 A, Tf184	EN 60691 IEC 60691	VDE* (40020987)
(Alternative)	Zhongshan City Dongfeng Town Yan Chengwang Electronics	RY184	AC250 V, 10 A, Tf184	EN 60691 IEC 60691	TUV (B 17 02 98069 001)

	Factory				
Micro switch For model HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E	Ningbo Jialin Electron Co., Ltd	KW4-3Z-3	250 V~, 3 A, 5E4, T85	EN 61058-1 IEC 61058	VDE* (40003754)
(Alternative)	Yueqing Tianma Electric Co., Ltd	KW4A(S)	250 V~, 5(2) A, 5E4, T125	EN 61058-1 IEC 61058	TUV* (R 50299225)
(Alternative)	Yueqing Sunto Electronics Co., Ltd	ST Series	250 V~, 5(2) A, 5E4, T125	EN 61058-1 IEC 61058	ENEC* (ENEC-00893)
Switch for HY-119	Yueqing Qiyang Electronics Co., Ltd	QY601-101	250 V~, 6 A, 1E4, T125	EN 61058-1 IEC 61058	TUV* (B 17 02 98459 002)
(Alternative)	Yueqing Yixin Electronic Co., Ltd.	KCD1-101	250 V~, 6 A, 1E4, T85	EN 61058-1 IEC 61058	TUV* (R 50419049)
Switch for HY-108, HY- 118	Yueqing Yixin Electronic Co., Ltd.	KCD1-106/N	250 V~, 6 A, 1E4, T85	EN 61058-1 IEC 61058	TUV* (R 50419049)
Push switch For model HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E	Yueqing Huanmao Electronics Co., Ltd	PBS3-1	Tested at 220-240 V, 1E4	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Switch For HY-136	Zhejiang Jialong Electron Co., Ltd	KAN-15	Tested at 220- 240 V, 1E4	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Switch For HY-139	Zhejiang Jialong Electron Co., Ltd	SS-12F75	Tested at 220- 240 V, 1E4	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Heating Element for model HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E	Ningbo City Zhongjia Electric Appliance Co., Ltd.	ZJ	Tested at 220-240 V, 1640 W	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance

Heating Element for model HY-118 HY-108	Ningbo City Zhongjia Electric Appliance Co., Ltd.	ZJ	Tested at 220-240 V, 880 W	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Heating Element for model HY-119	Ningbo City Zhongjia Electric Appliance Co., Ltd.	ZJ	Tested at 220-240 V, 1200 W	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Heating Element for model HY-136 HY-139	Ningbo City Zhongjia Electric Appliance Co., Ltd.	ZJ	Marked with "220V, 1300W" Tested at 220 240 V, 1400 W	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Pump (for model HY-168 HY-188 HY-128 HY-158 HY-168E HY-188E HY-128E HY-158E)	Ningbo Lianrui Electronics Technology Co., Ltd.	LR-01	Tested at AC 220-240 V 50/60 Hz	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
-Pump bobbin	Ningbo Lianrui Electronics Technology Co., Ltd.	PA66	Min. thickness: 1,0 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
-Pump winding	Baiyin Yizhi Changtong Super Micro-wire Co., Ltd	xUEW-*** /180	Class 180	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	UL* (E363385) Tested with appliance
Pump (Alternative) (for model HY-136, HY-139)	Ningbo Wells Energy Saving Technology Co., Ltd.	WDCB2-A	220-240VAC, 50/60 Hz, 9 W, Class 180	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	TUV* (R 106039 0001)
-Pump bobbin	Ningbo Wells Energy Saving Technology Co., Ltd.	PA66	Min. thickness: 1,0 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
-Pump winding	Baiyin Yizhi Changtong Super Micro-wire Co., Ltd	xUEW-*** /180	Class 180	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	UL* (E363385) Tested with appliance
Pump (Alternative) (for model HY-136, HY-139)	Ningbo Yijiaao Electrical Co., Ltd.	EJ-01A	220-240VAC, 50/60 Hz, 7 W	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	CB* (CN47933)
-Pump bobbin	Ningbo Yijiaao Electrical Co., Ltd.	PA66	Min. thickness: 1,0 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
-Pump winding	Baiyin Yizhi Changtong Super Micro-wire Co., Ltd	xUEW-*** /180	Class 180	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	UL* (E363385) Tested with appliance

Wire connector	Heavy Power Co., Ltd	CE2	300 V	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85 UL 486A-486B	UL* (E113650) Tested with appliance
PCB	Kingboard Laminates Holdings Ltd	KB-3151C	V-0	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	UL* (E123995) Tested with appliance
Heat shrinkable tube	Shenzhen Woer Heat-shrinkable Material Co., Ltd	RSFR-H	600 V, 125 °C	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85 UL 224	UL* (E203950) Tested with appliance
Silicone tube	Jiangyin Huaqiang Rubbers & Plastics Co., Ltd	SRT SRG	VW-1	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85 UL 1441	UL* (E231589) Tested with appliance
Plastic enclosure/ Main enclosure / Handle enclosure / Upper enclosure	Cixi Zhangqi Dengfeng Mould Factory (general partnership)	ABS	Min. thickness: 1,1 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Enclosure supporting heater	Cixi Zhangqi Dengfeng Mould Factory (general partnership)	ABS	Min. thickness: 1,1 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Water tank	Cixi Zhangqi Dengfeng Mould Factory (general partnership)	ABS	Min. thickness: 1,1 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance
Indicator cover	Cixi Zhangqi Dengfeng Mould Factory (general partnership)	ABS	Min. thickness: 1,1 mm	EN 60335-1 EN 60335-2-85 IEC 60335-1 IEC 60335-2-85	Tested with appliance

Supplementary information:

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

2) License available upon request.

3) The rating of BS fuse-link is marked on plug as rated current marking for non-rewireable plugs above, as per requirement of BS 1363-1:2016+A1:2018

29.1	TABLE: Clearances						P
	Overvoltage category:			II		—	
		Type of insulation:					
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Functional (mm)	Supplementary (mm)	Reinforced (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	1,5 / 2,0***	1)	4)	2)	—	P
4 000	3,0 / 3,5***	—	—	—	3)	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

*) The value is increased to 0,8mm for pollution degree 3

**) If the construction is affected by wear, distortion, movement of the parts or during assembly, the value is increased by 0,5 mm

1) Basic insulation:

Between poles of heating element to earthed sheath (pollution degree 1): Cl.=Cr.=1,1 mm

Between the L/N and earthing metal part: Cl.=4,1 mm

2) Supplementary insulation:

Between plastic enclosure and internal wire: Cr.=Cl.=4,2 mm

3) Reinforced insulation:

Between live parts and accessible enclosure: Cr.=Cl.=8,2 mm

4) Functional insulation:

Between L and N terminals: Cr=Cl=3,3 mm

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						
		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	—	—	—	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	0,56	1,25	1,8	2,5	3,2	3,6	4,0	1)	—	—	P
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—	2)	—	P
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0	—	—	3)	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) Pollution degree								
	1	2			3				
		Material group			Material group				
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	Verdict / Remark	
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N/A	
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A	
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A	
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2	P	
400	0,75	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

30.1	TABLE: Ball Pressure Test of Thermoplastics			P
Allowed impression diameter (mm)		2,0 mm		—
Object/ Part No./ Material	Manufacturer/ trademark	Test temperature (°C)	Impression diameter (mm)	
Pump bobbin	Refer to table 24.1	169	0,6	
Indicator cover	Refer to table 24.1	87	1,8	
Main enclosure	Refer to table 24.1	86	1,5	
Upper enclosure / handle enclosure	Refer to table 24.1	88	1,2	
Enclosure supporting heater	Refer to table 24.1	110	0,8	
Switch enclosure	Refer to table 24.1	125	1,4	

