Test Report

Report No	8587907
Client	Regal Care Shower Trays Ltd. Regal House, Smithy Lane, Scarisbrick, L40 8HN
Authority & date	SMO: 8587907, Date: August 9, 2016
Items tested	APRESF Body Dryer with alternative motor
Specification	BS EN 60335-2-23:2003 + A2:2015 used in conjunction with BS EN 60335-1:2012 + A11:2014 and BS EN 62233:2008
Results	A type sample of the above appliance has been tested and examined to the relevant requirements of the above specification and has been found to comply with these requirements, subject to the implementation of any corrective actions detailed in this test report.
Prepared by	 Sam Mason — Senior Test Engineer
Authorised by	Chris Colgan — Technical manager
Issue Date	31/01/2017
Conditions of issue	This Test Report is issued subject to the conditions stated in current issue of 'BSI Terms of Service'. The results contained herein apply only to the particular sample(s) tested and to the specific tests carried out, as detailed in this Test Report. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of BSI, who reserve the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought.

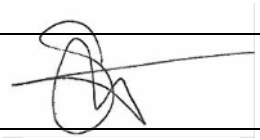
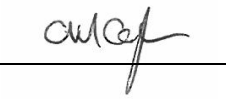
BSI, Holywell Park, Loughborough, Leicestershire, LE11 3AQ Tel: 01509 331133, e-mail: appliances@bsigroup.com

Test Report issued under the responsibility of:
BSI Appliances

TEST REPORT
IEC 60335-2-23
Part 1: Safety of household and similar electrical appliances
Part 2: Particular requirements for appliances for skin or hair care

Report Number..... :	8587907
Date of issue.....:	31/01/2017
Total number of pages.....	34
Applicant's name .....:	Regal Care Shower Trays Ltd.
Address.....:	Regal House, Smithy Lane, Scarisbrick, L40 8HN
Test specification:	
Standard .....:	IEC 60335-2-23:2003 (Fifth edition) (incl. corr.2:2008) + A1:2008 + A2:2012 in conjunction with IEC 60335-1:2010 (Fifth edition) and IEC 62233:2005 (First edition)
Test procedure.....:	N/A
Non-standard test method……..:	N/A
Test Report Form No..... :	IEC60335_2_23G
Test Report Form(s) Originator .....:	VDE
Master TRF.....:	Dated 2012-07

Test item description ..... :	Body dryer for bathroom
Trade Mark .....:	Regal Care Shower Trays Ltd.
Manufacturer.....:	Regal Care Shower Trays Ltd.
Model/Type reference.....:	APRESF BODY DRYER
Ratings.....:	220/240V 12.8A 2.9kW IPX4

Testing procedure and testing location:		
☒	**Testing Laboratory:**	
Testing location/ address.....:		BSI Appliances, Holywell Park Ashby Road Loughborough LE11 3AQ, United Kingdom
☐	~~**Associated CB Laboratory:**~~	
~~Testing location/ address.....:~~		
Tested by (name + signature).....:	Sam Mason Senior test engineer	
Approved by (name + signature) .:	Chris Colgan Technical manager	
☐	~~Testing procedure: TMP~~	
~~Testing location/ address.....:~~		
~~Tested by (name + signature).....:~~		
~~Approved by (name + signature) .:~~		
☐	~~Testing procedure: WMT~~	
~~Testing location/ address.....:~~		
~~Tested by (name + signature).....:~~		
~~Witnessed by (name + signature):~~		
~~Approved by (name + signature) .:~~		
☐	~~Testing procedure: SMT~~	
~~Testing location/ address.....:~~		
~~Tested by (name + signature).....:~~		
~~Approved by (name + signature) .:~~		
~~Supervised by (name + signature):~~		
☐	~~Testing procedure: RMT~~	
~~Testing location/ address.....:~~		
~~Tested by (name + signature).....:~~		
~~Approved by (name + signature) .:~~		
~~Supervised by (name + signature):~~		

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

CENELEC National differences 16 pages

Summary of testing:

Tests performed (name of test and test clause):	**Testing location:**
Partial testing performed to the following clauses of IEC 60335-2-23:2003 (Fifth edition) (incl. corr.2:2008) + A1:2008 + A2:2012 in conjunction with IEC 60335-1:2010 (Fifth edition) : Amendment report covering clauses 10, 11,13,16,19.7,29,30 to approve a new motor. No other clauses have been assessed in this report Motor mounting position is identical to that of appliance tested in TR/13/332 The original test report is TR/13/332 Tested to the full requirements of IEC 62233:2005 (First edition)	BSI Appliances, Holywell Park Ashby Road Loughborough LE11 3AQ, United Kingdom

