



Test Report issued under the responsibility of:



TEST REPORT IEC 60335-2-14 Household and similar electrical appliances – Safety – Part 2-14: Particular requirements for kitchen machines	
Report Reference No.	3022709.50B
Date of issue	2013-12-20
Total number of pages	44 pages
CB Testing Laboratory	DEKRA Certification Hong Kong Ltd.
Address	Unit 1-14, 6/F., Fuk Shing Commercial Building, 28 On Lok Mun Street, On Lok Tsuen, Fanling, New Territories, Hong Kong
Applicant's name	Philips Consumer Lifestyle B.V.
Address	Building TC, Tussendiepen 4, 9206 AD Drachten, The Netherlands
Test specification:	
Standard	IEC 60335-2-14:2006 (Fifth Edition) + A1:2008 in conjunction with IEC 60335-1:2001 (Fourth Edition) + A1: 2004 + A2: 2006)
Test procedure	CB Scheme
Non-standard test method	N/A
Test Report Form No.	IEC60335_2_14L
Test Report Form(s) Originator	CQC
Master TRF	Dated 2012-12
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This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.	
Test item description	Hand Mixer
Trade Mark	PHILIPS
Manufacturer	Philips Consumer Lifestyle B.V. Building TC, Tussendiepen 4, 9206 AD Drachten, The Netherlands
Model/Type reference	HR1453; HR1455; HR1456; HR1457; HR1458; HR1459
Ratings	220-240 V~; 50-60 Hz; 175 W; Class II; IPX0 110 V~; 60 Hz; 175 W; Class II; IPX0 (all models except HR1458 and HR1459) 220-240 V~; 50-60 Hz; 300 W; Class II; IPX0 (HR1458 and HR1459 only)
Factory	Artreal (HuiYang) Manufacturing Limited Lilin, Huicheng District Huizhou City, Guangdong, PRC

Testing procedure and testing location:	
<input checked="" type="checkbox"/> CB Testing Laboratory: Testing location/ address :	DEKRA Certification Hong Kong Ltd. Unit 1-14, 6/F., Fuk Shing Commercial Building, 28 On Lok Mun Street, On Lok Tsuen, Fanling, New Territories, Hong Kong
<input type="checkbox"/> Associated CB Test Laboratory: Testing location/ address :	Tested by (name + signature) : Wai Chung Lo Approved by (+ signature) : C.S. Man
<input type="checkbox"/> Testing procedure: TMP Tested by (name + signature) : Approved by (+ signature) : Testing location/ address :	
<input type="checkbox"/> Testing procedure: WMT Tested by (name + signature) : Witnessed by (+ signature) : Approved by (+ signature) : Testing location/ address :	
<input type="checkbox"/> Testing procedure: SMT Tested by (name + signature) : Approved by (+ signature) : Supervised by (+ signature) : Testing location/ address :	
<input type="checkbox"/> Testing procedure: RMT Tested by (name + signature) : Approved by (+ signature) : Supervised by (+ signature) : Testing location/ address :	

Summary of testing:

The appliance had also been tested and found in compliance with the standards as listed below.

IEC 60335-2-14: 2006(Fifth Edition) + A1: 2008 in conjunction with IEC 60335-1: 2001 (Fourth Edition) + A1: 2004 + A2: 2006

EN 60335-2-14 : 2006 + A1:2008 in conjunction with EN 60335-1: 2002 + A1: 2004 + A11: 2004 + A12: 2006 + A2: 2006 + A13: 2008 + A14: 2010 + A15: 2011 and

EN 62233:2008

Tests performed (name of test and test clause):

Project 300845100: Original; Full tests

Project 301776700:

- 1) Add new models HV versions HR1458 and HR1459 with rated power 300 W (see general product information for details)
- 2) Add alternative motor (ECM motor) for all models of HV version.
- 3) Add amendment standard A15:2011 of EN 60335-1
- 4) Add alternative enclosure material (PA-757(+))

Clause 10, 11, 13, 15, 16, 19, 20, 25, 29, 30, annex N.

Project 3020580.50A/B/C/D:

Test clauses 10, 11, 13, 15.3, 16, 19.7, 19.10, 20.101, 22.5, 24, 25.8, 29, 30, Annex N and EMF were considered.

For this project: HR1458: Remove turbo switch and re-routing the connection to change the speed "5" is equal to turbo speed. Cl. 26, 29 are checked.

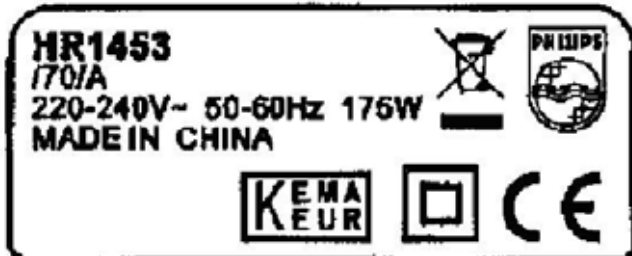
Testing location:

DEKRA Certification Hong Kong Ltd.

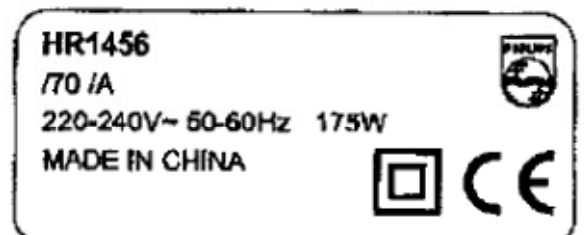
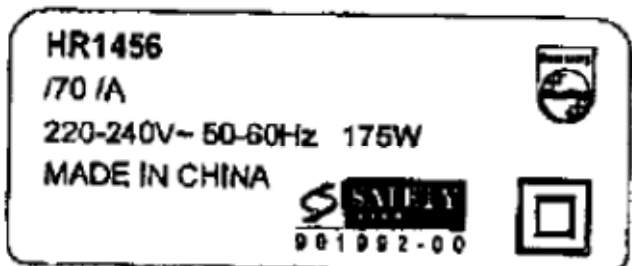
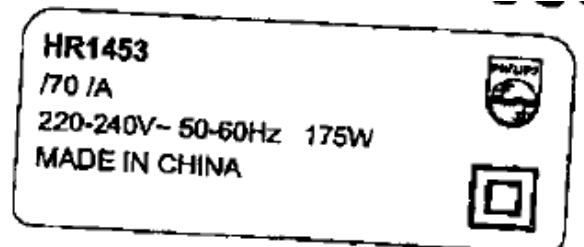
Summary of compliance with National Differences:











































EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES see attached documents 3022709.50C and 3022709.50D.

Copy of marking plate



產品名稱:飛利浦食物攪拌器
產品型號:HR1456
額定電壓/頻率/消耗電功率:110V/60Hz/175W
設計開發:荷蘭
產地:中國
製造年份及號碼:請見機體標示,前兩碼為西元年
整體號碼為製造號碼
製造廠商:PHILIPS
進口廠商:台灣飛利浦股份有限公司
地址:台北市南港區國區街3-1號15樓
電話:0800-231-099
網址: <http://www.philips.com.tw>



HR1458 /73/AD 220-240V~ 50/60Hz 300W PHILIPS NL9206AD-4 Drachten MADE IN CHINA    	HR1459 /70/AD 220-240V~ 50/60Hz 300W PHILIPS NL9206AD-4 Drachten MADE IN CHINA    
HR1458 /71/AD 220-240V~ 50/60Hz 300W PHILIPS NL9206AD-4 Drachten MADE IN CHINA    	HR1459 /71/AD 220-240V~ 50/60Hz 300W PHILIPS NL9206AD-4 Drachten MADE IN CHINA    
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HR1458 /73/AD 220-240V~ 50/60Hz 300W PHILIPS NL9206AD-4 Drachten MADE IN CHINA   	HR1459 /73/AD 220-240V~ 50/60Hz 300W PHILIPS NL9206AD-4 Drachten MADE IN CHINA   

Note: Only the models with rated voltage or rated voltage range covering 230 V have been tested and found in compliance with EN requirements.

The rating plate shall be attached on the bottom surface of the appliance.

The rating labels for model HR 1455 and HR 1457 have the same format as above.