30.2	TABLE: Resistance to heat and fire - Glow wire tests							P
Object/ Part No./ Material	Manufacturer / trademark	Glow wire test (GWT); (°C)						Verdict
		550	650		750		850	
			te	ti	te	ti		
Main enclosure	Refer to table 24.1	X						P
Upper enclosure / handle enclosure	Refer to table 24.1	X						P
Indicator cover	Refer to table 24.1	X						P
Enclosure supporting heater	Refer to table 24.1	X						P
Pump bobbin	Refer to table 24.1	X						P
Switch enclosure	Refer to table 24.1	X						P
Object/ Part No./ Material	Manufacturer / trademark	Glow-wire flammability index (GWFI), °C				GW ignition temp. (GWIT), °C		Verdict
		550	650	750	850	675	775	
—	—							N/A
The test specimen passed the glow wire test (GWT) with no ignition [(te – ti) ≤ 2s] (Yes/No):								N/A
If no, then surrounding parts passed the needle-flame test of annex E (Yes/No) :								N/A
The test specimen passed the test by virtue of most of the flaming material being withdrawn with the glow-wire (Yes/No)? :								No
Ignition of the specified layer placed underneath the test specimen (Yes/No) :								No

Supplementary information:

- 550 °C GWT not relevant (or applicable) to parts of material classified at least HB40 or if relevant HBF
- The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not relevant (or applicable) for attended appliances

<End of Report>

Annex I		IEC60335_2_85D - ATTACHMENT	
Clause	Requirement - Test	Result - Remark	Verdict

**ATTACHMENT TO TEST REPORT IEC 60335-2-85
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES**

Household and similar electrical appliances —Safety —

Part 2-85: Particular requirements for fabric steamers

Differences according to:	EN 60335-2-85:2003 + A1:2008 used in conjunction with EN 60335-1:2012 EN 62233:2008
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Attachment Form No.:	EU_GD_IEC60335_2_85D
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Attachment Originator:	SLG
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Master Attachment:	2014-04
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Annex I		IEC60335_2_85D - ATTACHMENT	
Clause	Requirement - Test	Result - Remark	Verdict

	CENELEC COMMON MODIFICATIONS		
8.1.1	Also test probe 18 of EN 61032 is applied		P
	The appliance being in every possible position during the test		P
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P
8.2	Compliance is checked by applying the test probes of EN 61032		P
	For built-in appliances and fixed appliances, the test probe B and probe 18 of EN 61032 are applied only after installation		N/A
11.8	Footnotes to "External enclosure of motor-operated appliances" to be taken into account		N/A
15.1.2	Appliances with an automatic cord reel tested with the cord in the most unfavourable position so that the reeling of the wet cord may affect electrical insulation during operation, the cord not being dried before reeling		N/A
29.3.Z1	Appliance constructed so that if there is a possibility of damaging the insulation during installation, the insulation withstands the scratch and penetration test of 21.2		N/A

<End of Annex I>

Clause	Requirement - Test	Result - Remark	Verdict
The requirements of EN 60335-1:2012/ A1:2019 + A14:2019 + A2:2019			
7.10	Delete the paragraphs starting with "Devices used to start/stop...." until the end of the requirement ".....by vulnerable persons.". This includes Notes Z1 and Z2.		P
7.12.Z1	Delete the sub clause.		P
7.14	Delete Note Z1.		P
8.1.1	Replace the first sentence of the replacement of the 3rd paragraph with the following:		—
	Test probe B and probe 18 of EN 61032 are applied with a force not exceeding 1 N, the appliance being in every possible position,		P
	except that appliances normally used on the floor and having a mass exceeding 40 kg are not tilted.		N/A
8.1.3	Add the text ", test probe 18" after "test probe B,"		N/A
20.2	In the second paragraph replace the word "movable" by "moving" and replace "main function" by "working function".		N/A
22.12	Add to the first paragraph:		—
	Other parts that are intended to be detached during use, maintenance or cleaning (examples are batteries, battery covers, lids, attachments, steam nozzles) are not considered as parts providing a similar function as handles, knobs, grips, levers.		P
22.17	Add to the first paragraph:		—
	This is not applicable to built-in appliances.		N/A
24.1	Components comply with the safety requirements specified in the relevant standards as far as they reasonably apply		P
	Compliance with the EN standard for the relevant component does not necessarily ensure compliance with the requirements of this standard.		P
	Motors are not required to comply with EN 60034-1. They are tested as part of the appliance according to this standard.		P
	Relays shall be tested as part of the appliance according to this standard.		N/A
	They may be alternatively tested to EN 60730-1, in which case they shall also meet the additional requirements in EN 60335-1.		N/A
	Unless otherwise specified, the requirements of Clause 29 of this standard apply between live parts of components and accessible parts of the appliance.		P

Clause	Requirement - Test	Result - Remark	Verdict
	Unless otherwise specified, components may comply with the requirements for clearances and creepage distances for functional insulation as specified in the relevant component standard.		P
	Unless otherwise specified, the requirements of 30.2 of this standard apply to parts of non-metallic material in components including parts of non-metallic material supporting current-carrying connections inside components.		P
	Components that have not been previously tested or do not comply with the standard for the relevant component are tested according to the requirements of 30.2		P
	Components that have been previously tested and shown to comply with the resistance to fire requirements in the standard for the relevant component need not be retested provided that:		—
	- the severity specified in the component standard is not less than the severity specified in 30.2, and		P
	- unless the pre-selection alternatives in 30.2 are used, the test report for the component states the values of t_e and t_i as required by EN 60695-2-11.		N/A
	If the above two conditions are not satisfied, the component is tested as part of the appliance.		N/A
	NOTE 1 There are two levels of severity specified for appliances for which 30.2.3 is applicable.		N/A
	Power electronic converter circuits are not required to comply with EN 62477-1. They are tested as part of the appliance according to this standard.		N/A
	Unless components have been previously tested and found to comply with the relevant standard for the number of cycles specified, they are tested in accordance with 24.1.1 to 24.1.9		P
	For components mentioned in 24.1.1 to 24.1.9, no additional tests specified in the relevant standard for the component are necessary other than those specified in 24.1.1 to 24.1.9		P
	Components that have not been separately tested and found to comply with the relevant standard, and		N/A
	components that are not marked or not used in accordance with their marking,		N/A
	are tested in accordance with the conditions occurring in the appliance, the number of samples being that required by the relevant standard		N/A
	NOTE 2 For automatic controls, marking includes documentation and declaration as specified in Clause 7 of EN 60730-1.		N/A

Clause	Requirement - Test	Result - Remark	Verdict
	Lamp-holders and starter-holders that have not been previously tested and found to comply with the relevant EN standard are tested as a part of the appliance and shall additionally comply with the gauging and interchangeability requirements of the relevant EN standard under the conditions occurring in the appliance.		N/A
	Where the relevant EN standard specifies these gauging and interchangeability requirements at elevated temperatures, the temperatures measured during the tests of Clause 11 are used.		N/A
	There are no additional tests specified for nationally standardized plugs such as those detailed in IEC/TR 60083 or connectors complying with the standard sheets of EN 60320-1 and EN 60309, unless they are specifically mentioned in the text of this standard.		P
	Plugs and socket-outlets and other connecting devices of interconnection cords shall not be interchangeable with plugs and socket-outlets listed in IEC/TR 60083 or IEC 60906-1, or		N/A
	with connectors and appliance inlets complying with the standard sheets of EN 60320-1,		N/A
	if direct supply to these parts from the supply mains could give rise to a hazard.		N/A
	NOTE Z3 For details of plugs used in CENELEC countries listed in IEC TR 60083 see Annex ZH.		P
	When an EN standard does not exist for a component, there are no additional tests specified.		P
24.Z1	Replacement: Type S2 and S3 capacitors according to EN 60252-1 are not required to undergo the testing as required by 30.2.2 and 30.2.3.1.		N/A
25.1	Addition: Plugs and pins for insertion into socket outlets shall follow the relevant standards sheets in Annex ZH.		P
25.6	Delete the addition.		P
25.7	Delete the existing text starting "Halogen free thermoplastic....." until ".....designation H07ZZ-F). "		N/A
25.25	Replace the second sentence of the first paragraph and add the note: Dimensions of the pins and engagement face of plugs of appliances that are inserted into socket-outlets are to be in accordance with the dimensions of the relevant plug standard.		N/A
	NOTE Z1 Common plugs and socket-outlets types in CENELEC countries as shown in Annex ZH.		N/A