Summary of compliance with National Differences

List of countries addressed:

CENELEC National differenecs

☒ **The product fulfils the requirements of** EN 60335-2-23:2003 + A1:2008 + A11:2010 used in conjunction with EN 60335-1:2012 ,EN 62233:2008 (incl. Corr.:2008)

Copy of marking plate:

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

Test item particulars ..... :	**Body dryer**
Classification of installation and use ..... :	**Class II**
Supply Connection ..... :	**Supply Cord - 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 ..... :	**30/09/2016**
Date (s) of performance of tests ..... :	**09/12/2016 – 05/01/2017**

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 6.2.5 of IECEE 02:

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..... :

☐ Yes
☒ Not applicable

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) ..... : N/A

General product information:

The APRESF body dryer to dry the body after showering
The system operates via a user operated air switch to activate then the unit blows warm air at the user. The system has two level settings.it is constructed using a white ABS plastic enclosure providing an IPX4 rating.

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		---
	Tests performed according to clause 5, e.g. nature of supply, sequence of testing, etc.		P
6	CLASSIFICATION		---
6.1	Protection against electric shock (IEC 60335-2-23):		---
	- Hairdryers, curling irons, curling combs, facial saunas and other steam-producing or sprayproducing appliances be class II or III (IEC 60335-2-23) ..... :		N/A
	However, fixed hairdryers intended to be permanently connected to fixed wiring, helmet-type hairdryers for hairdressers and steam-producing or spray-producing appliances for hairdressers be class I (IEC 60335-2-23) ..... :		N/A
	- Other appliances be class I, II or III (IEC 60335-2-23) ..... :	Class I	P
6.2	Protection against harmful ingress of water	IPX4	P
	Hand dryers be at least IPX1 (IEC 60335-2-23)		N/A
	Curling rollers of permanent-wave appliances be at least IPX4 (IEC 60335-2-23)		N/A
10	POWER INPUT AND CURRENT		---
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 . :	(see appended table)	P
	Test carried out at upper an 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
	Representative period for appliances incorporating PTC heating elements is 30 min. (IEC 60335-2-23/A2)		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 ..... :	(see appended table)	P
	Test carried out at upper and lower limits of the ranges for appliances with one or more rated voltage ranges, unless		N/A
	the rated current is related to the arithmetic mean value of the range		P
	Representative period for appliances incorporating PTC heating elements is 30 min. (IEC 60335-2-23/A2)		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
11	HEATING		---
11.1	No excessive temperatures in normal use		P
	For appliances incorporating swivel connection, compliance also checked by test of clause 11.101 (IEC 60335-2-23)		N/A
11.2	The appliance is held, placed or fixed in position as described ..... :	Fixed	P
	Appliances intended to be used on a stand or attached to a support placed to give most unfavourable results (IEC 60335-2-23)		P
	Hand-held appliances with an integral rest are also tested when placed on their rest away from the walls of the test corner. (IEC 60335-2-23/A2)		N/A
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) .... :		N/A
	Temperature rise limits exceeded in appliances incorporating motors, transformers or electronic circuits, and power input is lower than rated power input, test repeated with appliance supplied at 1,06 times rated voltage (IEC 60335-2-23)		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 as heating appliances (IEC 60335-2-23)	1.15 x 2900 = 3335W (247.8V)	P
11.7	Appliances without timer operated (IEC 60335-2-23):		---
	- for 30 min, for hand-held appliances (IEC 60335-2-23);		N/A
	- in cycles of 30 s on and 5 s off until steady conditions established, for hand dryers that automatically controlled by presence of hands (IEC 60335-2-23);		N/A
	- Until steady conditions established, for other appliances (IEC 60335-2-23).		P
	Appliances incorporating timer operated in cycles until steady conditions established. Each cycle consists of maximum operating time of timer (min) followed by rest period of 5 s (IEC 60335-2-23) ..... :		N/A
11.8	Temperature rises monitored continuously and not exceeding the values in table 3 ..... :	(see appended table)	P