Test item particulars	
Classification of installation and use.....	Hand-held appliance
Supply Connection	Flexible cord with plug
.....	
.....	
Possible test case verdicts:	
- test case does not apply to the test object.....	N/A (Not Applicable)
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
Testing	
Date of receipt of test item	2013-11-29
Date (s) of performance of tests	2013-12-05
General remarks:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a comma is used as the decimal separator.</p> <p>This report is a full report, it is included the test results and information in the previous reports 3020580.50A/B/C/D. This report concerns the following new modifications.</p> <p>1. HR1458: Remove turbo switch and re-routing the connection to change the speed "5" is equal to turbo speed.</p> <p>Subject to the changes, test clauses 26 and 29 were considered.</p> <p>Test report 3022709.50A: IEC 60335-1 (total 62 pages); Test report 3022709.50B: IEC 60335-2-14 (total 44 pages, with appended tables and pictures); Test report 33022709.50C: the EMF Appendix, European Group Differences and National Differences, of IEC 60335-1 (total 12 pages); Test report 3022709.50D: European Group Differences and National Differences of IEC 60335-2-14 (total 1 page).</p>	

General product information:

Model HR1453, HR1455, HR1456, HR1457, HR1458 and HR1459 are constructional and cosmetic identical except the following shown in table:

Model / features	*Version	**Rating	Speed switch	Accessories provided	Outlook color	X-cap. value	Motor
HR1453	HV	220-240 V; 175 W	3 speeds + turbo	strip beater and dough hook	Pure white + Light blue knob	0,22 µF for motor UF-4425 and UB-252443 0,33 µF for motor UB-252443-76R03	
	LV	110 V; 175 W		wire beater and dough hook	Pure white + orange knob	0,22 µF	UF-4430
HR1455	HV	220-240 V; 175 W	5 speeds + turbo	wire beater	Pure white + Light blue knob	0,22 µF for motor UF-4425 and UB-252443 0,33 µF for motor UB-252443-76R03	
	LV	110 V; 175 W			Pure white + orange knob	0,22 µF	UF-4430
HR1456	HV	220-240 V; 175 W	3 speeds + turbo	wire beater and dough hook	Pure white + Light blue knob	0,22 µF for motor UF-4425 and UB-252443 0,33 µF for motor UB-252443-76R03	
	LV	110 V; 175 W		strip beater and dough hook	Pure white + orange knob	0,22 µF	UF-4430
HR1457	LV	110 V; 175 W	5 speeds + turbo	Wire beater, strip beater, dough hook and storage box			
HR1458	HV	220-240 V; 300 W	5 speeds	strip beater (optional) and dough hook	Pure white + blue knob	0,22 µF for motor UF-4425 and UB-252443	
HR1459	HV	220-240 V; 300 W	5 speeds + turbo		Pure white + light grey knob	0,33 µF for motor UB-252443-76R03	

*HV = High Voltage, LV = Low Voltage

**For HV models with rated power 175 W used with motor UB-252443-76R03 and 0,33 µF X-capacitor , recipe C (frozen dough) listed in report 3022709.50B page 20, should not be existed in the instruction manual in order that the measured power will not deviate more than + 20 % of the rated input power.

Commission Regulation (EC) No 1275/2008		
Model HR1453	Power consumption measurement (W)	
	Standby mode	Off mode
At 230 V, 50 Hz	N/A	0,08 W

Off position: speed switch at 0 position.

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
5	GENERAL CONDITIONS FOR THE TESTS		—
5.6	Speed controls are adjusted in accordance with the instructions. (IEC 60335-2-14)		P
6	CLASSIFICATION		—
6.1	Class II or class III for hand-held kitchen machines. (IEC 60335-2-14)	Class II	P
	Class 0 or class I if their rated voltage does not exceed 150 V. (IEC 60335-2-14)		N/A
7	MARKING AND INSTRUCTIONS		—
7.1	Rated power input is marked. (IEC 60335-2-14)		P
	Stands provided with cordless blenders are marked with: (IEC 60335-2-14)		—
	- the name, trademark or identification mark of the manufacturer or responsible vendor		N/A
	- the model or type reference		N/A
7.12	Instructions include the operating times and speed settings for accessories (IEC 60335-2-14)		P
	Accessories, other than those supplied with the appliance, include instructions for their safe use. (IEC 60335-2-14)		N/A
	Adequate instruction for use for slicing machines provided with a base having a plain surface underneath the sliding feed table (IEC 60335-2-14)		N/A
	The instructions for food processors and blenders warn against misuse (IEC 60335-2-14)		N/A
	Instructions for hand-held blenders : (IEC 60335-2-14)		—
	- always disconnect the blender from the supply if it is left unattended and before assembling, disassembling or cleaning		N/A
	- do not allow children to use the blender without supervision.		N/A
	The instructions for centrifugal juicers shall include the substance of the following: (IEC 60335-2-14)		—
	Do not use the appliance if the rotating sieve is damaged.		N/A
	The instructions for cordless blenders state that the blender is only to be used with the stand provided. (IEC 60335-2-14)		N/A
	The blender and stand of the cordless blender can be lifted together by gripping the handle of the blender, the instructions include the substance of the following: (IEC 60335-2-14)		—

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
	CAUTION: Ensure that the blender is switched off before removing it from the stand.		N/A
	The instructions include details on how to clean surfaces in contact with food (IEC 60335-2-14)		P
	The instructions for appliances incorporating a switch necessary for compliance with 22.40 include the substance of the following: (IEC 60335-2-14)		—
	Switch off the appliance and disconnect from supply before changing accessories or approaching parts that move in use		P

10	POWER INPUT AND CURRENT		—
10.1	A representative period is a time period of 2 min or the time specified in 11.7 for one cycle of operation, whichever is shorter. (IEC 60335-2-14)		P

11	HEATING		—
11.7	The appliance is operated for the period specified and where relevant the number of cycles specified (IEC 60335-2-14/A1:2008)	(see appended tables)	P
	If the period exceeds that stated in the instructions and if the temperature rise limits of Table 3 are exceeded, the test is carried out for the number of cycles specified and using the maximum quantity of the load to be processed stated in the instructions for: (IEC 60335-2-14/A1:2008)		—
	— the maximum period stated in the instructions plus 1 min, for specified operating periods not exceeding 7 min		P
	— the maximum period stated in the instructions, for specified operating periods exceeding 7 min		N/A
	If it is necessary to perform a number of operations to obtain these periods, the rest periods are equal to, where relevant, the time taken to empty and refill the container with the maximum quantity of ingredients stated in the instructions (IEC 60335-2-14/A1:2008)		N/A
	Appliances incorporating a timer are operated for the maximum period allowed by the timer (IEC 60335-2-14/A1:2008)		N/A
11.8	For ice-cream machines for use in refrigerators and freezers, the temperature rise values are increased by 30 K. (IEC 60335-2-14)		N/A

15	MOISTURE RESISTANCE		—
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IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
15.2	Appliances supplied at rated voltage and operated for 15 s with the solution still in the container: the leakage current shall not exceed the values specified in clause 13. (IEC 60335-2-14)		N/A
	Saline solution is then added to the liquid container until it is completely full again. A further quantity equal to 15% of the capacity of the container or 0.25 l is poured in steadily over a period of 1 min: (IEC 60335-2-14)		N/A
	Water outlets for potato peelers are blocked. (IEC 60335-2-14)		N/A
	For cordless blenders, the test is carried out on a horizontal surface with the blender both on and off its stand. (IEC 60335-2-14)		N/A
15.101	Connecting devices of stands for cordless blenders are not affected by water. (IEC 60335-2-14)		N/A
	Compliance is checked by the following test.		N/A
	The stand withstands the dielectric strength test of 16.3.		N/A