Clause	Requirement - Test	Result - Remark	Verdict
ZA	ANNEX ZA (NORMATIVE) Special national conditions		—
	Denmark, Sweden, Norway and Finland		—
7.12.8	The maximum inlet water pressure shall be at least 1,0 MPa		N/A
	Denmark		—
22.47	The maximum inlet water pressure shall be at least 1,0 MPa		N/A
	Ireland and United Kingdom		—
25.8	In the table, the lines for >10 A and ≤16 A are replaced by:		—
	> 10 and ≤ 13 1,25 (1,0) ^b		N/A
	> 13 and ≤ 16 1,5 (1,0) ^b		N/A
ZB	ANNEX ZB (INFORMATIVE) A-DEVIATIONS		—
	Ireland		—
25.1 and 25.25	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs complying with I.S. 401:1997, or equivalent, to be fitted to domestic appliances		N/A
	United Kingdom		—
25.1 and 25.25	These regulations apply to all plugs for domestic use at a voltage of not less than 200 V and in general allow only plugs to BS 1363 to be fitted to domestic appliances. It also allows plugs to BS 4573 and EN 50075 to be fitted to shavers and toothbrushes		P
ZC	ANNEX ZC (NORMATIVE) NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS		—
	A list of documents referred to in the text of this standard in such a way that some or all of their content constitutes requirements of this document		P
ZD	ANNEX ZD (INFORMATIVE) IEC and CENELEC CODE DESIGNATIONS FOR FLEXIBLE CORDS		—

Clause	Requirement - Test	Result - Remark	Verdict
	Replace Table ZD.1		P
	Add an additional row in the Table ZD.1 of Annex ZD.		N/A
ZF	ANNEX ZF (INFORMATIVE) CRITERIA APPLIED FOR THE ALLOCATION OF PRODUCTS COVERED BY STANDARDS IN THE EN 60335 SERIES UNDER LVD OR MD		—
	Replace the Table ZF.1		P
ZH	ANNEX ZH (INFORMATIVE) Common plug and socket-outlet types in CENELEC countries		—
ZH.1	In general, supply cords of single-phase appliances having a rated current not exceeding 16 A shall be fitted with a plug complying with the following standard sheets:		P
	— for class I appliances or class II appliances with functional earth: standard sheet EU2, EU3 or EU4	EU4	P
	— for class II appliances: standard sheet EU5, EU6 or EU7		N/A
	However, there are some exemptions or differences in certain CENELEC countries		N/A
ZH.2	Plugs according to standard sheet EU2 are not allowed in Belgium, France and the United Kingdom.		N/A
	Plugs according to standard sheet EU3 are not allowed in Austria, Finland, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom.		N/A
ZH.3	Specific country data.		P
ZH.4	List of country codes		P
ZI	ANNEX ZI (INFORMATIVE) Information on the application of A11:2014 to EN 60335-1:2012 CENELEC CLC/TC 61(SEC)2096A		—
	The publication of A11 to EN 60335-1:2012 implies an important change in the application of the dow of this standard and the corresponding Parts 2.		P

<End of Annex II>

Clause	Requirement - Test	Result - Remark	Verdict
The requirements of EN 60335-2-85:2003/A11:2018 + A2:2020			
7.12	Addition: The instructions shall state the substance of the following:		--
	-the fabric steamer must not be left unattended while it is connected to the supply mains		P
	-the fabric steamer is not to be used if it has been dropped, if there are visible signs of damage or if it is leaking		P
	-keep the fabric steamer and its cord out of reach of children less than 8 years of age when it is energized or cooling down.		P
21.Z101	Hand-held appliances are subjected to the following test:		--
	The appliance is filled with water at the maximum indicated level. It is then placed on a horizontal surface 700 mm above a rigidly supported hardwood board and operated while supplied at rated voltage until steady state conditions are reached. It is pulled from the surface by its supply cord and it is then allowed to drop freely. The test is carried out five times, the appliance being held in different positions likely to occur. The appliance shall not be damaged to such an extent that compliance with this standard is impaired. In particular, the appliance shall not emit flames or molten metal and the requirements of Clauses 8 and 29 shall be fulfilled.		P
Annex ZA	Special national conditions:		--
25.3	For Netherlands: Class I electrode-type appliances and class I appliances with bare heating elements shall only be intended to be permanently connected to fixed wiring.		N/A

<End of Annex III>

Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

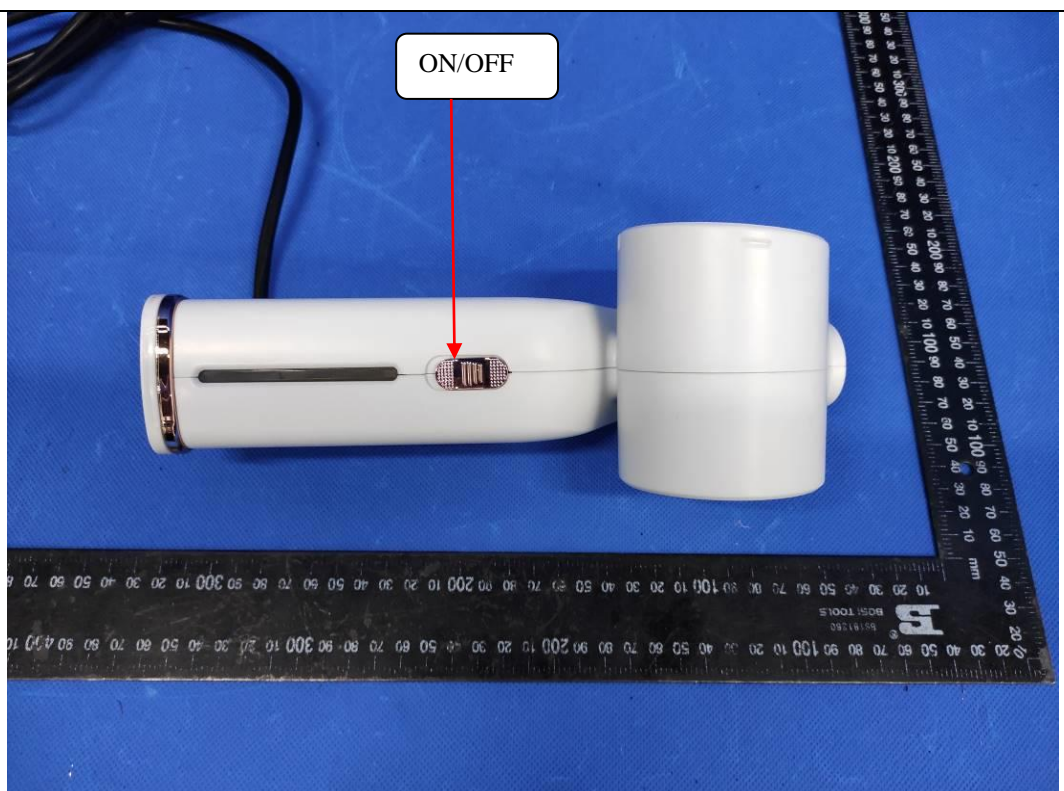
HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: HY-106

View:

☒ [X] general☐ [] front☐ [] rear☐ [] right☐ [] left☐ [] top☐ [] bottomDetail of: HY-139

View:

☐ [] general☐ [] front☐ [] rear☐ [] right☐ [] left☒ [X] top☐ [] bottom

Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

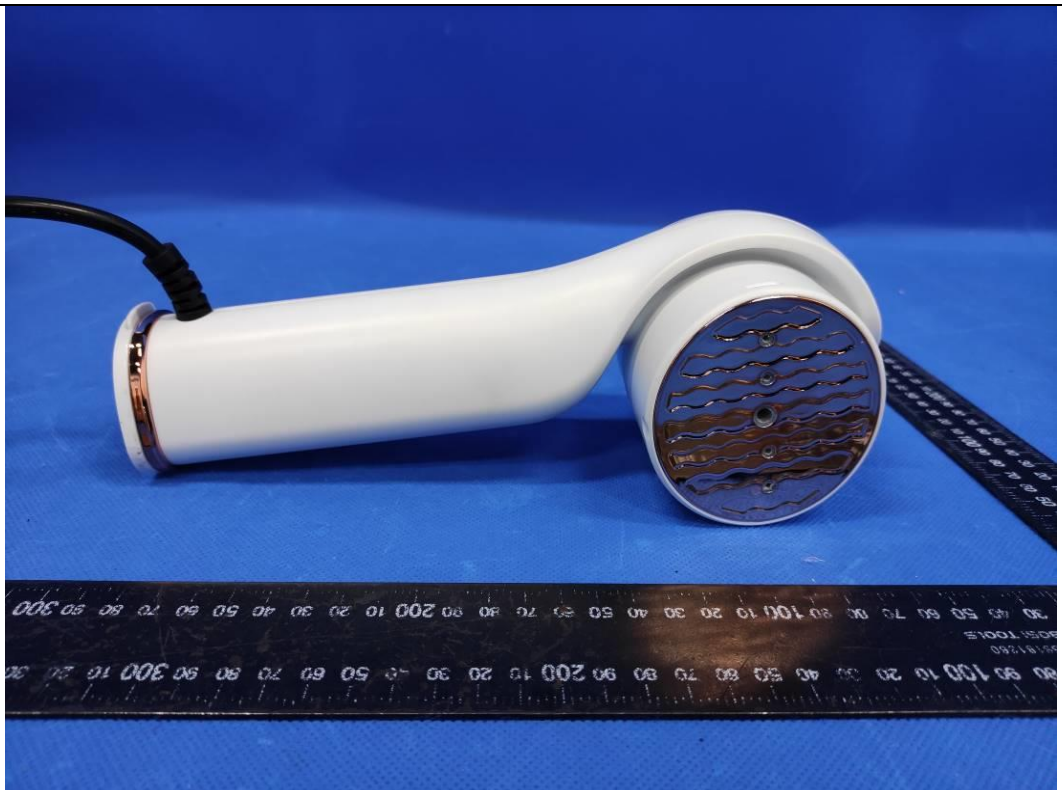
HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: HY-139

View:

☐ general☐ front☐ rear☐ right☒ left☐ top☐ bottomDetail of: HY-139

View:

☐ general☐ front☐ rear☒ right☐ left☐ top☐ bottom

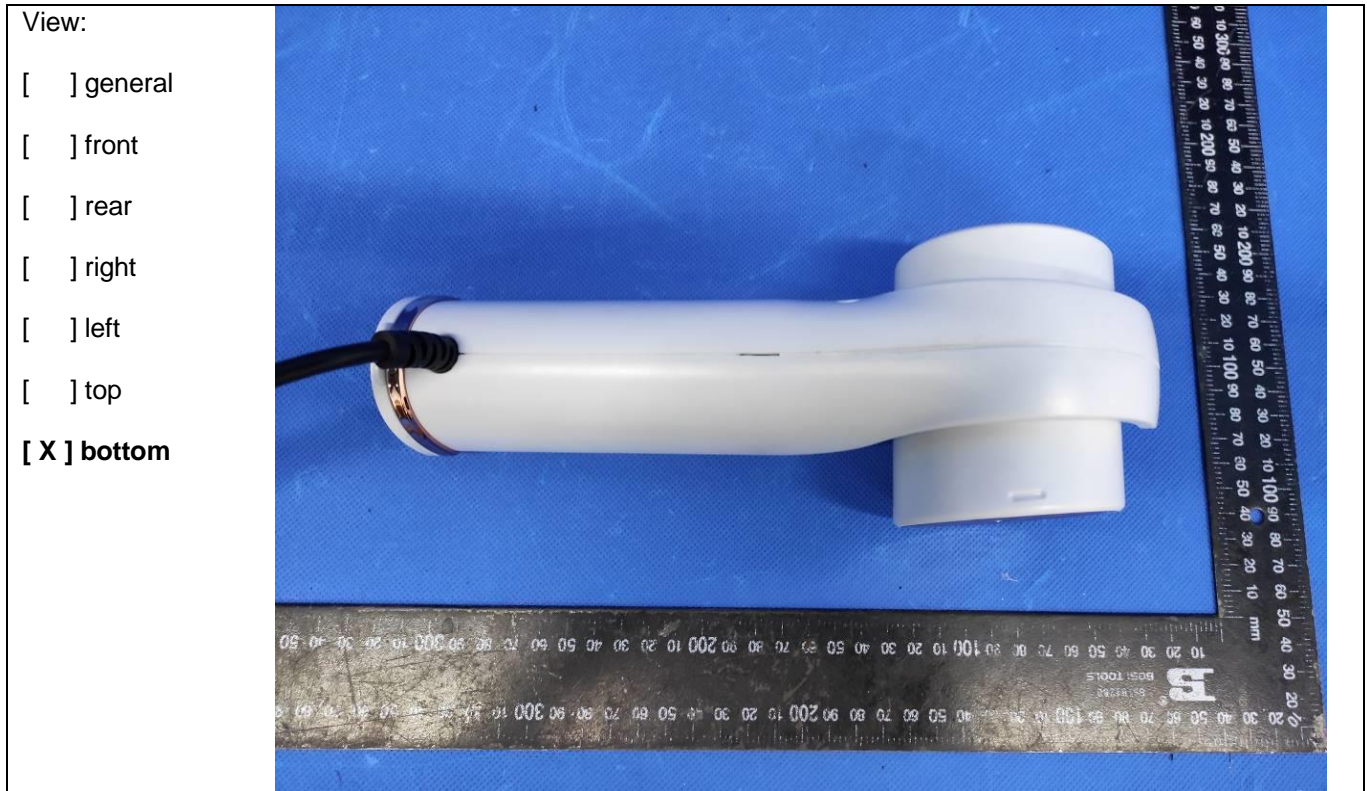
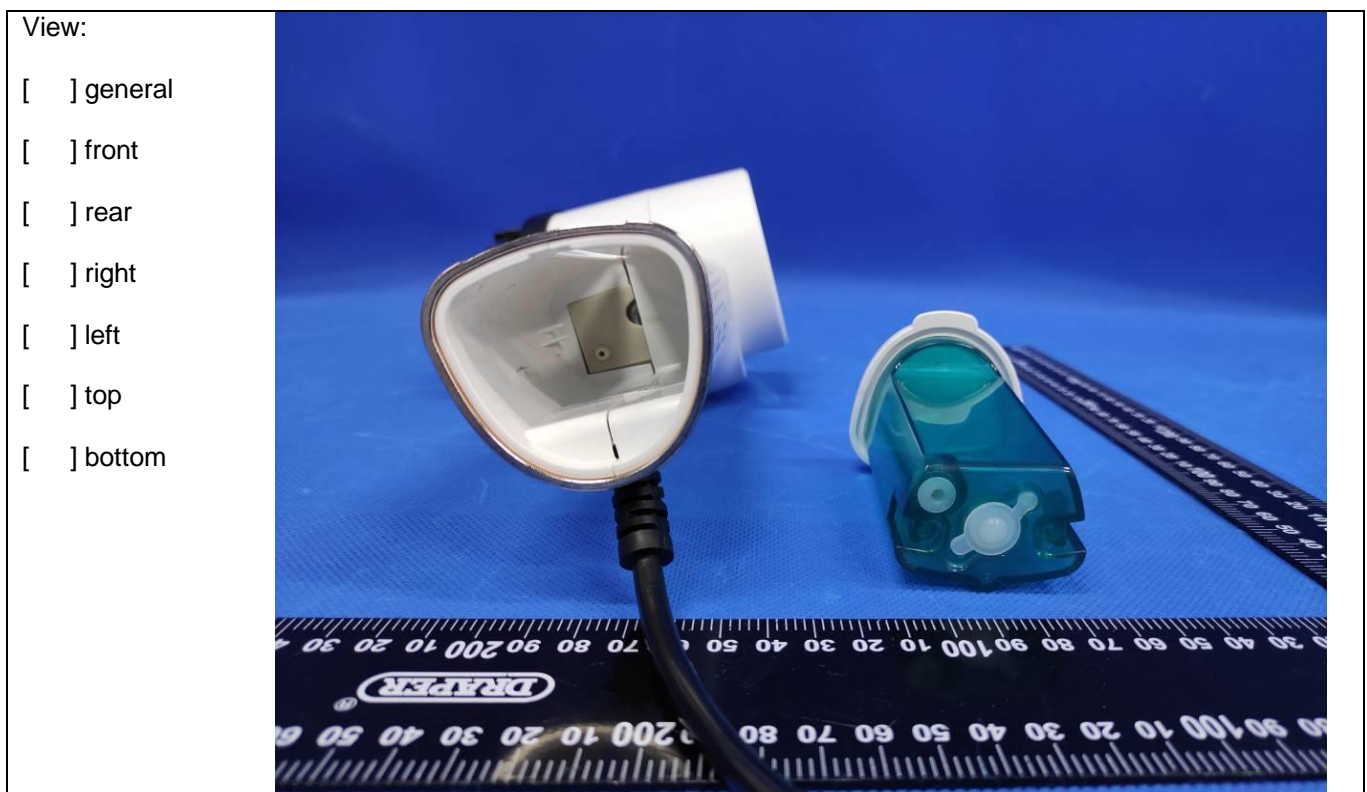
Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