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	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
	Temperature rise limits of motors, transformers and components of electronic circuits, including parts directly influenced by them, be exceeded when appliance operated at 1,15 times rated power input (IEC 60335-2-23)	Limits not exceeded	P
	Temperature rise of handles of curling irons heated by heater for detachable curlers incorporating a timer determined at end of first cycle (IEC 60335-2-23)		N/A
11.101	Appliances incorporating a swivel connection positioned with their major axis horizontal, supply cord hanging vertically. Pull force of 1 N applied to supply cord (IEC 60335-2-23)		N/A
	Appliance supplied at rated voltage, current being 1,25 times rated current (IEC 60335-2-23)		N/A
	Appliance rotated about its major axis at rate of approximately 50 rev/min, direction of rotation being reversed every 20 rev. Test carried out for 1500 rev (IEC 60335-2-23)		N/A
	Temperature rise of sliding contacts not exceed 65 K (IEC 60335-2-23)		N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		---
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1,15 times the rated power input (W) ..... :		N/A
	Motor-operated appliances and combined appliances supplied at 1,06 times the rated voltage (V) ..... :	254.4V	P
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990		N/A
	For other appliances, a low impedance ammeter may be used		P
	Leakage current measurements..... :	(see appended table)	P

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4 ..... :	(see appended table)	P
	No breakdown during the tests		P
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) ..... :	254.4	P
	Three-phase appliances: test voltage 1,06 times rated voltage divided by √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		P
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		P
	- 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
	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		---
19.7	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
	capacitor is of class P2 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
	Test carried out for 5 min except for (IEC 60335-2-23):		---

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	- hand-held appliances (IEC 60335-2-23);		N/A
	- appliances have to be kept switched on by hand (IEC 60335-2-23);		N/A
	- appliances incorporating a timer (IEC 60335-2-23).		N/A
	Other appliances supplied with rated voltage for a period as specified..... :		N/A
	Winding temperatures not exceeding values specified in table 8 ..... :	(see appended table)	P
	- 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
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9 ..... :	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		P
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		---
	- basic insulation (V) ..... :	1000	P
	- supplementary insulation (V) ..... :		N/A
	- 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:		N/A
	- 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:		---

IEC 60335-2-23			
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
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
	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 1500 V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
	Impulse voltage test is not applicable:		---
	- when the microenvironment is pollution degree 3, or		N/A
	- for basic insulation of class 0 and class 01 appliances		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		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	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 :		N/A
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		N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		---
	- 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		N/A
	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		P
	However, clearances at crossover points are not measured		P
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		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

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	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
	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		P
	- precautions taken to protect the insulation; pollution degree 1		N/A
	- insulation subjected to conductive pollution; pollution degree 3		N/A
	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
	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		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..... :		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	Table 2 of IEC 60664-4, as applicable..... :		N/A
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..... :		P
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		P
	- by an electric strength test in accordance with 29.3.2, or		N/A
	- 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
	- 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
	Curling irons, distance through insulation between metal parts separated by supplementary insulation reduced to 0,6 mm, provided that distance through basic insulation at least 1 mm (IEC 60335-2-23)		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm		N/A
	Reinforced insulation have a thickness of at least 2 mm		P
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
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