19	ABNORMAL OPERATION		—
19.1	Test of 19.7 only applicable to berry-juice extractors, blenders for food, centrifugal juicers, churns, food mixers, food processors, ice-cream machines, mincers, and noodle makers. (IEC 60335-2-14)		P
	Coffee mills and grain grinders subjected to the tests of 19.101, and to 19.102 unless they have to be kept switched on by hand. (IEC 60335-2-14)		N/A
19.7	Coffee mills that have to be kept switched on by hand, berry-juice extractors, blenders for food, centrifugal juicers for fruit and vegetables, food mixers, food processors, and mincers are operated for 30 s. (IEC 60335-2-14)	Food mixer	P
	Other coffee mills, grain grinders and noodle makers are tested for 5 min. (IEC 60335-2-14)		N/A
	Churns and ice-cream machines are operated until steady conditions are established. (IEC 60335-2-14)		N/A
19.10	Test repeated with accessories in position but without additional load. (IEC 60335-2-14)		P
	Coffee mills and grain grinders are only tested for 30 s. (IEC 60335-2-14)		N/A
19.101	Coffee mills and grain grinders are supplied at rated voltage and operated under normal operation five times with rest periods. (IEC 60335-2-14)		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
19.102	Coffee mills and grain grinders subjected to the test as specified in IEC 60335-2-14 and carried out on three additional appliances. (IEC 60335-2-14)		N/A
	If any of the motors stall, original appliance subjected to the test of 19.7		N/A

20	STABILITY AND MECHANICAL HAZARDS		—
20.2	Detachable accessories are removed and covers are opened except that for : (IEC 60335-2-14)		—
	- centrifugal juicers, the cover and the container for collecting the residue are in position		N/A
	- graters and shredders, this is only applicable to accessories that are removed while the appliance is in operation		N/A
	Test probe not applied to: (IEC 60335-2-14)		—
	- appliances specified in the list	Food mixer	P
	– the following parts of other appliances:		N/A
	smooth shafts having a diameter not exceeding 8 mm, rotating at a speed not exceeding 1 500 rev/min and driven by motors having an input not exceeding 200 W		N/A
	outlet sides of grating and shredding disks rotating at a speed not exceeding 1 500 rev/min		N/A
	projections from the surface of grinding disks, cones and similar parts having a height less than 4 mm		N/A
	Test probe not applied to feed openings having a throat with following dimensions: (IEC 60335-2-14)		N/A
	- a height of at least 100 mm, measured from the upper edge of the cutting blade		N/A
	- an average of the maximum and minimum cross-sectional dimensions of the feed opening that does not exceed 65.5 mm		N/A
	- a maximum cross-sectional dimension of the feed opening that does not exceed 76 mm		N/A
	For blenders, detachable parts, except lids, are not removed. Test carried out with a test probe similar to that of test probe B of IEC 61032 but with circular stop face as specified. (IEC 60335-2-14)		N/A
20.101	Accessories for cream whippers, egg beaters and hand-held food mixers have no knife edges, unless a suitable guard prevents accidental contact with their rotating parts (IEC 60335-2-14)	No knife edges of strip beaters, wire beaters and dough hooks	P

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
	Hand-held food mixer: not possible to release the working tools while rotating at a speed exceeding 1500rev/min	< 1500 rev/min.	N/A
20.102	Blades of hand-held blenders are completely screened from above and are not able to touch a flat surface while rotating (IEC 60335-2-14)		N/A
	Not possible to touch the blades with the end of the test rod (diameter 8 mm) and checked by inspection		N/A
20.103	Biased-off switch of hand-held blenders recessed or otherwise guarded: Test with a cylindrical rod having a diameter of 40 mm and hemispherical end: appliance does not operate. (IEC 60335-2-14)		N/A
20.104	Not possible to operate the cutting blades of blenders, other than hand-held blenders, while they are accessible: test with test finger specified for blender. (IEC 60335-2-14)		N/A
	With detachable parts removed, if the cutting blades of the blender can be touched with the test probe specified for blenders in 20.2, it shall not be possible to operate the appliance.		N/A
	Switches, other than biased-off switches, are placed in the on position and two simultaneous or sequential applications of test probe B of IEC 61032 are applied to biased-off switches, including interlock switches, with a force not exceeding 20 N in an attempt to operate the cutting blades.		N/A
	During the test, it shall not be possible to operate the appliance.		N/A
20.105	Centrifugal juicers (IEC 60335-2-14)		—
	- lids and covers do not open due to vibration		N/A
	- rotating parts adequately secured against becoming loose during operation		N/A
	- If speed of rotating parts >5000rev/min: lids and covers can only be closed after removal of tools		N/A
	- teeth of grating disks do not exceed 1,5mm in height		N/A
	- Ejectors on filter drums shall not project by more than 4 mm.		N/A
	- feed pusher provided, of a size that fills the throat of the hopper		N/A
	- lids and covers do not open by force test of 5N		N/A
20.106	For appliances having a feed screw: (IEC 60335-2-14) - the maximum cross-sectional dimension of the hopper not exceed 45 mm.		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
	- provide a feed pusher and the feed screw of the appliance is not accessible to test probe B of IEC 61032 with the pusher in position (IEC 60335-2-14/A1:2008)		N/A
20.107	Slicing machines, other than fixed appliances and those having a biased-off switch, incorporate means to hold the appliance in place and allow it to be released after use: no move on glass plate when subjected to test as specified. (IEC 60335-2-14)		N/A
20.108	slicing machines: (IEC 60335-2-14)		—
	- provided with a guard surrounding the knife and its edge		N/A
	- guard opening as small as permitted by effective use		N/A
	- edge of knife guarded as shown in Fig.101		N/A
	Knife guards shall be non-detachable unless the motor cannot be switched on after their removal.		N/A
	It shall not be possible to operate interlocks by means of test probe B of IEC 61032.		N/A
	Angle of the upper part of guard opening not exceed 75°		N/A
	The angle may be increased to 90° if the exposed part of the knife exceeding 75° is screened from above.		N/A
	Radial distance not exceed 2 mm, if the guard is flush with the plane of the knife; or		N/A
	3 mm, if the guard projects at least 0,2 mm beyond the plane of the knife.		N/A
	Distance between the outer circumference of the knife and the plate that sets the thickness of the slices shall not exceed 6 mm.		N/A
	Distance between the plate that sets the thickness of the slices and any other protecting part shall not exceed 5 mm.		N/A
	Additional guard provided if slices thicker than 15mm allowed		N/A
	Slicing machines shall incorporate a sliding feed table with a hand rest, a thumb guard and a piece holder.		N/A
	Sliding feed table adequately designed (f_30mm, d≤ 5mm, thumb guard projects radially by at least 8mm beyond the blades)		N/A
	Piece holder enables small pieces to be sliced		N/A
	Dimensions of spikes or similar as specified		N/A
	Support of sliding table not usable for supplying food without the table in position; verified dash Nos.		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
20.109	Slicing machines constructed so that accidental operation of the appliance is prevented. (IEC 60335-2-14)		N/A
	Actuating member of push-button, toggle, rocker or slide switch recessed and actuated with force at least 2N.		N/A
	Actuating member of slide switch located so that unintentional actuation is unlikely and actuated with force at least 5N.		N/A
20.110	The cutting blades of bean slicers: (IEC 60335-2-14)		—
	- are at least 30 mm from the plane of the inlet opening.		N/A
	- length of the major and minor axis of the inlet and outlet openings not exceed 30 mm and 15 mm		N/A
	- dimensions of outlet openings not limited if compliance with test specified.		N/A
20.111	The rotating parts of graters and shredders: - are secured so that they are not liable to become loose during operation. (IEC 60335-2-14)		N/A
	- a feed pusher shall be provided which fills the throat of the hopper		N/A
20.112	The cutting blade of food processors stopped within 1,5 s after the lid has been opened or removed. (IEC 60335-2-14)		N/A
20.113	The lid interlock of food processors shall be constructed so that accidental operation of the appliances is prevented (IEC 60335-2-14)		N/A
	Lid interlock switches shall be biased-off switches		N/A
	If there is an interlock between the lid and the main switch, the lid shall be locked when the switch is in the on position		N/A
	When the lid is not correctly closed , the switch shall be locked in the off position		N/A
20.114	Access to dangerous moving parts of food processors prevented for all combinations of assembly of detachable parts that allow the motor to operate: comply with test as specified (IEC 60335-2-14)		N/A
20.115	Knives shall incorporate a biased-off switch that is recessed or guarded to prevent accidental operation. (IEC 60335-2-14)		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
	Appliance don't operate when applying a cylindrical rod with diameter 40mm to the switch		N/A
20.116	Centrifugal juicers for fruit and vegetables shall be constructed so that parts cannot become disengaged when the appliance is operated at high speed. (IEC 60335-2-14)		N/A
	Lid removed, appliance supply at rated voltage and highest speed (10 times): no part of appliance disengaged		N/A
	Lid in position, when the speed reaches its maximum value, attempt is made to remove the lid (10 times): no part of appliance disengaged		N/A
20.117	Centrifugal juicers shall withstand the stresses resulting from parts rotating at high speed (IEC 60335-2-14)		N/A
	Compliance is checked by the following test which is carried out on three new appliance)		—
	Or by testing the sieve in accordance with Annex AA.		—
	The rim of plastic material retaining the rotating sieve is cut		N/A
	If the sieve retains its structure, the rim is cut further and the test repeated until disintegration takes place		N/A
	During the test, parts shall not be ejected from the appliance.		N/A
20.118	The operation of cordless appliances incorporating cutting blades that are accessible to test probe B of IEC 61032 shall require two separate movements, unless (IEC 60335-2-14)		N/A
	The control device is not directly accessible to the probe.		N/A
20.119	Bowl and cutting blades of food blenders and hand-held blenders shall have adequate mechanical strength. (IEC 60335-2-14)		N/A
	After the test, the bowl and cutting blades shall not be broken.		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
21	MECHANICAL STRENGTH		—
21.1	Test also carried out on detachable parts that are necessary for protection against mechanical hazards. (IEC 60335-2-14)		N/A