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HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

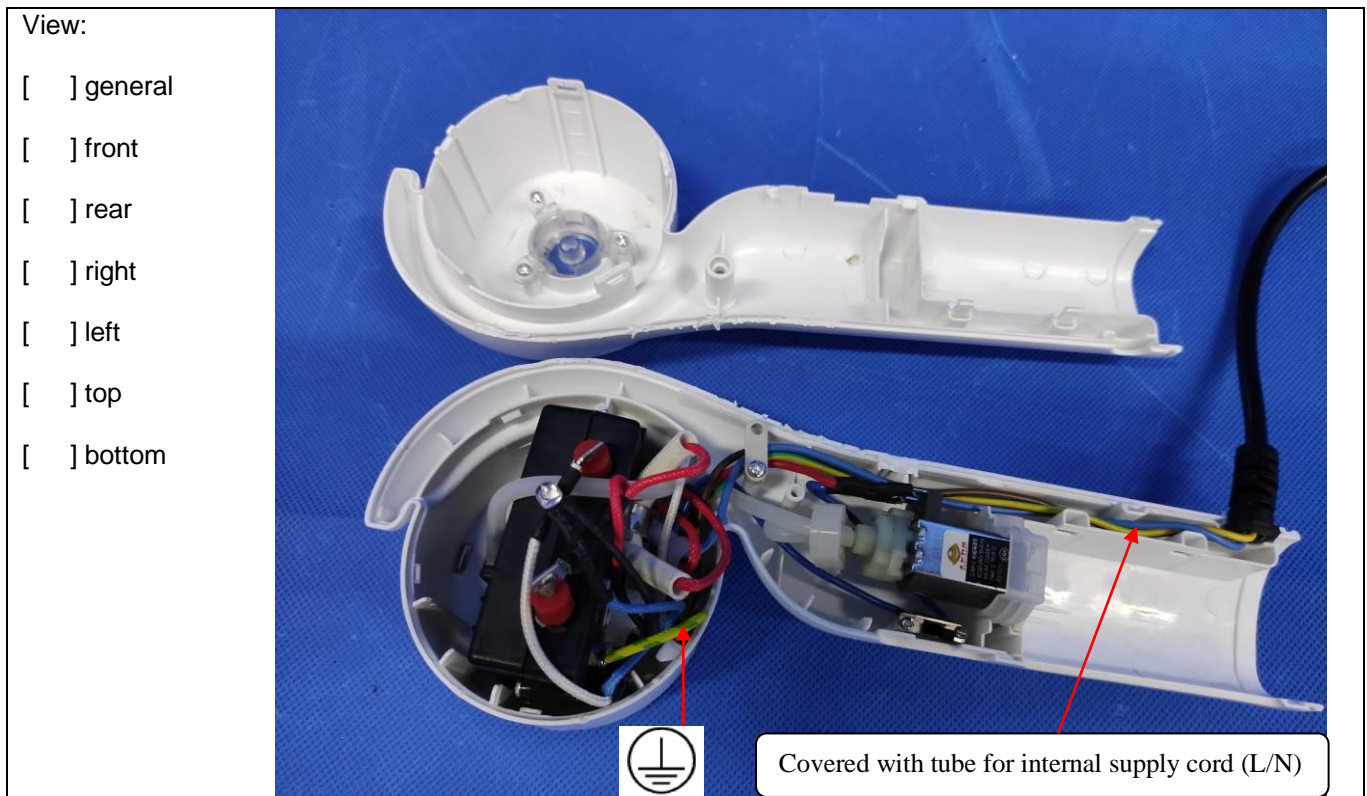
Detail of: HY-139Detail of: Open view for HY-139

Annex IV
Photo documentation
Fabric Steamer (Handle Garment Steamer)

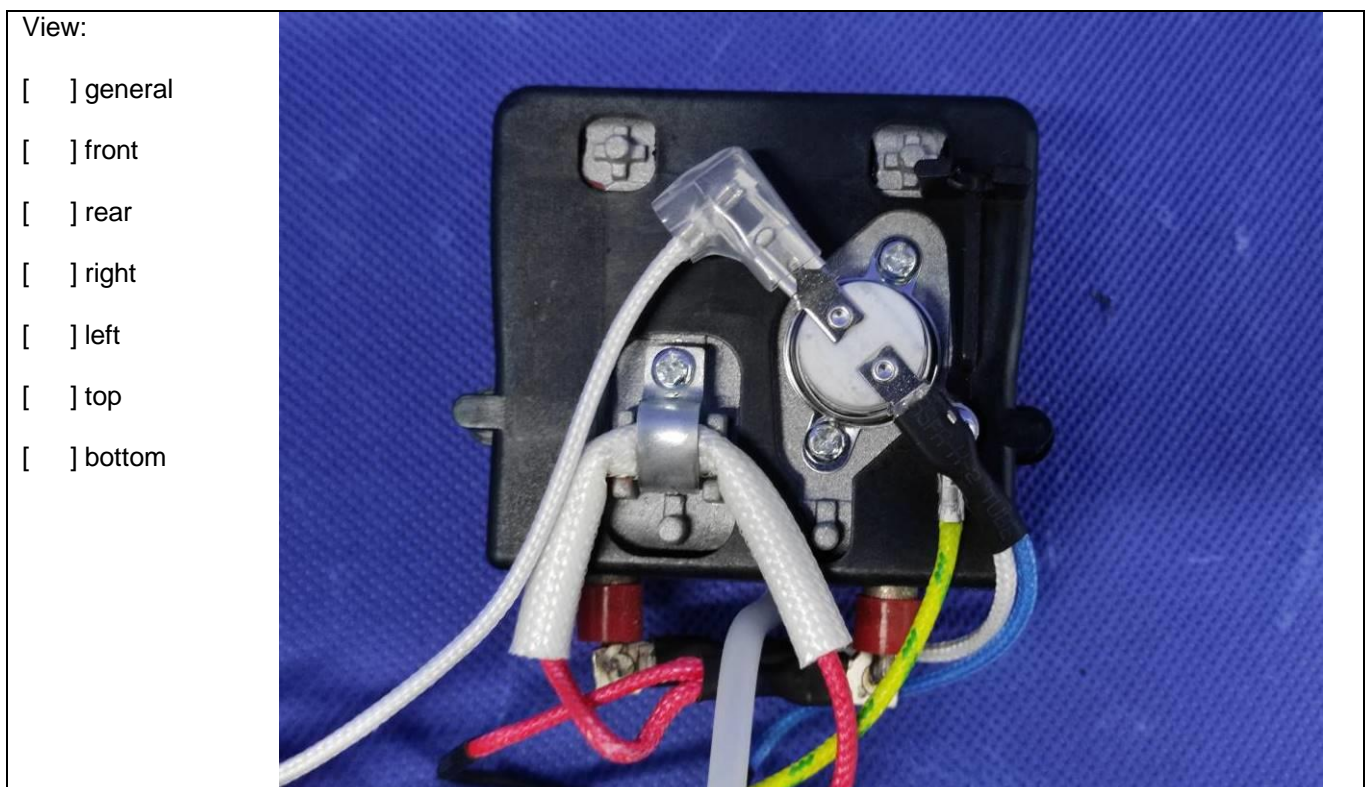
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HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: Open view for HY-139