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	If the temperature rise during the tests of clause 19 does not exceed the value specified in table 3, the test of IEC 60068-2-2 is not carried out		N/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,		N/A
	parts supporting live parts, and		P
	parts of thermoplastic material providing supplementary or reinforced insulation		N/A
	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) ..... :		N/A
	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)	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
	Hand dryers and hairdryers, temperature rises occurring during tests of clause 19 not taken into account (IEC 60335-2-23)		N/A
30.2	Parts of non-metallic material resistant to ignition and spread of fire		P
	This requirement does not apply to:		---
	parts having a mass not exceeding 0,5 g, provided the cumulative effect is unlikely to propagate flames that originate inside the appliance by propagating flames from one part to another, or		N/A
	decorative trims, knobs and other parts unlikely to be ignited or to propagate flames that originate inside the appliance		N/A
	Compliance checked by the test of 30.2.1, and in addition:		P
	- for attended appliances, 30.2.2 applies		P
	- for unattended appliances, 30.2.3 applies		N/A
	Heaters for detachable curlers, 30.2.3 is applicable (IEC 60335-2-23)		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	Other appliances, 30.2.2 is applicable (IEC 60335-2-23)		P
	For appliances for remote operation, 30.2.3 applies		N/A
	For base material of printed circuit boards, 30.2.4 applies		N/A
30.2.1	Parts of non-metallic material subjected to the glow-wire test of IEC 60695-2-11 at 550 °C		P
	However, test not carried out if the material is classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 550 °C, or		N/A
	the material is classified at least HB40 according to IEC 60695-11-10		N/A
	Parts for which the glow-wire test cannot be carried out need to meet the requirements in ISO 9772 for material classified HBF		N/A
30.2.2	Appliances operated while attended, parts of non-metallic material supporting current-carrying connections, and		P
	parts of non-metallic material within a distance of 3 mm of such connections,		P
	subjected to the glow-wire test of IEC 60695-2-11		P
	The test severity is:		---
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation		P
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least:		---
	- 750 °C, for connections carrying a current exceeding 0,5 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		---
	- comprise material having a glow-wire flammability index of at least 750 °C, or 650 °C as appropriate, or		N/A
	- comply with the needle-flame test of annex E, or		N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10..... :		N/A
	Glow-wire test not applicable to conditions as specified..... :		N/A
30.2.3	Appliances operated while unattended, tested as specified in 30.2.3.1 and 30.2.3.2		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	The tests are not applicable to conditions as specified..... :		N/A
30.2.3.1	Parts of non-metallic material supporting connections carrying a current exceeding 0,2 A during normal operation, and		N/A
	parts of non-metallic material, other than small parts, within a distance of 3 mm,		N/A
	subjected to the glow-wire test of IEC 60695-2-11 with a test severity of 850 °C		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	The glow-wire test is not carried out on parts of material classified as having a glow-wire flammability index according to IEC 60695-2-12 of at least 850 °C		N/A
30.2.3.2	Parts of non-metallic material supporting connections, and		N/A
	parts of non-metallic material within a distance of 3 mm,		N/A
	subjected to glow-wire test of IEC 60695-2-11		N/A
	The test severity is:		---
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	Glow-wire applied to an interposed shielding material, if relevant		N/A
	However, the glow-wire test of 750 °C or 650 °C as appropriate, is not carried out on parts of material fulfilling both or either of the following classifications:		---
	- a glow-wire ignition temperature according to IEC 60695-2-13 of at least:		N/A
	- 775 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 675 °C, for other connections		N/A
	- a glow-wire flammability index according to IEC 60695-2-12 of at least:		N/A
	- 750 °C, for connections carrying a current exceeding 0,2 A during normal operation		N/A
	- 650 °C, for other connections		N/A
	The glow-wire test is also not carried out on small parts. These parts are to:		---
	- comprise material having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- comprise material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
	- comply with the needle-flame test of annex E, or		N/A
	- comprise material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
	The consequential needle-flame test of annex E applied to non-metallic parts that encroach within the vertical cylinder placed above the centre of the connection zone and on top of the non-metallic parts supporting current-carrying connections, and parts of non-metallic material within a distance of 3 mm of such connections if these parts are those:		---
	- parts that withstood the glow-wire test of IEC 60695-2-11 of 750 °C or 650 °C as appropriate, but produce a flame that persist longer than 2 s, or		N/A
	- parts that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts, that comprised material having a glow-wire flammability index of at least 750 °C or 650 °C as appropriate, or		N/A
	- small parts for which the needle-flame test of annex E was applied, or		N/A
	- small parts for which a material classification of V-0 or V-1 was applied		N/A
	However, the consequential needle-flame test is not carried out on non-metallic parts, including small parts, within the cylinder that are:		---
	- parts having a glow-wire ignition temperature of at least 775 °C or 675 °C as appropriate, or		N/A
	- parts comprising material classified as V-0 or V-1 according to IEC 60695-11-10, or		N/A
	- parts shielded by a flame barrier that meets the needle-flame test of annex E or that comprises material classified as V-0 or V-1 according to IEC 60695-11-10		N/A
30.2.4	Base material of printed circuit boards subjected to the needle-flame test of annex E		N/A
	Test not applicable to conditions as specified ..... :		N/A
30.101	Helmet-type hairdryers be resistant to fire (IEC 60335-2-23)		N/A
	Compliance checked by inspection and by applying needle-flame test of annex E to (IEC 60335-2-23):		---
	- parts of non-metallic material enclosing heating element and other electrical components (IEC 60335-2-23);		N/A
	- non-metallic parts within the enclosure (IEC 60335-2-23).		N/A
	Needle-flame test not carried out on material classified as V-0 or V-1 according to IEC 60695-11-10, provided that test sample not thicker than relevant part (IEC 60335-2-23)		N/A