22	CONSTRUCTION		—
22.40	Any switch controlling the motor also disconnect electronic circuits, the malfunction of which would impair compliance with this standard (checked during the tests of Clause 19). (IEC 60335-2-14)		N/A
22.101	Appliances constructed so that lubricants are prevented from polluting food compartments (IEC 60335-2-14)		P
22.102	Appliances constructed so that food or liquids are prevented from penetrating into places that could cause electrical or mechanical faults. (IEC 60335-2-14)		P
22.103	The appliance coupler of cordless blenders shall be constructed to withstand the stresses occurring during normal use. (IEC 60335-2-14)		N/A
	The two live pins of the blender are connected together and an external resistive load is connected in series with the supply. The external load is such that the current is 1,1 times rated current.		N/A
	The blender is placed on its stand and withdrawn 10 000 times at a rate of approximately 10 times per minute. The test is continued for a further 10 000 times without current flowing.		N/A
	If the connection contacts cannot be energized when making or breaking the connection, instead of the above sequence, the test is carried out 20 000 times without current.		N/A
	After the test, the blender shall be suitable for further use and compliance with 8.1, 16.3, 27.5 and Clause 29 shall not be impaired.		N/A

24	COMPONENTS		—
24.1.3	Switches incorporated in the following appliances are tested for 3 000 cycles of operation: (IEC 60335-2-14)		—
	- bean slicers;		N/A
	- liquid blenders;		N/A
	- cheese graters;		N/A
	- graters;		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict
	- ice-cream machines for use in refrigerators and freezers;		N/A
	- sieving machines;		N/A
	- shredders.		N/A

25	SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CORDS		—
25.1	Ice-cream machines for use in refrigerators and freezers and hand-held appliances: no appliance inlet. (IEC 60335-2-14)		N/A
25.5	Type Z attachment allowed for : (IEC 60335-2-14)		—
	- can openers		N/A
	- coffee mills and grain grinders having a mass not exceeding 1.5 kg		N/A
	- cream whippers		N/A
	- egg beaters		N/A
	- ice-cream machines including those for use in refrigerators and freezers		N/A
	- knife sharpeners		N/A
	Type X attachments, other than those with a specially prepared cord, not used for ice-cream machines for use in refrigerators and freezers. (IEC 60335-2-14)		N/A
25.7	Polyvinyl chloride sheathed supply cords of ice-cream machines for use in refrigerators and freezers are resistant to low temperatures: comply with tests 8.1, 8.2 and 8.3 of IEC 60811-1-4, carried out at a temperature of $-25\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$. (IEC 60335-2-14)		N/A
25.14	Hand-held blenders and hand-held mixers subjected to 2000 flexings as specified in IEC 60335-2-14, while mounted on an apparatus similar to that of Figure 8. (IEC 60335-2-14)		P
25.22	- located so that pollution by food or liquid is unlikely to occur during normal use. (IEC 60335-2-14)		N/A

29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		—
29.2	Microenvironment is pollution degree 3 (IEC 60335-2-14)		P
	unless insulation enclosed or located so that it is unlikely to be exposed to pollution during normal use of the appliance (IEC 60335-2-14)		N/A

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict

30	RESISTANCE TO HEAT AND FIRE		—
30.1	For ice-cream machines for use in refrigerators and freezers, temperature of 40 °C instead of 10 °C. (IEC 60335-2-14)		N/A
30.2	For churns and ice-cream machines, 30.2.3 is applicable. (IEC 60335-2-14)	30.2.2 apply	N/A

C	ANNEX C (NORMATIVE) AGEING TEST ON MOTORS		—
	The value of p in Table C.1 is 2 000, (IEC 60335-2-14)		N/A
	except for the following appliances for which it is 500: bean slicers, blenders, can openers, cheese graters, citrus-fruit squeezers, graters, ice-cream machines for use in refrigerators and freezers, knife sharpeners, knives, sieving machines, shredders. (IEC 60335-2-14)		

IEC 60335-2-14						
Clause	Requirement + Test			Result - Remark		Verdict
10.1	TABLE: INPUT DEVIATION MEASUREMENTS					P
input deviation dP of/at:		Prated (W)	P (W)	dP	required dP	remark
Johnson UR-4425 motor						
230 V		175 / 300	154,0	- 12,0 % / -48,7 %	+20%	With dough hook (with standard recipe)
230 V		175 / 300	124,2	- 29,1% / -58,6 %	+20%	With strip beater (with standard recipe)
230 V		300	258,2	-13,9 %	+20 %	With dough hook (user manual)
ECM UB-252443 motor						
230 V		175 / 300	90,6	-49,9 % / -69,8 %	+20%	With dough hook (with standard recipe)
230 V		175 / 300	87,7	-48,2 % / -70,8 %	+20%	With strip beater (with standard recipe)
230 V		300	264,4	-11,9 %	+ 20 %	With dough hook (user manual)
ECM UB-252443-76R03 motor						
230 V 50 Hz		300	146,0	-51,3 %	+20%	With dough hook (with standard recipe)
230 V 60 Hz		300	144,2	-51,9 %	+20%	
230 V 50 Hz		300	114,0	-62,0 %	+20%	With strip beater (with standard recipe)
230 V 60 Hz		300	111,6	-62,8 %	+20%	
230 V 50 Hz		300	243,9	-18,7 %	+ 20 %	With dough hook (user manual)
230 V 60 Hz		300	241,8	-19,4 %	+ 20 %	
Johnson UR-4430 motor						
110 V 60 Hz		175	165,2	- 5,6%	+20%	With dough hook
110 V 60 Hz		175	147,8	-15,5%	+20%	With strip beater

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict

11.7	Table : Normal operation					P
Test step	Load (ingredients)	quantity	Time of operation (on/off)	Number of operation	remark	
A) 11.7.110	Standard dough	243 g flour + 175 g water	0,5 min. low setting and 4,5 min. turbo (biased off)	1	Dough hook	
B) 11.7.110	Standard sand	80 % of length of beater	15 min max speed	1	Strip beater	
C) 11.7	Manual recipe	(Frozen dough) 1000 g flour + 500 ml water + 100 ml oil + 1.5 teaspoon salt + 1.5 teaspoon sugar + 11 g yeast + 1.5 teaspoon dry rosemary + 100 g green olives	10 sec + 1 min turbo (biased off)	1	Dough hook	