Detail of: Open view for HY-139



Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

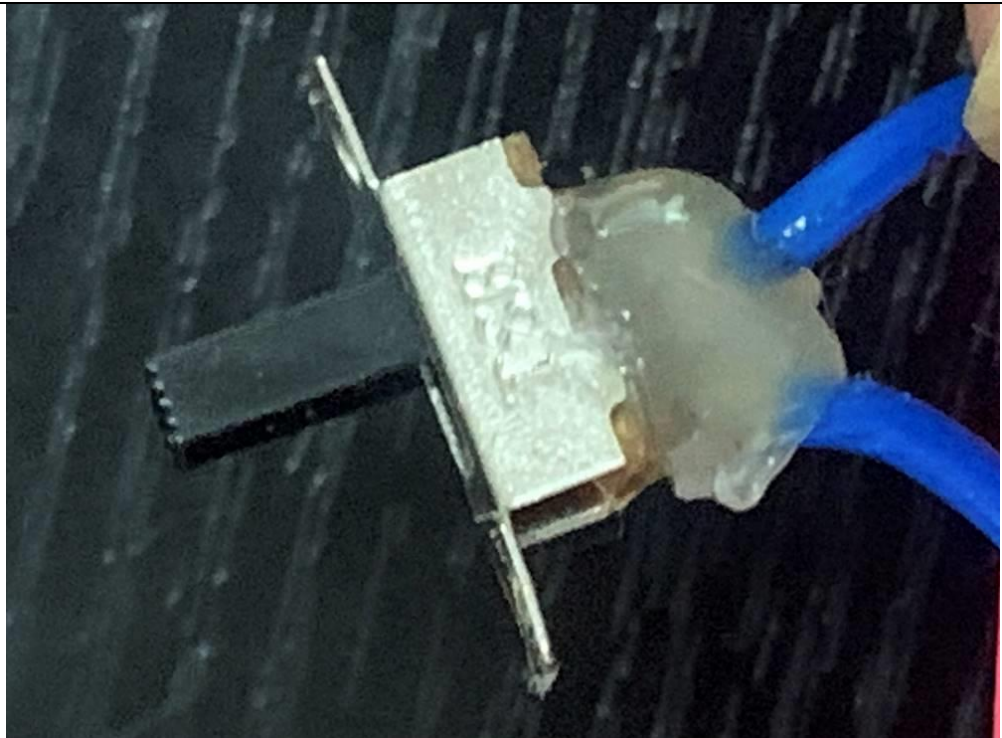
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HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: Open view for HY-139 (power switch)

View:

- ☐ general
☐ front
☐ rear
☐ right
☐ left
☐ top
☐ bottom



Detail of: HY-136

View:

- ☐ general
☐ front
☐ rear
☐ right
☐ left
☒ top
☐ bottom



Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

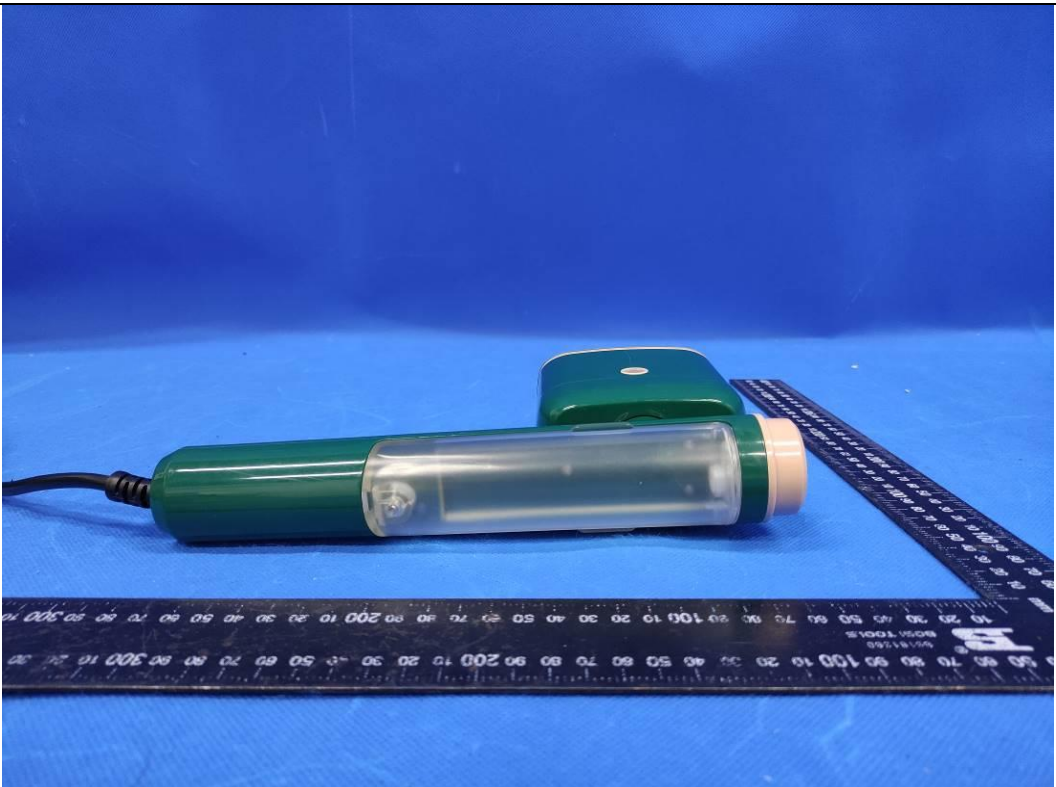
HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: HY-136

View:

☐ general☐ front☐ rear☐ right☒ left☐ top☐ bottomDetail of: HY-136

View:

☐ general☐ front☐ rear☒ right☐ left☐ top☐ bottom

Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

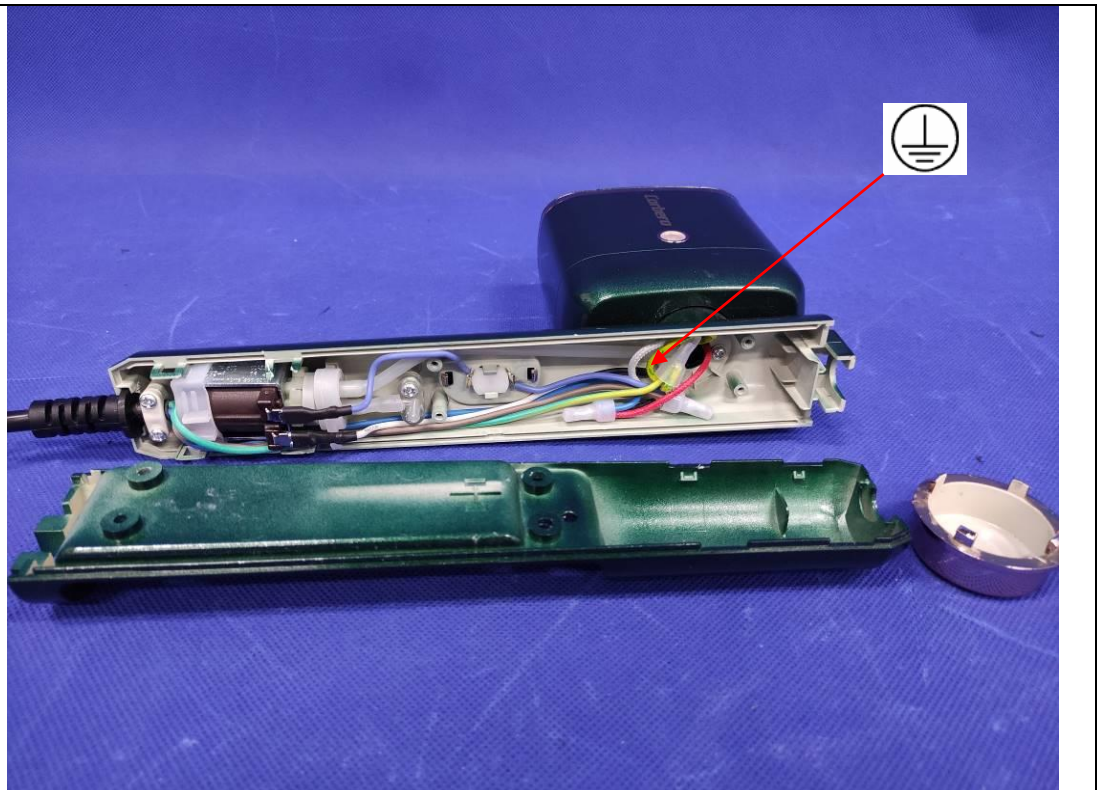
HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: HY-136