IEC 60335-2-23			
Clause	Requirement - Test	Result - Remark	Verdict
32	RADIATION, TOXICITY AND SIMILAR HAZARDS		---
	Appliance does not emit harmful radiation or present a toxic or similar hazard due to their operation in normal use		P
	Compliance is checked by the limits or tests specified in part 2, if relevant		N/A

EMF			
	The Tested product also complies to the requirements of IEC 62233		—
	Measuring distance (cm).....:	30	P
	Background level (%) .....:	1	P
	Limit ……100%	Measured max. : 8 %	P

IEC 60335-2-23

10.1	**TABLE: Power input deviation**				P
Input deviation of/at:	P rated (W)	P measured (W)	ΔP (W, %)	Required ΔP (W, %)	Remark
220V	2900	2630	-270W -9.5%	+5 % or 20W (whichever is the greater) –10 %	PASS
240V	2900	3030	+130W +4.5%	+5 % or 20W (whichever is the greater) –10 %	PASS
Supplementary information:					

10.2	**TABLE: Current deviation**				P
Current deviation of/at:	I rated (A)	I measured (A)	ΔI (A, %)	Required ΔI (A, %)	Remark
220V	12.8	11.9	-0.9A -7%	+5 % or 0,10 A (whichever is the greater) –10 %	PASS
240V	12.8	13	+0.2A +1.6%	+5 % or 0,10 A (whichever is the greater) –10 %	PASS
Supplementary information:					

11.8	TABLE: Heating test, thermocouple measurements		P
	Test voltage (V) ..... :	247.8V	—
	Ambient (°C) ..... :	23	—

Thermocouple locations	Max. temperature rise measured, ΔT (K)	Max.temperature rise limit, ΔT (K)
Ambient	---	---
Grey Bobbin plastic	54	Clause 30
Black motor plastic	17	Clause 30
Thermal cut out ambient	13	30
Internal wiring	14	50
Plastic enclosure internal temp	8	Clause 30
Floor	3	60
wall	4	60
wall	4	60
Ceiling	3	60
Supplementary information:		

11.8	TABLE: Heating test, resistance method			P
	Test voltage (V) ..... :	240		—
	Ambient, t1 (°C) ..... :	23		—
	Ambient, t2 (°C) ..... :	23		—

Temperature rise of winding	R1 (□)	R2 (□)	ΔT (K)	Max. ΔT (K)	Insulation class
Fan winding	35.2	48.4	96.6	115	F
Supplementary information:					

13.2	TABLE: Leakage current		P
	Heating appliances: 1,15 x rated input (W) ..... :	N/A	—
	Motor-operated and combined appliances: 1,06 x rated voltage (V) ..... :	254.4	—

Leakage current between	I (mA)	Max. allowed I (mA)
Live supply and accessible surfaces of insulating material	0.02	0.35
Supplementary information:		

IEC 60335-2-23

13.3	**TABLE: Electric strength**		P
Test voltage applied between:		Voltage (V)	Breakdown (Yes/No)
Live parts and earthed metal parts		1000	No
Live parts and accessible insulating parts		3000	No
Supplementary information:			

16.2	**TABLE: Leakage current**		P
	Single phase appliances: 1,06 x rated voltage (V) ..... :	254.4	—
	Three phase appliances 1,06 x rated voltage divided by √3 (V)..... :	N/A	—
Leakage current between		I (mA)	Max. allowed I (mA)
live parts and metal foil having an area not exceeding 20 cm × 10 cm which is in contact with accessible surfaces of insulating material		0.01	7
Supplementary information:			

16.3	**TABLE: Electric strength**		P
Test voltage applied between:		Voltage (V)	Breakdown (Yes/No)
Live parts and earthed metal parts		1250	No
Live parts and accessible insulating parts		3000	No
Supplementary information:			

IEC 60335-2-23

19	**Abnormal operation conditions**	P

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

Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2							
19.3							
19.4							
19.5							
19.6							
19.7	240V Locked rotor	Resistance method showed no overheating	N/A	N/A	N/A	N/A	PASS
19.8							
19.9							
19.10							
19.11.2							
19.11.4.8							
19.10X							
Supplementary information:							