IEC 60335-2-14						
Clause	Requirement + Test			Result - Remark	Verdict	
11.8 (a)	TABLE: Heating test, thermocouples (HV version; Johnson UR-4425 motor)				P	
	Test voltage (V) :		254,4 V		—	
	Ambient (°C) :		22,0 – 23,5		—	
Thermocouple locations		dT (K)			Max. dT (K)	
		A)	B)	C)		
Stator winding #1		64,0	64,8	104,2	115	
Stator winding #2		67,0	70,2	92,8	115	
Separation of supply cord		19,0	35,4	4,1	50	
Ambient of X-capacitor		42,0	52,2	11,3	T100-25	
Ambient of Y-capacitor		34,5	47,4	27,3	T100-25	
Ambient of micro switch		24,8	37,5	5,3	T85-25	
Internal wire (close to motor) (2)		36,0	44,5	31,8	T105-25	
Speed knob		4,8	10,0	1,8	60	
Turbo knob		9,8	14,5	5,5	50	
Carbon bush holder of motor		83,0	80,0	59,4	cl.30	
Speed switch terminal		20,9	27,4	14,5	cl.30/ Annex H	
Close end connector		32,0	44,5	14,6	cl.30	
Internal enclosure (1)		32,0	41,0	26,3	cl.30	
Internal enclosure (2)		26,2	33,0	27,4	cl.30	
Handle		10,5	17,5	3,9	50	
External enclosure		20,8	27,5	11,0	60	
Motor core		50,4	59,4	39,1	Ref.	
11.8	TABLE: Heating test, resistance method				P	
Temperature rise of winding		R ₁ (Ω)	R ₂ (Ω)	dT (K)	Max. dT (K)	Insulation class
A) Stator winding (turbo)		20,2	24,8	58,0	115	155
A) Rotor winding		38,9	49,5	69,5	140	180
B) Stator winding (max speed)		31,7	40,5	71,6	115	155
B) Rotor winding		38,7	50,4	77,8	140	180
C) Stator winding (turbo)		21,1	30,3	112,6	115	155
C) Rotor winding		39,5	48.3	57,7	140	180

IEC 60335-2-14						
Clause	Requirement + Test			Result - Remark	Verdict	
11.8 (b)	TABLE: Heating test, thermocouples (HV version; ECM UB-252443 motor)				P	
	Test voltage (V) :		254,4 V	206,8 V	—	
	Ambient (°C) :		23,6 / 23,7	23,8 / 23,9	—	
Thermocouple locations		dT (K)		Max. dT (K)		
		C) 254,4 V	C) 206,8 V			
Stator winding #1		52,6	50,2	115		
Stator winding #2		63,8	56,2	115		
Separation of supply cord		3,5	—	50		
Ambient of X-capacitor		11,4	—	T100-25		
Ambient of Y-capacitor		18,2	—	T100-25		
Ambient of micro switch		3,0	—	T85-25		
Internal wire (close to motor) (2)		22,9	—	T105-25		
Speed knob		2,2	—	60		
Turbo knob		5,1	—	50		
Carbon bush holder of motor		29,7	—	cl.30		
Speed switch terminal		8,6	—	cl.30/ Annex H		
Close end connector		15,4	—	cl.30		
Internal enclosure (1)		14,6	—	cl.30		
Internal enclosure (2)		15,8	—	cl.30		
Handle		4,6	—	50		
External enclosure		9,3	—	60		
Motor core		28,0	—	Ref.		
11.8	TABLE: Heating test, resistance method				P	
Temperature rise of winding		R ₁ (Ω)	R ₂ (Ω)	dT (K)	Max. dT (K)	Insulation class
C) Stator winding (turbo, 254,4 V)		21,8	29,5	91,7	115	155
C) Rotor winding (254,4 V)		45,5	56,5	62,4	140	180
C) Stator winding (turbo, 206,8 V)		22,0	27,5	63,9	115	155
C) Rotor winding (206,8 V)		45,5	55,4	56,4	140	180

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict

11.8 (c)	TABLE: Heating test, thermocouples (LV version; Johnson UR-4430 motor)			P		
	Test voltage (V) :		116,6 V	—		
	Ambient (°C) :		24,0 / 22,9	—		
Thermocouple locations		dT (K)		Max. dT (K)		
		A)	B)			
Stator winding		50,8	67,2	95		
Separation of supply cord		35,0	55,2	T105-25		
Ambient of micro switch		19,2	36,8	T85-25		
Speed switch terminal		19,9	36,2	cl.30/ Annex H		
Internal enclosure (1)		28,9	50,0	cl.30		
Internal enclosure (2)		34,6	54,4	cl.30		
Motor core		46,8	69,1	Ref.		
11.8	TABLE: Heating test, resistance method				P	
Temperature rise of winding		R ₁ (Ω)	R ₂ (Ω)	dT (K)	Max. dT (K)	Insulation class
A) Stator winding		3,50	4,20	51,0	95	130
B) Stator winding		3,50	4,40	67,0	95	130

11.8 (d)	TABLE: Heating test, thermocouples (HV version; ECM UB-252443-76R03 motor)				P
	Test voltage (V)	254,4 V			—
	Ambient (°C)	A) 23,6 / 22,9 B) 22,9 / 23,0 C) 21,3 / 21,2			—
Thermocouple locations		dT (K)			Max. dT (K)
		A)	B)	C)	
Stator winding		54,1	45,8	52,2	115
Separation of supply cord		20,0	20,3	7,5	50
Ambient of X-capacitor		20,4	21,6	4,4	T100-25
Ambient of Y-capacitor / carbon brush		57,4	56,1	55,8	T85-25 = 60
Ambient of micro switch		16,6	23,2	3,3	T85-25
Internal wire		36,8	35,3	19,4	T105-25
Speed knob		10,6	14,6	1,6	60
Turbo knob		11,0	15,0	1,8	50

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict

Speed switch terminal	27,1	31,4	5,8	cl.30/ Annex H
Inner enclosure	36,6	39,0	13,9	cl.30
Handle	6,1	6,6	7,0	50
External enclosure	32,7	37,7	10,9	60

11.8	TABLE: Heating test, resistance method			P
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Temperature rise of winding	R_1 (Ω)	R_2 (Ω)	dT (K)	Max. dT (K)	Insulation class
A) Stator winding (turbo)	19,81	26,26	84,8	115	155
A) Rotor winding	38,50	49,32	73,3	140	180
B) Stator winding (max speed)	34,77	42,91	60,2	115	155
B) Rotor winding	38,50	46,46	53,2	140	180
C) Stator winding (turbo)	19,79	26,09	81,6	115	155
C) Rotor winding	38,50	48,51	66,6	140	180

13.2	TABLE: LEAKAGE CURRENT MEASUREMENTS AT OPERATING TEMPERATURE			P
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	heating appliances: at 1,15 times maximum rated input (W)	--		
	motor-operated and combined appliances: at 1,06 times rated voltage (V)	254,4 V	116,6 V	
leakage current I between:		I (mA)		required I (mA)
live parts and accessible surface		0,030	0,001	0,25

13.3	TABLE: ELECTRIC STRENGTH MEASUREMENTS AT OPERATING TEMPERATURE			P
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test voltage applied between:		test voltage (V)	breakdown
Live parts of motor core		1000	No
Motor core and accessible enclosure		1750/2750	No
Live parts and accessible enclosure		3000/3750	No

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict

16.2	TABLE: LEAKAGE CURRENT MEASUREMENTS			P
	at 1,06 times rated voltage (V)	254,4 V	116,6 V	
leakage current I between:		I (mA)		required I (mA)
Live parts and accessible enclosure		0,030	0,002	0,25

16.3	TABLE: ELECTRIC STRENGTH MEASUREMENTS AT OPERATING TEMPERATURE			P
test voltage applied between:		test voltage (V)	breakdown	
Live parts of motor core		1250	No	
Motor core and accessible enclosure		1750/2500	No	
Live parts and accessible enclosure		3000/3750	No	

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

19.13 (a)	TABLE: ABNORMAL OPERATION, TEMPERATURE RISE MEASUREMENTS (HV version; Johnson UR-4425 motor)					P
emperature rise dT of part/at:			dT (K)		required dT (K)	
cl.19.7 locked motor (240 V, 30 second)						
Room Ambient			20,0		Ref.	
Stator winding #1			150,3		T240-25	
Stator winding #2			168,3		T240-25	
Rotor winding #1			140,3		T260-25	
Rotor winding #2			159,3		T260-25	
Separation of supply cord			2,2		150	
Speed knob			8,3		cl.30	
Internal enclosure			19,4		cl.30	
Observation: No hazardous situation is found						
cl.19.10 – tested at 312 V for 1 min with and without attachment						
Observation: No parts become loosen and no hazardous situation is found						
19.7	Winding temperature rise measurements					P
temperature rise dT of winding:		R ₁ (Ω)	R ₂ (Ω)	dT (K)	required dT (K)	insulation class