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☒ bottomDetail of: Open view for HY-136

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottom

Annex IV
Photo documentation
Fabric Steamer (Handle Garment Steamer)

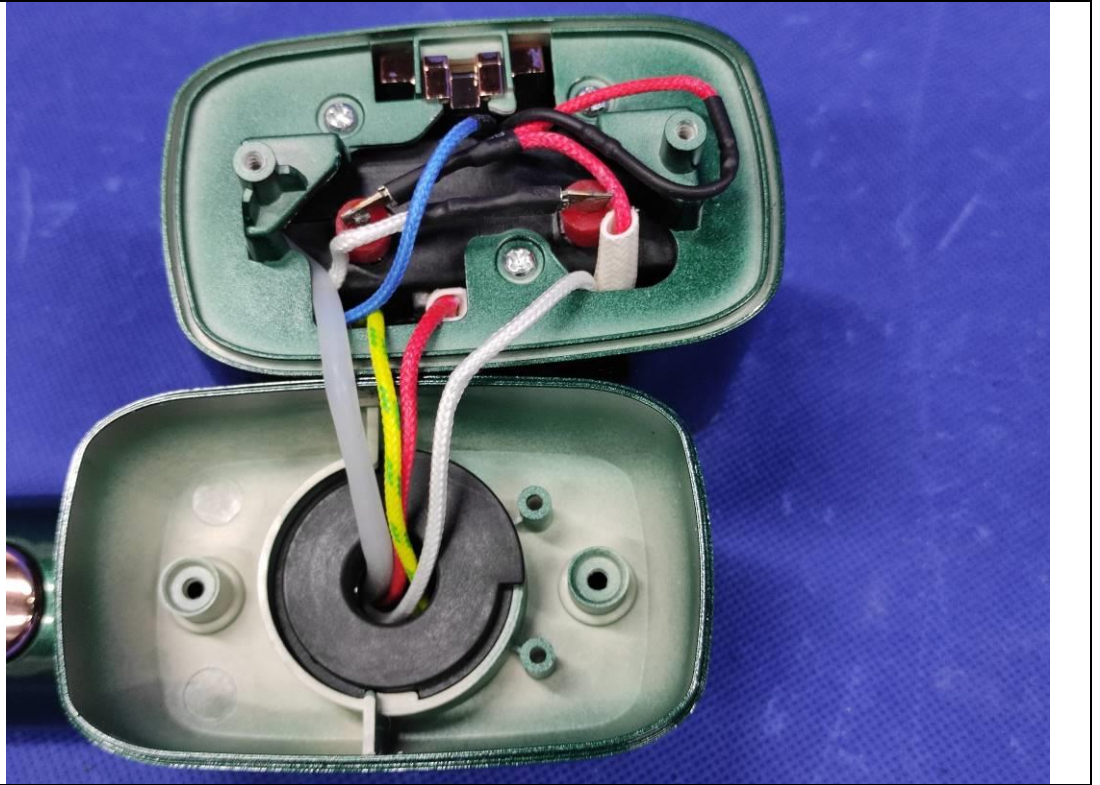
Report No.: NBES181100318003-M1

HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: Open view for HY-136

View:

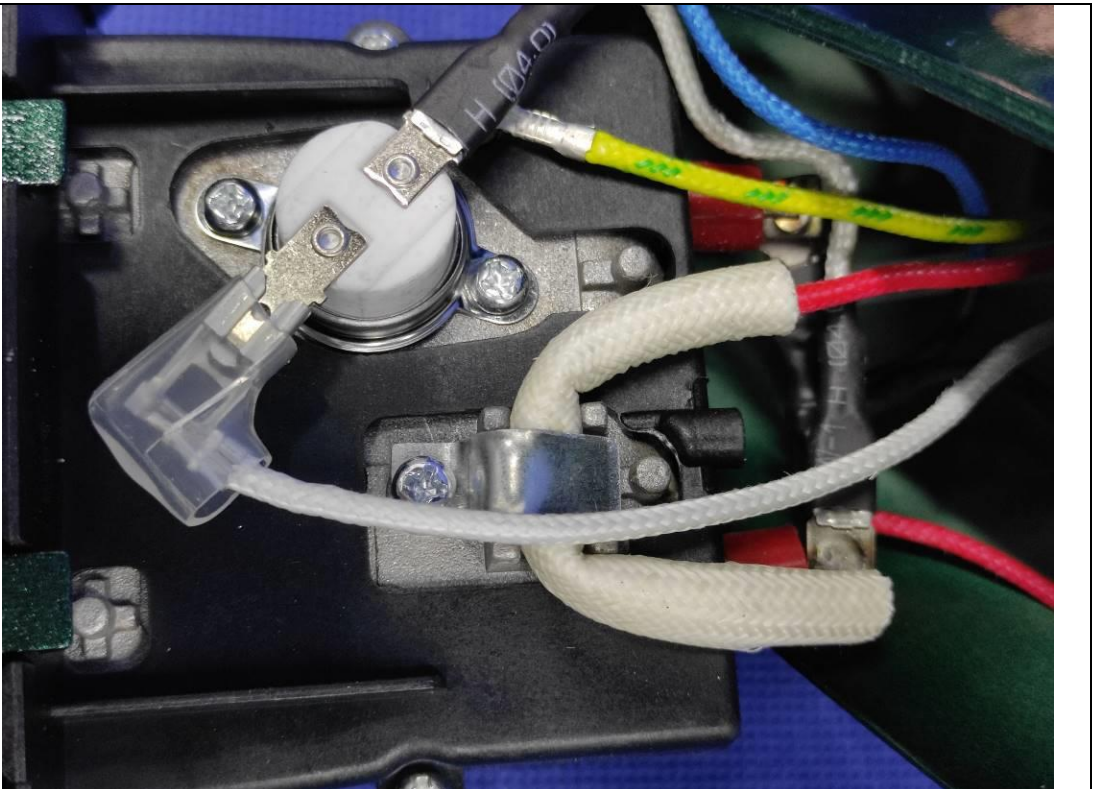
- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Detail of: Open view for HY-136

View:

- ☐ general
- ☐ front
- ☐ rear
- ☐ right
- ☐ left
- ☐ top
- ☐ bottom



Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

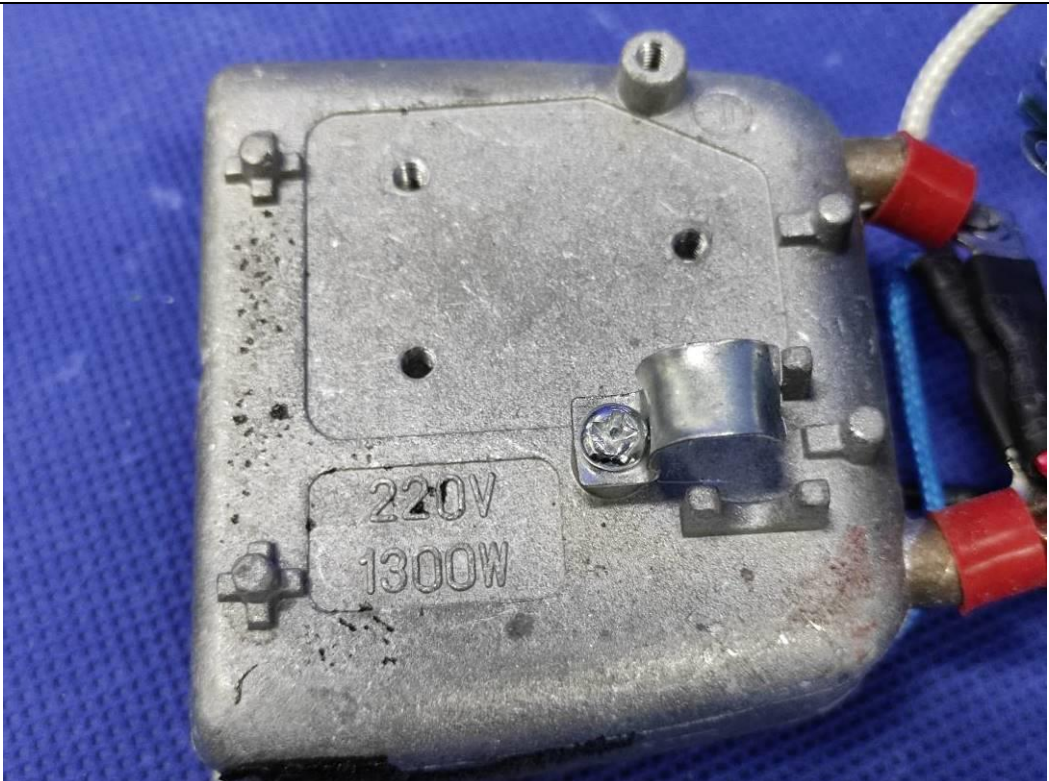
HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: Open view for HY-136 (power switch)

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottomDetail of: Heating element for HY-136, HY-139

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottom

Annex IV

Photo documentation

Fabric Steamer (Handle Garment Steamer)

Report No.: NBES181100318003-M1

HY-106, HY-108, HY-118, HY-119, HY-128, HY-128E, HY-136, HY-139,
HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E

Detail of: Pump (Yijiaao) for HY-136, HY-139

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottomDetail of: Pump (Wells) for HY-136, HY-139

View:

☐ general☐ front☐ rear☐ right☐ left☐ top☐ bottom

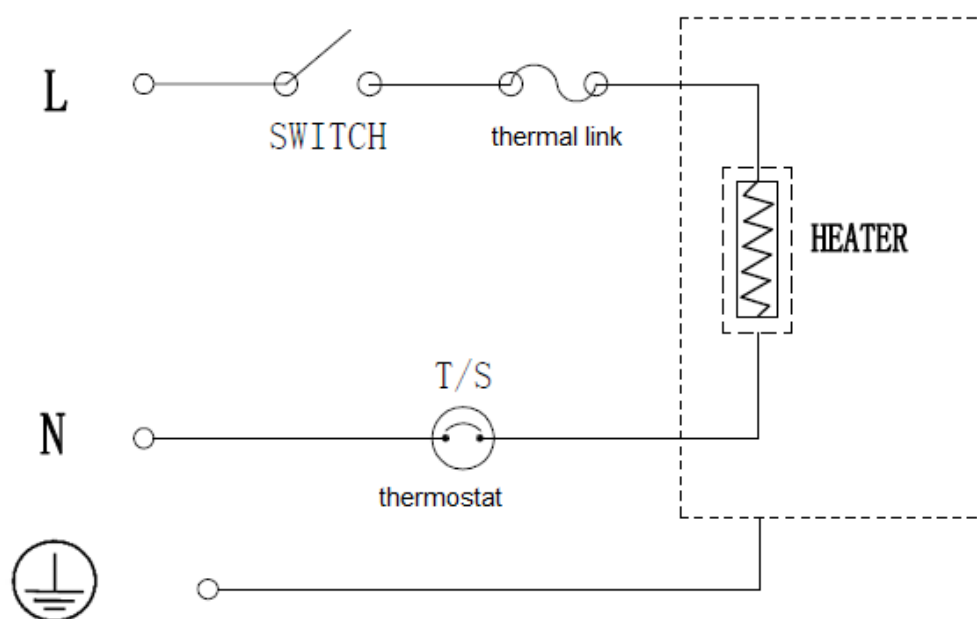
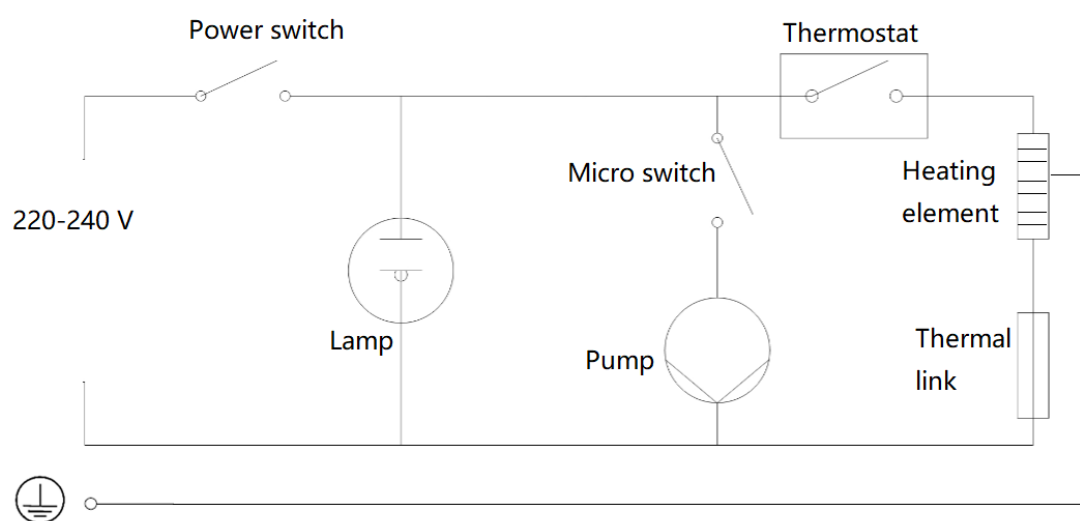
--End of Annex IV--

Annex V**Circuit diagram**

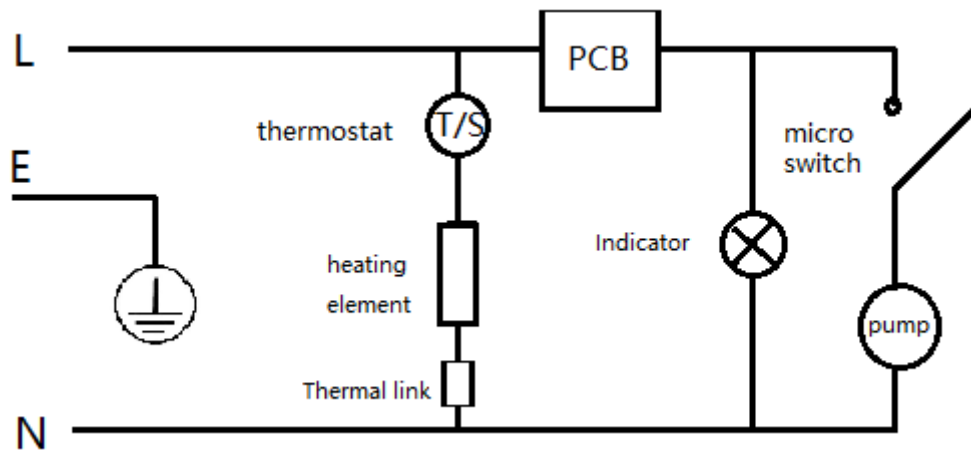
Handheld Garment Steamer

220 V - 240 V; 50 Hz / 60 Hz; Class I;

HY-128, HY-128E, HY-158, HY-158E, HY-168, HY-168E, HY-188, HY-188E: 1640 W;

HY-106, HY-118, HY-108: 880 W; HY-119: 1200 W;**HY-136, HY-139**: 1400 WCircuit diagram for HY-118, HY-108, HY-119, **HY-106**:Circuit diagram for HY-128, HY-158, HY-168, HY-188, **HY-136, HY-139**:

Circuit diagram for HY-128E, HY-158E, HY-168E, HY-188E:



- End of Annex V -