19.7	**TABLE: Abnormal operation, locked rotor/moving parts**		P
	Test voltage (V) ..... :	240	—
	Ambient, t1 (°C) ..... :	20	—
	Ambient, t2 (°C) ..... :	20	—

Temperature of winding	R1 (□)	R2 (□)	ΔT (K)	T (°C)	Max. T (°C)
Fan winding	35.2	38.3	22.4	42.4	240
Supplementary information:					

IEC 60335-2-23

19.13	TABLE: Abnormal operation, temperature rises	P

Thermocouple locations	Max. temperature rise measured, ΔT (K)	Max.temperature rise limit, ΔT (K)
Wood – floor	3	150
Wood – ceiling	2	150
Wood – wall	2	150
Wood – wall	2	150
Supplementary information:		

24.1	TABLE: Components information	P

Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity[1])
Motor	Power Motor	PU.8040230-0111	1.rated voltage:220~240/50hZ/60Hz 2.insulation class:class F	BS EN 60335-2-23+A2:2015	Tested in appliance

Supplementary information:

[1]) Provided evidence ensures the agreed level of compliance. See OD-CB2039.

29.1	TABLE: Clearances	P

	Overvoltage category .....:	II	—

		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark
330	0,2* / 0,5 / 0,8**					
500	0,2* / 0,5 / 0,8**					
800	0,2* / 0,5 / 0,8**					
1 500	0,5 / 0,8** / 1,0***					
2 500	**1,5 / 2,0*** **	9.8	26		41	PASS
4 000	3,0 / 3,5***			>30		
6 000	5,5 / 6,0***					
8 000	8,0 / 8,5***					
10 000	11,0 / 11,5***					

Supplementary information:

*) For tracks on printed circuit boards if pollution degree 1 and 2
**) For pollution degree 3
***) If the construction is affected by wear, distortion, movement of the parts or during assembly

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*)	B**)	S**)	R**)	Verdict
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		—	—	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		
250	0,56	1,25	1,8	**2,5**	3,2	3,6	4,0	11	—	—	
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—	N/A	—	
250	1,12	2,5	3,6	**5,0**	6,4	7,2	8,0	—	—	>100	PASS
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		

>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		

Supplementary information:

*) 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	
50	0,16	0,56	0,8	1,0	1,4	1,6	1,8	
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	
250	0,42	1,0	1,4	**2,0**	2,5	2,8	3,2	41mm/PASS
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	

Supplementary information:

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

30	**TABLE: Resistance to heat and fire**																			
Object/ part No.	Manufacturer/ trademark	Type/ model	Ball pressure test °C				Glow wire test (GWT) °C					Glow-wire flammability index (GWFI) °C				Glow- wire ignition temp. (GWIT) °C		Needle - flame test (NFT)	Verdict
			75	125	cl. 11 +40	cl. 19 +25	550	650		750		850	550	650	750	850	675	775		
								te	ti	te	ti									
Motor black plastic	Power motor			P			P			0	0									PASS
Motor grey plastic	Power motor			P			P			0	0									PASS

Supplementary information:

[1] Parts of material classified at least HB40 or if relevant HBF
[2] Parts of material classified as V-0 or V-1
[3] Flame persisting longer than 2 s (= $t_e - t_i$) need only be reported for unattended appliances
[4] Surrounding parts subjected to the needle-flame test of annex E
[5] Base material classified as V-0 or if relevant VTM-0
[6] The GWIT pre-selection option, the 850 °C GWFI pre-selection option, and the 850 °C GWT are not applicable for attended appliances