IEC 60335-2-14					
Clause	Requirement + Test			Result - Remark	Verdict
Stator winding for cl.19.7	20,12	35,5	196,1	240-25	155
Rotor winding for cl.19.7	38,81	66,54	183,3	260-25	180

19.13 (b)	TABLE: ABNORMAL OPERATION, TEMPERATURE RISE MEASUREMENTS (HV version; ECM UB-252443 motor)				P
emperature rise dT of part/at:			dT (K)	required dT (K)	
cl.19.7 locked motor (240 V, 30 second)					
Room Ambient			23,6	Ref.	
Stator winding #1			75,3	T240-25	
Stator winding #2			92,6	T240-25	
Rotor winding			52,2	T260-25	
Separation of supply cord			2,3	150	
Speed knob			3,8	cl.30	
Internal enclosure			8,1	cl.30	
Observation: Thermal fuse on stator winding did not operate. No hazardous situation is found					
cl.19.10 – tested at 312 V for 1 min with and without attachment					
Observation: No parts become loosen and no hazardous situation is found					
19.7	Winding temperature rise measurements				P
temperature rise dT of winding:		R ₁ (Ω)	R ₂ (Ω)	dT (K)	required dT (K) insulation class
Rotor winding for cl.19.7		45,5	58,9	75,7	260-25 180

19.13	TABLE: ABNORMAL OPERATION, TEMPERATURE RISE MEASUREMENTS (FOR LV VERSION)					P
temperature rise dT of part/at:			dT (K)		required dT (K)	
cl.19.7 locked motor (127 V, 30 second)						
Stator winding			158,2		T225-25	
Rotor winding			160,3		T225-25	
Observation: No hazardous situation is found						
cl.19.10 – tested at 165 V for 1 min with and without attachment						
Observation: No parts become loosen and no hazardous situation is found						
19.7	Winding temperature rise measurements					P
temperature rise dT of winding:		R ₁ (Ω)	R ₂ (Ω)	dT (K)	required dT (K)	insulation class

IEC 60335-2-14			
Clause	Requirement + Test	Result - Remark	Verdict

Stator winding for cl.19.7	3,4	5,5	160	225-25	130
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19.13 (d)	TABLE: ABNORMAL OPERATION, TEMPERATURE RISE MEASUREMENTS (HV version; ECM UB-252443-76R03 motor)				P	
emperature rise dT of part/at:			dT (K)	required dT (K)		
cl.19.7 locked motor (240 V, 30 second)						
Room Ambient			22,8 / 22,8	Ref.		
Stator winding			121,3	T240-25		
Rotor winding			161,4	T260-25		
Separation of supply cord			4,2	150		
Internal enclosure			10,2	cl.30		
Observation: Thermal protection (wire) on stator winding did not operate. No hazardous situation is found						
cl.19.10 – tested at 312 V for 1 min with and without attachment						
Observation: No parts become loosen and no hazardous situation is found						
19.7	Winding temperature rise measurements				P	
temperature rise dT of winding:		R ₁ (Ω)	R ₂ (Ω)	dT (K)	required dT (K)	insulation class
Stator winding		20,04	33,22	169,3	240-25	155
Rotor winding		39,46	68,64	190,3	260-25	180

IEC 60335-2-14					
Clause	Requirement + Test			Result - Remark	Verdict
24.1	TABLE: Components				P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity
AC motor (for HV version with all models)	Johnson	UF-4425	220-240 V; 50 Hz; class 155 stator; class 180 rotor	IEC 60335-2-14	Tested in appliance
(Alternative)	Electrical Core & Motor Mfg. Ltd.	UB-252443	220-240 V; 50 Hz; class 155 stator; class 180 rotor	IEC 60335-2-14	Tested in appliance
(Alternative)	Electrical Core & Motor Mfg. Ltd.	UB-252443-76R03	220-240 V; 50 Hz; class 155 stator; class 180 rotor; 12 bar commutator	IEC 60335-2-14	Tested in appliance
*AC motor (for LV version)	Johnson	UF-4430	110-120 V; 60 Hz; Class 130	IEC 60335-2-14	Tested in appliance
Turbo switch (except HR1458)	Defond	DMB-1206	250 V; 3(3) A; T125	IEC 61058	ENEC
(Alternative)	Merchant Corp.	SM-31	3(3) A; 250 V; T85	IEC 61058	KEMA
(Alternative)	BAOKEZHEN	SC7303	3(3)A; 250 V~; T125; 5E4; PTI 175	IEC 61058	KEMA ENEC
(Alternative)	TRANTEK ELECTRICS CO., LTD.	16505	5(2) A; 125/250 V~; T 125; 5E4; PTI 175 V	IEC 61058	NEMKO ENEC
Speed switch	Warran Electric	--	240 V; 1,4 A or 127 V; 1,5 A	IEC 60335-2-14; Annex H	Tested in appliance
Closed end connector	Various	CE-2 / Various	T105	IEC 60335-2-14	Tested in appliance
EU Plug	Gold Mark	GME 01	2,5 A; 250 V; Class II; C5	IEC 60884-1	VDE
(Alternative)	Various	Various	2,5 A; 250 V; Class II; C5	IEC 60884-1	VDE; KEMA-KEUR
*Cord sets (for LV version)	Lee Yuen	LY-1 / SPT-2	18AWG x 2C; FT2; 10 A; 125 V; 105 °C	CSA C22.2 No.21-91	CSA, UL

IEC 60335-2-14					
Clause	Requirement + Test		Result - Remark		Verdict
*(Alternative)	Various	Various	18AWG x 2C; FT2; 10 A; 125 V; 105 °C	CSA C22.2 No.21-91	CSA, UL
Supply cord (for HV version)	Gold Mark	H03VVH2-F	2 X 0,75 mm ²	IEC 60227	VDE
(Alternative)	Various	H03VVH2-F	2 X 0,75 mm ²	IEC 60227	VDE; KEMA- KEUR
X-capacitor (for all HV/LV models except HV version with ECM UB- 252443-76R03 motor)	Okaya	RE224	0,22 µF, 275 V, X2, parallel with 1,2 MΩ resistor	IEC 60384-14	VDE
(Alternative)	Various	Various	0,22 µF, 275 V, X2, parallel with 1,2 MΩ resistor	IEC 60384-14	VDE
X-capacitor (for all HV version with ECM UB- 252443-76R03 motor only)	Carli	MPX	0,33 µF, 275 V, X2, parallel with 1,2 MΩ resistor	IEC 60384-14	VDE
(Alternative)	Various	Various	0,33 µF, 275 V, X2, parallel with 1,2 MΩ resistor	IEC 60384-14	VDE
RFI capacitor for motor (for all HV/LV models except HV version with ECM UB- 252443-76R03 motor only)	Vishay	WY0472MCM CFOK	4,7 nF, 250 V, T85, Y2	IEC 60384-14	VDE
(Alternative)	Welson Industrial Co. Ltd.	KL 472M	4,7 nF, 250 V or 300 V; T125, Y2	IEC 60384-14	VDE
(Alternative)	Various	Various	4,7 nF, 250 V or above, T85 or above, Y2	IEC 60384-14	VDE
RFI capacitor for motor (for HV version with ECM UB- 252443-76R03 motor only)	Welson Industrial Co., Ltd.	KLF682M	6800 pF; 300 V; 55/125/21; Y2	IEC 60384-14	VDE

IEC 60335-2-14					
Clause	Requirement + Test			Result - Remark	Verdict
(Alternative)	Jyh Chung Electronic Co., Ltd.	JY682MY5V	6800 pF; 300 V; 40/085/21; Y2	IEC 60384-14	VDE
(Alternative)	Various	Various	6800 pF; 300 V; 40/085/21; Y2	IEC 60384-14	VDE
Internal wire	Various	Style 1015	600V, 105 °C, 22AWG	IEC 60335-2-14	Tested in appliance
(Alternative)	Various	Style 1007	300V, 80 °C, 22AWG	IEC 60335-2-14	Tested in appliance
Enclosure material	UMG ABS Ltd	Cyclac T	ABS	IEC 60335-2-14	Tested in appliance
(Alternative)	Chi Mei	PA-757(+)	ABS	IEC 60335-2-14	Tested in appliance
Speed switch	SABIC Innovative Plastic	Lexan 244RF	PC	IEC 60335-2-14	Tested in appliance
¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance. *Not applicable for appliance KEMA KEUR certificate.					