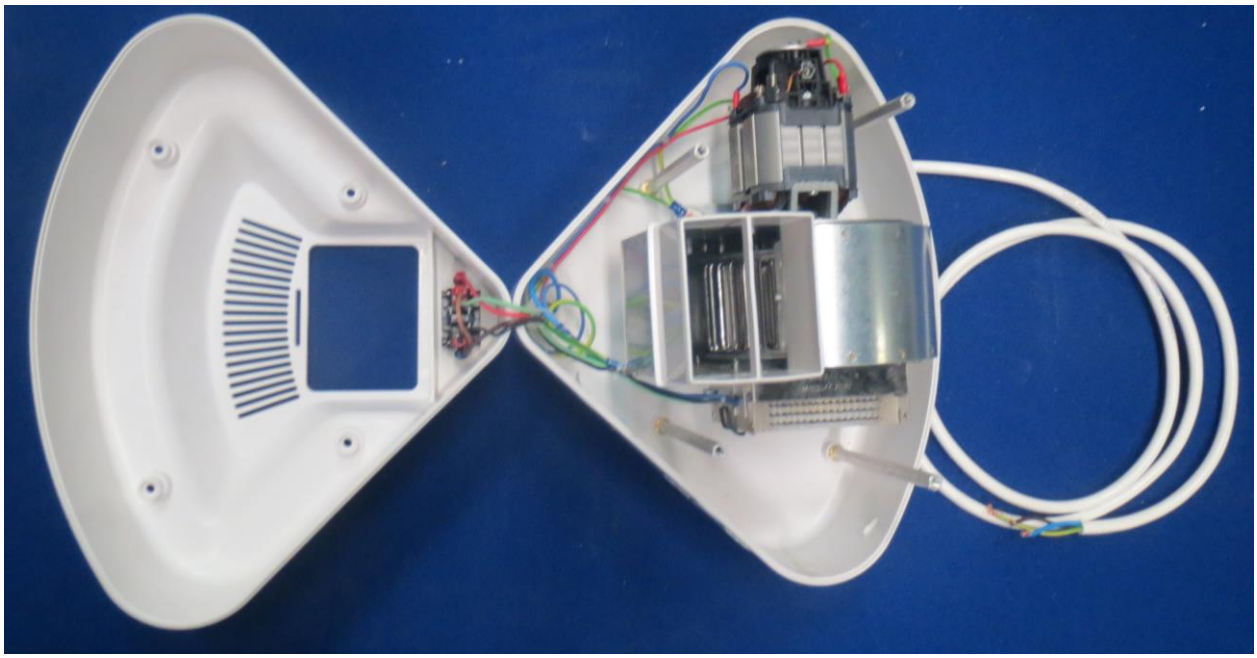
Photographs

Appliance underside view

Appliance top profile view

Photographs

Interview view

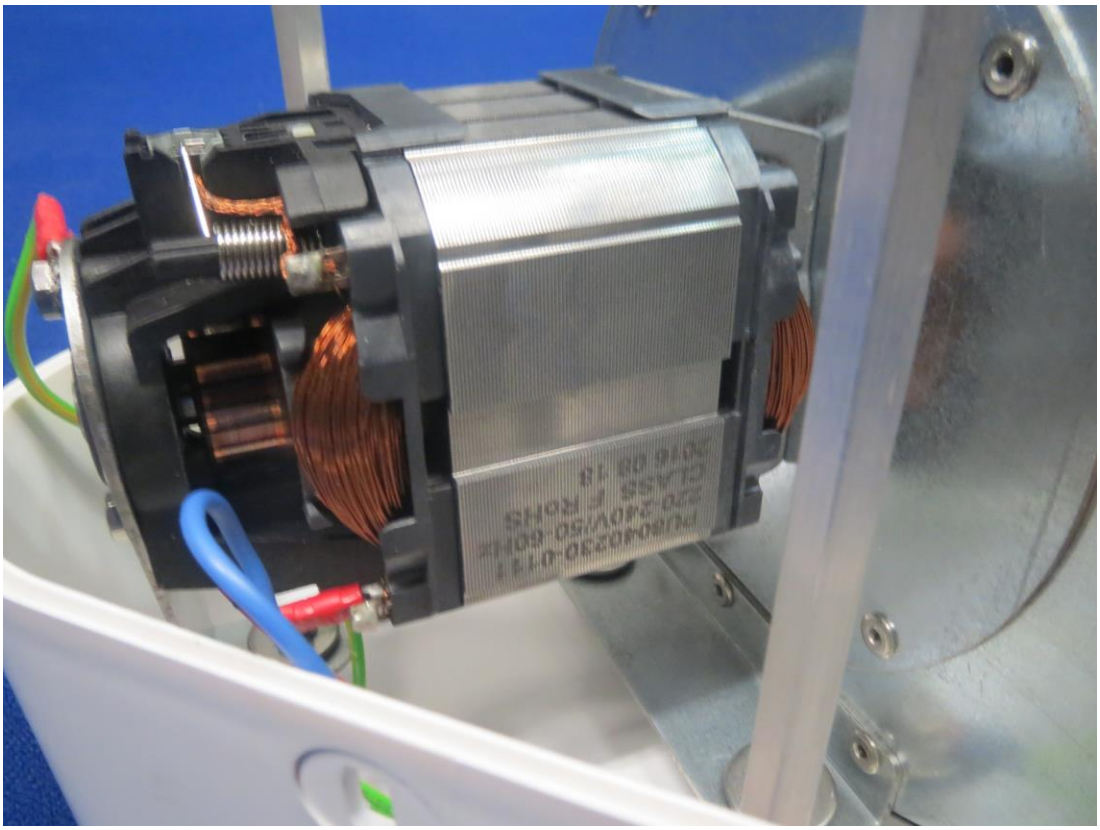


Switch

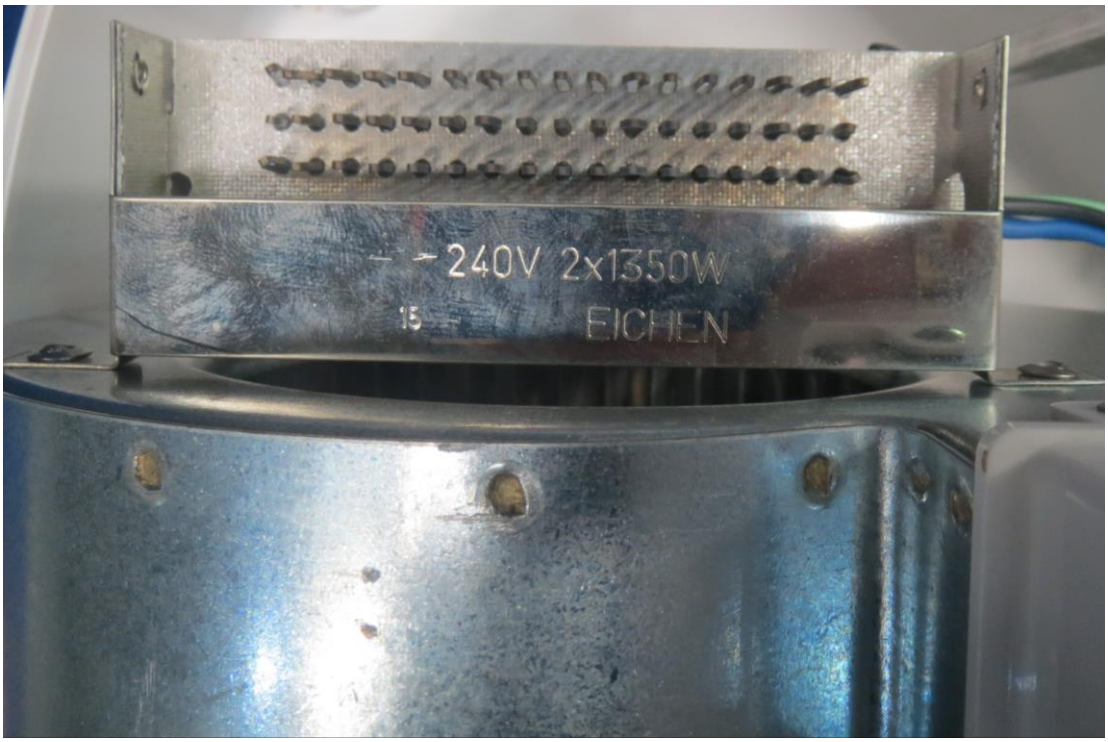

6872-DG0-U126
21A 250V AC
www.herga.com (1181)

Photographs

Fan body



Heating element top profile



Photographs

Legs and foot plate

Wall mounting bracket

IEC 60335-2-23

IEC60335_2_23G - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60335-2-23
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Part 2-23: Particular requirements for appliances for skin or hair care

Differences according to .....:	EN 60335-2-23:2003 + A1:2008 + A11:2010 used in conjunction with EN 60335-1:2012 (EN 62233:2008 (incl. Corr.:2008)
Attachment Form No. .....:	EU_GD_IEC60335_2_23G
Attachment Originator.....:	VDE
Master Attachment .....:	Date (2012-07)

EN 60335-1, EN 60335-2-23			
Clause	Requirement – Test	Result – Remark	Verdict
	Group/CENELEC Common Differences to IEC 60335-1, IEC 60335-2-23		---
6.1	Delete “class 0” and “class 01”		P
11.8	In Table 3 delete the row “External enclosure of motor-operated appliancesexcept handles held in normal use". (EN 60335-2-23/A11)		N/A
32	Compliance regarding electromagnetic fields is checked according to EN 50366 or EN 62233		P