28.1	TABLE: Threaded part torque test			N/A
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	
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29.1	TABLE: Clearances	P
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Overvoltage category ...:		II				—
		Type of insulation:				
Rated impulse voltage (V):	Min. cl (mm)	Basic	Functional	Supplementary	Reinforced	Verdict / Remark
330	0,5	—	—	—	—	N/A
500	0,5	—	—	—	—	N/A
800	0,5	—	—	—	—	N/A
1 500	1,0	P	P	P	—	P
2 500	1,5	P	P	P	P	P
4 000	3,0	—	—	—	P	P
6 000	5,5	—	—	—	—	N/A
8 000	8,0	—	—	—	—	N/A
10 000	11,0	—	—	—	—	N/A

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation	P
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IEC 60335-2-14											
Clause	Requirement + Test						Result - Remark			Verdict	
Working voltage (V)	Creepage distance (mm) Pollution degree										
	1	2			3			Type of insulation			
		Material group			Material group						
		I	II	IIIa/IIIb	I	II	IIIa/IIIb	B ^{*)}	S ^{*)}	R ^{*)}	Verdict
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9		—	—	N/A
≤50	0,2	0,6	0,9	1,2	1,5	1,7	1,9	—		—	N/A
≤50	0,4	1,2	1,8	2,4	3,0	3,4	3,8	—	—		N/A
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	<u>2,4</u>		—	—	P
>50 and ≤125	0,3	0,8	1,1	1,5	1,9	2,1	<u>2,4</u>	—		—	P
>50 and ≤125	0,6	1,6	2,2	3,0	3,8	4,2	<u>4,8</u>	—	—		P
>125 and ≤250	0,6	1,3	1,8	2,5	3,2	3,6	<u>4,0</u>	P	—	—	P
>125 and ≤250	0,6	1,3	1,8	2,5	3,2	3,6	<u>4,0</u>	—	P		P
>125 and ≤250	1,2	2,6	3,6	5,0	6,4	7,2	<u>8,0</u>	—	—	P	P
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N/A
>250 and ≤400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
>250 and ≤400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N/A
>400 and ≤500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
>400 and ≤500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A
>500 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N/A
>500 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

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Clause	Requirement + Test							Result - Remark			Verdict
>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
*), B=Basic, S=Supplementary and R=Reinforced											

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Clause	Requirement + Test	Result - Remark	Verdict

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
≤50	0,2	0,6	0,8	1,1	1,4	1,6	1,8	N/A

>50 and ≤125	0,3	0,7	1,0	1,4	1,8	2,0	<u>2,2</u>	P
>125 and ≤250	0,4	1,0	1,4	2,0	2,5	2,8	<u>3,2</u>	P
>250 and ≤400	0,8	1,6	2,2	3,2	4,0	4,5	5,0	N/A
>400 and ≤500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A
>500 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
*, B=Basic, S=Supplementary and R=Reinforced								

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TABLE 30		RESISTANCE TO HEAT, FIRE AND TRACKING												P
Component	Manufacturer	Type	Ball pressure test				Tracking test [CTI/ PTI]	Glow wire test					Needle - flame test	Verdict
			75 °C	cl. 11 +40 °C	125 °C	cl. 19 +25 °C		GWT 550 °C	GWT 650 °C	GWT 750 °C	GWFI 850 °C	GWIT		
Enclosure	UMG ABS Ltd	Cyclac T	—	P 94 °C	—	—	175 V	P	—	—	—	—	—	P
(Alternative)	Chi Mei	PA-757(+)	—	P 94 °C	—	—	175 V	P	—	—	—	—	—	P
Speed switch body	Warran Electric	--	—	—	P	—	175 V	P	—	—	—	—	—	P
Speed switch knob	SABIC Innovative Plastic	PC		—	P	—	175 V	P	—	—	—	—	—	P
Close end connector	--	CE-2	—	—	P	—	175 V	P	—	—	—	—	—	P
Stator winding bobbin	Johnson	--	—	P 144 °C	—	—	175 V	P	—	—	—	—	—	P
Carbon brush holder	Johnson	--	—	—	P	—	175 V	P	—	—	—	—	—	P
Motor gears plastic	Johnson	--	—	—	—	—	175 V	P	—	—	—	—	—	P
Stator winding bobbin	Electrical Core & Motor Mfg. Ltd.	UB-252443	—	—	P	—	175 V	P	—	—	—	—	—	P
Carbon brush holder	Electrical Core & Motor Mfg. Ltd.	UB-252443	—	—	P	—	175 V	P	—	—	—	—	—	P
Motor gears plastic	Electrical Core & Motor Mfg. Ltd.	UB-252443	—	—	—	—	400 V	P	—	—	—	—	—	P

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Stator winding bobbin	Electrical Core & Motor Mfg. Ltd.	UB-252443-76R03	—	—	P	—	175 V	P	—	—	—	—	—	P
Carbon brush holder	Electrical Core & Motor Mfg. Ltd.	UB-252443-76R03	—	—	P	—	175 V	P	—	—	—	—	—	P
Motor gears plastic	Electrical Core & Motor Mfg. Ltd.	UB-252443-76R03	—	—	—	—	400 V	P	—	—	—	—	—	P
Turbo switch	BAOKEZHEN	SC7303	—	—	1,4 mm	—	175 V	P	—	—	—	—	—	P
Turbo switch	TRANTEK	16505	—	—	1,6 mm	—	175 V	P	—	—	—	—	—	P
Tubo switch	Merchant Corp.	SM-31	—	—	1,5 mm		175 V	P	—	—	—	—	—	P
Micro switch	Defond	DMB-1206	—	—	1,5 mm		175 V	P	—	—	—	—	—	P

¹⁾ surrounding parts are subjected to the needle-flame test of Annex E

Photos:

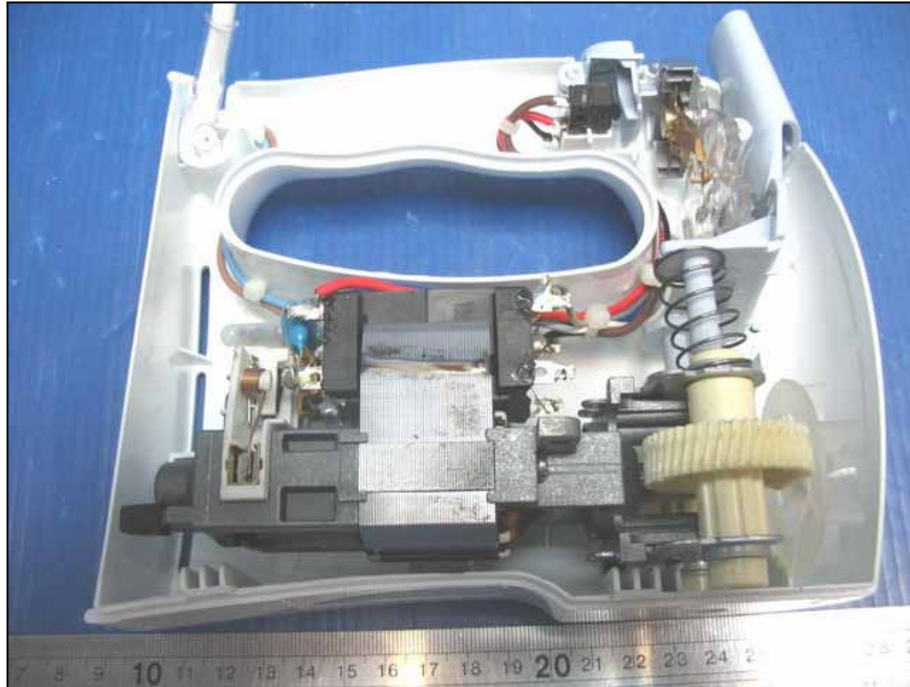


Front view of HV version

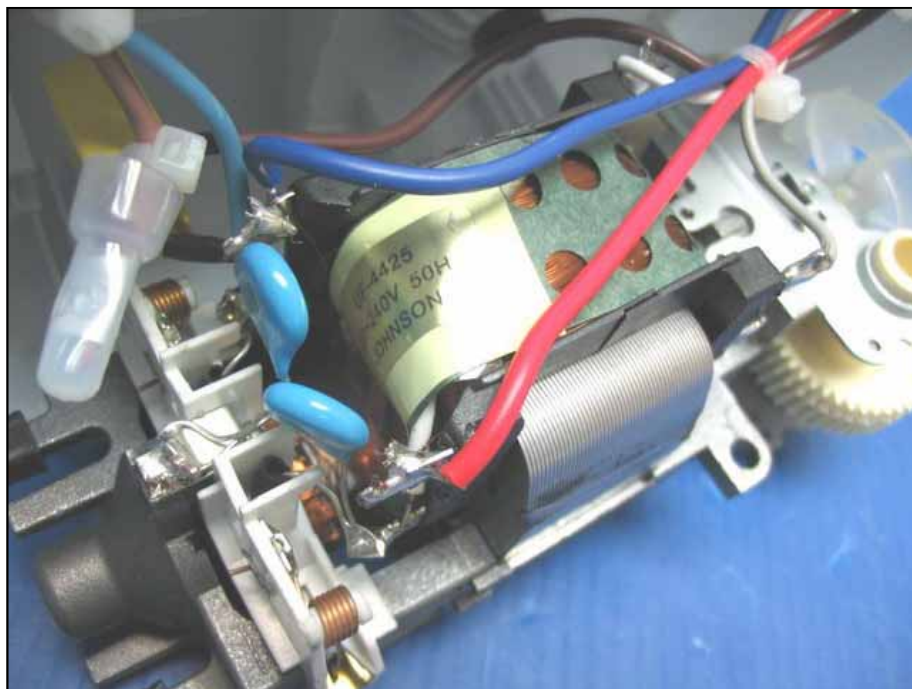


Base view of HV version

Photos:

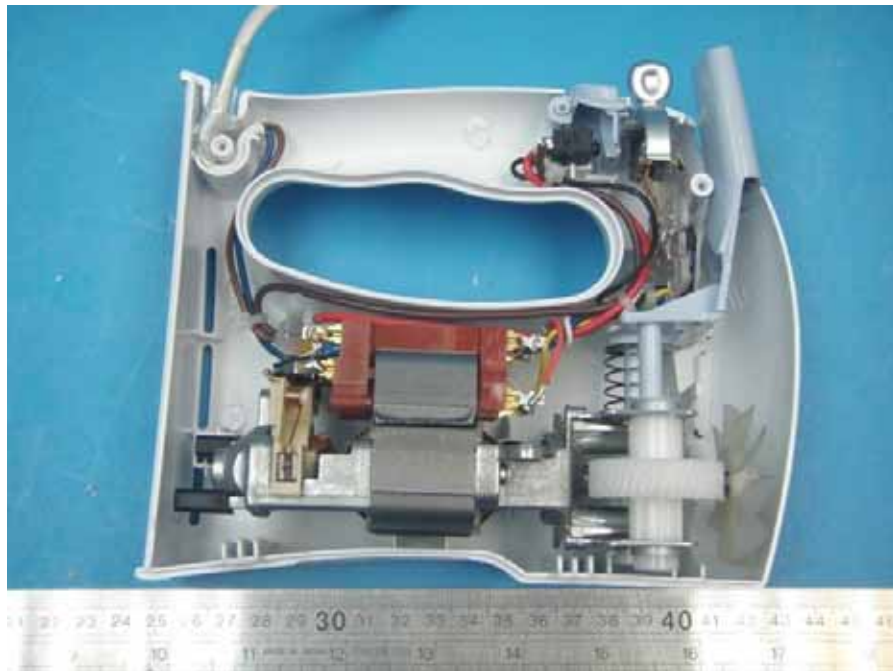


Internal view of HV version (Johnson motor)



AC motor of HV version (Johnson motor)

Photos:



Internal view of HV version (ECM motor)



AC motor of HV version (ECM motor)

Photos:

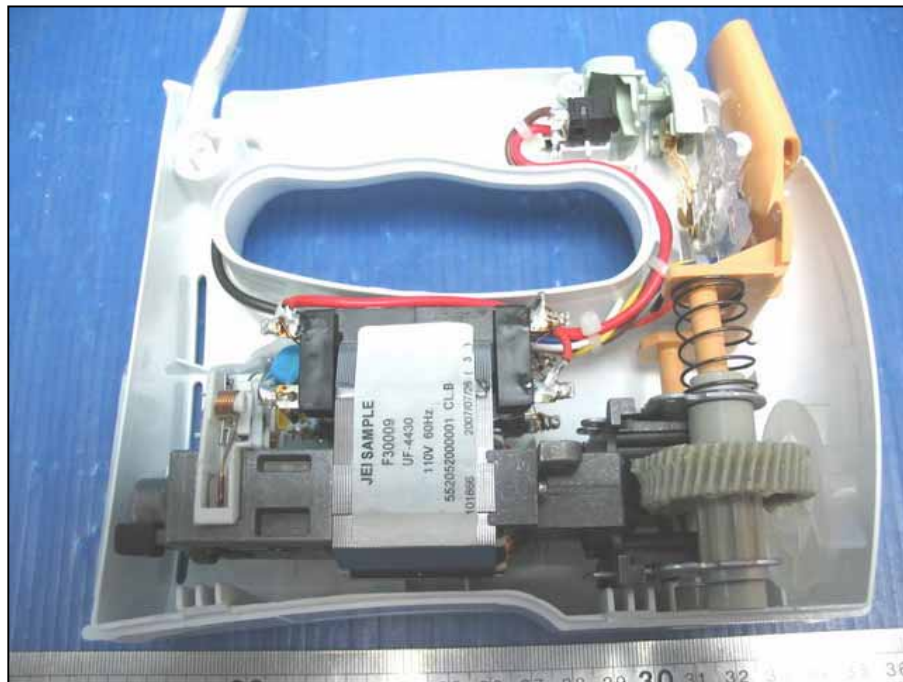


Front view of LV version



Back view of LV version

Photos:



Internal view of LV version



Strip beaters, dough hooks and wire beaters

Photos:

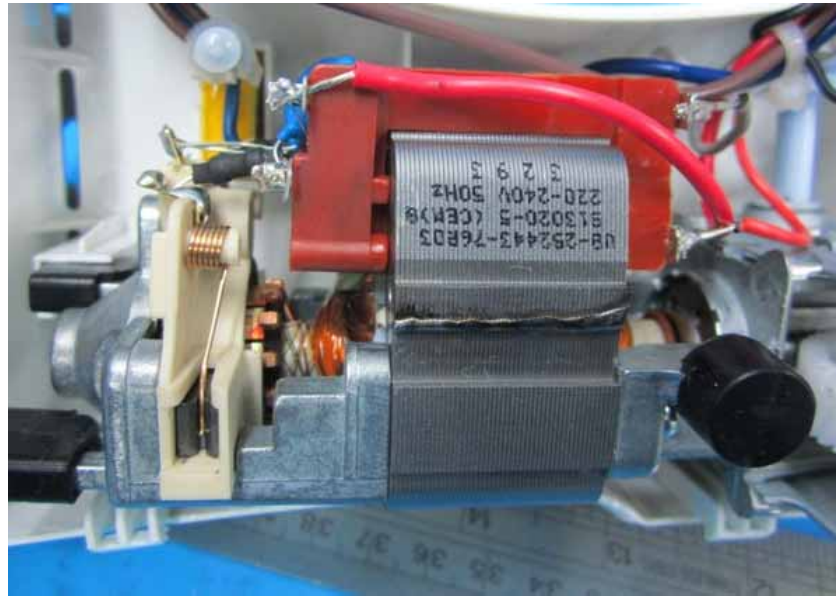


3 speeds switch and 5 speeds switch



speeds switch

Photos:



Alternative motor (ECM; UB-252443-76R03) for all HV models



Alternative X-capacitor (0,33 μ F) for HV version models with ECM UB-252443-76R03 motor only



HR1458 with remove the turbo switch



Internal construction (HR1458 with remove the turbo switch)



Switch construction ((HR1458 with remove the turbo switch)



Switch construction ((HR1458 with remove the turbo switch)